NI 43-101 TECHNICAL REPORT

CABALLO BLANCO

POTOSI, BOLIVIA

EFFECTIVE DATE – 21 December 2021
REPORT DATE – 21 December 2021

SANTACRUZ silver mining, ltd

PREPARED FOR

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DATE AND SIGNATURE PAGE

This report entitled NI 43-101 Technical Report for the Caballo Blanco Project, Potosi, Bolivia, effective as of 21 December 2021 was prepared and signed by the following authors:

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Tad Crowie *21 December 2021*
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NOTICE

JDS Energy & Mining, Inc. prepared this National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for Santacruz Silver Mining, Ltd. The quality of information, conclusions and estimates contained herein is based on: (i) information available at the time of preparation; (ii) data supplied by outside sources, and (iii) the assumptions, conditions, and qualifications set forth in this report.

Santacruz Silver Mining, Ltd. filed this Technical Report with the Canadian Securities Regulatory Authorities pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities law, any other use of this report by any third party is at that party's sole risk.

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1 EXECUTIVE SUMMARY

1.1 Introduction

JDS Energy & Mining Inc. (JDS) was commissioned by Santacruz Silver Mining Ltd. (Santacruz) to carry out a Technical Report for the Caballo Blanco Project, a resource development base metals project located in the state of Potosi, Bolivia.

On October 11, 2021, Santacruz entered into a definitive share purchase agreement (the "**Definitive Agreement**") with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets (the "**Assets**") from Glencore (the "**Transaction**"). The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Sociedad Minera Illapa C.V. ("**Illapa**") and Corporación Minera de Bolivia ("**COMIBOL**"), a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business.

Pursuant to the Definitive Agreement, Santacruz will acquire all of Glencore's properties, assets and businesses related to the Assets by acquiring various Glencore subsidiaries. The consideration for the Transaction will be payable through upfront consideration of US$20 million in cash on closing (subject to customary working capital adjustments), and deferred consideration of US$90 million secured against the Assets. The deferred consideration consists of cash payments of US$22.5 million payable on each anniversary of the closing date for four years and is subject to certain accelerated payment features based on cash flows and silver and zinc prices. Glencore will also retain a 1.5% net smelter returns royalty on the Assets and will have a right to acquire 100% of the offtake from the Assets on market terms to be set forth in definitive agreements to be entered into at closing.

1.2 Location and Access and Ownership

The Caballo Blanco project consists of three separate mines and one process plant operating as one to produce Zinc and Lead concentrates. An Important part of the supporting infrastructure includes 2 off-site power plants that produce supplemental electric power to the mines. The mines are relatively close together and located as follows:

Reserva and Tres Amigos Mines are located 31 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,536 masl, at UTM coordinates WGS-84: 218764E and 7814967N.

Coquechaquita Mine is located 30 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,520 masl, at UTM coordinates WGS-84: 219915E and 7819380N.

The Don Diego Process plant is located about 23 km Northeast of the city of Potosi, in the Don Diego Canton, Municipality of Chaqui, Cornelio Saavedra Province, of the Department of Potosi. At an elevation of 3,550 masl at UTM coordinates WGS-84: 228933E and 7841150N.

There is a 60 km drive from the mines to the Don Diego Processing plant.

1.3 History

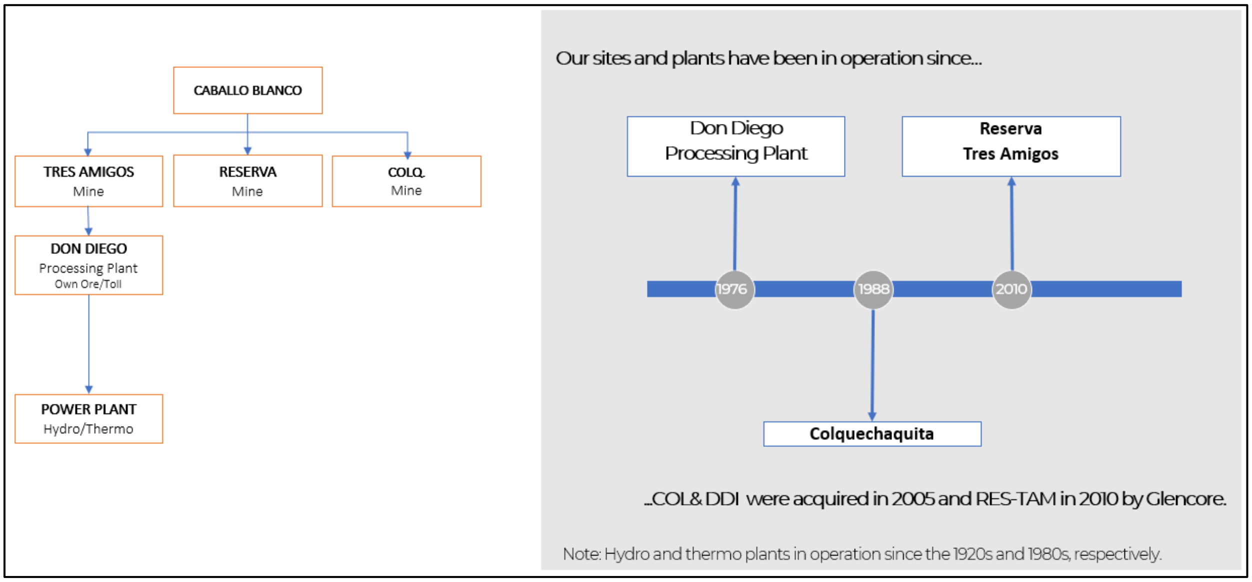
Caballo Blanco is a result of business consolidation over time. The Don Diego Plant was originally acquired by the precursor of Sinchi Wayra S.A. (Sinchi Wayra); Compania Minera del Sur (COMSUR) in 1976. COMSUR purchased the specific mining interests from small private owners and operators loosely organized into cooperativas. Coquechaquita in 1988, and (as Sinchi Wayra) Reserva/TresAmigos mines in 2010. Glencore became involved in 2005 with the purchase of COMSUR and effecting the name change to Sinchi Wayra.

Sinchi Wayra is a wholly owned subsidiary of Glencore Plc, one of the most diversified, vertically integrated producers, processors, and marketers of natural products in the world. Sinchi Wayra S.A. is the producing operator that is part of Glencore's Zinc Department, operating the largest underground mines in Bolivia and producing zinc-silver and lead-silver concentrates.

Sinchi Wayra S.A. owns and operates all facets of the Caballo Blanco business; The Don Diego processing plant and Coquechaquita mine since their acquisition in 2005, and Reserva and Tres Amigos mines from their acquisition in 2010. The Power plants, Aroifilla thermal power plant, and the Yocalla hydro-electric plant which provide supplementary electric power are also owned and operated by Sinchi Wayra and are included under the management of Caballo Blanco project.

On October 11, 2021, Santacruz entered into the Definitive Agreement with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets from Glencore. The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Illapa and COMIBOL, a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business.

Figure 1-1: Project History



Source: Glencore (2021)

1.3.1 Mine Operations

As a unit, Caballo Blanco produces about 850 t/d of mineralized material. Approximately 60% of mine production is generated by conventional shrinkage and cut & fill methods. The remainder is produced by more modern trackless sublevel stoping. Run-of-mine mineralized material is hauled to the Don Diego Process plant in dump trucks.

Although each mine is currently an autonomous operation, all three mines are exploiting the same mineralized trend and there is no reason to believe that as mining continues additional opportunities to plan common development, infrastructure and other shared services will arise. One example would be current plans for a trackless connection between Tres Amigos and Colquechaquita which would increase haulage capacity at Colquechaquita and provide trackless access to additional mineralized zones.

Mine labor totaled approximately 275 full time employees for the past several years. Mineralized material production averaged about 245,000 t/a pre-pandemic for an overall productivity of 2.9 tonnes per manshift.

The mining operations follow steeply dipping veins striking predominantly North/South. Veins vary in width from 0.2 to 2.5 m, the wider and more consistent veins being mined using more productive longhole methods.

1.4 Geology and Mineralization

The Bolivar, Porco and Caballo Blanco deposits are located in the central part of the Eastern Cordillera, a thick sequence of Paleozoic marine siliciclastic and argillaceous sedimentary rocks deposited on the western margin of Gondwana and deformed in a fold-thrust belt. There were two major tectonic cycles in the Paleozoic: The Lower Paleozoic Famatinian cycle (the Tacsarian and Cordilleran cycles of Bolivia), and the Upper Paleozoic Gondwana cycle (Subandean cycle of Bolivia).

The Caballo Blanco zinc, silver, lead mine, situated south of Potosi, is located in the Jayaquila – Victoria corridor, a 5-7 km north-south structural zone with three sectors, from north to south, the Colquchaquita, Reserva, and Tres Amigos mines. They are not described in the published literature. They are hosted by volcanic rocks of the Kari-Kari volcanic complex, with dimensions of 32 km north-south and 12 km wide, located on the SE side of the Los Frailes felsic volcanic field that covers an area of 8,500 km^2 at altitudes of 4,000 - 5,200 masl. The history started with intrusion of small granitoids at about 25 Ma at Kumurana, at the southern end of the Kari massif, and Azanaques. These were followed by the formation of Kari at about 20 Ma that is interpreted to be a resurgent caldera with welded ignimbrite fill. Ash flows, domes and stocks formed in the Cebadillas episode at 17-10 Ma, including the Cerro Rico dome with Ag-Sn mineralization at 13.8 Ma (Zartman & Cunningham, 1995; Cunningham et al., 1996; Rice et al., 2005). Huge volume felsic ash flows were erupted to form the Livicucho and Condor Nasa ignimbrites at 8-7 Ma and the main Los Frailes ignimbrites at 3.5-1.5 Ma. The final stages were the eruption of large resurgent rhyolitic domes at 4-1 Ma, and the Nuevo Mundo volcanic province at <1 Ma. (Francis et al., 1981; Schneider, 1985, 1987; Schneider & Halls, 1985; Kato, 2013; Kato et al., 2014; Kay et al., 2018).

The rocks of the Kari complex are felsic, peraluminous, and rich in garnet, cordierite and tourmaline (Schneider, 1987).

Mineralization in its generality is characterized by being housed in Philonian structures divided into three domain orientations:

1. Oriented at N 10° to 20° E, are Colquechaquita (Karina, Viviana, Camila), and some veins of Tres Amigos (Catalina, Milagros Este and Central);

2. Oriented N 10° to 30° W°; Reserve veins (Rosario, Wendy, Juanita and Blanquita), in Tres Amigos there is also within this system the vein (Ramo Catalina); and

3. Corresponding to veins of the Porvenir sector where they have an N-S orientation, corresponding to Reserva (Veta Rosita) and in Tres Amigos (Milagros veins).

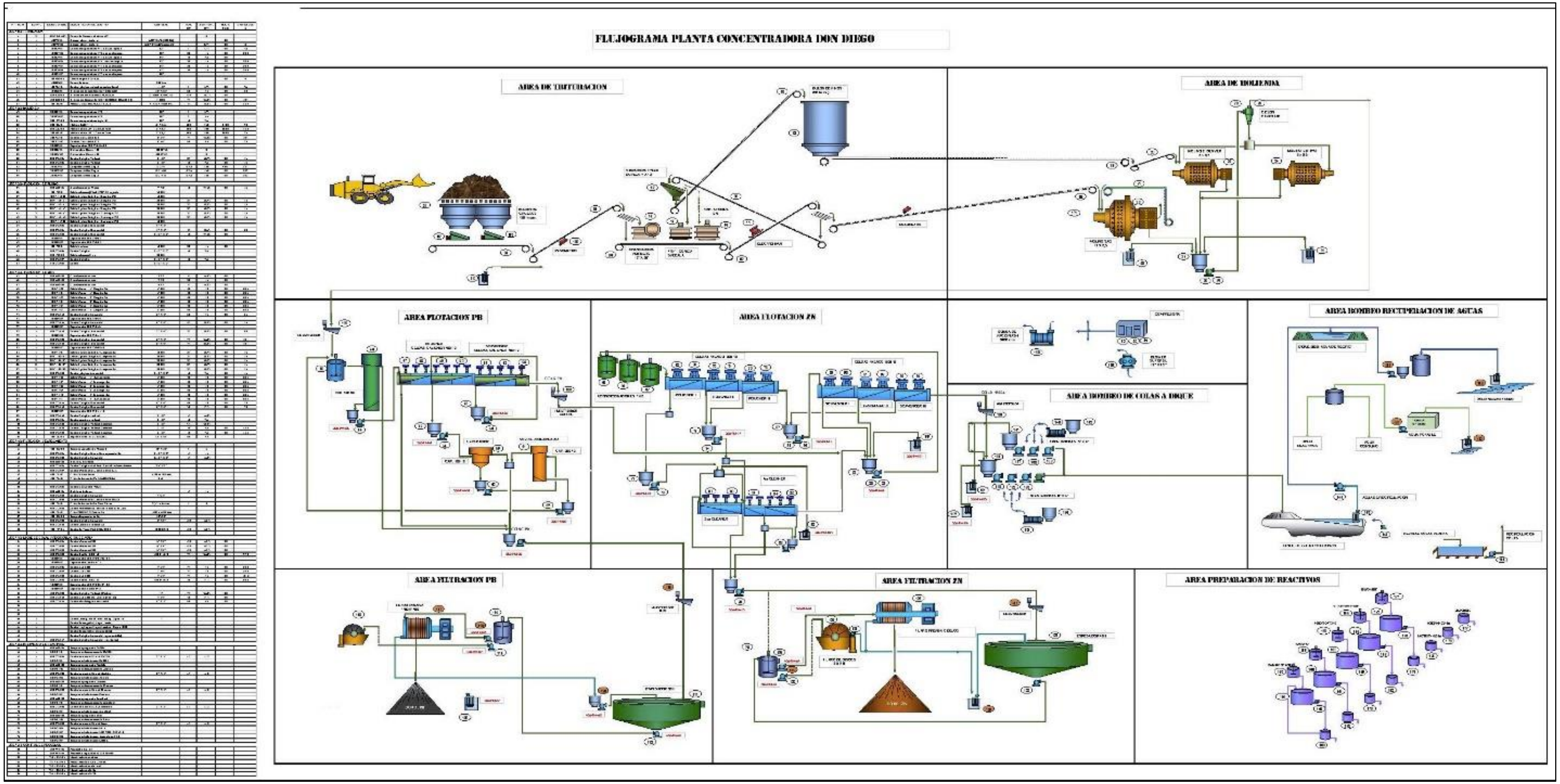
General mineralogy is composed of quartz-pyrite-chalcopyrite and marmatite, sphalerite, galena, boulangerite (Tres Amigos) as primary minerals; as accessory minerals we have siderite, calcite and ankerite at the trace level.

The mineralogy is quartz, pyrite, chalcopyrite, marmatite, sphalerite, galena and boulangerite with minor siderite, calcite and ankerite.

1.5 Metallurgical Testing and Mineral Processing

The Don Diego mill is currently operating; therefore, the metallurgical assessment is based on operational history. The recoveries and concentrate grades discussed are derived from the operational period of August 2020 to July 2021. The operating conditions have been divided into company mined ore and toll. The two types of ore are processed separately. The current flowsheet can be seen in Figure 1-2.

Figure 1-2: Don Diego Mill Flowsheet



Source: Glencore (2021)

The mill follows a typical sequential flowsheet including crushing, grinding to a particle size P_{80} of 100 µm and then sequential flotation to make a lead and a zinc concentrate.

The feed that is treated contains lead, zinc, and silver in recoverable quantities. The process uses sequential flotation to first float off a lead concentrate, containing 61% Pb for company feed and 45% Pb for toll feed, and then a zinc concentrate that is approximately 50% zinc.

Silver is recovered to both concentrates in similar quantities, although due to the lower mass of the lead concentrate, the silver grade in the lead concentrate is much higher (approximately 6,500 g/t in the lead concentrate vs. 280 g/t Ag in the zinc concentrate).

The expected recoveries and concentrate grades can be found in Table 1-1.

Table 1-1: Estimated Metallurgical Recoveries, Concentrate Grades and Mineral Processing Factors

Parameter	Unit	Concentrates			
		Lead Concentrate		Zinc Concentrate	
		Company Feed	Toll Feed	Company Feed	Toll Feed
Zn Recovery	%	N/A	N/A	94	1.0753*(zinc feed grade) + 83.221
Pb Recovery	%	3.65*(lead feed grade %) + 75.69	13.149*(lead feed grade) + 39.576	N/A	N/A
Ag Recovery	%	0.0459*(silver feed grade) +67.256	-0.0398*(silver feed) + 42.791	-0.0225 x (silver feed grade) + 20.655	0.0246*(silver feed grade) + 42.991
Concentrate Grade					
Zn	%	3.5	9.0	51	48
Pb	%	61	45.0	1.4	1.4
Ag	g/t	6460	4050	280	440

1.6 Historic Mineral Resource Estimate

Glencore's Resources & Reserves report as of December 31, 2020 disclosed Bolivar, Porco and Caballo Blanco mineral resource statements as well as mineral reserve estimates as of December 31, 2020, which remain current for Glencore as of the date hereof. As the mineral resource and mineral reserve estimates pre-date Santacruz's agreement to acquire the Assets, Santacruz is treating them as "historical estimates" under National Instrument 43-101 - Standards of Disclosure for Mineral Projects (NI 43-101), but they remain relevant as the most recent mineral resource and reserves estimates for Bolivar, Porco and Caballo Blanco. Given the source of the estimates, Santa Cruz considers them reliable and relevant for the further development of the Project; and accordingly, they should be relied upon only as a historical resource and reserve estimate of Glencore, which pre-dates Santacruz's agreement to acquire the Assets however, the Company is not treating the historical estimates as current Mineral Resources or Mineral Reserves.

A "Qualified Person" as per NI 43-101 has not done sufficient work to classify the historical estimate as current Mineral Resources or Mineral Reserves and Santacruz is not treating the historical estimate as current Mineral Resources or Mineral Reserves. Further drilling and resource modelling would be required to upgrade or verify these historical estimates as current mineral resources or reserves for the respective assets.

The resources have been reported for Bolivar as of December 31, 2020 at a Zinc Equivalent (ZnEq) cut-off grade 2% as follows in Table 1-2.

Table 1-2: Historic Mineral Resource Estimate

Category	Tonnes	Zinc	Lead	Silver
	(Mt)	(%)	(%)	(g/t)
Measured Mineral Resources	0.9	13.68	3.66	364
Indicated Mineral Resources	0.6	13.08	3.17	317
Measured + Indicated Mineral Resources	1.6	13.44	3.47	346
Inferred Mineral Resources	2.3	12.21	2.37	241

Source: Glencore (2020)

Notes:

1. The Mineral Resources have been calculated in accordance with definitions in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves (2014).
2. The ZnEq = (Zn% + (Pb% * 0.50) + (Ag g/t * 0.0268)).
3. The Mineral Resources have been calculated in accordance with definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum on August 20, 2000. Employees of Glencore have prepared these calculations.
4. Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution.
5. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
6. All figures are rounded to reflect the relative accuracy of the estimate and therefore numbers may not appear to add precisely.
7. Reported in-situ Mineral Resources do not consider mineral availability by underground mining methods.
8. Historical Mineral Reserves and Resources are inclusive of Mineral Reserves shown at 100% ownership.

1.7 Infrastructure

Proximity to the city of Potosi, allows use of the established system of paved highways to provide access by truck to any services, or supplies required for mine operations. Labor supply is also nearby in Potosi. The secondary access roads to the mines off the main pave highway are gravel and serviceable but not well maintained.

Electric power to the Mines is supplied via the State grid (SEPSA) with supplementary power provided by two generating plants owned and operated by Sinchi Wayra. The Yocalla plant runs on hydro power and the Aroifilia on natural gas. Currently the mines buy approximately 50% of their power from the grid (SEPSA) and generate the remainder. Power is provided on separate lines from each provider and distributed with the mine's distribution system to regulate power to each mine. Both Sinchi Wayra plants are older and in need of capital investment to remain viable.

Each of the mines produces enough water to treat and reuse for industrial use on site. Excess treated water is discharged to the environment at regulated quality standards. Annually, a total of 2.5 Mm^3 of mine water is treated and 2.4 Mm^3 discharged from two water treatment plants.

The Tailings storage facility is located at the Don Diego process plant.

1.8 Environmental Studies, Permitting and Social or Community Impacts

Glencore has implemented a sophisticated management approach to sustainability consistent with their practices worldwide. From the 2019 Sustainability Report:

"Our commitment to responsible and sustainable mining has strengthened over the years, based on the alignment to Glencore's international policies and procedures and the major sustainability initiatives to which we subscribe. All our policies and procedures seek compliance with Bolivia's legal rules, but our goal is to go beyond them and so follow standards that exceed legislation and address all the impacts from our operations."

This integrative approach is evident in the Caballo Blanco operation. Areas addressed and monitored include:

- Employees;
- Occupational Health & Safety;
- Governance and Compliance;
- Stakeholder Engagement;
- Contributing to Community;
- Environment; and
- Product Stewardship & Material Handling.

1.9 Conclusions and Recommendations

1.9.1 Conclusions

The Caballo Blanco project consists of three separate mines and one process plant operating as one to produce Zinc and Lead concentrates. Sinchi Wayra S.A. owns and operates all facets of the Caballo Blanco business; The Don Diego processing plant and Coquechaquita mine since their acquisition in 2005, and Reserva and Tres Amigos mines from their acquisition in 2010. The Power plants, Aroifilla thermal power plant, and the Yocalla hydro-electric plant which provide supplementary electric power are also owned and operated by Sinchi Wayra and are included under the management of Caballo Blanco project.

On October 11, 2021, Santacruz entered into a definitive share purchase agreement (the "Definitive Agreement") with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets (the "Assets") from Glencore (the "Transaction"). The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Sociedad Minera Illapa C.V. ("Illapa") and Corporación Minera de Bolivia ("COMIBOL"), a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business. JDS Energy & Mining Inc. (JDS) was commissioned by Santacruz Silver Mining Ltd. (Santacruz) to prepare this Technical Report to support the disclosure of the acquisition for the Bolivar Project by Santacruz pursuant to the Transaction:

- Caballo Blanco group of mines is firmly established as a producing property but has yet to be consolidated into a fully integrated mine. Each mine is independently managed and operated and there are very few, if any, shared services. All three mines are on the same mineralized trend and consolidation is a possibility. Mining methods range from modern trackless bulk mining to conventional tracked methods;

- Glencore has embarked on a program of modernizing each mine where appropriate, taking advantage of advances in mining equipment and methods;

- Safety is of paramount importance at the mine and concerns have been successfully addressed with the establishment of training programs, systems, and the incorporation of a safety culture into mine operations;

- Supply and delivery of backfill was observed to be behind schedule which could have been caused by low development production, haulage bottlenecks, etc. The outcome, however, increases risk of hanging wall failure in the stopes and ore dilution from over-mucking;

- The process plant is not located on site, so ore transport costs can be significant and factors such as dilution have a greater impact on mineralized material value;

- Planned future development mostly follows the current resource down dip which will incur incrementally higher haulage, ventilation, and water handling costs with depth;

- The skill base in the combined Caballo Blanco mining properties is considerable and a valuable resource for increasing project value in the future; and

- Historic processing at the Bolivar mill demonstrates the metallurgy of the material mined at Bolivar. The operational data is validated by the monthly reconciliation based on the concentrate shipped to the smelter and the final reconciliation between the smelter and the mine.

Many risks exist which are common to most mining projects including operating and capital cost escalation, permitting and environmental compliance, unforeseen schedule delays, changes in regulatory requirements, ability to raise financing and metal price. Many of these ever-present risks can be mitigated with adequate engineering, planning and pro-active management. The most significant risks to this project and its continued development are related socio-economic and geo-political factors.

- Areas surrounding Colquechaquita, Reserva and Tres Amigos mines are being actively mined by mining cooperatives which are organized independent mining bodies. They are an influential population recognized by the government as a valid economic entity for local development and conduct their activities on separate claims, in abandoned mines, or granted areas adjacent to existing operations. They are an important group with which to work for good community stability, and rogue operators within this group can pose specific risks related to ownership and safety; and

- The Caballo Blanco mines are relatively isolated and not flanked by camps or towns. Attention to community relations has developed strong mutually beneficial working relationships with many of the local population and mining cooperatives which has created a sustained period of stable political and socio-economic cooperation. However, changes in this relationship and instability would pose a significant risk to continued operation of the mines in addition to risks related to tenure and ownership.

1.9.2 Recommendations

Continued operation of the Caballo Blanco project, under new ownership, is expected to continue under similar operating parameters. Therefore, the recommended work program is focused on immediate validation and verification of the historic resource in compliance with NI 43-101, followed by or concurrent with, an operational focus on technical evaluation of production planning and operation to identify areas to increase profitability.

The QPs recommend verification and delineation of the Historic Resource. Total cost of the program is estimated at US $3.85 MM (Table 1-3) and consists of:

- Plan and execute a resource expansion program including drilling and underground sampling to fully identify and upgrade resources proximal to active mining areas for inclusion in the 2-year mine plan. This is important so that existing mine development can be fully utilized, and reductions in mine development requirements and rate of vertical descent realized;

- Review and revise resource classification criteria to insure NI 43-101 compliance; and

- Validate and verify the historic resource and complete a technical report in order that the resource be considered current and may be relied upon.

Table 1-3: 2022 Recommended Work Program and Budget

Description	#	Unit	$/Unit	Total $ (000's)
Drilling*	12,000	m	200	2,400
Underground Sampling*	12,500	#	50	625
Data Compilation, Model Update including QA/QC	120	hrs	250	30
Validate and Verify Historic Resources	220	hrs	250	55
Review and Revise Resource Classification	100	hrs	250	25
Reporting	150	hrs	250	38
Sub total				**3,173**
G&A				200
Contingency	15	%		476
Total				**3,850**

* Estimated with contractor rates; work can potentially be done in-house.

As well, other potential areas of opportunity were observed by the QPs during the site visit and data analysis stages of this report. It is suggested that in addition to routine continuous improvement programs, project management consider focusing technical and production resources in the following areas:

- Good work is being done on identifying and qualifying specific stope dilution. Analysis and incorporation of findings into the stope planning and mine operations is an opportunity to increase project value;
- Resource drilling to justify more integrated mine development is also important for stable long-term production and growth. Moving the properties toward a more integrated operation can add value to the project;
- Devote attention to optimizing material transport. Transport of waste rock is critical to stope productivity and stability with the mining methods being used, thus its supply and transport are critical to mine production;
- At Don Diego Plant, the period analyzed from August 2020 to July 2021 exhibited more downtime than planned. Investigate opportunities to raise Process Plant throughput and reduce downtime to improve project economics;
- Increasing throughput to achieve the target would improve the results of the operations;
- Metallurgical testwork to investigate opportunities to increase recoveries, through grinding, reagent dosage or newer flotation technologies; and
- Continue open communication and fair business practices with mining cooperatives and surrounding communities to minimize risk of asset subjugation.

2 INTRODUCTION

JDS Energy & Mining Inc. (JDS) was commissioned by Santacruz to prepare a Technical Report in accordance with the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1, collectively referred to as National Instrument (NI) 43-101 for the Caballo Blanco Project (Caballo Blanco or the Project) located in Potosi, Bolivia.

On October 11, 2021, Santacruz entered into the Definitive Agreement with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets from Glencore. The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Illapa and COMIBOL, a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business.

Pursuant to the Definitive Agreement, Santacruz will acquire all of Glencore's properties, assets and businesses related to the Assets by acquiring various Glencore subsidiaries including 100% of the shares of Illapa. The consideration for the Transaction will be payable through upfront consideration of US$20 million in cash on closing (subject to customary working capital adjustments), and deferred consideration of US$90 million secured against the Assets. The deferred consideration consists of cash payments of US$22.5 million payable on each anniversary of the closing date for four years and is subject to certain accelerated payment features based on cash flows and silver and zinc prices. Glencore will also retain a 1.5% net smelter returns royalty on the Assets and will have a right to acquire 100% of the offtake from the Assets on market terms to be set forth in definitive agreements to be entered into at closing.

2.1 Terms of Reference

The report was prepared to support a disclosure of the acquisition for the Caballo Blanco Project by Santacruz pursuant to the Transaction.

2.2 Qualifications and Responsibilities

The Qualified Persons (QPs) preparing this report are specialists in the fields of geology, exploration, mineral resource estimation, metallurgy and mining.

None of the QPs or any associates employed in the preparation of this report has any beneficial interest in Santacruz and neither are any insiders, associates, or affiliates. The results of this report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Santacruz and the QPs. The QPs are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions / associations. The QPs are responsible for the specific report sections as listed in Table 2-1.

Table 2-1: QP Responsibilities

Qualified Person	Company	QP Responsibility / Role	Report Section(s)
Wayne Corso, P.E.	JDS Energy & Mining Inc.	Author, Mining, Project Manager	1,2,3,4,5,6.1,6.2,12.4,25,26,27,28,29
Garth Kirkham, P. Geo.	Kirkham Geosystems Inc.	Geology, QA/QC, Data Verification, Drilling, Resource Estimate	1,6.4,7,8,9,10,11,12.1,12.2,25,26,27,28
Tad Crowie, P. Eng.	JDS Energy & Mining Inc.	Metallurgy	1,6.3,12.3,26,27,28

2.3 Site Visit

In accordance with NI 43-101 guidelines, site visits are summarized in Table 2-2.

Table 2-2: QP Site Visits

Qualified Person	Company	Date	Description of Inspection
Wayne Corso, P.E.	JDS Energy & Mining Inc.	August 11-12, 2021	Underground and site tours of Reserva and Colquechaquita mines, Surface tour of Tres Amigos Mine, tour of the lab at Don Diego, and core storage and logging facility. Discussions with site personnel
Garth Kirkham, P. Geo.	Kirkham Geosystems Inc.	August 11-12, 2021	Underground and site tours of Reserva and Colquechaquita mines, Surface tour of Tres Amigos Mine, tour of the lab at Don Diego, and core storage and logging facility. Discussions with site personnel
Tad Crowie, P. Eng.	JDS Energy & Mining Inc.	August 11-12, 2021	Underground and site tours of Reserva and Colquechaquita mines, tour of process plant and lab at Don Diego. Discussions with site personnel

2.4 Units, Currency and Rounding

The units of measure used in this report are as per the International System of Units (SI) or "metric" except for Imperial units that are commonly used in industry (e.g., ounces (oz.) and pounds (lb.) for the mass of precious and base metals).

All dollar figures quoted in this report refer to United States dollars (US$ or $) unless otherwise noted.

Frequently used abbreviations and acronyms can be found in Section 29. This report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs do not consider them to be material.

This report may include technical information that requires subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, JDS does not consider them to be material.

2.5 Sources of Information

This report is based on information collected by the QP's during a site visit performed between August 11-12, 2021 and on additional information provided by Santacruz throughout the course of the QPs investigations. Other information was obtained from the public domain. The QPs conducted adequate verification of the information and take responsibility for the information provided by Santacruz.

3 RELIANCE ON OTHER EXPERTS

The QP's opinions contained herein are based on information provided by Santacruz and others throughout the course of the study. The QPs have taken reasonable measures to confirm information provided by others and take responsibility for the information.

The QPs used their experience to determine if the information from previous reports was suitable for inclusion in this Technical Report and adjusted information that required amending.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Caballo Blanco project consists of three separate mines and one process plant operating as one to produce Zinc and Lead concentrates. An Important part of the supporting infrastructure includes 2 off-site power plants that produce supplemental electric power to the mines. The mines are relatively close together and located as follows:

Reserva and Tres Amigos Mines are located 31 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,536 masl, at UTM coordinates WGS-84: 218764E and 7814967N.

Coquechaquita Mine is located 30 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,520 masl, at UTM coordinates WGS-84: 219915E and 7819380N.

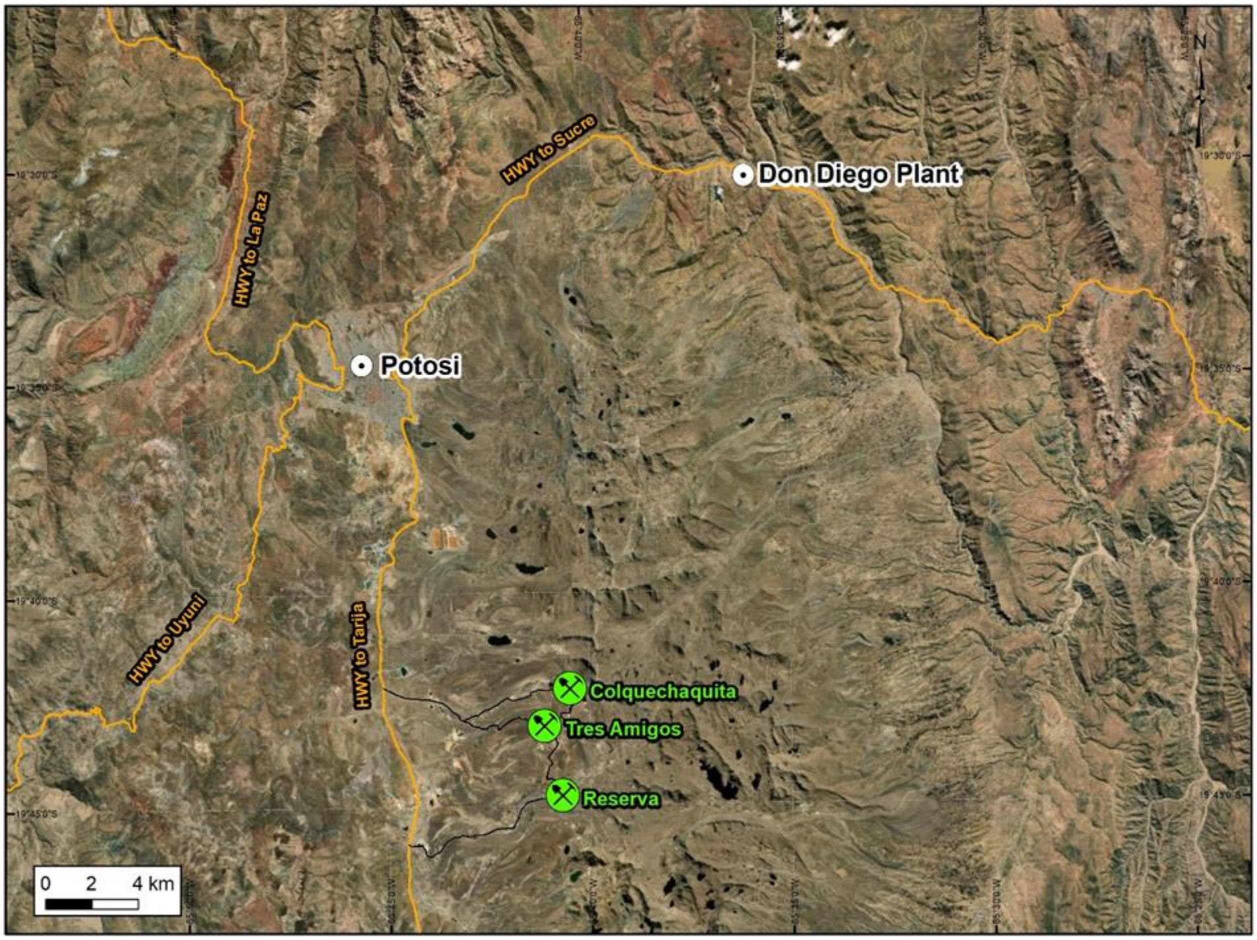
The Don Diego Process plant is located about 23 km Northeast of the city of Potosi, in the Don Diego Canton, Municipality of Chaqui, Cornelio Saavedra Province, of the Department of Potosi. At an elevation of 3,550 masl at UTM coordinates WGS-84: 228933E and 7841150N.

There is a 60 km drive from the mines to the Don Diego Processing plant.

Figure 4-1: Location Map

Source: Kirkham (2021)

Figure 4-2: Project Location Map



Source: Kirkham (2021)

4.2 Property Description and Tenure

Caballo Blanco brings together, in a single production unit, three independently operated underground mines, a single and remotely located Processing plant and two power plants. Each mine has independent infrastructure to support its operations, as well as independent site management:

- Reserva Mine and Tres Amigos Mine are grouped together at times based on their common access route from the main paved highway; and
- Colquechaquita Mine.

All mining activity is directed exclusively to the exploration and production of zinc, lead and silver. The Don Diego Processing plant and Chilimocko tailing storage facility with a capacity of 1,100 t/d takes production from all three mines as well as third party toll feed. Haulage distance from the mines to Don Diego process plant and train station is approximately 60 km. Two independent power plants, Yocalla which is a Hydroelectric plant and Aroifilia which is Natural gas driven, provide about 50% of the power to the mines. Each mine is also serviced with power from the Bolivian National Grid.

Off-take Agreements with Glencore International are in place for the Caballo Blanco Mine production: Contract No. 180-03-10309-P and Contract No. 062-03-10276-P, including all its addendums and amendments. These Off-Take Agreements are evergreen based.

There are no royalties or encumbrances existing on the properties now as they relate to Glencore's ownership. In addition to cash payment described, a 1.5% NSR royalty forms part of the purchase price that Santacruz will pay to Glencore.

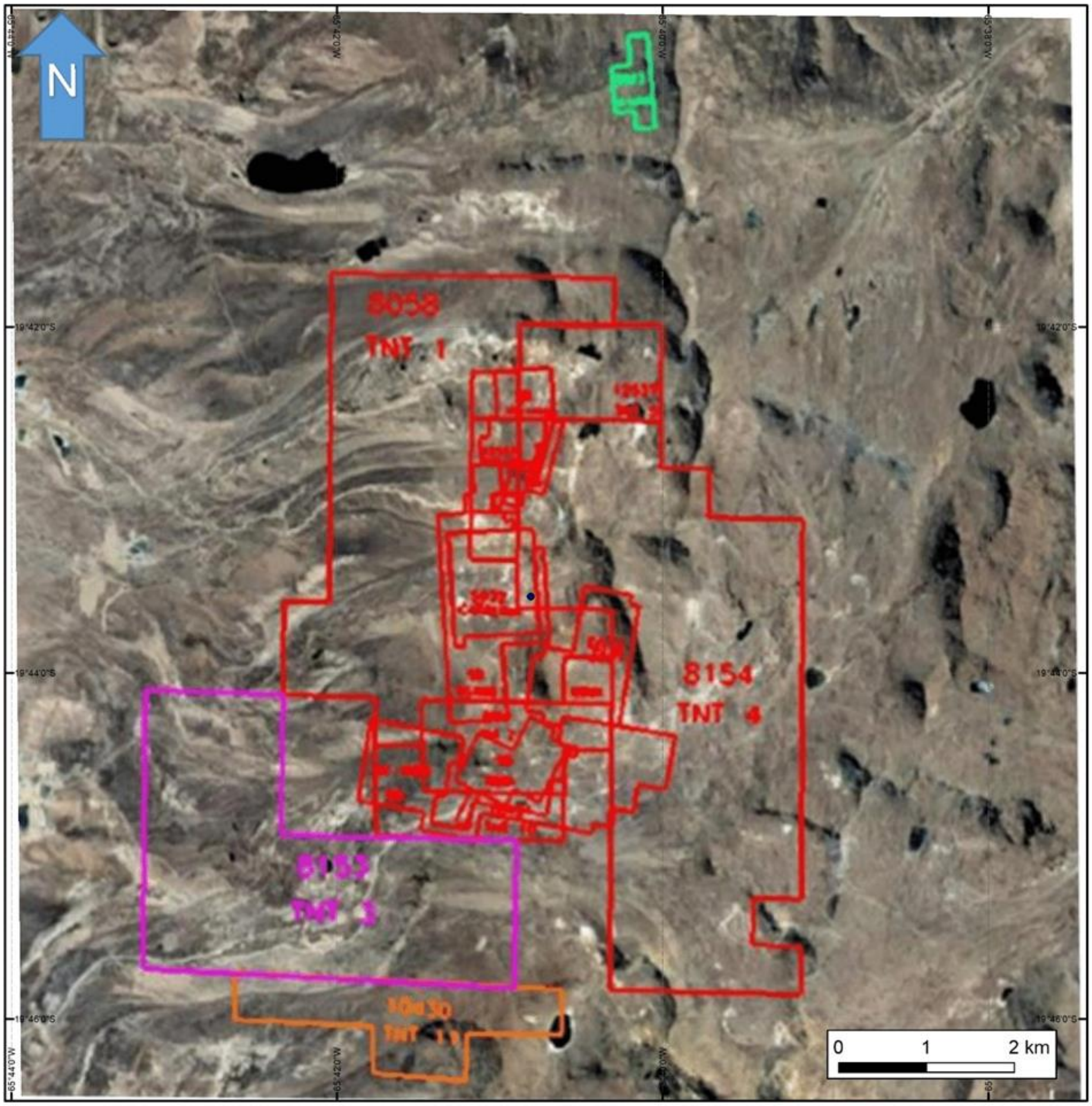
Environmental liabilities observed consist mostly of historic tailing storage facilities at Don Diego and mine workings at each mine site. Recent audits verify environmental legal compliance and associated closure plan costing.

Table 4-1: Mineral Tenures for Reserva and Tres Amigos Mines

Area	Ates
Reserva – Tres Amigos (red) Hectáreas: 3,498	Reserva, Reservita, Elfy Cristina, Catalina, Tres Amigos, Sucesivas Tres Amigos, Demasías Tres Amigos, Pablito, TNT1, TNT2, TNT4, TNT5, TNT6, TNT 10.
Contrato Individual (Hectár) Hectáreas:225	TNT 11
Contrato Individual (purple) Hectáreas: 825	TNT 3
Contrato Individual (green) Hectáreas: 30	Tio Dorado

Source: Glencore (2021)

Figure 4-3: Reserva and Tres Amigos Mineral Tenure



Source: Kirkham (2021)

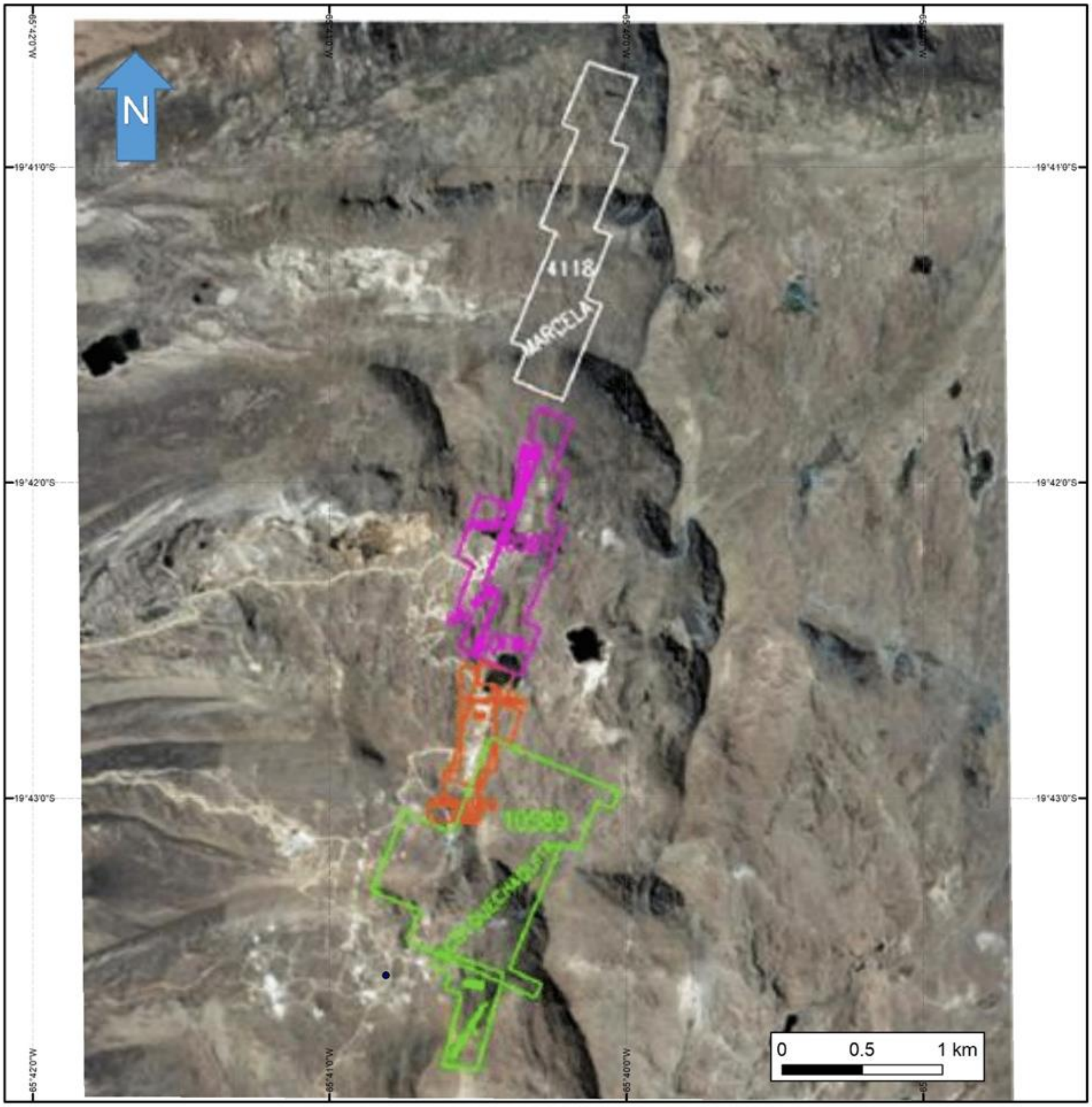
Reserva and Tres Amigos Mines are located 31 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,536 masl, at UTM coordinates WGS-84: 218764E and 7814967N 1,050 m.

Table 4-2: Mineral Tenures for Colquechaquita Mine

Area	Ates
Colquechaquita (green) Hectáreas: 115	Colquechaquita, Colquechaquita II Ates = Empresa Mineral San Lucas
Sofia (purple) Hectáreas: 55	Sofia, Sucesivas Sofia, Demasias Sofia Ates = Empresa Mineral San Lucas
Dinosaurio (4-6hite4-6) Hectáreas: 52	Dinosaurio, Carmelita Ates = Sinchi Wayra
Contrato Individual (4-6hite) Hectáreas: 3	Marcela Ates = Sinchi Wayra

Source: Glencore (2021)

Figure 4-4: Colquechaquita Mineral Tenure



Source: Kirkham (2021)

Coquechaquita Mine is located 30 km southeast of the city of Potosi, in the Canton Concepcion of the first section of the Tomas Frias Province of the Department of Potosi, at an average elevation of 4,520 masl, at UTM coordinates WGS-84: 219915E and 7819380N.

4.3 Environmental, Permitting and Social Relations

Glencore has implemented a sophisticated management approach to sustainability consistent with their practices worldwide. From the 2019 Sustainability Report:

> *"Our commitment to responsible and sustainable mining has strengthened over the years, based on the alignment to Glencore's international policies and procedures and the major sustainability initiatives to which we subscribe. All our policies and procedures seek compliance with Bolivia's legal rules, but our goal is to go beyond them and so follow standards that exceed legislation and address all the impacts from our operations."*

This integrative approach is evident in the Caballo Blanco operation. Areas addressed and monitored include:

- Employees;
- Occupational Health & Safety;
- Governance and Compliance;
- Stakeholder Engagement;
- Contributing to Community;
- Environment; and
- Product Stewardship & Material Handling.

4.3.1 Regulatory Framework

Bolivia's central statute governing environment protection is Law 1333, of 27 April 1992; specific regulations for which are set out in Regulation of Environmental Prevention and Control, December 8, 1995. Special Decree No. 24782 of 31 July 1997 sets out specific environmental requirements related to mining. Breaching environmental obligations can result in criminal liability under the Bolivian Constitution, in addition to other administrative penalties (such as a loss of mining rights).

An Environmental Impact Assessment (EIA) would be required for a project the scale of a mining and processing operation. As well, public consultation with any potentially affected indigenous communities and local populations may also be necessary. Granting of the operating permit allows the proponent to obtain the appropriate operating licenses, which must be updated with any relevant changes during the life of the operation.

Specialized environmental authorities control compliance. As required under the license, any impact on the environment must be reported to these authorities. Remediation measures and rehabilitation projects are compulsory, and financial reserve funds are maintained annually to cover closure costs. A final closing study on the effect on the environment will also be required, and restitution met.

Sinchi Wayra was granted the Mining Identification Number 02-0002-03, by the SENARECOM (National Service of Control and Registration of Minerals and Metals Commercialization, for its acronym in Spanish), and its certificate expires on July 3, 2022.

Don Diego Concentrator Plant:

- Environmental License: N° 050302-02-DAA-003/97, granted on July 31, 1997. Last update: February 15,2011 (N° 050302-02-DAA-003/11).

Colquechaquita Mine

- Environmental license: N°050101-02-DAA-131/97, granted on July 31, 1997. Last update: February 07, 2011 (N° 050101- 02-DAA-131/11); and

- The General Direction of War Logistics and Material issued a Registration Certificate under number 0053/2021, for the use of explosives and accessories in mining activities. Expiry date: August 26, 2023.

Sociedad Minera Reserva Ltda.´s (Reserva – Tres Amigos Mine)

Reserva was granted the Mining Identification Number 05-0020-04, by the National Service of Control and Registration of Minerals and Metals Commercialization (SENARECOM), and its certificate expires on October 15, 2022:

- Environmental license N° 050101-02-DAA-561/11, granted on June 03, 2011. Last update: May 04, 2015;

- The General Direction of War Logistics and Material issued a Registration Certificate under number 753/2021(Tres Amigos Mine) Expiry date: June 29, 2023 and 210/2021 (Reserva Mine) Expiry date: August 26, 2023, for the use of explosives and accessories in mining activities; and

- The General Direction of Controlled Substances issued a Certificate of Registration with Number 9000-09240-073, Fifth Category, Mining. Registering Maria Elsa Reyes Cors as Legal Representative and titleholder, with expiration date September 24, 2022.

4.3.2 Current Status

The Caballo Blanco business is spread amongst various locations, and each operation has its own effect on the surrounding communities. Linking the properties is a transport network to deliver mineralized plant feed that extends approximately 60km. Each operating unit is managed independently, with individual teams responsible for planning, safety and environmental management. Most employees live in the communities surrounding the city of Potosí. Consequently, at Caballo Blanco a large area is monitored including 13 small communities which include a population of more than 500 families or around 2,500 community members. Several mining cooperatives are also involved.

As per focus areas in the Sustainability program:

- Employees – Building employee trust and promoting a culture of incident prevention and safe environments are company values and it is very important to create quality employment opportunities. In 2019, Caballo Blanco had a total of 428 employees and 192 contractors, 6% of which were women. 298 of these employees are represented by 3 unions. Sinchi Wayra guarantees the collective bargaining right and freedom of association. Offering favorable employment opportunities along with the proximity to employee housing in Potosi has resulted in a low employee turnover at Caballo Blanco;

- Occupational Health & Safety – realizing the inherent personal risks of mining and in response to a fall of ground fatality earlier that year at another Sinchi Wayra mine, emphasis was made in 2019 towards program development and training in proper work practices at Caballo Blanco. As well, based on safety performance and incident analysis, 4 High Potential Risk Incidents (HPRIs) were identified for priority actions to prevent recurrence;

- Health – Medical care for employees and their families is available at medical centers in Potosí. As well, each operation (Reserva, Tres Amigos, Don Diego, Colquechaquita) has a health station with trained nursing staff and ambulance. Medical care and transportation are also covered should the employee be referred for care in Potosi or La Paz;

- Regular Occupational Health examinations are given to all workers and treatment provided when prescribed. In 2019, occupational health factors at Caballo Blanco, were monitored led by consulting company “Servicios Ambientales Biótica”, during which lighting, ventilation, air quality, thermal stress, vibration, and occupational noise, were analyzed and found to fall within legal standards; and

- Community – The neighboring communities are scattered and sparsely populated. Annual budgets are dedicated for community projects such as playgrounds, parks, and extension of the power grid to isolated communities. Most aid in 2020 was dedicated to helping local communities to deal with COVID-19.

4.3.3 Environmental Management

Each mine and plant have their own environmental management teams who are responsible for compliance with corporate standards and their environmental license.

4.3.3.1 Water Management

Given the remote location of the process plant, which is usually the largest water consumer, each mine treats and discharges excess water to the environment. These discharges are regulated for quality and quantity by the environmental license. End uses include consumption by neighboring communities and agricultural/industrial use by llama ranchers and mining cooperatives downstream. Caballo Blanco supplies two thousand cubic meters of treated water per year to the local sanitary administration (AAPOS) to support industrial activities and discharges the remaining treated water to the Jayaquila and Mocaña rivers. Caballo Blanco is able to meet discharge requirements with aeration, pH adjustment and clarification by settling.

Don Diego process plant maximizes the recirculation of water from its tailing storage facility and draws makeup water from permitted surface sources.

4.3.3.2 Tailings Management

The Chilimocko tailings storage facility at Don Diego is inspected regularly and maintained to the standards set out by the Canadian Dam Association guidelines. The dam is under the supervision of engineers from AMEC (now Wood Engineering) and recently an external audit was conducted by Knight Piésold Consulting. The dam is of downstream construction. In 2019, the monitoring of the Chilimocko Tailings Dam at Don Diego was updated to keep aligned with new standards.

The company also monitors and manages 4 inactive tailings facilities (1, 2, 3 & Yanakasa) on site.

4.3.3.3 Waste Management

Although mine waste rock is preferentially stored underground or used as backfill, each of the mines had a permitted and designed waster rock storage area designed for stability and the prevention of acid rock drainage and metal leaching. Sludge from the water treatment plants is deposited in lined ponds adjacent to the treatment plants. Given the mines' proximity to the City of Potosi, Domestic and Medical waste disposal are managed through the Municipal Garbage Collection Service. Industrial waste such as scrap metal, used Oil, tires, etc. is temporarily stored at each mining unit and collected by companies specialized in recycling.

4.3.4 Community Interaction

A total of $US 332,000 was invested in community support in the areas of education, economic development, environment, local needs, and health and wellbeing. Caballo Blanco has a team who manage the community relations and the aid that is provided.

Although the response to COVID-19 has dominated the community support in 2012, programs active and established in 2019 continued. Some of them included:

4.3.4.1 Educational Programs

- Scholarship program for outstanding students that graduate from the Ollerías school at the elementary, high school and university levels;
- Sponsoring and support of school breakfast at community schools;
- Hiring of full-time computer teacher for schools in Jayaquilla and Don Diego;
- Support the School Board of Don Diego by paying the salaries of service staff and teachers; and

- Providing school transportation for students between the scattered houses in the communities of Pucara, Negro Tambo, Chaquilla, Ollerias, Jayaquilla, Condoriri, Huanuni, Cachitambo, La Esquina and Calamarca.

4.3.4.2 Economic Development

- At Don Diego, implementing the potential identification and promotion program;
- Supporting textile ventures led by ladies from nearby communities;
- Provide support by sponsoring projects of the Community of Chilimoco, in coordination with its authorities and its annual management plan;
- As part of the area's economic diversity, providing support by completely repairing the agricultural tractor and purchasing the plowing equipment and the ridger for sowing; and
- "Garment Making Enterprise" project, we incorporated improvements to the electrical installation and donated inputs for the dressmaking equipment.

4.3.4.3 Environment

- Supporting the maintenance of the area's fauna and economic diversity, by donating 400 quintals of food supplement for llama cria and females; and
- Managed support works in residential restroom infrastructure and electric power in the communities of Ollerias and Condoriri.

4.3.4.4 Local Needs

- Supported the improvement of the houses of the community of Huanuni;
- Improved the park, as a space of recreation for the community, building the carousel, sidewalks, planters, and improving the entrances; and
- Sponsored social and cultural activities in several communities.

4.3.4.5 Health and Well-Being

- Fostered well-being by promoting, supporting and sponsoring various sports events; and
- Supported sporting activities through the construction of grandstands and maintenance of the artificial turf field.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Mines and Process plant have easy access to Potosi City which is a large industrial, mining, and population center. Road access to the Reserva mine from Potosi is 23 km south via the Potosi-Tarija interdepartmental paved highway towards Kuchu Ingenio, then 8 km East on gravel road. Road access to the Colquechaquita mine from Potosi is 16 km south via the Potosi-Tarija interdepartmental paved highway towards Kuchu Ingenio, for approximately 16 km, then 11 km East on gravel access road.

Don Diego plant also has site access to a rail spur for direct transport of concentrates to the preferred Port of Antofagasta Chile, or alternative ports of Arica, Chile, and Matarani, Peru.

The mines have telephone and broadband radio communications.

Figure 5-1: Location of Caballo Blanco Mines and Don Diego Plant

Source: Google (2021)

5.2 Climate and Physiography

The predominant landscape in the mining areas is mountainous topography, hills and streams with typical flora and fauna. The area in which the mining concessions lie is the Bolivian physiographic province A2 Cordillera Central Oriental, elevation vary from 5,008 masl. (Cerro Jatun Condori) to 4,200 masl (Estancia La Esquina) with a wavy mountain geomorphology. The mines are located in the Eastern Cordillera on the line that follows the Cordillera Kari, with outcrops of Tertiary age igneous rock, and sedimentary rocks, which do not support appreciable vegetative cover.

Generally, the region is semi-arid with rainy season beginning in earnest between the months of October and March, and the dry season from April to September. However, precipitation events are common throughout June July and August as well.

Weather stations at the mines showed 2019 temperatures ranging from -7 to 19.5ºC. Total precipitation was 50 cm.

5.3 Infrastructure

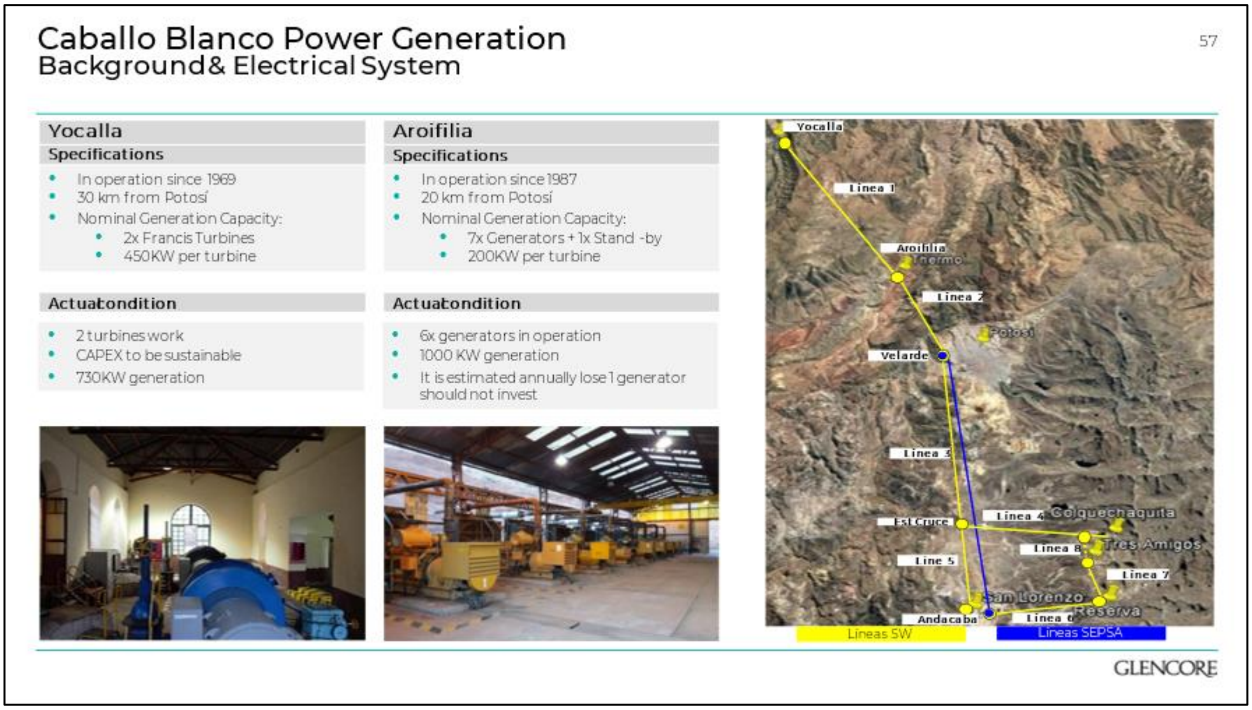
Proximity to the city of Potosi, allows use of the established system of paved highways to provide access by truck to any services, or supplies required for mine operations. Labor supply is also nearby in Potosi. The secondary access roads to the mines off the main pave highway are gravel and serviceable but not well maintained.

Electric power to the Mines is supplied via the State grid (SEPSA) with supplementary power provided by two generating plants owned and operated by Sinchi Wayra. The Yocalla plant runs on hydro power and the Aroifilia on natural gas. Currently the mines buy approximately 50% of their power from the grid (SEPSA) and generate the remainder. Power is provided on separate lines from each provider and distributed with the mine's distribution system to regulate power to each mine. Both Sinchi Wayra plants are older and in need of capital investment to remain viable.

Each of the mines produces enough water to treat and reuse for industrial use on site. Excess treated water is discharged to the environment at regulated quality standards. Annually, a total of 2.5 Mm^3 of mine water is treated and 2.4 Mm^3 discharged from two water treatment plants.

The Tailings storage facility is located at the Don Diego process plant.

Figure 5-2: Caballo Blanco Power Generation



Source: Glencore (2021)

6 HISTORY

6.1 Management and Ownership

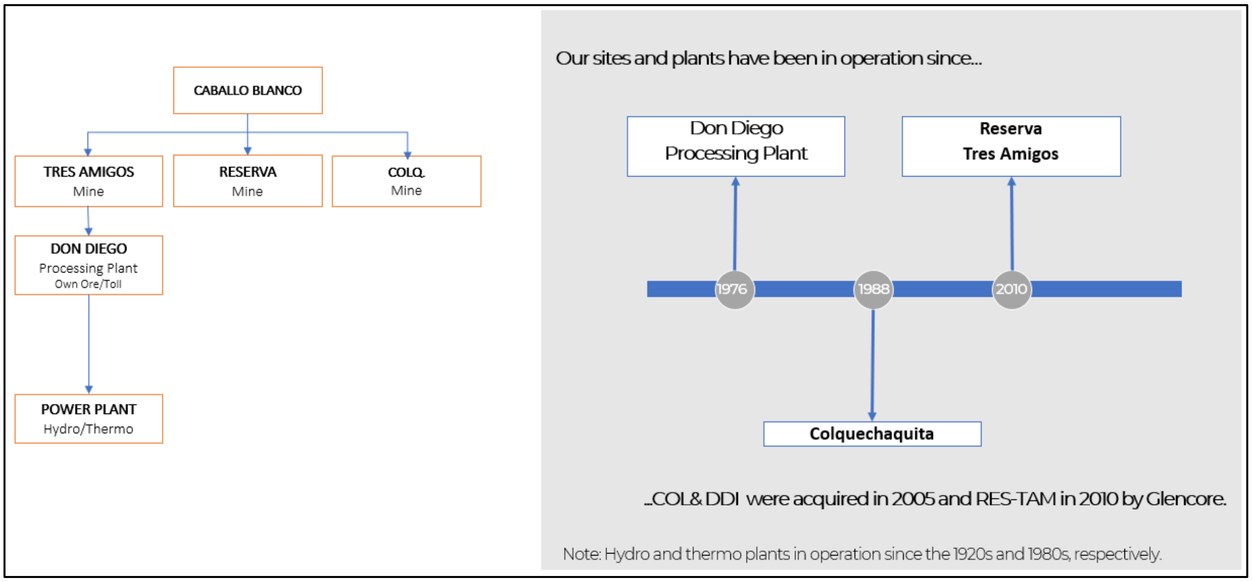
Caballo Blanco is a result of business consolidation over time. The Don Diego Plant was originally acquired by the precursor of Sinchi Wayra S.A. (Sinchi Wayra); Compania Minera del Sur (COMSUR) in 1976. COMSUR purchased the specific mining interests from small private owners and operators loosely organized into cooperativas. Coquechaquita in 1988, and (as Sinchi Wayra) Reserva/TresAmigos mines in 2010. Glencore became involved in 2005 with the purchase of COMSUR and effecting the name change to Sinchi Wayra.

Sinchi Wayra is a wholly owned subsidiary of Glencore Plc, one of the most diversified, vertically integrated producers, processors, and marketers of natural products in the world. Sinchi Wayra S.A. is the producing operator that is part of Glencore's Zinc Department, operating the largest underground mines in Bolivia and producing zinc-silver and lead-silver concentrates.

Sinchi Wayra S.A. owns and operates all facets of the Caballo Blanco business; The Don Diego processing plant and Coquechaquita mine since their acquisition in 2005, and Reserva and Tres Amigos mines from their acquisition in 2010. The Power plants, Aroifilla thermal power plant, and the Yocalla hydro-electric plant which provide supplementary electric power are also owned and operated by Sinchi Wayra and are included under the management of Caballo Blanco project.

On October 11, 2021, Santacruz entered into the Definitive Agreement with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets from Glencore. The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Illapa and COMIBOL, a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business.

Figure 6-1: Project History



Source: Glencore (2021)

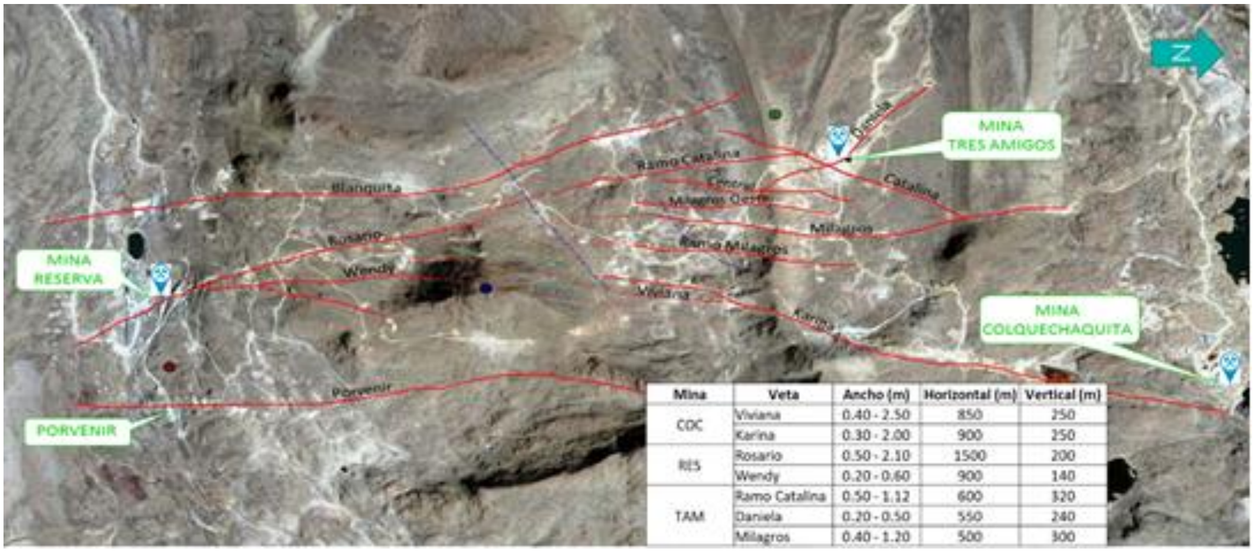
6.2 Mine Operations

As a unit, Caballo Blanco produces about 850 t/d of mineralized material. Approximately 60% of mine production is generated by conventional shrinkage and cut & fill methods. The remainder is produced by more modern trackless sublevel stoping. Run-of-mine mineralized material is hauled to the Don Diego Process plant in dump trucks.

Although each mine is currently an autonomous operation, all three mines are exploiting the same mineralized trend and there is no reason to believe that as mining continues additional opportunities to plan common development, infrastructure and other shared services will arise. One example would be current plans for a trackless connection between Tres Amigos and Colquechaquita which would increase haulage capacity at Colquechaquita and provide trackless access to additional mineralized zones.

Mine labor totaled approximately 275 full time employees for the past several years. Mineralized material production averaged about 245,000 t/a pre-pandemic for an overall productivity of 2.9 tonnes per manshift.

Figure 6-2: Mine Locations on the Mineralized Trend



Mina	Veta	Ancho (m)	Horizontal (m)	Vertical (m)
COC	Viviana	0.40 - 2.50	850	250
	Karina	0.30 - 2.00	900	250
RES	Rosario	0.50 - 2.10	1500	200
	Wendy	0.20 - 0.60	900	140
TAM	Ramo Catalina	0.50 - 1.12	600	320
	Daniela	0.20 - 0.50	550	240
	Milagros	0.40 - 1.20	500	300

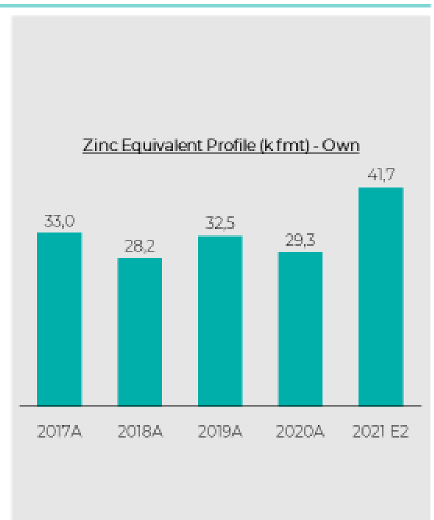
Source: Glencore (2021)

Figure 6-3: Mine Production

Caballo Blanco
Production

66

Production	ACT 2017	ACT 2018	ACT 2019	ACT 2020	EST02 2021
1ry Dev (km)	2.2	3.2	3.5	3.1	5.1
2ry Dev (km)	5.3	6.8	7.0	4.6	6.2
Extraction (k mt)	251	238	251	199	255
Treatment (k mt)	250	233	249	200	254
Zn (%)	7.3	6.4	6.8	6.8	7.7
Pb (%)	1.9	1.9	1.9	2.1	2.2
Ag (g/t)	213.2	198.1	214.4	245.4	268.5
Zn conc (k mt)	34.3	28.0	31.6	25.5	36.7
Pb conc (k mt)	6.7	6.1	6.5	5.8	7.8
Recoveries					
Zn (%)	93.3	92.4	93.8	92.3	93.7
Pb (%)	78.5	80.3	81.2	83.3	81.5
Ag (%)	88.1	89.0	89.7	91.7	92.3
Own Source Metal					
Zn (k fmt)	17.0	13.7	15.9	12.8	18.4
Pb (k fmt)	3.8	3.5	3.9	3.5	4.6
Ag (M Oz)	1.5	1.3	1.5	1.4	2.0



GLENCORE

Source: Glencore (2021)

The mining operations follow steeply dipping veins striking predominantly North/South. Veins vary in width from 0.2 to 2.5 m, the wider and more consistent veins being mined using more productive longhole methods.

Reserva mine is the youngest and most modern of the three mines. Mine production is about 275 t/d. All mining is done with sublevel longhole methods and trackless development. In principle, the AVOCA method being used has all the productivity advantages of longhole stoping and allows for concurrent backfill to continuously support the hanging wall. Backfill for stoping is generated from the development mining.

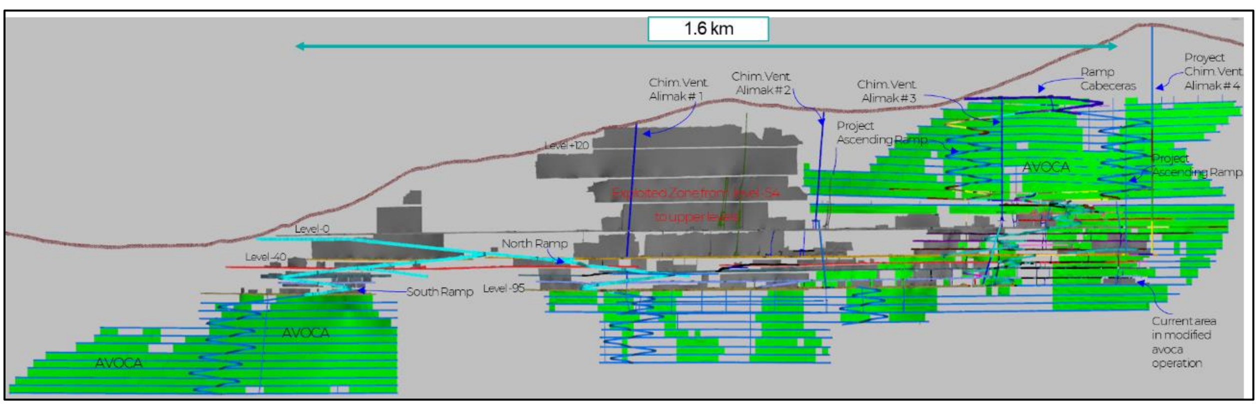
The primary access drift is at Level 0, form where two internal ramps are driven; South and North which currently access down to the -95 m level. Mineral extraction from each level is via these main ramps directly to surface using rubber tired mechanized equipment. Waste rock is preferentially stored underground or used directly as stope backfill.

Fresh air enters through the current main access, Level 0, splits at the main ramps towards the working areas, and is exhausted through a series of ventilation raises.

Reserva mine has its own support services including electrical and mechanical shop for both surface and underground, drill shop for both conventional air tools and electric/hydraulic jumbos, and a diesel shop to service the trackless fleet. The work in the mine takes place in three eight-hour shifts starting at 7 am.

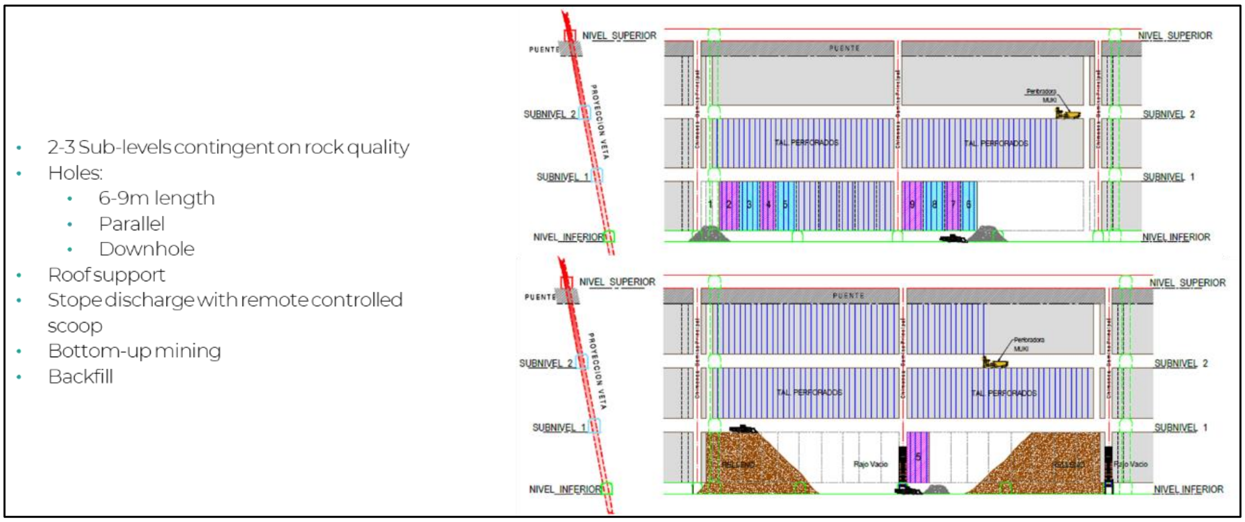
Figure 6-4 is a general layout of developed areas currently being mined and planned development in the North and downdip to the south.

Figure 6-4: Reserva Mine Layout



Source: Glencore (2021)

Figure 6-5: Avoca Mining at Reserva Mine



Source: Glencore (2021)

Table 6-1: Reserva Mine Equipment

Make	Model	Number
Scoop		
SANDVIK	LH-203	4
HES	HS10E	1
ATLAS COPCO	ST-7	1
TAMROCK	100E	1
TAMROCK	TORO 151D	1
Mine Truck		
DUX	DT-12	3
Hydraulic Drill		
ATLAS COPCO	BOOMER H-104	1
RESEMIN	MINIRAPTOR 22	1
RESEMIN	RAPTOR 44	2
RESEMIN	MUKI FF	2
RESEMIN	SMAL BOLTER 77	1

Source: Glencore (2021)

Colquechaquita mine has been in production since 1991 using tracked development and conventional shrinkage and cut and fill stoping methods. The mine produces about 230 t of mineralized material per day. The transition to mechanized mining is in process but still in the early stages. Much production continues to be generated from conventional methods. The southern portion of the mine is moving to trackless development. However, equipment brought into the mine must be disassembled and moved in the shaft which is time consuming and labor intensive.

The main access to the mine is via Level 0, and current mining activity extends down to the -240 m level. Old workings are maintained were advantageous for dewatering and as ventilation ways.

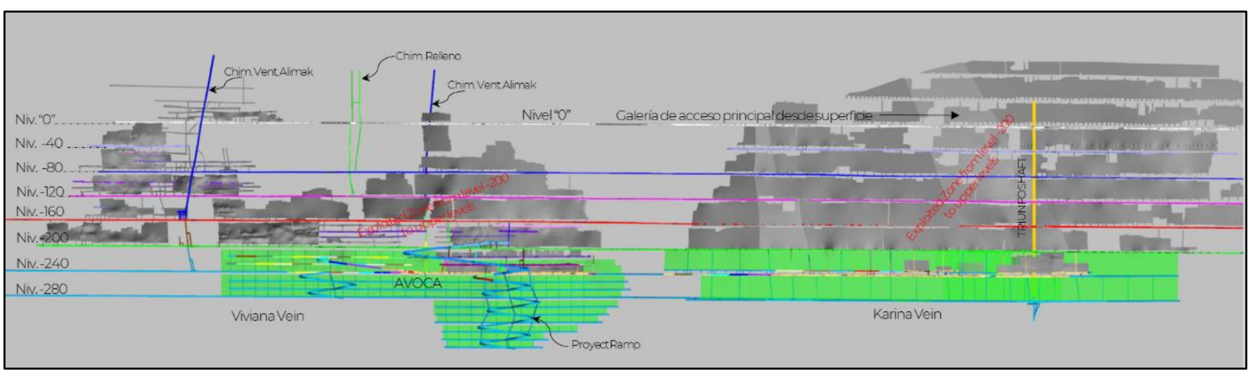
Currently, all rock is moved via rail to the shaft where it is hoisted to the main haulage level (Level 0) and then hoisted to surface. Some trackless equipment is being use in the AVOCA area of the mine where rock is mucked from the stopes with diesel LHD and then loaded into railcars for haulage to the shaft.

Ventilation uses a combination of natural pressure through the old drifts and airways, and exhaust fans in a series of drifts and raises. Dewatering is accomplished with a series of pumping stations at the main shaft on nominal 40 m intervals. Water is pumped up to Level 0 where it is conveyed to the water treatment plant via gravity in a ditch. As with Reserva mine, Colquechaquita also maintains its own mechanical and electrical shops to service the mine.

Colquechaquita mine has a workforce of 134 people 110 miners, 17 supervision and 7 administrative. The mine works three 8-hour shifts starting at 7 am.

Figure 6-6 is a general layout of developed areas currently being mined and planned development using conventional methods in the North and downdip to the south using trackless development and longhole methods.

Figure 6-6: Colquechaquita Mine Layout



Source: Glencore (2021)

Table 6-2: Colquechaquita Equipment List

Make	Model	Number
Scoop		
TAMROCK – ARAMINE	TOROR 151D	1
Mine Truck		
DUX	DT-12	1
Hydraulic Drills		
RESEMIN	MUKI 22	1
RESEMIN	MUKI FF	**1**
Rail Equipment		
NA	Battery Locomotives	12
Eimco	12B	7

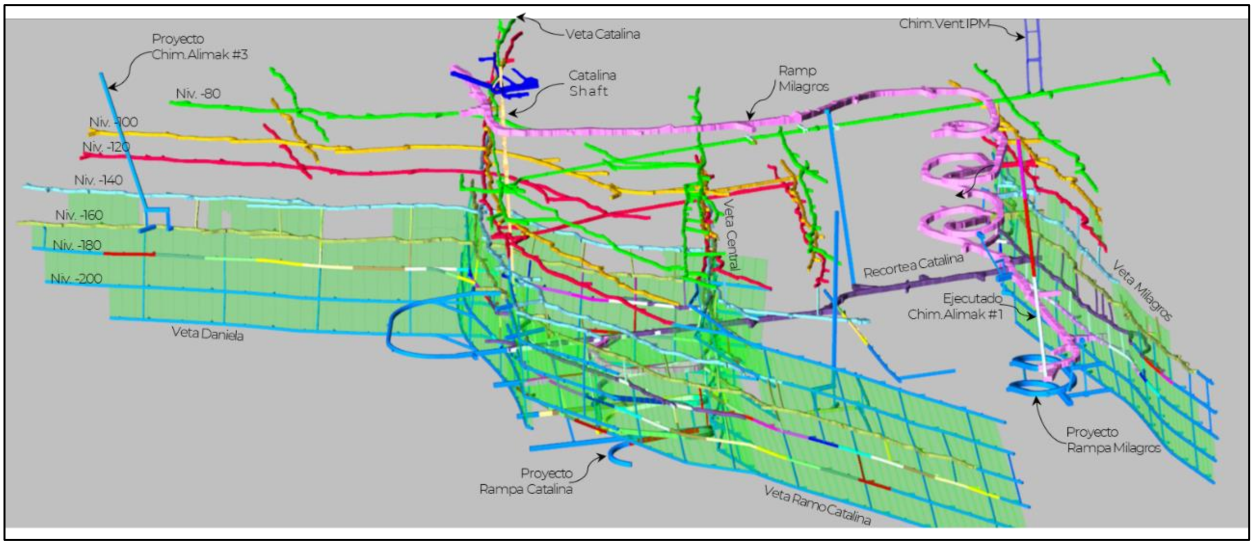
Source: Glencore (2021)

Tres Amigos remains a conventional tracked mine using mostly a modified shrinkage stoping method. The mineralized zones are narrow and high-grade making them well suited to these more selective stoping methods. The operation incorporates higher productivity methods where advantageous, such as auxiliary development and ramps driven with trackless equipment. Stoping takes place generally above the -200 level and mineralized material production averages approximately 300 t/d. Mineralized material is hauled by rail to the main Catalina shaft for hoisting to surface. The production from Tres Amigos is consistent. The impression was that the workforce is skilled, well trained, and well supported by capable technical support and planning.

Fresh air enters through the main access of Level 0 and the north ventilation raise with a flow rate of 18,700 m^3/h; Used air is exhausted via three ventilation raises to surface.

Figure 6-7 is a general layout of developed areas currently being mined and planned development downdip.

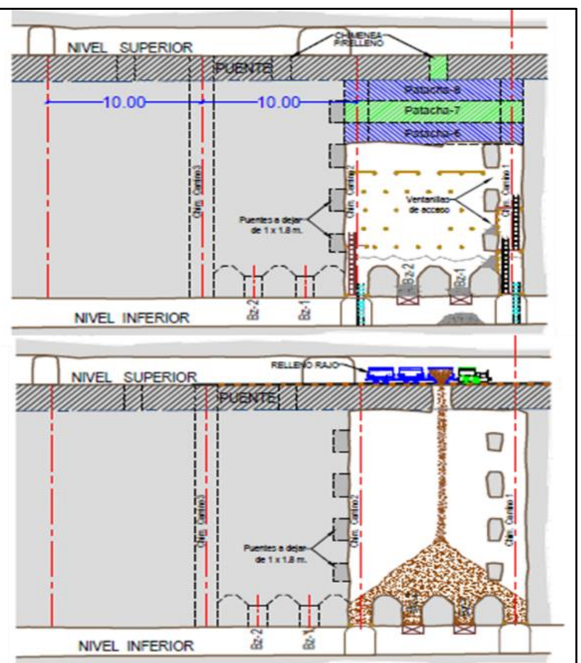
Figure 6-7: Tres Amigos Mine Layout



Source: Glencore (2021)

Figure 6-8: Shrinkage Mining as Practiced at Tres Amigos

- Stope dimension 10m x 20m
- Uphole drilling (1.8m Height x 10m length)
- 1 month mining and discharge period
- Discharge by gravity



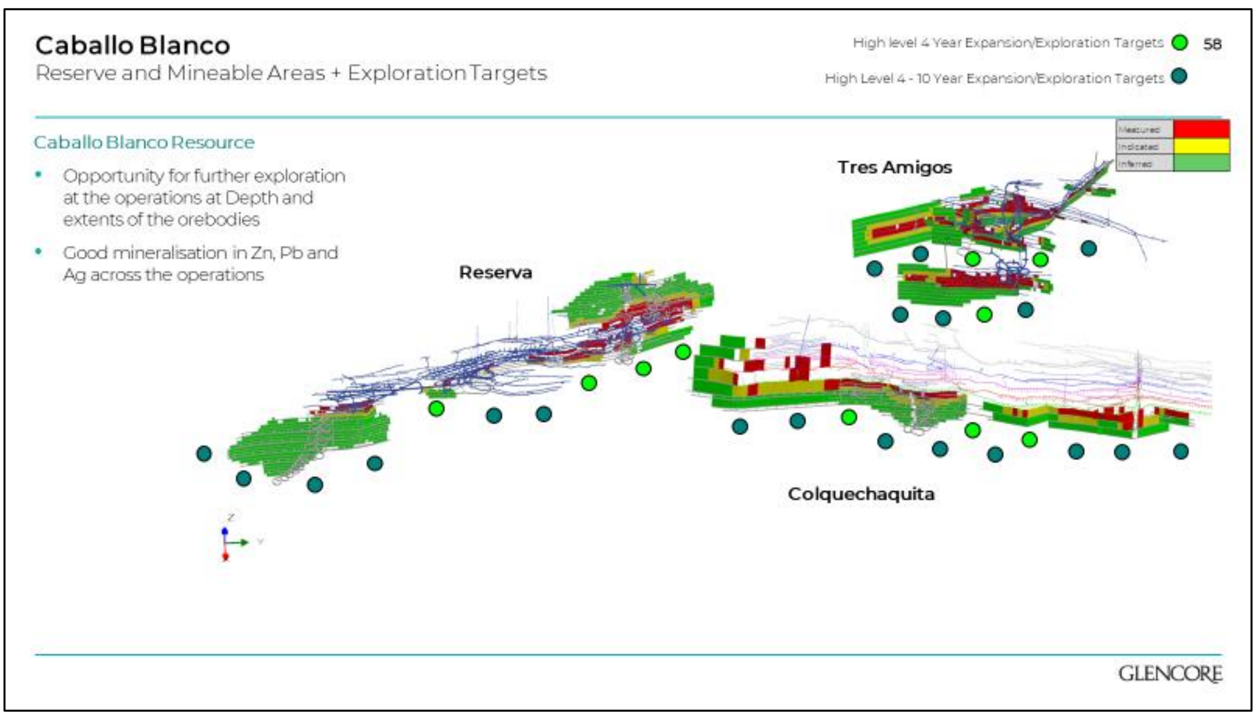
Source: Glencore (2021)

Table 6-3: Equipment List Tres Amigos

Make	Model	Number
Scoop		
ATLAS COPCO	ST1030	1
TAMROCK	100D	2
OVERPRIME	XLH05D	2
Mine Truck		
DUX	DTS12	1
DUX	SL1-5000N	1
Equipos de Perforacion Electrohidraulicos		
RESEMIN	SMALL BOLTER 88	1
ATLAS COPCO	S 1 D	1
Rail Equipment		
Goodman	Battery Locomotive	6
Eimco	12B	5

Source: Glencore (2021)

Figure 6-9: Mineable Areas and Exploration Targets



Source: Glencore (2021)

6.3 Processing

The processing plant at the Don Diego accepts feed from the Cabello Blanco deposit as well as toll feed from artisanal miners. The Don Diego process uses sequential flotation to produce 2 concentrates: lead and zinc. Both concentrates contain high values of Silver with the lead concentrates containing approximately 6,500 g/t Ag and the zinc concentrates containing approximately 300 g/t Ag for company feed and 4,000 g/t Ag in the lead concentrate and 450 g/t Ag in the zinc concentrate for toll feed.

The mill uses a crushing, grinding, and flotation flowsheet to recover a lead concentrate and a zinc concentrate. Both concentrates are sold to the Antafagasta smelter in Chile. The mill flowsheet can be found in Figure 6-26 in Section 6.3.3.

The mill generally separates company and toll feed into different days, but there are a few days where the feed is processed on the same day, with a shutdown separate the 2 feeds.

The company feed grade is determined by sampling the cyclone overflow, flotation tailings and lead and zinc concentrates. The production is reconciled monthly using smelter shipments, the tailings grade and the tonnes fed to the mill, which is standard practice for reconciling mill production. The toll ore is received by San Lucas, often in 1-2 t lots, where it is weighed and sampled. The ore is combined on a toll feed stockpile to be fed to the mill. The toll feed is reconciled in the mill the same as company feed.

The mill utilizes similar reagents strategies for the toll and company feed materials. The processing plant targets approximately 20% of the feed to be toll material.

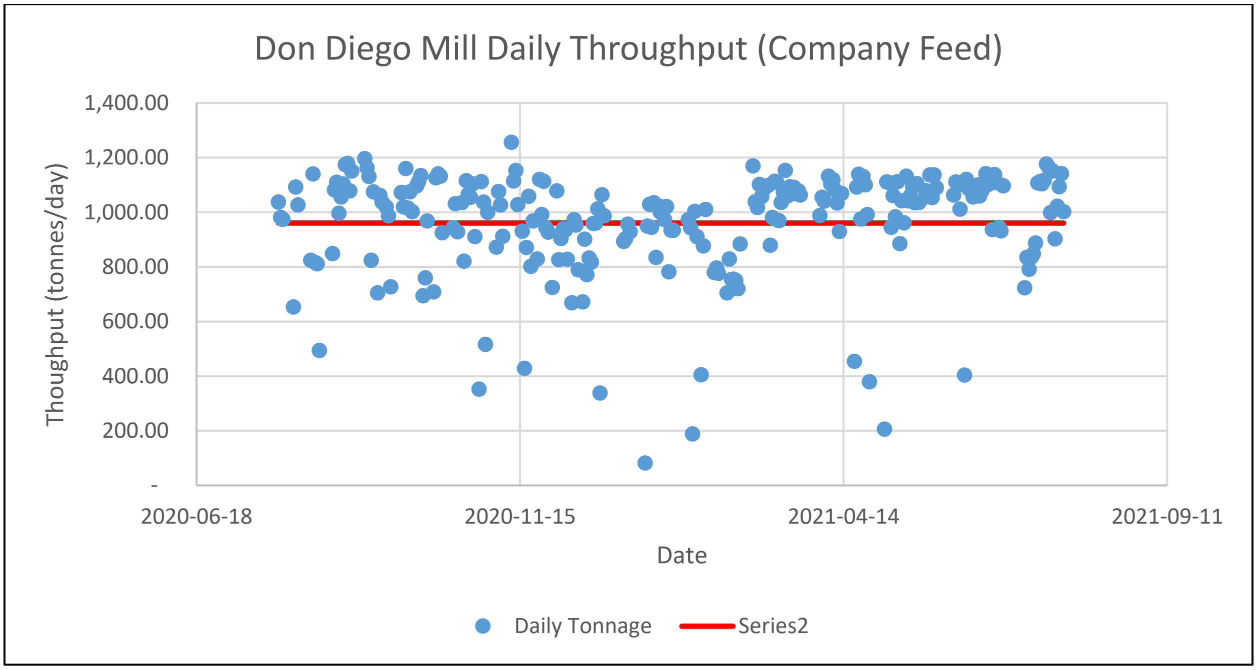
6.3.1 Company Feed Processing

Data from August 2020 to July 2021 was used to develop the expected metallurgical performance of the Don Diego mill. This data was used to determine throughput, recovery and concentrate grade relationships. The results will be discussed in the upcoming sections.

6.3.1.1 Mill Throughput

The expected availability for the mill is 95.5% and the utilization is 95% for an expected operating time of 90.7%. The actual throughput from August 2020 to July 2021 can be found in Figure 6-10.

Figure 6-10: Don Diego Mill Company Feed Throughput 2020/2021



The throughput of company feed through the Don Diego mill during the analyzed period was a little lower than the stated target, with the average of the days it operated being 960 t/d. During the analyzed period, the mill ran company feed over 247 whole or partial days and processed 239,103 t of feed. The data suggests that the feed rate is not achieving the target throughput for company feed.

6.3.1.2 Feed Grades

For the period examined, the unreconciled feed grades for the company feed were 6.87% zinc, 2.10% lead, and 237 g/t silver. The feed was somewhat variable with standard deviations of 0.66, 0.32, and 37.99 for zinc, lead, and silver respectively. These values fall within the expected ranges for Don Diego feed. The unreconciled feed grades can be seen in Figure 6-11, Figure 6-12, and Figure 6-13.

Figure 6-11: Zinc Feed Grade 2020/2021

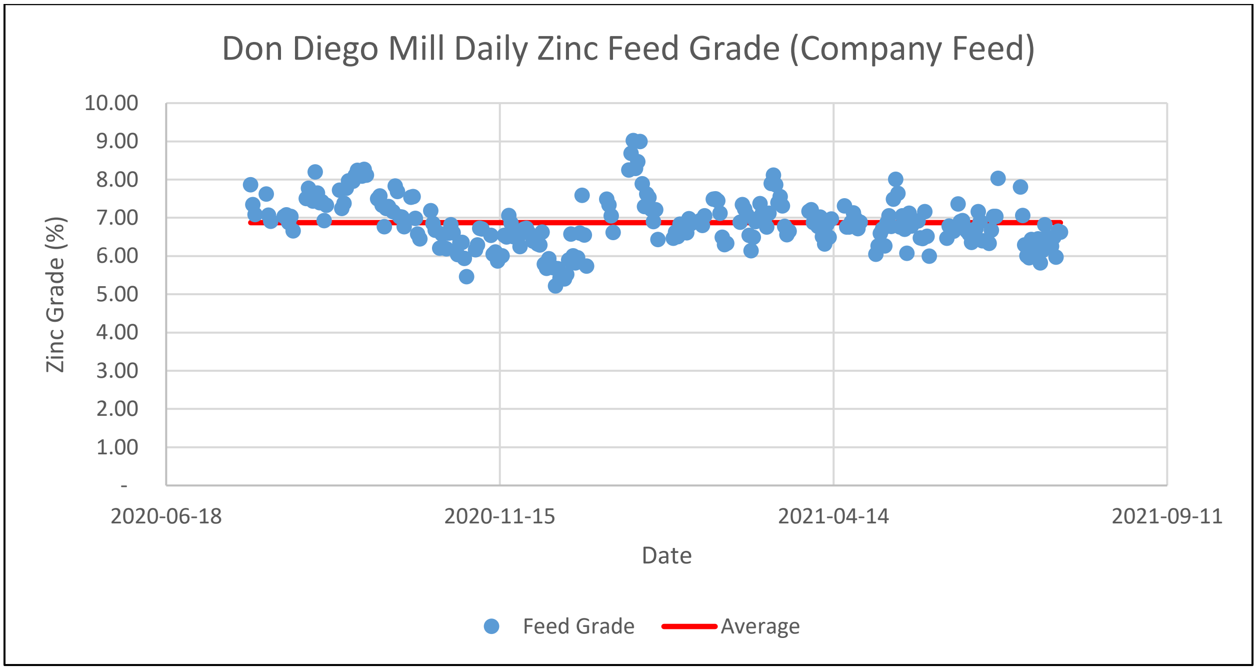


Figure 6-12: Lead Feed Grade 2020/2021

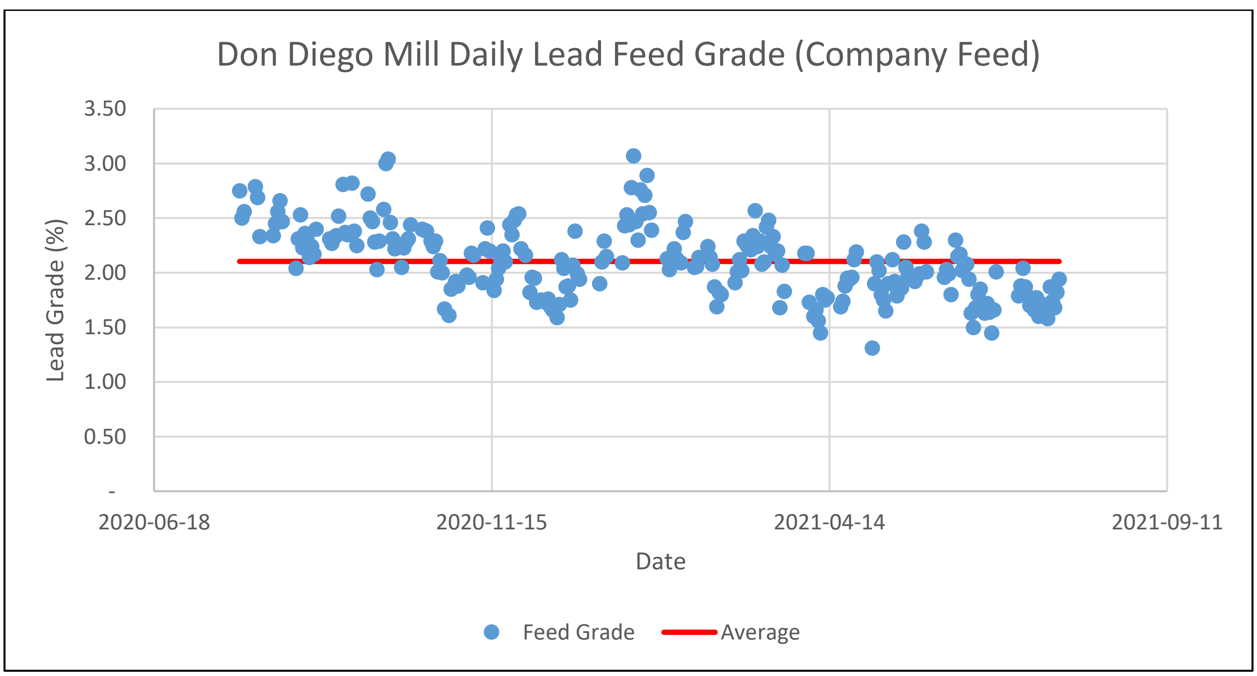
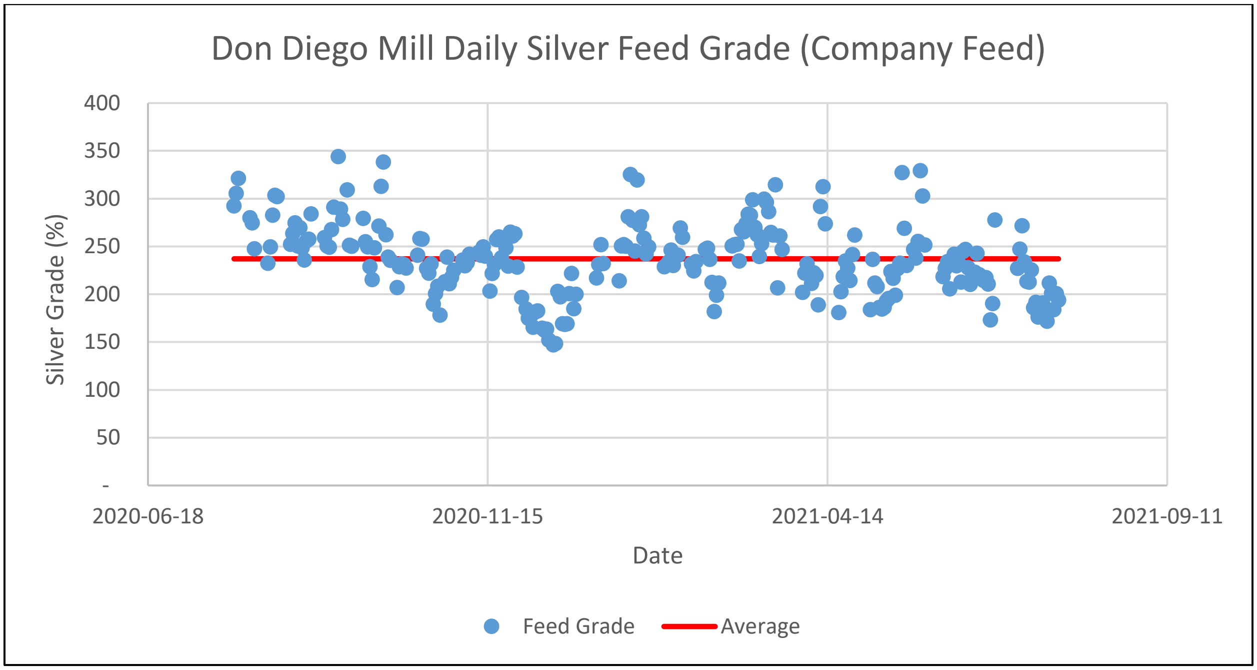


Figure 6-13: Silver Feed Grade 2020/2021



The mill feed grades are measured at the lead circuit flotation feed.

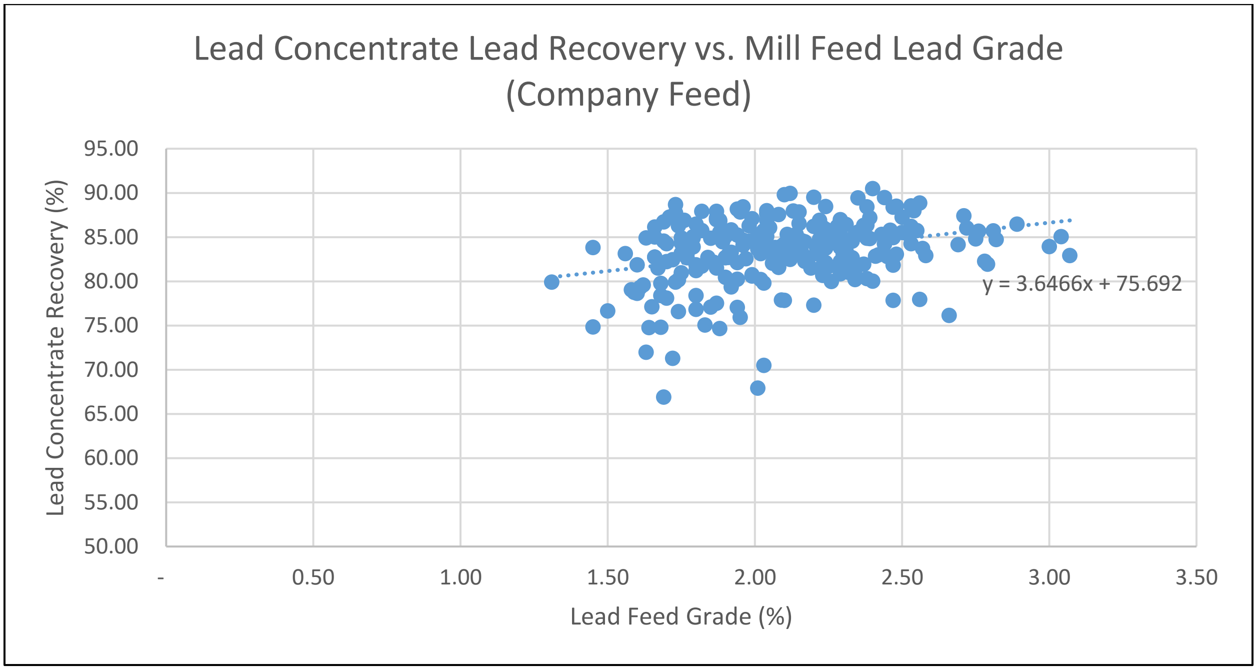
6.3.1.3 Lead Production

The lead concentrate produced during evaluated period measured 6,882 t which represents 2.88% of the feed to the plant.

The average grade of the lead concentrate was 61.03% lead, 3.5% zinc, and 6,460 g/t silver. The recoveries to the lead concentrate were 83.31%, 78.15%, and 1.47% for lead, silver, and zinc respectively.

The relationship between the lead feed grade and the lead recovery to the lead concentrate can be seen in Figure 6-14. While there is some variability, especially in the lower lead feed grades, a relationship can be seen between lead feed grade and recovery to the lead concentrate.

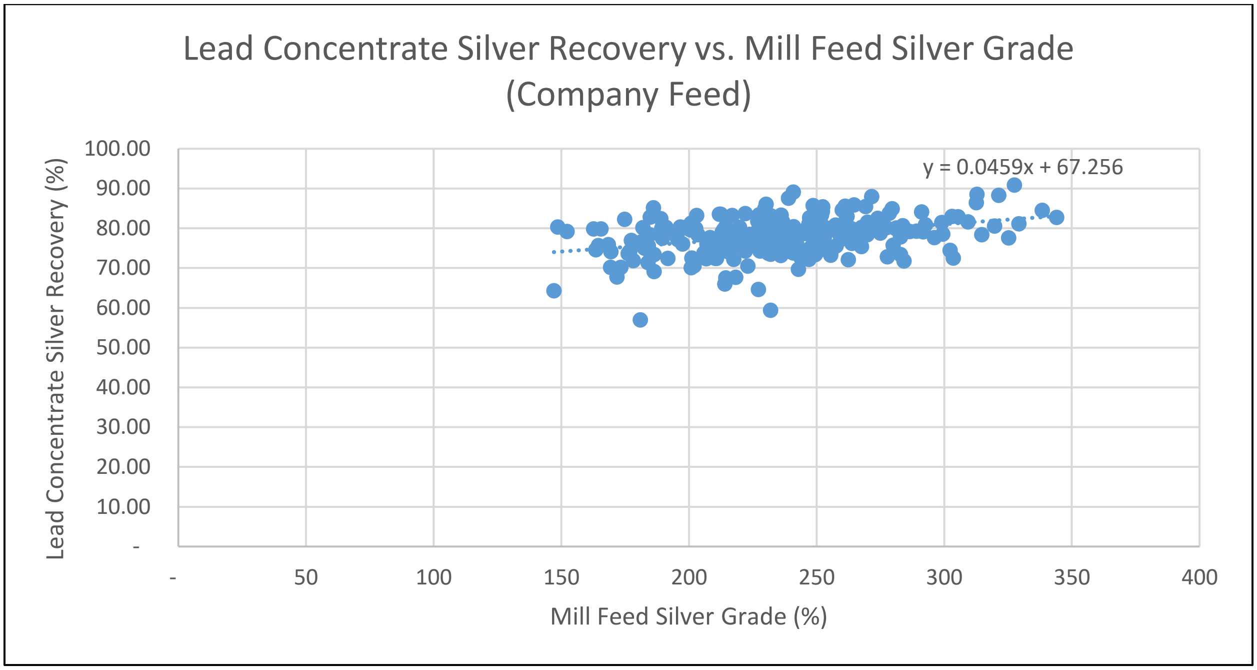
Figure 6-14: Mill Lead Concentrate Recovery vs. Lead Feed Grade



From the above analysis, the recovery relationship for lead to the lead concentrate will be considered: 3.65*(lead feed grade %) + 75.69.

The silver recovery to both the lead and zinc concentrates is a byproduct of the flotation process; the silver is associated with the lead and zinc minerals and follows them into the concentrates. The recovery of silver to the lead concentrate can be seen in Figure 6-15, In this case, the silver recovery appears to have a reasonable correlation to the silver grade in the feed and therefor the relationship of 0.0459*(Silver feed grade %) + 67.256 will be used for this report.

Figure 6-15: Silver Recovery to the Lead Concentrate vs. Mill Feed Silver Grade



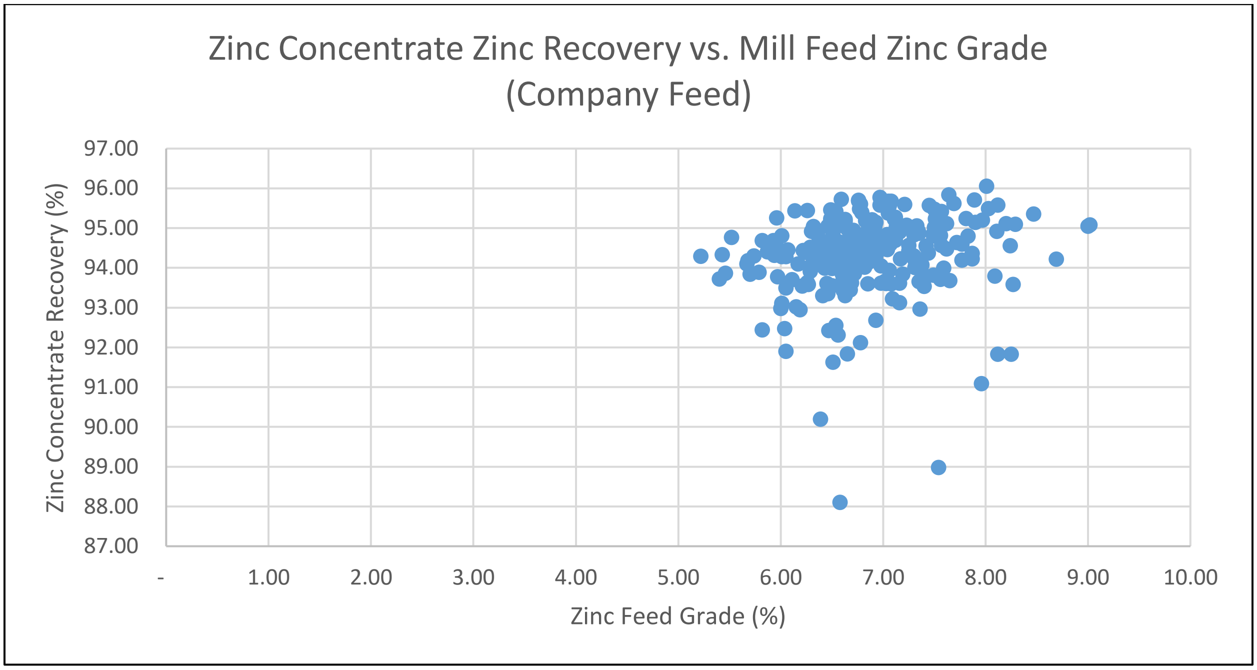
6.3.1.4 Zinc Production

The zinc concentrate accounts for approximately 12.81% of the feed mass.

Over the period analyzed, the unreconciled zinc concentrate production was 30,629 t with average grades of 50.67% zinc, 1.39% lead, and 282 g/t silver. The recoveries to the zinc concentrate were 94.41%, 15.35%, and 8.55% for zinc, silver, and lead respectively.

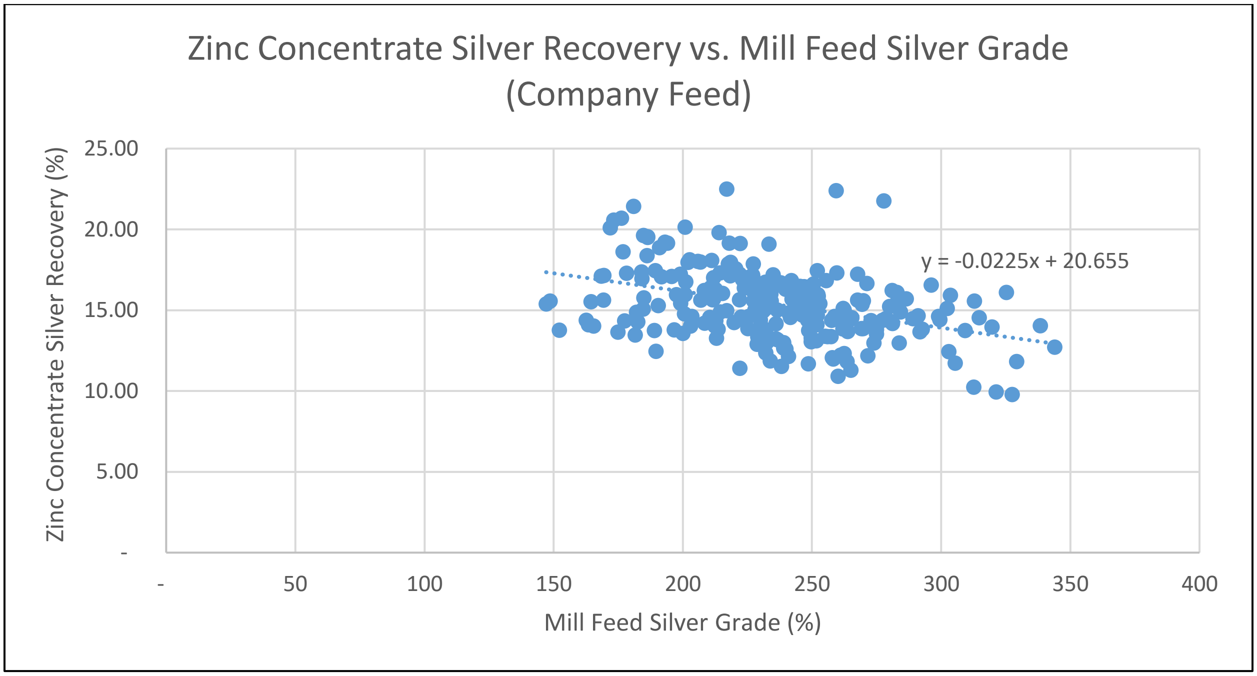
The zinc recovery as a function of the feed grade was examined and found to be a poor relationship for determining expected zinc recovery to the zinc concentrate as can be seen in Figure 6-16. It was determined in this case that the best option was to assign a zinc recovery to the zinc concentrate of 94%, which is the average value over the period examined.

Figure 6-16: Zinc Recovery to the Zinc Concentrate vs. Mill Feed Zinc Grade



The silver recovery to the zinc concentrate can be seen in Figure 6-17. In this case, the recovery has a negative relationship to the feed grade, presumably due to the positive correlation that the silver recovery to the lead concentrate has with the silver feed grade. The relationship for the silver recovery to the zinc concentrate will be taken as -0.0225 x (Silver Feed Grade) + 20.655.

Figure 6-17: Silver Recovery to the Zinc Concentrate vs. Mill Feed Silver Grade



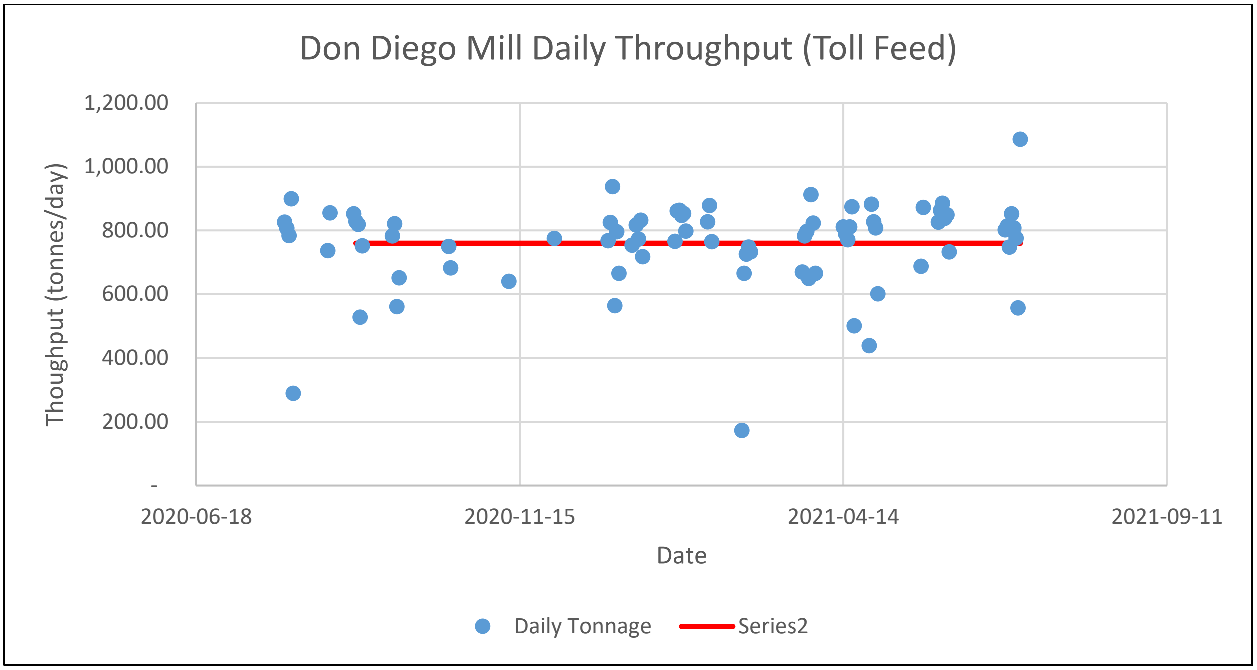
6.3.2 Toll Feed Processing

Data from the same time period, August 2020 to July 2021, was used to develop the expected metallurgical performance of the Don Diego mill on toll feed. As was the case for the company feed, the data was used to determine throughput, recovery and concentrate grade relationships.

6.3.2.1 Mill Throughput

As with the company feed, the expected availability for the mill is 95.5% and the utilization is 95% for an expected operating time of 90.7% for the toll feed. A summary of the throughput from August 2020 to July 2021 can be found in Figure 6-18.

Figure 6-18: Don Diego Mill Toll Feed Throughput 2020/2021



The throughput of company feed through the Don Diego mill during the analyzed period was a slightly lower than the stated target, with the average of the days it operated being 760 t/d. During the analyzed period, the mill ran company feed over 79 whole or partial days and processed 60,002 t of feed. The data suggests that the feed rate is not achieving the target throughput for company ore.

The target grind for the Don Diego plant toll feed is a P_{80} of 100 µm.

6.3.2.2 Feed Grades

For the period examined, the unreconciled feed grades for the toll feed were 8.08% zinc, 0.99% lead, and 144 g/t silver. The feed was somewhat variable with standard deviations of 2.21, 0.66, and 55.4 for zinc, lead, and silver respectively. These values fall within the expected ranges for Don Diego toll feed. The unreconciled feed grades can be seen in Figure 6-19, Figure 6-20, and Figure 6-21.

Figure 6-19: Toll Feed Zinc Grade 2020/2021

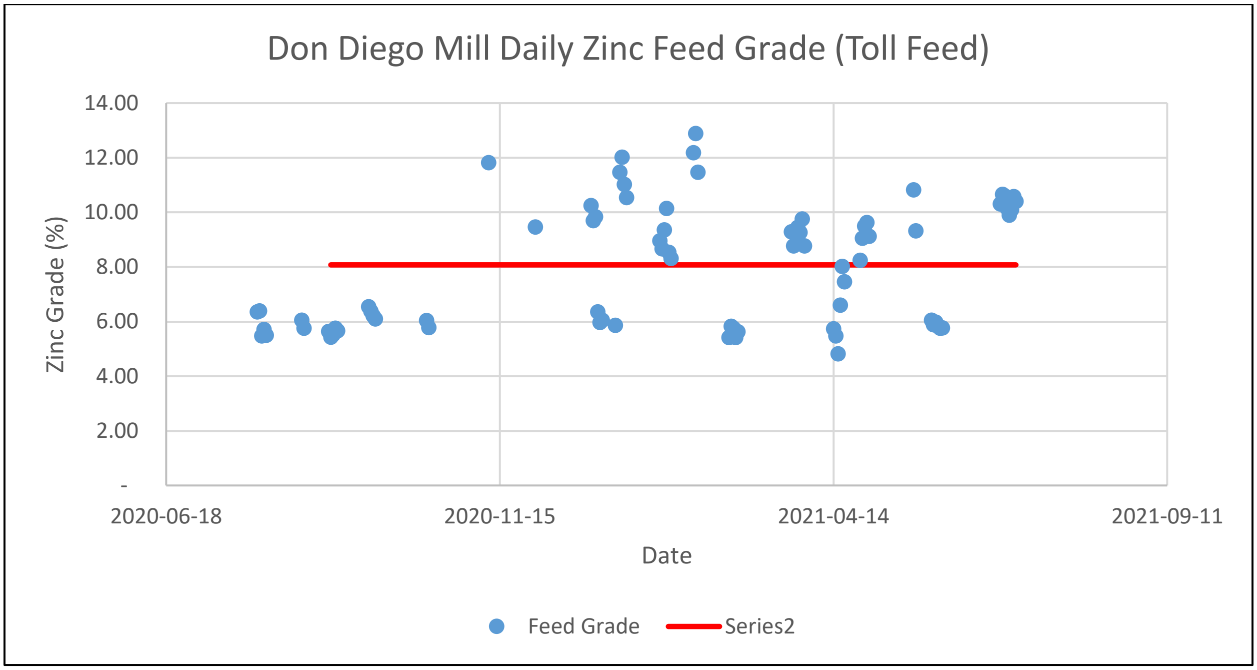


Figure 6-20: Toll Feed Lead Grade 2020/2021

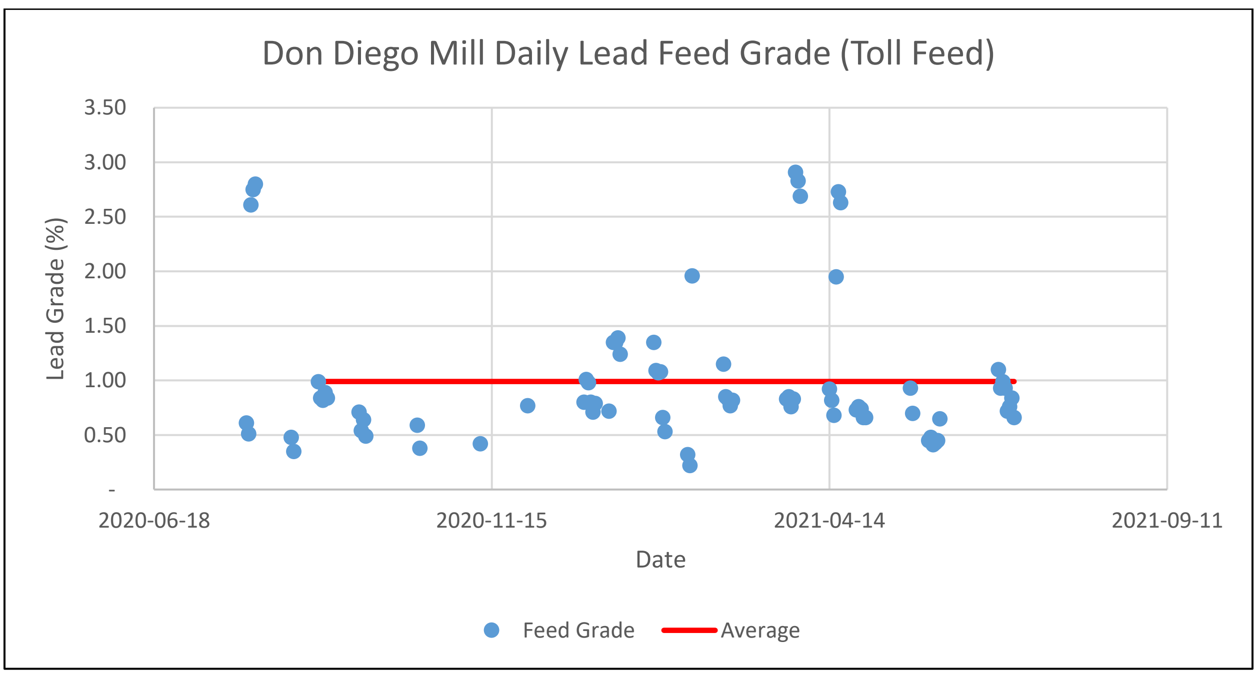
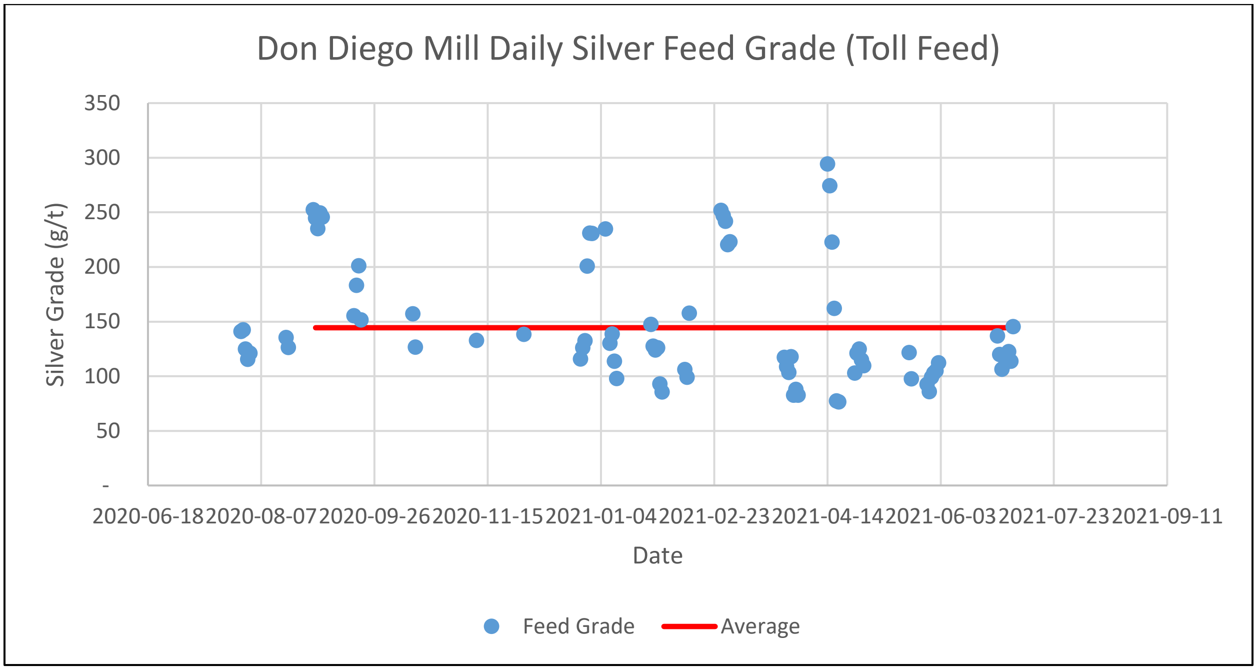


Figure 6-21: Toll Feed Silver Grade 2020/2021



The toll feed head grades were measured in the same location as the company feed.

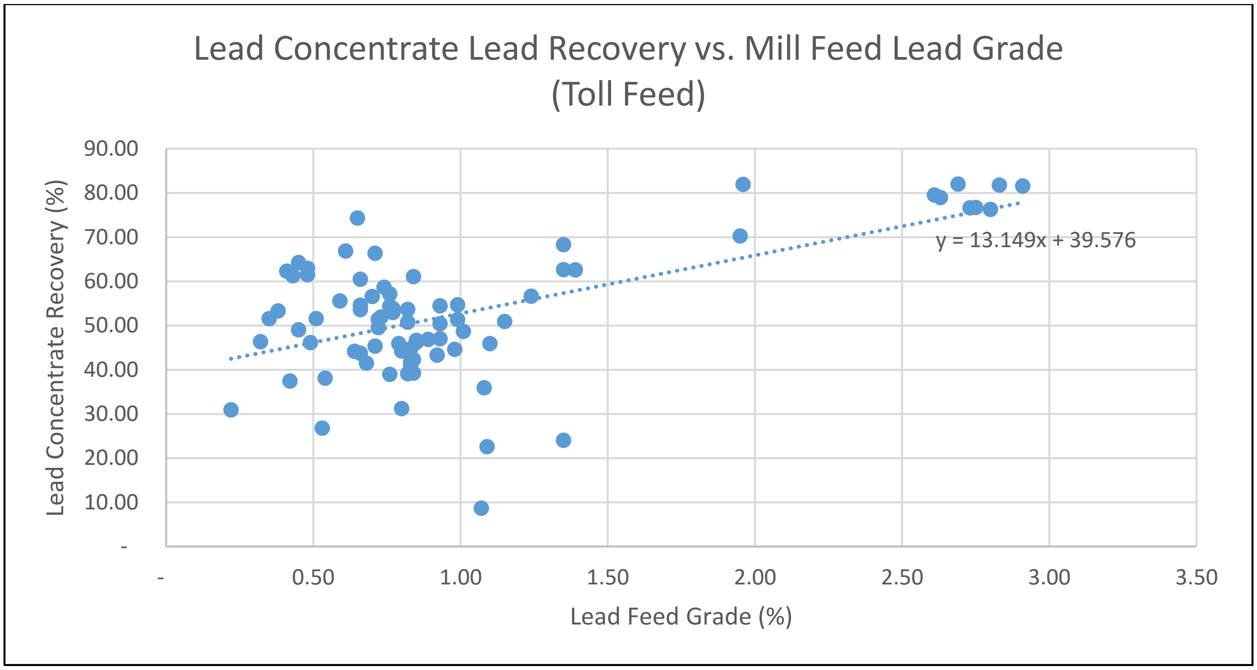
6.3.2.3 Lead Production

The toll feed utilizes the same reagents as the company feed. The lead concentrate produced during evaluated period measured 771 t which represents 1.28% of the feed to the plant.

The average grade of the lead concentrate was 44.86% lead, 9.01% zinc, and 4,064 g/t silver. The recoveries to the lead concentrate were 52.64%, 36.90%, and 1.61% for lead, silver, and zinc respectively.

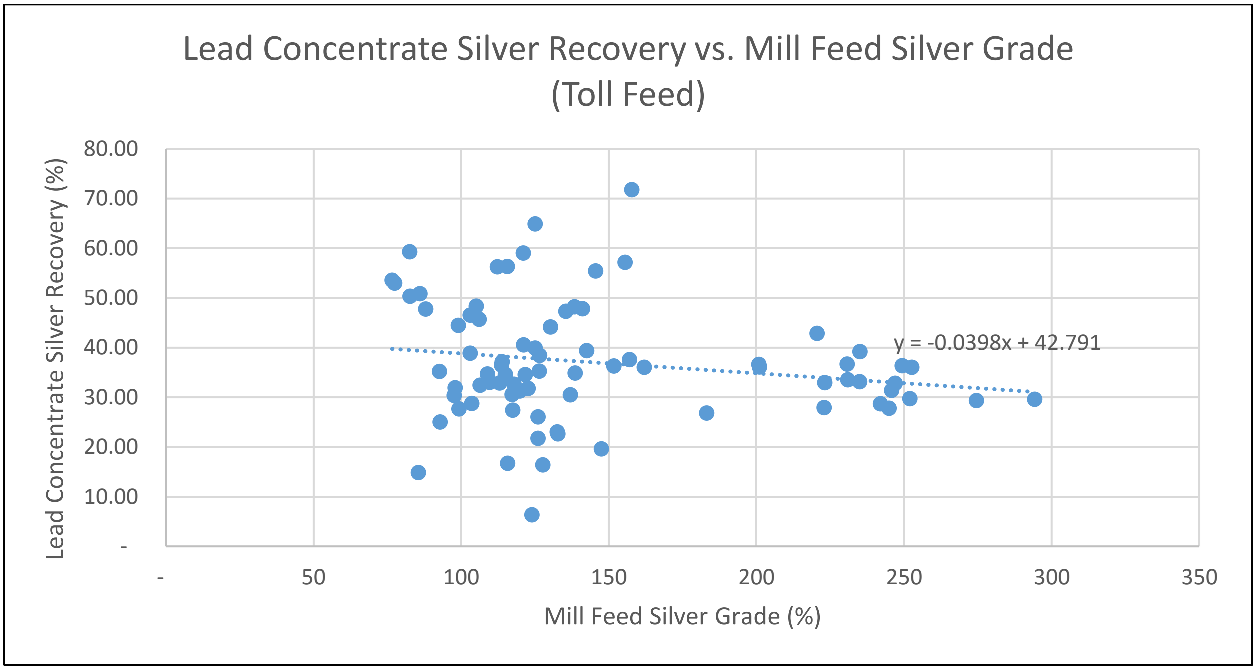
The relationship between the lead feed grade and the lead recovery to the lead concentrate can be seen in Figure 6-22. This relationship does not appear as distinct as the relationship for the company ore, but still can be used for a recovery prediction. The recovery relationship for lead to the lead concentrate was determined to be: 13.149 x (lead feed grade %) + 39.576.

Figure 6-22: Mill Lead Concentrate Recovery vs. Lead Feed Grade



The silver recovery to both the lead and zinc concentrates is a byproduct of the flotation process; the silver is associated with the lead and zinc minerals and follows them into the concentrates. The recovery of silver to the lead concentrate, which can be seen in Figure 6-23, does not demonstrate a strong correlation, but does offer a pattern which is used to develop a feed grade vs. recovery relationship. The silver recovery will be taken as -0.0398*(Silver grade in the feed) + 42.791 for this report.

Figure 6-23: Silver Recovery to the Lead Concentrate vs. Mill Feed Silver Grade

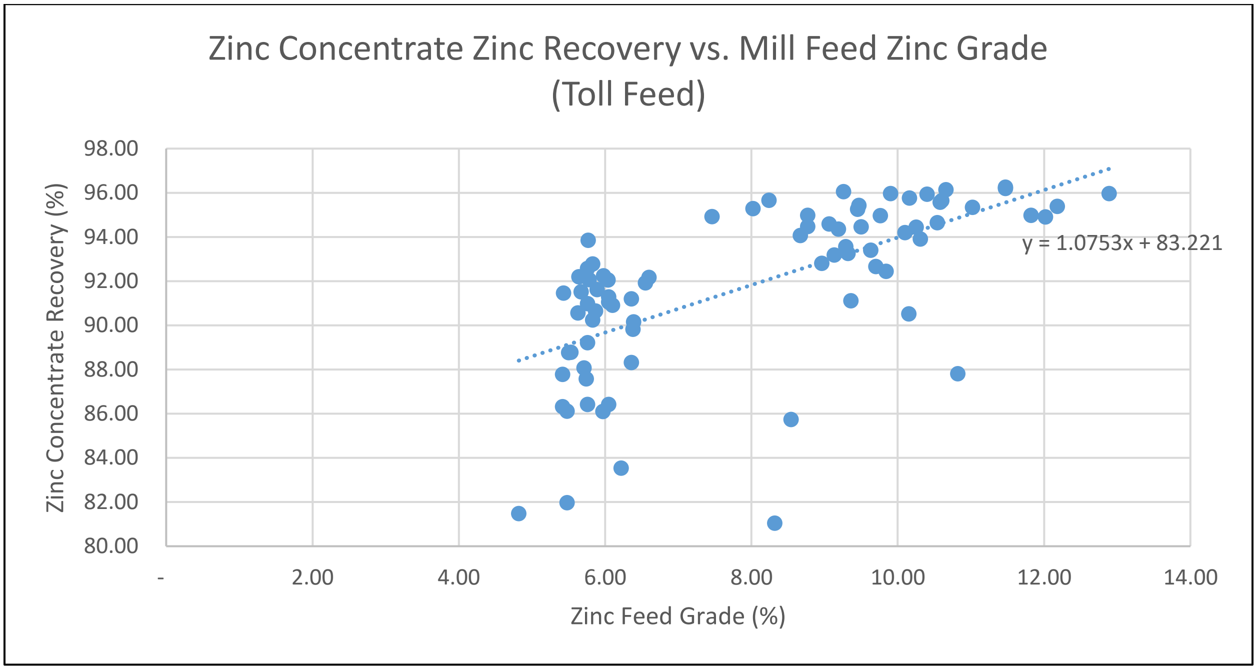


6.3.2.4 Zinc Production

Over the period analyzed, the unreconciled zinc concentrate production was 9,396 t with average grades of 47.75% zinc, 1.42% lead, and 437 g/t silver. The recoveries to the zinc concentrate were 91.95%, 46.84%, and 25.45% for zinc, silver, and lead respectively. The higher lead in the zinc concentrate is due to the low recovery of lead to the lead concentrate.

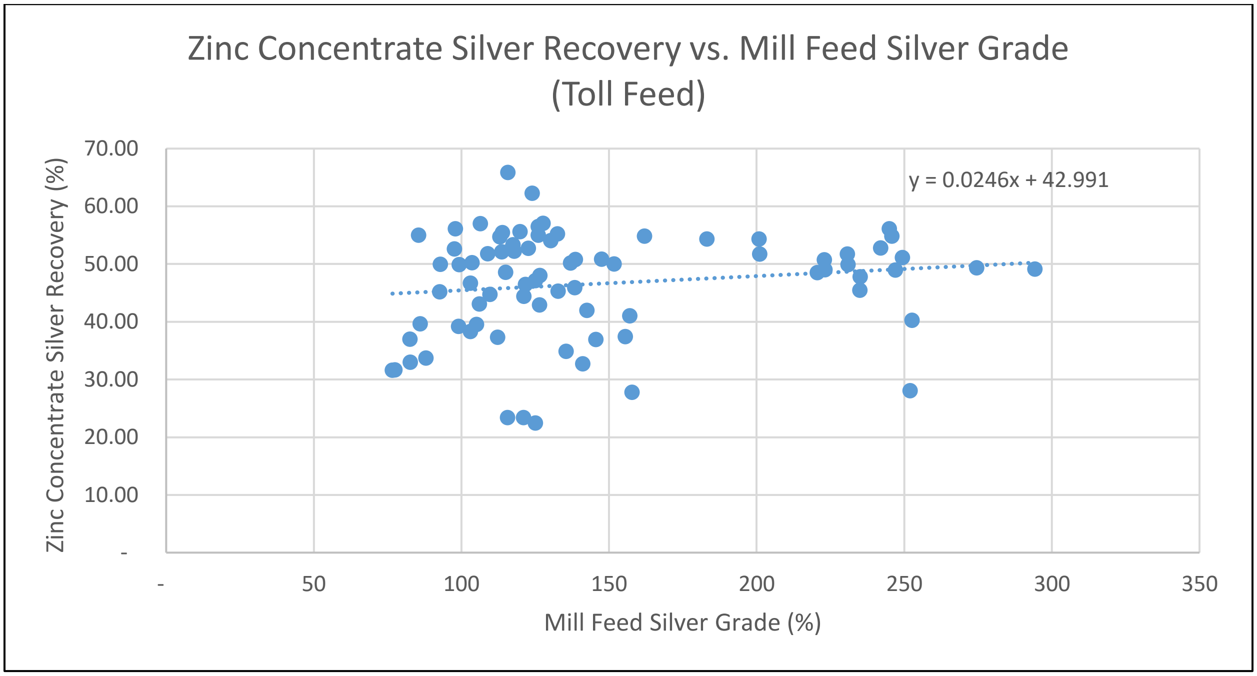
The zinc recovery as a function of the feed grade was examined and although it did not have a strong correlation, it was found to have a trend which can be used to predict zinc recovery to the zinc concentrate. The zinc recovery to the zinc concentrate relationship can be seen in Figure 6-24. The relationship used for the purposes of this report for the zinc recovery to the zinc concentrate is 1.0753*(toll feed zinc grade) + 83.221.

Figure 6-24: Zinc Recovery to the Zinc Concentrate vs. Mill Feed Zinc Grade



The recovery of silver to the zinc concentrate, can be seen in Figure 6-25. In this case, the relationship between the siler feed grade and silver recovered to the zinc concentrate shows that it was a little more likely for silver to report to the zinc concentrate vs. the lead concentrate. Figure 6-25 demonstrates that although there is a relationship, the silver recovery to the zinc concentrate is affected by other factors than feed grade. A silver recovery of 0.0246*(silver feed grade) + 42.991 was used for this report.

Figure 6-25: Silver Recovery to the Zinc Concentrate vs. Mill Feed Silver Grade

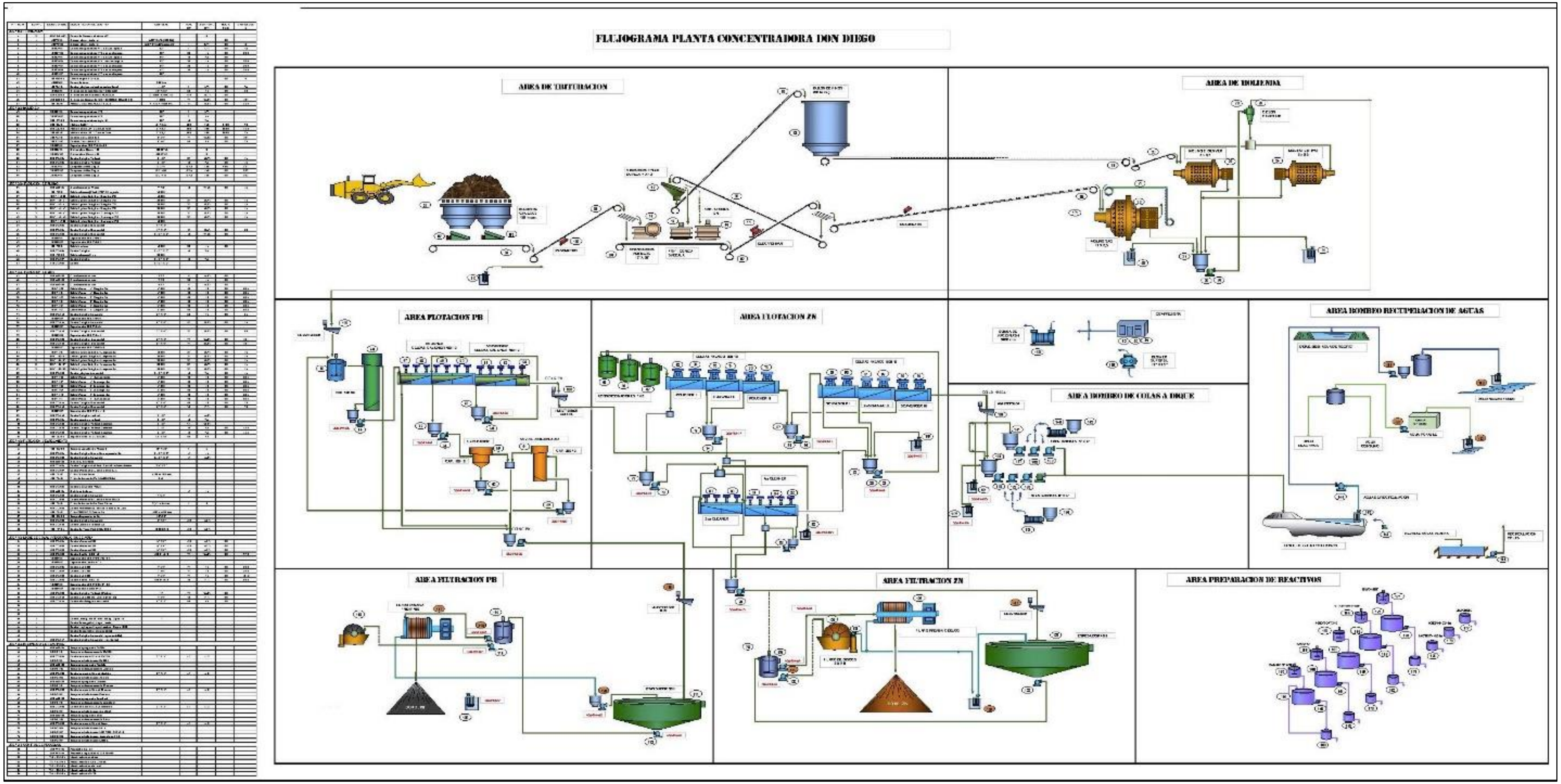


6.3.3 Plant Flowsheet

The plant flowsheet for the Don Diego mill is a typical sequential flotation circuit for lead and zinc. The feed is crushed in preparation for the grinding circuit. The grinding circuit utilizes a SAG/Ball mill combination to produce a product size of 100 µm for the flotation circuit.

The flotation circuit starts with the lead recovery circuit. In this circuit a rougher concentrate is produced, which is then cleaned without regrinding, in column flotation cells. The lead rougher tailings and cleaner tailings are combined and fed to the zinc circuit. The zinc circuit consists of rougher flotation and 1 stage of cleaning to produce a zinc concentrate. The zinc circuit tailings are deposited in the tailings pond. Both of the concentrates are filtered for shipping to the smelter. The lead concentrate is bagged for shipping, while the zinc concentrate is shipped bulk in trucks.

Figure 6-26: Don Diego Mill Flowsheet



Source: Glencore (2021)

The process plant is in good condition as can be seen in Figure 6-27 and Figure 6-28. Figure 6-27 shows the grinding circuit of the Don Diego mill and Figure 6-28 shows a section of the lead flotation circuit.

Figure 6-27: Don Diego Grinding Circuit

Figure 6-28: Don Diego Zinc Flotation

The Chillimocko tailings dam at Don Diego is inspected regularly and maintained to the standards set out by the Canadian Dam Association guidelines. The dam is under the supervision of engineers from AMEC (now Wood Engineering) and recently an external audit was conducted by Knight Piésold Consulting. The Chilimocko Dam is 55 m high, downstream-constructed dam, which contains 2.33 Mm^3 of tailings. The Stage IV raise was completed in 2019 and current crest elevation is 3,625 m. At current production rates, Chilimocko facility has capacity for 5 to 6 years before another raise to the dam is required.

There are also 4 closed tailings storage facilities associated with Don Diego Plant:

- Yana Khasa is a 40 m high, upstream-constructed dam, which contains 2.2 Mm^3 of tailings. Recent activities at the site include Repositioning piezometers, cleaning of the standpipe piezometers to improve groundwater monitoring, and Installation of fences to protect instrumentation; and

- Dikes 1, 2, and 3 are, upstream constructed dams which contain a total of 0.4 Mm^3 of tailings. Recent activities at the sites include cleaning of the standpipe piezometers to improve groundwater monitoring and Installation of fences to protect the instrumentation.

The concentrates produced at the Don Diego mill are sold to the Glencore refinery in Antafagasta, Chile. The zinc concentrate is shipped as a bulk product. The lead concentrate, due to local laws, is bagged prior to shipping.

6.3.4 Metallurgical Assumptions

The metallurgical assumptions for recoveries and concentrate grades can be found in Table 6-4.

Table 6-4: Recovery and Concentrate Grade Estimates

Parameter	Unit	Concentrates			
		Lead Concentrate		Zinc Concentrate	
		Company Feed	Toll Feed	Company Feed	Toll Feed
Zn Recovery	%	N/A	N/A	94	1.0753*(zinc feed grade) + 83.221
Pb Recovery	%	3.65*(lead feed grade %) + 75.69	13.149*(lead feed grade) + 39.576	N/A	N/A
Ag Recovery	%	0.0459*(silver feed grade) +67.256	-0.0398*(silver feed) + 42.791	-0.0225 x (silver feed grade) + 20.655	0.0246*(silver feed grade) + 42.991
Concentrate Grade					
Zn	%	3.5	9.0	51	48
Pb	%	61	45.0	1.4	1.4
Ag	g/t	6460	4050	280	440

6.4 Historical Resource Estimates

Glencore's Resources & Reserves report as of December 31, 2020 disclosed Bolivar, Porco and Caballo Blanco mineral resource statements as well as mineral reserve estimates as of December 31, 2020, which remain current for Glencore as of the date hereof. As the mineral resource and mineral reserve estimates pre-date Santacruz's agreement to acquire the Assets, Santacruz is treating them as "historical estimates" under National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101), but they remain relevant as the most recent mineral resource and reserves estimates for Bolivar, Porco and Caballo Blanco. Given the source of the estimates, Santa Cruz considers them reliable and relevant for the further development of the Project; and accordingly, they should be relied upon only as a historical resource and reserve estimate of Glencore, which pre-dates Santacruz's agreement to acquire the Assets however, the Company is not treating the historical estimates as current Mineral Resources or Mineral Reserves.

A "Qualified Person" as per NI 43-101 has not done sufficient work to classify the historical estimate as current Mineral Resources or Mineral Reserves and Santacruz is not treating the historical estimate as current Mineral Resources or Mineral Reserves. Further drilling and resource modelling would be required to upgrade or verify these historical estimates as current mineral resources or reserves for the respective assets.

The resources have been reported for Bolivar as of December 31, 2020 at a Zinc Equivalent (ZnEq) cut-off grade 2% as follows in Table 6-5.

Table 6-5: Historic Mineral Resource Estimate

Category	Tonnes (Mt)	Zinc (%)	Lead (%)	Silver (g/t)
Measured Mineral Resources	0.9	13.68	3.66	364
Indicated Mineral Resources	0.6	13.08	3.17	317
Measured + Indicated Mineral Resources	1.6	13.44	3.47	346
Inferred Mineral Resources	2.3	12.21	2.37	241

Source: Glencore (2020)

Notes:

1. The Mineral Resources have been calculated in accordance with definitions in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves (2014).
2. The ZnEq = (Zn% + (Pb% * 0.50) + (Ag g/t * 0.0268)).
3. The Mineral Resources have been calculated in accordance with definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum on August 20, 2000. Employees of Glencore have prepared these calculations.
4. Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution.
5. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
6. All figures are rounded to reflect the relative accuracy of the estimate and therefore numbers may not appear to add precisely.
7. Reported in-situ Mineral Resources do not consider mineral availability by underground mining methods.
8. Historical Mineral Reserves and Resources are inclusive of Mineral Reserves shown at 100% ownership.

For comparison, Table 6-6 shows the Measured and Indicated Resources for 2018 and 2019, respectively which reflects mining depletion and changes in classification due to additional drilling and sampling during operations. The Indicated and Inferred Resources are reported at a 2% ZnEq cut-off grade.

Table 6-6: Historic Mineral Resource Estimate for 2018 and 2019

	Measured		Indicated		Total	
	2019	2018	2019	2018	2019	2018
Ore (Mt)	0.9	0.9	0.6	0.7	1.5	1.6
Zinc (%)	13.7	13.2	13	13	13.4	13.1
Lead (%)	3.8	3.2	3.2	2.6	3.6	2.9
Silver (g/t)	382	301	320	252	357	279

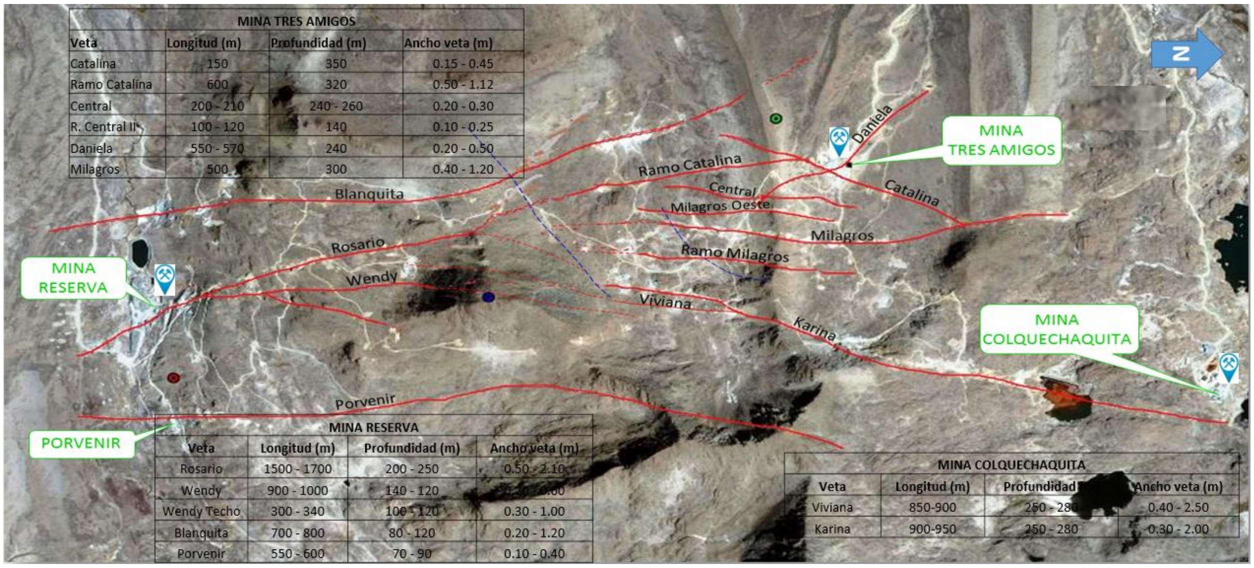
Source: Glencore (2020)

Glencore reports resources and reserves in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves (2014 edition). The term 'Ore Reserves', as defined in Clause 28 of the JORC Code, has the same meaning as 'Mineral Reserves' as defined in the CIM Definition Standards for Mineral Resources and Mineral Reserves. All tonnage information has been rounded to reflect the relative uncertainty in the estimates; there may therefore be small differences in the totals. The Measured and Indicated resources are reported inclusive of those resources modified to produce reserves, unless otherwise noted. Commodity prices and exchange rates used to establish the economic viability of reserves are based on long-term forecasts applied at the time the reserve was estimated.

The parameters and methodology for each step of the resource estimation and manipulation were reviewed by the Qualified Person and are detailed as follows:

- Sixteen separate veins were modelled in the resource estimate, form sets of sets of sub-parallel, north striking and steeply dipping mineralized zones which are extending from between 70 m to 950 m and depths of between 50 m and 400 m and still open;

Figure 6-29: Veins and Structures for Caballo Blanco



Source: Glencore (2020)

- A total of 104 drillholes and 14,837 channel samples were used in the estimations into 6,227,265 m^3 of vein domain solids;

- The estimate was carried out using separate block models for each of the veins constrained by 3D wireframes of the individual mineralized zones. The block model is comprised of an array of blocks measuring 5 m x 5 m x 5 m rotated 47º from North, which are sub-blocked to 5 m x 1.25 m x 1.25 m, with grades for Ag, Pb and Zn interpolated using either Inverse Distance Weighting or Ordinary Kriging depending on the data density within each of the veins. Zinc equivalent values were subsequently calculated from the interpolated block grades;

- Bulk densities at Bolivar were based on density sample interval measurements taken by Glencore while SG estimates are based on a multilinear regression formula as follows:

$$Density = 2.5253757+0.0176*Zn\%+0.05611*Pb\%+0.04176*Fe\%$$

- Silver, zinc and lead composite values have been capped in order to remove the effects of potential overestimation due to statistical outliers. The threshold chosen was dependent upon the individual vein as shown in Table 6-7;

Table 6-7: Composite Statistics and Cut-grade Thresholds

DOMAIN	VEIN	ZN		PB		AG	
		Max	Cap.	Max	Cap.	Max	Cap.
1000	Rosario	47	45	49	11	4,404	721
1001	Wendy	52	39	44	12	1,813	631
1002	Wendy Techo	47	44	35	11	2,287	715
1010	Viviana	51	48	44	15	5,140	1,380
1011	Karina	36	27	52	21	6,054	1,634
1012	Camila	40	20	29	17	3,400	1,600
1020	Catalina	64	32	62	32	7,520	3,411
1021	Ramo Catalina	52	42	49	33	7,093	3,739
1022	Daniela	58	40	66	32	13,440	4,403
1023	Milagros	52	22	65	19	5,423	1,890
1024	Central	44	36	42	18	10,399	2,330
1025	Central Este	40	33	52	25	4,484	2,450
1026	Ramo Central II	40	40	69	21	5,464	1,750
1027	Crucera	37	31	47	25	2,534	1,400
1028	Ramo Central Este	36	33	26	25	2,600	2,450
1029	Ramo Milagros	28	22	23	19	2,100	1,890

Source: Glencore (2020)

- The interpolation was carried out in three passes using multiples of the ellipse ranges as described in Table 6-8:

Table 6-8: Estimation Parameters

Vein	Range 1 (m)	Range 2 (m)	Range 3 (m)	Min # of Samples	Max # Samples
1000	69	41	19	5	25
1001	43	58	19	5	40
1002	45	27	19	5	35
1010	69	51	25	4	22
1011	51	41	35	5	23
1012	41	52	21	4	26
1020	38	39	20	5	24
1021	42	45	21	5	20
1022	58	39	22	4	20
1023	31	29	20	4	35
1024	34	36	20	4	20

Vein	Range 1 (m)	Range 2 (m)	Range 3 (m)	Min # of Samples	Max # Samples
1025	33	30	26	5	20
1026	32	31	20	4	20
1027	35	33	20	4	20
1028	33	30	26	5	20
1029	31	29	20	5	20

Source: Glencore (2020)

- The mineralized wire frames were defined using a combination of geological constraints and grade boundaries with no minimum mining thickness applied;
- For all veins, the resource classification criteria are determined according to the variography, and it has been established using the methodology as follows:
  - Measured Resources: variogram range of 2/3 of the variogram range with a minimum of 5 samples being informed per block;
  - Indicated resources: to the full variogram range with a minimum of 4 samples being informed per block;
  - Inferred resources: extended to twice the variogram range with a minimum of 2 samples being informed per block; and
  - However, an interpreted boundary is the final determination of indicated and inferred resources in order to remove outlier blocks and the “spotted dog” effect.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Inferred Resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be classified as Mineral Reserves. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

7.1.1 Eastern Cordillera Introduction

The Bolivar, Porco and Caballo Blanco deposits are located in the central part of the Eastern Cordillera, a thick sequence of Paleozoic marine siliciclastic and argillaceous sedimentary rocks deposited on the western margin of Gondwana and deformed in a fold-thrust belt. There were two major tectonic cycles in the Paleozoic: The Lower Paleozoic Famatinian cycle (the Tacsarian and Cordilleran cycles of Bolivia), and the Upper Paleozoic Gondwana cycle (Subandean cycle of Bolivia).

The late Precambrian supercontinent broke up with the opening of the southern Iapetus Ocean and the spreading of Laurentia away from Gondwana in the latest Precambrian or early Cambrian (Figure 7-1, Figure 7-2 and Figure 7-3). Ocean closure and collision of Laurentia and the South American segment of Gondwana during the Ordovician formed the Famatinian orogenic belt of NW Argentina (Dalla Salda et al., 1992a) which has been correlated with its probable Laurentian equivalent, the Taconic event of the Appalachian orogen (Dalla Salda et al., 1992b). The Famatinian belt records extension in the latest Precambrian with establishment of subduction during the Cambrian and closure of the ocean basin and continent-continent collision in the Ordovician (480-460 Ma) (Figure 7-4). The Pre-Cordillera Terrane carbonate platform of western Argentina, which has faunal similarities with eastern North America, may be a sliver of eastern Laurentia detached in the late Ordovician when Laurentia separated from Gondwana again (Dalla Salda et al., 1992a; b) (Figure 7-5).

Figure 7-1: Plate Tectonic Reconstructions of the Neoproterozoic Subcontinent and the Late Precambrian Supercontinent after the Opening of the Southern Iapetus Ocean

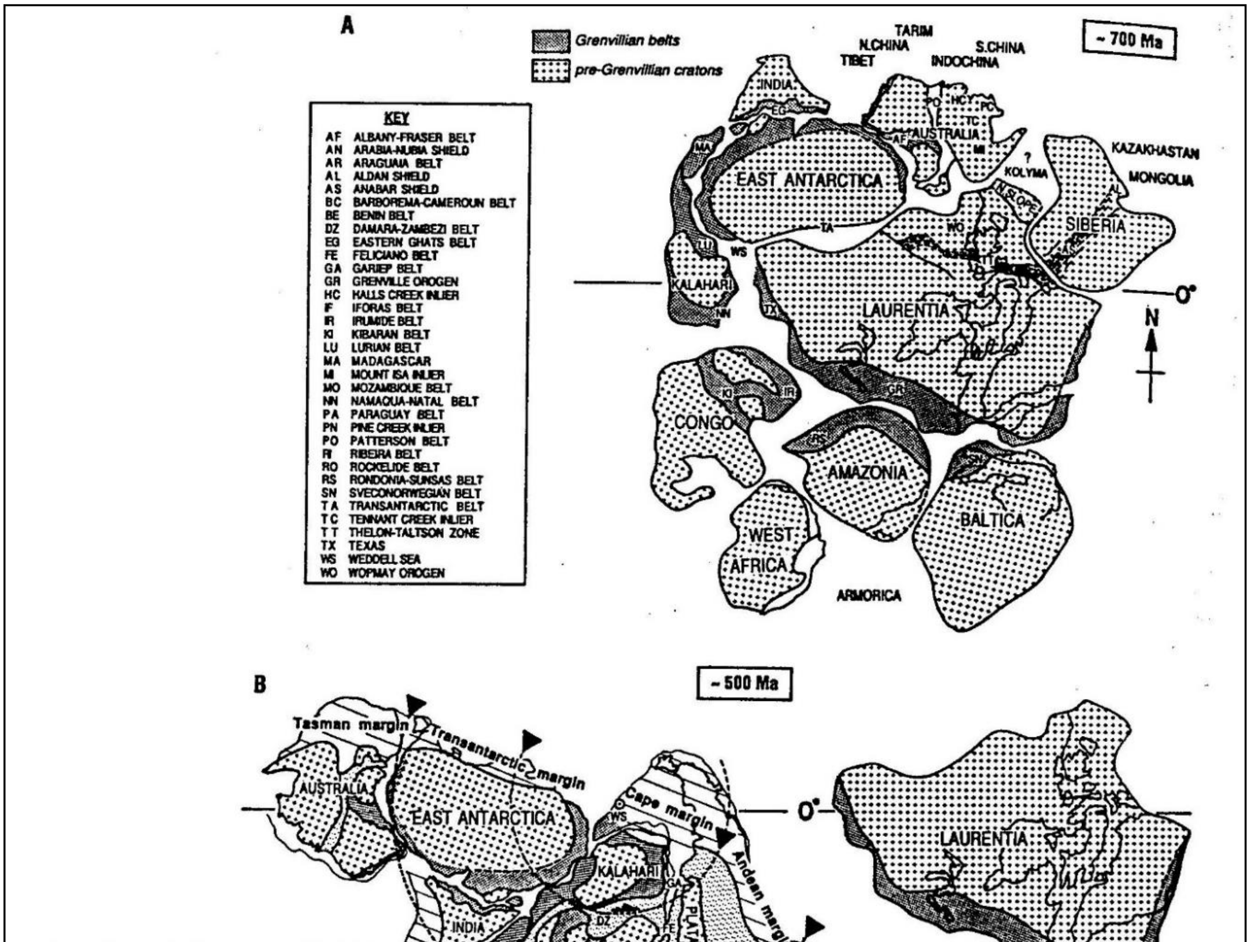


Fig. 1. (**A**) Reconstruction of the proposed Late Proterozoic supercontinent. Restoration of Baltica is from Gower (*31*), Amazonia from (*6*), and Australia-Antarctica from (*21*) and (*22*). The loose fit of the Congo, Kalahari, West Africa, and Amazonia cratons reflects changes in their size and shape as a result of tectonic shortening during the subsequent assembly of Gondwanaland (Pan-African orogeny). (**B**) Late Cambrian paleogeography after the breakout of Laurentia (*56*), abandonment of Baltica (*57*), and ensuing amalgamation of Gondwanaland (*56*). Dashed lines are small circles around a pole of rotation in the Weddell Sea.

Source: Hoffman (1991)

Figure 7-2: Plate Tectonic Reconstructions of the Neoproterozoic and Late Precambrian Subcontinents

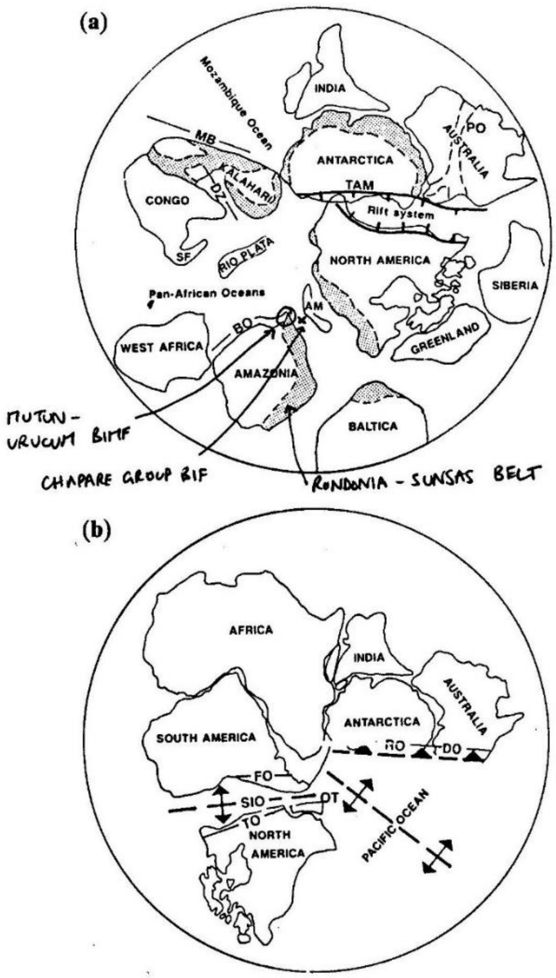
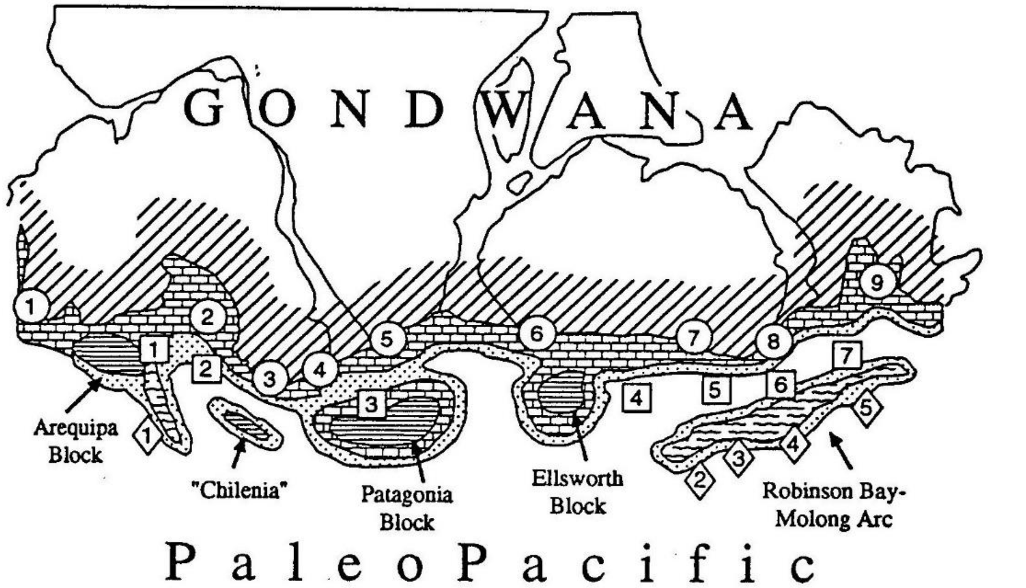


Fig. 3. (**a**) A Neoproterozoic reconstruction (*c*.750 Ma) based on the ideas of Moores (1991), Dalziel (1991, 1992*a*, *b*) and Hoffman (1991). It illustrates a single Neoproterozoic supercontinent just prior to rifting and a loose collage of African and South American cratonic blocks separated by oceanic crust. Variations in the position of the cratonic blocks can be seen in Hoffman (1991) and Dalziel (1992*a*, *b*). The supercontinent incorporates the SWEAT hypothesis of Moores (1991) linking the Transantarctic Mountains margin of East Antarctica to the western Cordilleran margin of Laurentia. The Grenville belt is shown as a stipple. AM, Arequipa Massif: BO, Brasiliano orogen; DZ, Damara -Zambezi belt; MB, Mozambique belt; PO, Patterson orogen; SF, São Francisco craton; TAM, Transantarctic Mountains. (**b**) Reconstruction of a late Precambrian to early Cambrian supercontinent following opening of the Pacific Ocean and amalgamation of Gondwana during Pan-African collisional events (Dalziel 1992), and at the time of opening of the southern Iapetus ocean (SIO) between North and South America. DO, Delamerian orogen; FO, Famatinian orogen; OT, Occidentalia terrane; RO, Ross orogen; TO, Taconic orogen.

Source: Story (1993)

Figure 7-3: Paleogeography of SW Gondwana Margin in the Early Ordovician



TECTONOSTRATIGRAPHIC UNITS

Continental Shelf

1. Fm. Hidago-Cord. Central Columbia (1)
2. Meson Group/NW Arg. (2)
3. C.-O. Carbonates/Precordillera Argentina (3)
4. La Tinta Group/Buenos Aires Prov. Arg. (4)
5. Table Mt. Gp./Cape Fold Belt (5)
6. Camb. Strata Pensacola Mt. (6)
7. Camb. Strata/S. Victoria Land Antarctica (6)
8. C.-O. Strata/Adelaide "Geosyncline" Tasman Fold Belt (7)
9. C.-O. Strata/Amadeus Basin (7)

Slope/Marginal Sea

1. Ord. Mar Clastics SE Peru/Bolivia (8)
2. Ord. A. de Perdiz Strata/N. Chile (9)
3. Port Stevens Fm. Malvinas/Fauklands (10)
4. Swanson Fm. & Fosdick Cx./M.B.L. (11)
5. Camb. Berg Gp/North Victoria Land (11)
6. Dundas "Trough" (11)
7. Wagga-Monaro "Trough" (12)

Volcanic Arc

1. S. Almeida calc-alk. suite N. Chile (13)
2. Devils River Volcanics N.W. Nelson (11)
3. Bowers Group/North Victoria Land (14)
4. Stavely volcanics (11)
5. Molong Volcanics (15)

Fig. 12. Paleogeographic model for the SW margin in Gondwana in the Early Ordovician. Brick pattern outlines the marginal shelves and the stable Proterozoic platforms of Gondwana, in stipple are slope and outer basin floor clastic deposits, in horizontal ruling, possible platform and/or microplate regions of discontinous lower Paleozoic deposition, and in v symbols, theallocthonous volcanic arc components. References are: (1) Mojica et al. [1988], (2) Turner [1970, 1972], (3) Borrello [1969], Baldis and Bordonaro [1985], (4) Baldis et al. [1985], (5) Rust [1973], Tankard and Hobday [1979], (6) Laird and Bradshaw [1982], (7) Veevers et al. [1982], (8) Martinez [1980], Acenolaza [1976], Dalmayrac et al. [1980], (9) Garcia [1976], (10) Borrello [1972], (11) Findley [1987], (12) Pachman [1987], (13) Mpodozis et al. [1983], (14) Gibson and Wright [1985], and (15) Leitch and Scheibner [1987].

Source: Forsythe et al, (1993)

Figure 7-4: The Famatinian – Taconic Orogen in the Middle Ordovician

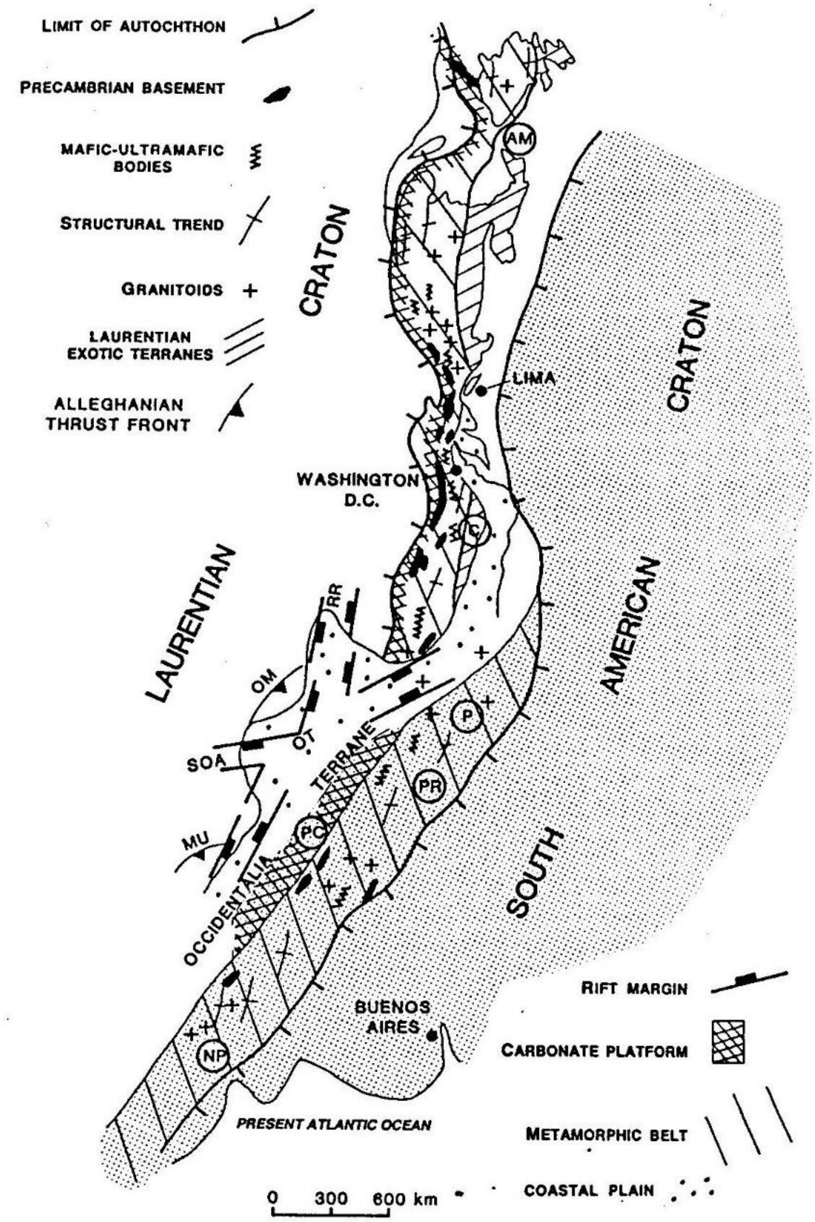


Figure 3. Reconstruction of Taconic-Famatinian orogenic belt as proposed for Middle Ordovician. Laurentia: AM—Avalon-Meguma terrane; C—Carolina terrane; MU—Marathon uplift; OM—Ouachita fold belt; OT—Ouachita trough; RR—Reelfoot rift; SOA—South Oklahoma aulacogen. South America: NP—North Patagonia massif; P—Puna; PC—Precordilleran belt; PR—Pampean Ranges.

Source: Dalla Salda et al, (1992b)

Figure 7-5: The Ordovician of the Central Andes

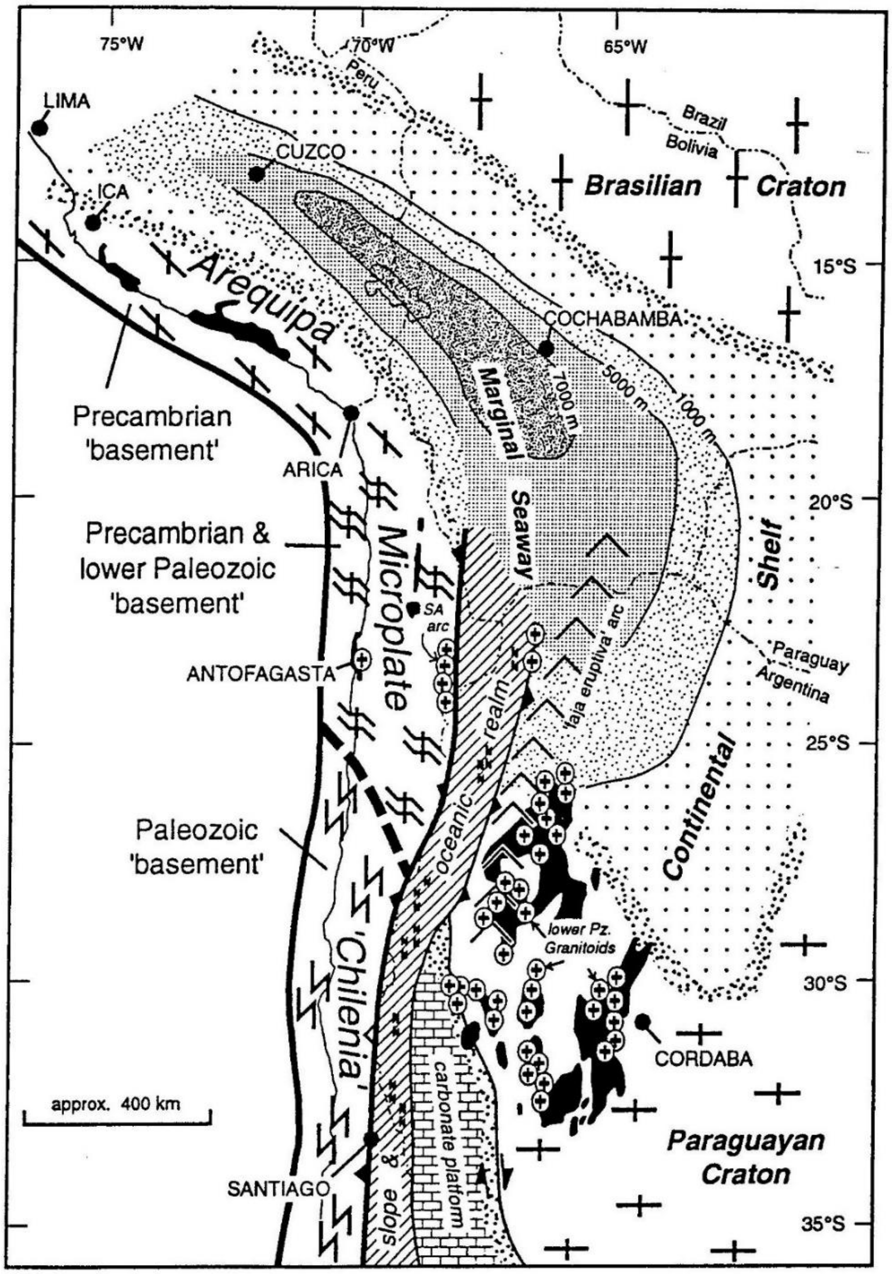


Fig. 1. Tectonostratigraphic map of the Central Andes. Modified from Delmarac et al. [1980], Martinez [1980], Dalziel and Forsythe [1985], Coira et al. [1982], and Ramos et al. [1986]. Contours indicate approximated thicknesses of Ordovician strata, and blackened areas are the principal outcrop areas of Precambrian and lower Paleozoic metamorphic basement rocks. Small pluses and inverted v symbols are lower to middle Paleozoic calcalkaline magmatic suites. Study area is the "SA arc" just to the east of Antofagasta.

Source: Forsythe et al, (1993)

7.1.2 Tacsarian Cycle (Upper Cambrian to Ordovician)

During the Upper Cambrian to Caradoc Tacsarian Cycle a broad marine back-arc rift basin existed in Bolivia-Peru with its axis in the Eastern Cordillera. There was oceanic spreading in the southern part of the basin, the Puna Straits in NW Argentina, preserved as ophiolites, with intrusion of basic dikes and sills further north in the Bolivian basin. A possible magmatic arc on the Arequipa Terrane to the west, represented by calc-alkaline plutonic and volcanic rocks dated at 487-429 Ma (Mpodozis & Ramos, 1989), separated the back arc basin from a forearc. The Arequipa microplate swung about a hinge to the NW to form the Puna Straits and Bolivia-Peru back arc basin, in a Gulf of California-type basin (Sempere, 1991) or Japan-type basin (Forsythe et al., 1993). This was bordered to the east by another subduction-related magmatic arc in western Argentina, the Puna arc and its southward continuation, the Sierras Pampeanas magmatic arc represented by a granitoid belt (Mpodozis & Ramos, 1989). The Ocloyic Orogeny closed the Puna Straits Ocean basin during the Llanvirn-Caradoc, with granitic magmatism.

In SW Bolivia the sedimentary sequence begins with shallow marine clastic sediments of the basal Tremadoc transgression, which grade upwards into open marine thick graptolitic shales intercalated with subordinate turbidites and slumps of late Cambrian – Llanvirn age. The base of this super sequence outcrops in several localities along the Cochabamba-Chapare Road (central part of the Eastern Cordillera), which were described as part of the Limbo Group and of other Cambrian formations (Castaños & Rodrigo, 1978). In most of the outcrops, thick and monotonous Lower to Middle Ordovician shale beds, with subordinate siltstones and sandstones are part of the Cochabamba Group, which from base to top includes the Capinota, Anzaldo, and San Benito Formations. In the southern part of Tarija, the sequence base includes shallow marine clastic rocks. These grade upward to thick, marine graptolitic shales with subordinate Cambrian turbidites of the Condado, Torohuayco, and Sama Formations (Castaños & Rodrigo, 1978).

7.1.3 The Cordilleran Cycle (Late Ordovician to Late Devonian)

During the Late Ordovician to Late Devonian Cordilleran Cycle (Chuquisaca Super sequence), the Bolivia-Peru basin occupied a back-arc setting, then from the late Llandovery formed a marine foreland basin. This lay east of the Puna arc on the Arequipa block, which continued south as the Sierra Pampeanas magmatic arc granitoid belt until the Early Carboniferous. These arcs were related to an eastward-dipping subduction regime east of the Precordillera. The cratonic Chilenia Terrane of the Cordillera Frontal collided with the continental margin in the latest Devonian to early Carboniferous, causing intense deformation in the western Precordillera. (Mpodozis & Ramos, 1989; Ramos et al., 1986; Ramos, 1988; Sempere, 1993).

The cycle began in Bolivia with rapid deepening of the basin as a back-arc with black pyritic-shale deposition (Tokochi Formation) followed by resedimented glacial-marine diamictites sediments in the Ashgill (Cancañiri Formation) with rare thin fossiliferous limestones. These are overlain by thickly bedded, thinning-upward turbidites (Llallagua Formation) and/or dark shales with minor turbidites (Uncía/Kirusillas Formation) from late Llandovery to Ludlow. Deposition in the basin was controlled by active normal faulting with facies succession induced by a major glacio-eustatic sea level low (the Ashgillian ice age) which developed between two maximum flooding episodes. The Uncía/Kirusillas Formation was the first of three main shallowing-up megasequences, which began with thick dark shales and ended with sandstone dominated units, of late Llandovery – Lochkovian, Pragian – early Giventian and late Giventian – middle Famennian ages. These were deposited in a large subsident marine foreland basin covering the

Bolivian Andes, Subandean zone and Chaco-Beni plains, reaching as far as the SW edge of the craton where they onlap the Chiquitos Supergroup (Litherland et al., 1986). This interval was a time of onlap towards the northeast and of deposition of major hydrocarbon source rocks in Bolivia. (Sempere, 1990a; b;1991; 1993).

The Cordilleran Cycle is generally considered to have been terminated by the Late Devonian to Early Carboniferous Hercynian Orogeny, which is defined in Perú where the effects are much stronger. The presence of Hercynian orogenesis in Bolivia has been questioned however, due to Late Triassic age dates (U-Pb zircon 225 Ma, Farrar et al., 1990) for both foliated and weakly foliated facies of the Zongo-Yani granite, and by implication its wide metamorphic aureole, which was assigned an "Eohercynian" age by Bard et al. (1974).

7.1.4 Subandean (Gondwana) Cycle (Upper Paleozoic)

The Upper Paleozoic Gondwana Cycle was characterized by establishment of eastward subduction along the new Pacific margin west of Chilenia (Cordillera Frontal) and development of a broad forearc accretionary prism, which includes blue schists and ocean floor fragments. A magmatic arc lay to the east of the subduction zone. This cycle was terminated by deformation during the lower Triassic Gondwanide orogeny, the effects of which increase to the south. (Mpodozis & Ramos, 1989; Ramos et al., 1986; Ramos, 1988).

In Bolivia the Upper Paleozoic Subandean Cycle is characterized by a complete change in the type of sedimentation. The Late Devonian (Late Famennian) – Early Carboniferous (Mississippian) Villamontes Supersequence, deposited in the Subandean zone, Chaco and Titicaca basin, is mainly marine and comprises mudstone, black shale, sandstone, coal, glacial-marine sediments, diamictites and slumps, the stratigraphy of which is conflictive due to rapid facies variations (Sempere, 1993). The Eastern Cordillera was emergent. This was a period of high epeirogenic activity and synsedimentary tectonic instability coeval with the Hercynian deformation in Peru. Sempere (1993) considers the Mississippian sedimentation to have been the culmination of the Silurian – Devonian evolution.

The Late Carboniferous (Pennsylvanian) – Early Triassic Cueva Supersequence was a period of low subsidence and subtropical climate. In western Bolivia there was a shallow carbonate platform in the Titicaca Basin (Copacabana Formation) with deposition of white littoral-fluvial-eolian sands and evaporites on the eastern platform in the Subandean zone. The compressional Gondwana (Late Hercynian) deformation in the middle Permian of the Eastern Cordillera of Peru had weak effects in the Eastern Cordillera of Bolivia. This was accompanied by transgression of the marine carbonate platform to the east. Post-orogenic calc-alkaline magmatism in the Early – Middle Triassic evolved in the late Middle Triassic toward continental tholeiitic compositions, reflecting the extension which initiated the Andean Cycle (Sempere, 1990a; b; 1993; Soler & Sempere, 1993).

7.1.5 The Mesozoic to Cenozoic Andean Cycle: The Serere, Puca and Corcoro Supersequences

The Andes developed during the Mesozoic to Cenozoic Andean Orogenic Cycle. Distension in the Middle to Upper Triassic related to the initial break up of Gondwana marked the start of the Andean Cycle. In the first part of the cycle, from Triassic to mid Cretaceous, an eastward dipping subduction zone existed along the length of the Pacific margin of Peru and Chile with a magmatic arc and back-arc basin, which in some segments had oceanic crust. In Chile the arc was superimposed on the Late Paleozoic accretionary prism and an eastward younging coastal batholith was intruded. (Cobbing, 1985; Dalziel, 1986; Mpodozis & Ramos, 1989).

During the Middle Triassic – Middle? Jurassic, the Andean region of Bolivia lay within the stable cratonic regime. An initial rifting process of late Middle Triassic age developed in several areas, and numerous narrow grabens were filled by fluvio-lacustrine red beds and evaporites, accompanied by tholeiitic to transitional basalts (Sempere, 1990a; 1993; Soler & Sempere, 1993). Abortion of rifting in Bolivia was probably a consequence of a regional tectonic reorganization at about 220 Ma, which probably marked the resumption of subduction along the Pacific margin. The subsequent Late Triassic – Middle? Jurassic onlapping sedimentation of fluvial and eolian sands was probably controlled by post-rift thermal subsidence. The environment was of sandy deserts on the craton, akin to the Arabian Shield (Sempere, 1990a; 1993). These deposits of the Serere Supersequence occur in the Eastern Cordillera and Subandean Zone.

Since the Late Jurassic, Bolivia has been part of the Pacific subduction regime. This was marked by a Kimmeridgian rifting event in Bolivia, the “Araucana Phase”, with extrusion of alkaline basalts which initiated the Puna Supersequence (Sempere et al., 1989; Sempere, 1993; Soler & Sempere, 1993). Bolivia lay in a back arc setting to the east of the Pacific margin arc and back-arc basin, with deposition of coarse clastic continental sediments and alkali basalts in the Potosí and Titicaca basins in a distensive regime related to a transtensional continental margin until the Aptian (Sempere et al., 1989).

The Upper Cretaceous and Cenozoic of Perú – Chile was characterized by a subduction-related continental magmatic arc with no back-arc basin. In Peru the Coastal Batholith was emplaced into the Jurassic – Early Cretaceous back-arc basin volcanic pile between the Mochica and Incaic 1-fold phases between 110 – 60 Ma (Pitcher et al., 1985). In the Central Andes the magmatic arc migrated eastwards. Large parts of the forearc zone and Mesozoic arc were removed during the Cretaceous and Tertiary, either by subduction erosion or by longitudinal strike-slip faults such as the Atacama Fault (Mpodozis & Ramos, 1989).

The mid Cretaceous compressive event inverted the Tarapacá back-arc basin of north Chile (Late Triassic – Early Cretaceous) to form the proto-Domeyko Cordillera fold-thrust belt (Mpodozis & Ramos, 1989). In Bolivia sedimentation of the Puca Supergroup continued in a distal external foreland basin, with deposition controlled by rifting and eustatic marine transgressions from the NW. The sequence is transgressive with successively younger units covering greater areas and reaching a total thickness of up to 5,600 m in the Sevaruyo area. The strata consist of fine red-bed sediments, evaporites and alkali basalts, with marine red shales in the Aptian and marine carbonates in the Cenomanian, Campanian and Maastrichtian. (Riccardi, 1988; Sempere et al., 1989; Soler & Sempere, 1993). The end of the Puca Supersequence is marked by an important unconformity at the end of the Paleocene, followed by deposition of thick red beds in the Altiplano and Eastern Cordillera in an external continental foreland basin during the Eocene and Oligocene (53 – 27 Ma; Sempere 1990a).

The Cenozoic evolution of Bolivia was dominated by considerable horizontal shortening (Sempere, 1990). Cenozoic basins of the Corocoro Supersequence developed in the Cordillera and in the plains in that time are related to the uplift of the Andes.

During the Lower Paleocene-Lower Oligocene, a foreland basin formed east of the Andes. A thickening of the crust enabled the accumulation of 2.5 km of red beds in the Altiplano and Eastern Cordillera (Sempere, 1995).

7.1.6 The Andean Orogeny

The first major deformation in the Andean Cycle in Bolivia occurred during the Late Oligocene to Early Miocene (27-19 Ma) when the orogenic front jumped from west of Bolivia to the Eastern Cordillera, and the Bolivian Andes started to develop as a mountain belt. Major crustal shortening by thrusting occurred in the Eastern Cordillera, and deformation of the Subandean Zone also began. Since the Late Oligocene, the Altiplano has functioned as an intermontane foreland basin with deposition of thick continental sediments, with smaller intermontane basins in the Eastern Cordillera.

The external foreland basin moved east to the Subandean – Llanura (Beni-Chaco) Basin. The second major period of thrusting occurred between 11-5 Ma. Thrusting is mainly eastward-verging towards the foreland, with an important west-verging back-thrust belt in the eastern Altiplano and western side of the Eastern Cordillera.

7.1.7 Mesozoic to Cenozoic magmatism

Rift-related granites were intruded in the Cordillera Real in the Triassic–Jurassic (227-180 Ma) (Everden et al., 1977; McBride, 1977; Grant et al., 1979; Farrar et al., 1990).

Alkaline volcanic activity was initiated in the Late Oligocene (28-21 Ma) in the Western Cordillera and western Altiplano, coincident with the first major period of deformation. At the same time granitoid plutons were intruded in the southern part of the Cordillera Real (Illimani, Quimsa Chata, Santa Vera Cruz) with related tin-tungsten-silver-lead-zinc-polymetallic mineralization (28-20 Ma). Similar deposits to the south as far as Potosi, such as Colquiri and Chicote Grande, are hosted by Paleozoic sediments and related to buried plutons of this age. The main period of magmatism was the Middle Miocene (17-12 Ma) with an eastward "breakout" of magmatism in an unusually broad arc across the Western Cordillera, Altiplano and Eastern Cordillera, generally forming small extrusive (domes) and intrusive (stocks, sills) bodies. Further magmatism occurred across this wide arc during the Late Miocene (10-5 Ma) during the second main period of crustal shortening. This was characterized by stratovolcanoes, ash-flow calderas, and major ignimbrite shields such as Los Frailes and Morococala in the Eastern Cordillera. (Baker, 1981; Baker & Francis, 1978; Evernden et al., 1977; Grant et al., 1979; McBride et al., 1983; Redwood, 1987; Redwood & Macintyre, 1989; Soler & Jimenez, 1993; Thorpe et al., 1982.)

7.2 Local Geology

The Caballo Blanco zinc, silver, lead mine, situated south of Potosi, is located in the Jayaquila – Victoria corridor, a 5-7 km north-south structural zone with three sectors, from north to south, the Colquchaquita, Reserva, and Tres Amigos mines. They are not described in the published literature. They are hosted by volcanic rocks of the Kari-Kari volcanic complex, with dimensions of 32 km north-south and 12 km wide, located on the SE side of the Los Frailes felsic volcanic field that covers an area of 8,500 km^2 at altitudes of 4,000 – 5,200 masl. The history started with intrusion of small granitoids at about 25 Ma at Kumurana, at the southern end of the Kari massif, and Azanaques. These were followed by the formation of Kari at about 20 Ma that is interpreted to be a resurgent caldera with welded ignimbrite fill. Ash flows, domes and stocks formed in the Cebadillas episode at 17-10 Ma, including the Cerro Rico dome with Ag-Sn mineralization at 13.8 Ma (Zartman & Cunningham, 1995; Cunningham et al., 1996; Rice et al., 2005). Huge volume felsic ash flows were erupted to form the Livicucho and Condor Nasa ignimbrites at 8-7 Ma and the main Los Frailes ignimbrites at 3.5-1.5 Ma. The final stages were the eruption of large resurgent rhyolitic domes at 4-1 Ma, and the Nuevo Mundo volcanic province at <1 Ma. (Francis et al., 1981; Schneider, 1985, 1987; Schneider & Halls, 1985; Kato, 2013; Kato et al., 2014; Kay et al., 2018).

The rocks of the Kari complex are felsic, peraluminous, and rich in garnet, cordierite and tourmaline (Schneider, 1987).

Mineralization in its generality is characterized by being housed in philonian structures divided into three domain orientations:

1. Oriented at N 10° to 20° E, are Colquechaquita (Karina, Viviana, Camila), and some veins of Tres Amigos (Catalina, Milagros Este and Central);

2. Oriented N 10° to 30° W°; Reserve veins (Rosario, Wendy, Juanita and Blanquita), in Tres Amigos there is also within this system the vein (Ramo Catalina); and

3. Corresponding to veins of the Porvenir sector where they have an N-S orientation, corresponding to Reserva (Veta Rosita) and in Tres Amigos (Milagros veins).

General mineralogy is composed of quartz-pyrite-chalcopyrite and marmatite, sphalerite, galena, boulangerite (Tres Amigos) as primary minerals; as accessory minerals we have siderite, calcite and ankerite at the trace level.

The mineralogy is quartz, pyrite, chalcopyrite, marmatite, sphalerite, galena and boulangerite with minor siderite, calcite and ankerite.

7.3 Property Geology

Field observations and the geological mapping carried out, it has been possible to differentiate by their location seven local lithological units, which are classified based on their texture, structure and color.

Lithologically, the mineralized corridor named the Jayaquila – Victoria is made up of these seven local units classified as: 1) The DaOGM unit which corresponds to a dark medium grained dacite of; 2) The DaFVO unit which corresponds to an olive green dacite; 3) The BxFV unit which is a volcanic flow ; 4) The DaGF unit which is a fine grained dacite; 5) The DaGM unit which is a medium grained dacite; 6) The DaP unit which is a porphyrytic dacite and; 7) The LimOrd which is an Ordovician limolites.

Medium grained dark dacite (DaOGM) – It is characterized by being a rock of high resistance, has dark gray aphanitic texture similar to volcanic glass, where the crystals are composed of plagioclases and feldspars that are equigranular and locally have porphyry appearance. The unit has disseminated syngenetic pyrite present along with fine red-pink garnet. This unit can be greater than 200 m thick and is located at the central west end of the Reserva-Colquechaquita corridor.

Olive green dacite (DaFVO) – Adjacent to the (DaOGM), the DaFVO's main characteristic is that of lamination and/or foliation. It is of fine to medium grained and gray to olive green. It has low hardness and as a result forms geomorphologically depressions. In addition, there are increases in limonite and slate xenoliths in the matrix, however, locally may be joined by isolated blebs of medium grain light gray dacite. The unit varies in thickness from 80 m to the north to 150 m to the south.

Volcanic flow gap (BxFV) – This unit is located at the base of the (DaOGM). It is greenish gray in color with an olive-green aphanitic matrix mixed with sedimentary Ordovician lithoclasts of slate and limonite and older clasts of fine-grained dacite. At surface it is found with oxidized zones shown in outcrop, possibly due to the presence of pyrite without genetics. The thickness of this unit varies from 10 m to the north to 60 m to the south. This package is truncated to the north close to Tres Amigos.

Fine-grained dacite (DaGF) – This unit is not a dominant unit as it is only present locally to the South of the corridor, apart from Reseva and Porvenir. This unit is light gray in color, is silicified with small garnet present.

Medium grain dacite (DaGM) – This unit is the predominant unit throughout the Colquechaquita, Reserva, Porvenir and in Tres Amigos mine areas. It is gray to light gray in color but can present whitish in isolated instances where there is elevated garnet and reduced biotite. This unit is also part of the Dacitic Dome (Cerro Molle Punco). At Colquechaquita, this unit appears to be the oldest rocks due relative distribution and the mesh-like fracturing characteristics present.

Porphyritic dacite (DaP) – This unit has greater development at Tres Amigos enveloping the Dacite Dome. This unit are of moderate hardness having a matrix that is light gray aphanitic color, has medium to coarse grain inequigranular texture where plagioclases reach 1 cm in diameter and are related to the mineralization in Colquechaquita South and Tres Amigos. To the south of the corridor this unit is not present.

7.4 Mineralization

7.4.1 Reserva Mine

Rosario Vein (ROS 1000)

The Rosario is a major Philonian type, mesothermal phase structure, it is split into a North Zone and South Zone, with a strike of N 10 ° W and dip of 65 ° to 70 ° and is currently recognized and exploited along 700 meters in length from the intersection with the Wendy vein. The ore is composed of Mrm-Sph-Gn-Jm (Marmatite, Sphalerite, Galena and Jamesonite). Additionally, there is Py-Sd-Qz (Pyrite, Siderite and Quartz).

Wendy Vein (WE 1001)

The Wendy vein is a filled fracture, with brecciated characteristics in areas, that are more stable since the faults are pre-mineral. The vein is oriented from North to South, with dip of 75° NE, and a strike length of 900 m while widths average 0.70 meters. Wendy is composed mainly of Mrm-Sph-Gn-Jm (Marmatite, Sphalerite, Galena and Jamesonite) with the addition of Py-Sd and Qz. (Pyrite, Siderite and Quartz).

Porvenir Vein (POR 1003)

The Porvenir, located in the Porvenir area, is a secondary structure, with widths ranging between 0.20 to 1.50 m. The Porvenir extends for over 2.6 km, striking N-S and dipping 60° to 78° to the E. It has been developed for approximately 300 m on two levels, the +40 and +80 levels, where its widths range between 0.25 to 0.50 m. On the surface it is recognized for its pervasive argillic alteration and oxidation, accompanied by fault material. According to the old clearings that we have, the mineralization is composed of sph, ga, py, qz, sd (sphalerite, galena, pyrite, quartz and siderite).

Wendy Ceiling Vein (WT 1002)

The Wendy Ceiling vein is located east of the main Wendy vein striking N 20 E, dipping between 75° to 85° to the East, however it is quite thin ranging from between 0.10 to 0.40 m in width. Its general mineralogy is composed of qz, sph, gn, py (quartz, sphalerite, galena, pyrite). It presents itself in the form of a failed fault gap with extensive argillization and oxidation.

Blanquita Vein (BLA 1004)

The Blanquita vein is located west and sub-parallel to, the Juanita vein, possibly joining the Juanita vein to the south.

This vein outcrops and is presented as a limonitized gap accompanied by argillization and with quartz present locally. It has a horizontal extension of 2.4 km, oriented from 10° to 20° NW, dipping between 65° to 80° NE however dips steeply locally to 70° toward the SW, with thicknesses ranging between 0.15 to 0.50 m.

This vein is developed to the south for approximately 100 m and to the north of Tres Amigos for between 250 to 400 m. The thickness of the vein being mined is approximately 0.6 m.

Mineralogically it is composed of gn, lm, qz, arg (galena, limonite, quartz, sphalerite, argillite).

7.4.2 Colquechaquita Mine

Coquechaquita is a hydrothermal system where zinc, lead and silver minerals have filled fractures., Sph-Gn-Jm (sphalerite, galena, jamesonite) are the predominant economic minerals, however Py-Cpy-Qz-Sd and Prr (pyrite, chalcopyrite, quartz, siderite and pyrrhotite), are present as gangue minerals. The system shows vertical zonation, which has been observed historically as the mine was originally according to historical data this mine is considered as a silver deposit in the in the upper levels however, at current mining levels such as Level -215, there is an increase in, Sph-Mrm-Py-Cpy-Prr (sphalerite, marmatite, chalcopyrite, pyrrhotite).

Karina Vein (KA 1011)

The Karina Vein is a rosary-like hydrothermal Philonian fault filled structure. Distributed throughout two sectors, North and South, with strike of N10°W and dip of 80° to 90° to the NE. extending along 450 meters from the Triunfo frame. The South zone is oriented N 10° at 25° W, dipping 65° to 85° to the NE, extends for 530 meters. Economic mineralization is composed of Sph-Mrm-Gn-Jm (sphalerite, marmatite, galena and jamesonite) while the gangue is composed of Py-Sd-Qz (pyrite, siderite and quartz). The predominant alteration minerals are siliceous, argillic, chloritization and sericitization. The average width of the vein is 1.50 meters. The most relevant characteristic is the presence of kaolin associated with faulting and mylonite. The average width of the vein ranges from 0.50 to 0.80 meters.

Viviana Vein (VI 1010)

The Viviana Vein is a splay or branch from the Karina vein to the East, in an area called Z-2, whose predominant characteristic is that it is the result of normal faulting with a preferential strike of N15°W and dipping 65° to the NE. This vein has a general strike direction of N20°E dipping 85° to the SE, and is traced for 280 m. The average width of the Viviana vein is 1.60 m composed mainly of Mrm-Sph-Gn-Jm (marmatite, sphalerite, galena, jamesonite) with the addition of Py-Sd and Qz (pyrite, siderite and quartz).

Camila Vein (CA 1012)

The Camilla vein corresponds to a ramp in the roof of the Karina vein, which dips from 40° to 85° in an easterly direction. However, it extends in two directions; 1) the first being from S 34°E in the north section and; 2) oriented at S 16°W in the southern section, with the latter joining the Karina vein with the north section appearing to have more favorable grades and thicknesses. The Camilla is structurally controlled predominantly related to a significant fault oriented at S45°E / 82°NE. Outboard from this fault towards the south, the mineralization reduced in concentration and thickness. The mineralogy of the vein is composed by Sph-Gn-Py-Sd (sphalerite, galena, pyrite, siderite), which forms rosaries in both horizontal and vertical directions, with an average width of 0.5 m extending 160 m in length along levels -120, -160 and -200.

7.4.3 Three Amigos Mine

Catherine (CAT 1020)

It is a rosary-type Philonian structure, the ore corresponds to the filling of fault of Hydrothermal origin. Distributed in two sectors, North Zone and South Zone, the first with an average course N 25 ° E and 80 to 85 ° of inclination in se direction recognized and exploited along 750 m in length. The ore is composed of Sph-Mrm-Gn-Jm (sphalerite, marmatite, galena and jamesonite). In addition, there is Py-Sd-Qz (pyrite, siderite and quartz). The predominant alteration types are argillic, chloritc and sericitic. The average width of the vein is 0.50 meters with the most predominant feature being the presence of kaolin within the fault and the argillic alteration anulus where the rock is fractured.

Ramo Catalina (RCAT 1021)

It is a Ramo de la Veta Catalina, in the area called Zona Sur cuya. La Veta has a general course of North – South with 75° to 80° the SE, recognized along 280 m. The average width of the vein is 0.45 m. composed mainly of Mrm-Gn-Sph-Jm (marmatite, galena, sphalerite and jamesonite) with the addition of Py-Sd and Qz (pyrite, siderite and quartz).

Daniela Vein (DAN 2022)

The Daniela vein is transverse to the Catalina vein, with general heading N49°W and widths of between 0.20 m to 1.2 m extending 420 meters. It is mineralogically comprising of Mrm-Gn-Sph-Qz-Jm (marmatite galena sphalerite, quartz and jamesonite).

Miragos Vein (MIL 1023)

The Miragros vein is an argentiferous vein that has a recognized extension of 2.0 km, varying in orientation where to the south it has a strike of N-S changing to 10° NW to the north, with dips that are also variable from between 60° to 80° E-NE, shifting to subvertical at depth. It has been traced the -160 level with thicknesses varying between 0.3 to 0.75 m, however, at surface the thickness ranges between 0.20 to 1.20 m.

The Miragos vein is recognized by its argillic alteration and oxidation accompanied by fault material. Its mineralogy is comprised of Sph, Gn, Qz, Py (sphalerite, galena, quartz, pyrite).

Central Vein (CE 1024)

The Central vein is structurally controlled corresponding to the Veta fault, dipping from 80° to 85° in an easterly direction. It is oriented at N22°E, eventually intersecting the Karina Vein. The main characteristic of the vein is that it has a massive mineralization which is composed of Sph-Gn-Py-Sd (sphalerite, galena, pyrite, siderite), in the form of rosaries horizontally with an average width of 0.5 meters extending 280 m in length on level 80.

8 DEPOSIT TYPES

The most important ore deposits of the Eastern Cordillera are polymetallic hydrothermal deposits mined principally for Sn, W, Ag and Zn, with sub-product Pb, Cu, Bi, Au and Sb. They are related to stocks, domes and volcanic rocks of Middle and Late Miocene age (22 to 4 Ma). Mineralization occurs in veins, fracture swarms, disseminations and breccias. The deposits of the Eastern Cordillera are epithermal vein and disseminated systems of Au, Ag, Pb, Sb, as that have been telescoped on to higher temperature mesothermal Sn-W veins and, in some cases, porphyry Sn deposits. The telescoping is a characteristic of these deposits and is the result of collapse of the hydrothermal systems, with lower temperature fluids overprinting higher temperature mineralization. The systems show a fluid evolution from a high temperature, low sulfidation state to intermediate sulfidation epithermal and high sulfidation epithermal.

A typical example is the Cerro Rico where high temperature veins at depth, with a low sulfidation assemblage of cassiterite, wolframite, pyrite, arsenopyrite, bismuthinite and minor pyrrhotite (the main tin-tungsten ore stage), are overprinted at higher levels by an intermediate sulfidation epithermal assemblage of Ag-Pb-Sb sulfosalts (the main silver ore stage), with disseminated high sulfidation epithermal silver mineralization in the upper part of the system (a major silver resource).

These polymetallic deposits have been described as Bolivian Polymetallic Vein Deposits by the U.S. Geological Survey (Ludington et al., 1992). The characteristics of this type of deposit are as follows (Ludington et al., 1992; Redwood, 1993; Sillitoe et al., 1975):

1. **Lithological Control**. Paleozoic, Mesozoic and Cenozoic sedimentary rocks and metsediments;

2. **Structural Control**. Hinge zones of regional anticlines;

3. **Subvolcanic Intrusions**. Spatially and genetically related to stocks and volcanic rocks with 60-70 % SiO_2, clusters of dikes and/or porphyritic domes of rhyolite, dacite, rhyodacite, or quartz latitite composition with alkaline tendencies. The mineralization can occur within the stocks and domes, in volcanic rocks (e.g., Porco, Caballo Blanco), or in sedimentary rocks distal to stocks (e.g., Bolivar) or inferred to be related to buried stocks (e.g., Huanuni);

4. **Style of Mineralization**. Disseminated, parallel veins, veinlets, fracture swarms, breccias;

5. **Ore Minerals**. Pyrite, marcasite, pyrrhotite, sphalerite, galena, cassiterite, arsenopyrite, chalcopyrite, stibnite, stannite, teallite, tetrahedrite, tennantite, wolframite, bismuth, bismuthinite, argentite, gold, and Ag-Sb-sulphosalts (freibergite, andorite), Pb-Sb-sulfosalts (zinkenite, boulangerite, jamesonite), Pb-Sn-Sb-sulfosalts (franckeite, cylindrite), and Bi sulfosalts. Telescoping of intermediate sulphidation epithermal mineralization of Au, Ag, Pb, Sb, As, etc. on to higher temperature mesothermal, low sulphidation Sn-W mineralization is characteristic;

6. **Gangue Minerals**. Quartz, barite, and Mn carbonate. There is a transition upward from massive sulfides, to quartz, quartz-barite, and barite-chalcedony towards the upper parts of the deposits; and

7. **Hydrothermal Alteration**. Sericitic (sericite-quartz-pyrite) often with tourmaline in the central part and zoned outward to argillic and propylitic alteration. The upper zones have advanced argillic lithocaps with alunite, residual vuggy silica and silicification. Breccias are common.

9 EXPLORATION

There has been no exploration performed on behalf of the Santacruz.

10 DRILLING

No drilling has been performed on behalf of Santacruz.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

No sampling has been performed on behalf of Santacruz.

12 DATA VERIFICATION

12.1 Verifications by the Authors of this Technical Report

Multiple site visits were conducted by the QPs, as detailed in Section 2.2 (Table 2-1). The purpose of these visits was to fulfill the requirements specified under NI 43-101 and to familiarize with the property. These site visits consisted of underground tours of non-mineralized development headings, sampling, storage areas and existing infrastructure.

No limitations or failures to conduct data verification were identified by the QPs in the preparation of this Technical Report.

12.2 Geology and Resources

Garth Kirkham, P. Geo., visited the property between August 10 through August 13, 2021. The site visit included an inspection of the property, offices, underground operations, core storage facilities, and tours of major centres and surrounding villages most likely to be affected by any potential mining operation.

The tour of the property showed a clean, well-organized, professional environment. On-site staff led the author through the methods used at each stage of the resource estimation process. All methods and processes are up to industry standards and reflect best practices, and no issues were identified.

A visit to the underground operations showed that extensive, on-going mining operations.

Based on the site visit and an inspection of all aspects of the project, the author is confident that the data and results are valid, including all methods and procedures. It is the opinion of the independent author that all work, procedures, and results have adhered to best practices and industry standards required by NI 43-101. No duplicate samples were taken to verify assay results, but the author believes that the work is being performed by a well-respected, large, multi-national company that employs competent professionals that adhere to industry best practices and standards.

The core is accessible, and the core is stored in covered racks. However, going forward it is recommended that the company refurbish some of the core facilities. In addition, it would be recommended that the core be re-arranged for easier access and analysis along with creating a core map.

The author is confident that the data and results are valid based on the site visit and inspection of all aspects of the project, including methods and procedures used. It is the opinion of the independent author that all work, procedures, and results have adhered to best practices and industry standards required by NI 43-101. No duplicate samples were taken during the April 2015 site visit to verify assay results and the author was satisfied with the results from previous verification sampling. In addition, there were no limitations with respect to validating the physical data or computer-based data. The author is of the opinion that the work was being performed by a well-respected, large, multi-national company that employs competent professionals that adhere to industry best practices and standards.

12.3 Metallurgy

The metallurgical data used in this report is taken from operating information. The reconciled data was compared to the daily sampling data, which was used for this report, to check that the daily data is within a reasonable range compared to the reconciled data.

The reconciled data is based on the sale of concentrates to a smelter. The concentrates are weighed and sampled by a third party whose function is to act without bias to determine the metal received at the smelter in order to determine the correct payment for the concentrates.

12.4 Site Visit for Mining, Infrastructure and Environment & Permitting

The description of mining processes, methods and production rates used in this report is based on mine surface and underground visits to representative work areas on August 11 and 12, 2021, and production reports subsequently provided by Glencore. The author's analysis and reconciliation of the data shows that it accurately describes the operation at the time of the visit. Mine and plant Infrastructure, including tailing facilities and water treatment plants was also observed to be as described in provided information and as described herein.

Technical software and methods are modern and professionally applied. The author is confident that the property is described accurately to the level of detail required for this stage of report.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

No testing has been performed on behalf of Santacruz.

14 MINERAL RESOURCE ESTIMATE

There is no current mineral resource estimate on behalf of Santacruz.

15 MINERAL RESERVE ESTIMATE

There is no current mineral reserve estimate performed on behalf of Santacruz.

16 MINING METHODS

There are no current mining methods for the property.

17 PROCESS DESCRIPTION / RECOVERY METHODS

There are no current process description / recovery methods for the property.

18 PROJECT INFRASTRUCTURE AND SERVICES

There are no current project infrastructure and services for the property.

19 MARKET STUDIES AND CONTRACTS

There are no current market studies and contracts performed on behalf of Santacruz.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACTS

There are no current environmental studies, permitting and social or community impacts performed on behalf of Santacruz.

21 CAPITAL COST ESTIMATE

There is no current capital cost estimate performed on behalf of Santacruz.

22 OPERATING COST ESTIMATE

There is no current operating cost estimate performed on behalf of Santacruz.

23 ECONOMIC ANALYSIS

There is no current economic analysis performed on behalf of Santacruz.

24 ADJACENT PROPERTIES

There are no adjacent properties.

25 OTHER RELEVANT DATA AND INFORMATION

Additional properties under Glencore management and ownership that contribute to the Glencore Bolivian metal production are Bolivar and Porco. Resources for all these properties including Caballo Blanco, which is the subject of this report, are tabulated in Table 25-1.

Table 25-1: Glencore Resource Estimates for Bolivian Properties

Property	Commodity	Resource			
		Measured	Indicated	Measured and Indicated	Inferred
Bolivar	Mineralized Material (MM tonnes)	1.4	1	2.4	5.4
	Zinc (%)	12.7	12.2	12.5	9
	Lead (%)	1.4	1.3	1.4	0.9
	Silver (g/t)	308	283	297	350
Porco	Mineralized Material (MM tonnes)	0.7	0.4	1.1	2.2
	Zinc (%)	10.7	10.9	10.8	11.8
	Lead (%)	0.6	0.8	0.7	0.8
	Silver (g/t)	83	114	93	98
Caballo Blanco	Mineralized Material (MM tonnes)	0.9	0.6	1.6	2.3
	Zinc (%)	13.7	13.1	13.5	12.2
	Lead (%)	3.7	3.2	3.5	2.4
	Silver (g/t)	364	318	346	241

Source: Glencore (2020)

Glencore's Resources & Reserves report as of December 31, 2020 disclosed Porco, Bolivar, and Caballo Blanco mineral resource statements as well as mineral reserve estimates as of December 31, 2020, which remain current for Glencore as of the date hereof. As the mineral resource and mineral reserve estimates pre-date Santacruz's agreement to acquire the Assets, Santacruz is treating them as "historical estimates" under National Instrument 43-101 - Standards of Disclosure for Mineral Projects (NI 43-101), but they remain relevant as the most recent mineral resource and reserves estimates for Bolivar, Porco and Caballo Blanco. Given the source of the estimates, Santacruz considers them reliable and relevant for the further development of the Project; and accordingly, they should be relied upon only as a historical resource and reserve estimate of Glencore, which pre-dates Santacruz's agreement to acquire the assets, however, the company is not treating the historical estimates as current Mineral Resources or Mineral Reserves.

A “Qualified Person” as per NI 43-101 has not done sufficient work to classify the historical estimate as current Mineral Resources or Mineral Reserves and Santacruz is not treating the historical estimate as current Mineral Resources or Mineral Reserves. Further drilling and resource modelling would be required to upgrade or verify these historical estimates as current mineral resources or reserves for the respective assets.

The resources have been reported as of December 31, 2020 at a Zinc Equivalent (ZnEq) cut-off grade 2%:

1. The Mineral Resources have been calculated in accordance with definitions in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code), the 2016 edition of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC) and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves (2014);

2. The ZnEq = (Zn% + (Pb% * 0.73) + (Ag g/t * 0.019290448));

3. The Mineral Resources have been calculated in accordance with definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum. Employees of Glencore have prepared these calculations;

4. Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource’s mineability, selectivity, mining loss, or dilution;

5. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration;

6. All figures are rounded to reflect the relative accuracy of the estimate and therefore numbers may not appear to add precisely;

7. Reported in-situ Mineral Resources do not consider mineral availability by underground mining methods; and

8. Historical Mineral Reserves and Resources are inclusive of Mineral Reserves shown at 100% ownership.

26 INTERPRETATIONS AND CONCLUSIONS

The Caballo Blanco project consists of three separate mines and one process plant operating as one to produce Zinc and Lead concentrates. Sinchi Wayra S.A. owns and operates all facets of the Caballo Blanco business; The Don Diego processing plant and Coquechaquita mine since their acquisition in 2005, and Reserva and Tres Amigos mines from their acquisition in 2010. The Power plants, Aroifilla thermal power plant, and the Yocalla hydro-electric plant which provide supplementary electric power are also owned and operated by Sinchi Wayra and are included under the management of Caballo Blanco project.

On October 11, 2021, Santacruz entered into a definitive share purchase agreement (the "Definitive Agreement") with Glencore whereby Santacruz agreed to acquire a portfolio of Bolivian silver assets (the "Assets") from Glencore (the "Transaction"). The Assets include: (a) Glencore's 45% interest in the Bolivar Mine and the Porco Mine, held through an unincorporated joint venture between Glencore's wholly-owned subsidiary Sociedad Minera Illapa C.V. ("Illapa") and Corporación Minera de Bolivia ("COMIBOL"), a Bolivian state-owned entity; (b) a 100% interest in the Sinchi Wayra business, which includes the producing Caballo Blanco mining complex; (c) the Soracaya exploration project; and (d) the San Lucas ore sourcing and trading business. JDS Energy & Mining Inc. (JDS) was commissioned by Santacruz Silver Mining Ltd. (Santacruz) to prepare this Technical Report to support the disclosure of the acquisition for the Bolivar Project by Santacruz pursuant to the Transaction:

- Caballo Blanco group of mines is firmly established as a producing property but has yet to be consolidated into a fully integrated mine. Each mine is independently managed and operated and there are very few, if any, shared services. All three mines are on the same mineralized trend and consolidation is a possibility. Mining methods range from modern trackless bulk mining to conventional tracked methods;

- Glencore has embarked on a program of modernizing each mine where appropriate, taking advantage of advances in mining equipment and methods;

- Safety is of paramount importance at the mine and concerns have been successfully addressed with the establishment of training programs, systems, and the incorporation of a safety culture into mine operations;

- Supply and delivery of backfill was observed to be behind schedule which could have been caused by low development production, haulage bottlenecks, etc. The outcome, however, increases risk of hanging wall failure in the stopes and ore dilution from over-mucking;

- The process plant is not located on site, so ore transport costs can be significant and factors such as dilution have a greater impact on mineralized material value;

- Planned future development mostly follows the current resource down dip which will incur incrementally higher haulage, ventilation, and water handling costs with depth;

- The skill base in the combined Caballo Blanco mining properties is considerable and a valuable resource for increasing project value in the future; and

- Historic processing at the Bolivar mill demonstrates the metallurgy of the material mined at Bolivar. The operational data is validated by the monthly reconciliation based on the concentrate shipped to the smelter and the final reconciliation between the smelter and the mine.

Many risks exist which are common to most mining projects including operating and capital cost escalation, permitting and environmental compliance, unforeseen schedule delays, changes in regulatory requirements, ability to raise financing and metal price. Many of these ever-present risks can be mitigated with adequate engineering, planning and pro-active management. The most significant risks to this project and its continued development are related socio-economic and geo-political factors.

- Areas surrounding Colquechaquita, Reserva and Tres Amigos mines are being actively mined by mining cooperatives which are organized independent mining bodies. They are an influential population recognized by the government as a valid economic entity for local development and conduct their activities on separate claims, in abandoned mines, or granted areas adjacent to existing operations. They are an important group with which to work for good community stability, and rogue operators within this group can pose specific risks related to ownership and safety; and

- The Caballo Blanco mines are relatively isolated and not flanked by camps or towns. Attention to community relations has developed strong mutually beneficial working relationships with many of the local population and mining cooperatives which has created a sustained period of stable political and socio-economic cooperation. However, changes in this relationship and instability would pose a significant risk to continued operation of the mines in addition to risks related to tenure and ownership.

27 RECOMMENDATIONS

Continued operation of the Caballo Blanco project, under new ownership, is expected to continue under similar operating parameters. Therefore, the recommended work program is focused on immediate validation and verification of the historic resource in compliance with NI 43-101, followed by or concurrent with, an operational focus on technical evaluation of production planning and operation to identify areas to increase profitability.

The QPs recommend verification and delineation of the Historic Resource. Total cost of the program is estimated at US $3.85 MM (Table 27-1) and consists of:

- Plan and execute a resource expansion program including drilling and underground sampling to fully identify and upgrade resources proximal to active mining areas for inclusion in the 2-year mine plan. This is important so that existing mine development can be fully utilized, and reductions in mine development requirements and rate of vertical descent realized;
- Review and revise resource classification criteria to insure NI 43-101 compliance; and
- Validate and verify the historic resource and complete a technical report in order that the resource be considered current and may be relied upon.

Table 27-1: 2022 Recommended Work Program and Budget

Description	#	Unit	$/Unit	Total $ (000's)
Drilling*	12,000	m	200	2,400
Underground Sampling*	12,500	#	50	625
Data Compilation, Model Update including QA/QC	120	hrs	250	30
Validate and Verify Historic Resources	220	hrs	250	55
Review and Revise Resource Classification	100	hrs	250	25
Reporting	150	hrs	250	38
Sub total				**3,173**
G&A				200
Contingency	15	%		476
Total				**3,850**

* Estimated with contractor rates; work can potentially be done in-house.

As well, other potential areas of opportunity were observed by the QPs during the site visit and data analysis stages of this report. It is suggested that in addition to routine continuous improvement programs, project management consider focusing technical and production resources in the following areas:

- Good work is being done on identifying and qualifying specific stope dilution. Analysis and incorporation of findings into the stope planning and mine operations is an opportunity to increase project value;

- Resource drilling to justify more integrated mine development is also important for stable long-term production and growth. Moving the properties toward a more integrated operation can add value to the project;

- Devote attention to optimizing material transport. Transport of waste rock is critical to stope productivity and stability with the mining methods being used, thus its supply and transport are critical to mine production;

- At Don Diego Plant, the period analyzed from August 2020 to July 2021 exhibited more downtime than planned. Investigate opportunities to raise Process Plant throughput and reduce downtime to improve project economics;

- Increasing throughput to achieve the target would improve the results of the operations;

- Metallurgical testwork to investigate opportunities to increase recoveries, through grinding, reagent dosage or newer flotation technologies; and

- Continue open communication and fair business practices with mining cooperatives and surrounding communities to minimize risk of asset subjugation.

28 REFERENCES

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SANTACRUZ silver mining, ltd

JDS Energy & Mining Inc.

29 UNITS OF MEASURE, ABBREVIATIONS AND ACRONYMS

Symbol / Abbreviation	Description
°	degree
°C	degrees Celsius
3D	three-dimensions
A	ampere
a	annum (year)
ac	acre
Acfm	actual cubic feet per minute
ACK	apparent coherent kimberlite
ALT	active layer thickness
ALT	active layer thickness
amsl	above mean sea level
AN	ammonium nitrate
ARD	acid rock drainage
Au	gold
AWR	all-weather road
B	billion
BD	bulk density
Bt	billion tonnes
BTU	British thermal unit
BV/h	bed volumes per hour
bya	billion years ago
C$	dollar (Canadian)
Ca	calcium
cfm	cubic feet per minute
CHP	combined heat and power plant
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre
cm^2	square centimetre
cm^3	cubic centimetre
Cu	copper
d	day
d/a	days per year (annum)
d/wk	days per week

Symbol / Abbreviation	Description
dB	decibel
dBa	decibel adjusted
DGPS	differential global positioning system
DMS	dense media separation
dmt	dry metric ton
DWT	dead weight tonnes
EA	environmental assessment
EIS	environmental impact statement
ELC	ecological land classification
ERD	explosives regulatory division
EWR	enhanced winter road
FEL	front-end loader
ft	foot
ft^2	square foot
ft^3	cubic foot
ft^3/s	cubic feet per second
g	gram
G&A	general and administrative
g/cm^3	grams per cubic metre
g/L	grams per litre
g/t	grams per tonne
h	hour
h/a	hours per year
h/d	hours per day
h/wk	hours per week
ha	hectare (10,000 m^2)
ha	hectare
HK	hypabyssal kimberlite
hp	horsepower
HPGR	high-pressure grinding rolls
HQ	drill core diameter of 63.5 mm
Hz	hertz
ICP-MS	inductively coupled plasma mass spectrometry
in	inch
in^2	square inch
in^3	cubic inch
IOL	Inuit owned land

Symbol / Abbreviation	Description
IRR	internal rate of return
JDS	JDS Energy & Mining Inc.
K	hydraulic conductivity
k	kilo (thousand)
kg	kilogram
kg	kilogram
kg/h	kilograms per hour
kg/m^2	kilograms per square metre
kg/m^3	kilograms per cubic metre
km	kilometre
km/h	kilometres per hour
km^2	square kilometre
kPa	kilopascal
kt	kilotonne
kV	kilovolt
kVA	kilovolt-ampere
kW	kilowatt
kWh	kilowatt hour
kWh/a	kilowatt hours per year
kWh/t	kilowatt hours per tonne
L	litre
L/min	litres per minute
L/s	litres per second
LDD	large-diameter drill
LG	low grade
LGM	last glacial maximum
LHD	load haul dump
LOM	life of mine
m	metre
M	million
m/min	metres per minute
m/s	metres per second
m^2	square metre
m^3	cubic metre
m^3/h	cubic metres per hour
m^3/s	cubic metres per second
Ma	million years

Symbol / Abbreviation	Description
MAAT	mean annual air temperature
MAE	mean annual evaporation
MAGT	mean annual ground temperature
mamsl	metres above mean sea level
masl	metres above sea level
MAP	mean annual precipitation
Mb/s	megabytes per second
mbgs	metres below ground surface
Mbm^3	million bank cubic metres
Mbm^3/a	million bank cubic metres per annum
mbs	metres below surface
mbsl	metres below sea level
Mct	million carats
mg	milligram
mg/L	milligrams per litre
MIDA	microdiamond
min	minute (time)
mL	millilitre
mm	millimetre
Mm^3	million cubic metres
mo	month
MPa	megapascal
Mt	million metric tonnes
MVA	megavolt-ampere
MW	megawatt
NG	normal grade
Ni	nickel
NI 43-101	National Instrument 43-101
Nm^3/h	normal cubic metres per hour
NQ	drill core diameter of 47.6 mm
OP	open pit
OSA	overall slope angles
oz	troy ounce
Pa	Pascal
PAG	potentially acid generating
PEA	preliminary economic assessment
PFS	preliminary feasibility study

Symbol / Abbreviation	Description
ppm	parts per million
psi	pounds per square inch
QA/QC	quality assurance/quality control
QP	qualified person
RC	reverse circulation
RMR	rock mass rating
ROM	run of mine
rpm	revolutions per minute
RQD	rock quality designation
s	second (time)
S.G.	specific gravity
Scfm	standard cubic feet per minute
SEDEX	sedimentary exhalative
SFD	size frequency distribution
SFD	size frequency distribution
SG	specific gravity
t	tonne (1,000 kg) (metric ton)
t	metric tonne
t/a	tonnes per year
t/d	tonnes per day
t/h	tonnes per hour
TCR	total core recovery
TMF	tailings management facility
tph	tonnes per hour
ts/hm^3	tonnes seconds per hour metre cubed
US$	dollar (American)
UTM	universal transverse mercator
V	volt
w/w	weight/weight
wk	week
wmt	wet metric ton
WRSF	waste rock storage facility
WRSF	waste rock storage facility

Scientific Notation	Number Equivalent
1.0E+00	1
1.0E+01	10
1.0E+02	100
1.0E+03	1,000
1.0E+04	10,000
1.0E+05	100,000
1.0E+06	1,000,000
1.0E+07	10,000,000
1.0E+09	1,000,000,000
1.0E+10	10,000,000,000

30 CERTIFICATES

CERTIFICATE OF QUALIFIED PERSON

WAYNE CORSO, P.E.

I, Wayne Corso, P.E., do hereby certify that:

1. This certificate applies to the Technical Report entitled "NI 43-101 Technical Report, Caballo Blanco Project, Potosi, Bolivia", with an effective date of 21 December 2021, (the "Technical Report") prepared for Santacruz Silver Mining, Ltd.;
2. I am currently employed as Project Manager with JDS Energy & Mining Inc. with an office at Suite 900 – 999 West Hastings Street, Vancouver, British Columbia, V6C 2W2;
3. I am a graduate of the Colorado School of Mines. I have practiced my profession continuously since 1984. I have worked in technical, operations and management positions at mines in the United States and Canada. I have been an independent consultant for over thirteen years and have performed mine design, mine planning, cost estimation, operations & construction management, technical due diligence reviews and technical report writing for mining projects worldwide;
4. I am a Professional Mining Engineer (P.E. #58884) registered with the Arizona Board of Technical Registration. I am a member of the Society for Mining Metallurgy and Exploration;
5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I fulfil the requirements of a Qualified Person as defined in National Instrument 43-101;
6. I have visited the property on August 11-12, 2021;
7. I am responsible for Sections 1, 2, 3, 4, 5, 6.1, 6.2, 12.4, 25, 26, 27, 28 and 29 of this Technical Report;
8. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101;
9. I have had no prior involvement with the property that is the subject of this Technical Report;
10. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading; and
11. I have read National Instrument 43-101, Standards for Disclosure of Mineral Properties and Form 43-101F1. This technical report has been prepared in compliance with that instrument and form.

Effective Date: 21 December 2021
Signed Date: 21 December 2021

(Original signed and sealed) "Wayne Corso, P.E."

Wayne Corso, P.E.

CERTIFICATE OF AUTHOR

GARTH DAVID KIRKHAM, P.GEO

I, Garth David Kirkham, P.Geo., do hereby certify that:

1. I am a consulting geoscientist and Principal of Kirkham Geosystems Ltd. since 1987 with an office at 6331 Palace Place, Burnaby, British Columbia;
2. This certificate applies to the Technical Report entitled "NI 43-101 Technical Report, Caballo Blanco Project, Potosi, Bolivia", with an effective date of 21 December 2021, (the "Technical Report") prepared for Santacruz Silver Mining, Ltd.;
3. I am a graduate of the University of Alberta in 1983 with a B. Sc. I have continuously practiced my profession since 1988. I have authored many resource estimations and NI 43-101 technical reports including Cerro Blanco Epithermal Au-Ag, Cerro Las Minitas Ag-Zn-Pb-Au-Cu, Avino Ag-Zn-Pb and Debarwa, and Kutcho Creek poly-metallic deposits;
4. I am a member in good standing of the Engineers and Geoscientists of British Columbia;
5. I have visited the property on August 11-12, 2021;
6. In the independent report entitled "NI 43-101 Technical Report, Caballo Blanco Project, Potosi, Bolivia" with effective date 21 December 2021, I am responsible for Sections for Sections 1, 6.4, 7, 8, 9, 10, 11, 12.1, 12.2, 25, 26,27 and 28;
7. I have not had prior involvement with the company nor the property that is the subject of this Technical Report;
8. I am independent of Santacruz Silver Mining, Ltd. as defined in Section 1.5 of National Instrument 43-101;
9. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I fulfil the requirements of a Qualified Person as defined in National Instrument 43-101;
10. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading; and
11. I have read National Instrument 43-101, Standards for Disclosure of Mineral Properties and Form 43-101F1. This technical report has been prepared in compliance with that instrument and form.

Effective Date: 21 December 2021
Signed Date: 21 December 2021

(original signed and sealed) "Garth Kirkham, P.Geo."

Garth Kirkham, P.Geo.
Kirkham Geosystems Ltd.

CERTIFICATE OF QUALIFIED PERSON

Shane Tad Crowie, P. ENG.

I, Shane Tad Crowie, P. Eng., do hereby certify that:

1. This certificate applies to the Technical Report entitled "NI 43-101 Technical Report, Caballo Blanco Project, Potosi, Bolivia", with an effective date of 21 December 2021, (the "Technical Report") prepared for Santacruz Silver Mining, Ltd.;

2. I am currently employed as Sr. Metallurgist with JDS Energy & Mining Inc. with an office at Suite 900 – 999 West Hastings Street, Vancouver, British Columbia, V6C 2W2;

3. I am a graduate of the University of British Columbia with a B.A.Sc. in Mining and Mineral Process Engineering, 2001. I have practiced my profession continuously since 2001. I have worked in technical, operations and management positions at mines in Canada. I have been responsible for recovery optimization projects, capital improvement projects, budgeting, planning, and pilot plant operations;

4. I am a Registered Professional Mining Engineer in British Columbia (#34052);

5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I fulfil the requirements of a Qualified Person as defined in National Instrument 43-101;

6. I have visited the property on August 11-12, 2021;

7. I am responsible for Sections 1, 6.3, 12.3, 26, 27 and 28 of this Technical Report;

8. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101;

9. I have had no prior involvement with the property that is the subject of this Technical Report;

10. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading; and

11. I have read National Instrument 43-101, Standards for Disclosure of Mineral Properties and Form 43-101F1. This technical report has been prepared in compliance with that instrument and form.

Effective Date: 21 December 2021
Signed Date: 21 December 2021

(Original signed and sealed) "Shane Tad Crowie, P. Eng."

Shane Tad Crowie, P. Eng.