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Technical Report

Silver Sand Deposit Preliminary Economic Assessment

New Pacific Metals Corp.

Potosí, Bolivia

In accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators

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1 Summary

1.1 Introduction

This 2022 Technical Report reports an updated Mineral Resource estimate and provides the results of a Preliminary Economic Assessment (PEA) for the Silver Sand Property (the Property or Silver Sand), Potosí Department, Bolivia. The report has been prepared by AMC Mining Consultants (Canada) Ltd. (AMC Consultants) of Vancouver, Canada on behalf of New Pacific Metals Corp. (New Pacific or the Company) and has an effective date of 30 November 2022. The previous Technical Report on the Property titled "Silver Sand Deposit Mineral Resource Report (Amended) for New Pacific Metals Corp. Property Potosí, Bolivia" (2020 Technical Report), has an effective date of 16 January 2020.

New Pacific, through its wholly owned subsidiaries, acquired exploration and mining rights over an aggregate area of approximately 60 square kilometres (km^2) covering the Silver Sand deposit and its surrounding areas. The Silver Sand area has been intermittently mined for silver from narrow high-grade mineralized veins in the Cretaceous sandstone since early to mid-1500's.

The 2022 Technical Report has been prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101), "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators (CSA) for lodgement on CSA's "System for Electronic Document Analysis and Retrieval" (SEDAR).

1.2 Property description and ownership

The Property is situated in the Colavi District of Potosí Department in southwestern Bolivia, 33 kilometres (km) north-east of Potosí city, the department capital. The approximate geographic centre of the Property is 19°22′ 4.97″ S latitude and 65°31′ 22.93″ W longitude at an elevation of 4,072 metres above sea level (masl).

The Property consists of multiple types of tenure and initially consisted of 17 Temporary Special Authorizations (ATEs) within which the Silver Sand deposit has been discovered. These are now converted to a consolidated Administrative Mining Contract (AMC) covering an area of 3.1656 km^2 and are held through New Pacific's 100% owned subsidiary Minera Alcira Sociedad Anónima Alcira S.A. (Alcira). The AMC is valid for 30 years and can be extended for an additional 30 years. In addition, New Pacific have acquired a 100% interest in three continuous mineral concessions called Jisas, Jardan and El Bronce originally owned by third party private entities. These three concessions, when converted to AMCs, will total 2.25 km^2. The total area under full control of the Company will be 5.42 km^2 after the consolidation and conversion procedures are complete. The Silver Sand South Block which hosts the Mineral Resource area is covered by AMCs.

In addition, through Alcira, New Pacific entered into a Mining Production Contract (MPC) with Corporación Minera de Bolivia (COMIBOL) on 11 January 2019. An updated MPC was entered with COMIBOL on 19 January 2022. The updated MPC covers 12 ATEs and 196 Cuadriculas for a total area of about 55 km^2 surrounding the Silver Sand core area. The MPC is valid for 15 years and can be extended for up to an additional two 15-year terms or 30 years.

1.3 History

Mining activity has been carried out on the Silver Sand Property and adjacent areas by various operators intermittently since the early 16th century. Historical mining activities on the Property mainly targeted high-grade vein structures and records of historical mine production are not available.

Despite the long history of mining on the Silver Sand Property and its adjacent areas, there has been little modern systematic exploration work recorded prior to 2009. In 2009 modern exploration on the Property commenced when Ningde Jungie Mining Industry Co. Ltd. (NJ Mining) purchased Alcira, owner of the Silver Sand project from Empresa Minera Tirex Ltda, a private Bolivia mining company. New Pacific acquired Alcira from NJ Mining, in mid-2017.

NJ Mining carried out a comprehensive exploration program across the Property. Exploration work comprised geological mapping, surface and underground sampling, trenching, and the drilling of eight diamond drillholes for 2,334 metres (m).

There are no known historical estimates of Mineral Resources or Mineral Reserves at the Property, and there has been no documented production from the Property.

1.4 Geology and mineralization

The Silver Sand Property is located in the south section of the polymetallic tin belt in the Eastern Cordillera of the Central Andes, Bolivia. The oldest rocks observed within the Property comprise Ordovician to Silurian marine, clastic sediments which have been intensely folded and faulted.

Bedrock in the Property area mainly consists of weakly deformed Cretaceous continental sandstone, siltstone, and mudstone and the strongly deformed Paleozoic marine sedimentary rocks. The Cretaceous sedimentary sequence forms an open syncline which plunges gently NNW and is bounded to the SW and NE by NW trending faults.

The Cretaceous sedimentary sequence within the Property is divided into the lower La Puerta Formation and the upper Tarapaya Formation. The La Puerta Formation consists of sandstones and unconformably overlies the highly folded Paleozoic marine sedimentary rocks. The Tarapaya Formation conformably overlies the La Puerta sandstones in the central part of the Property and comprises siltstones and mudstones intercalated with minor sandstone.

Both the Cretaceous and Paleozoic sedimentary sequences are intruded by numerous small Miocene subvolcanic dacitic porphyry intrusions.

The Property exhibits a variety of geometries and morphology of the mineralized bodies which are controlled and hosted by local structures of tectonic transfer nature. Some are evident in outcrops, but the best examples are observed in drill cores and in underground workings. Mineralized structures usually appear as steps-overs developed between two neighbouring fault / vein segments that exhibit an echelon arrangement and may or may not be connected by lower-ranking faults / vein. These types of structures are of fractal type, which implies that they repeat their geometry, regardless of the observation scale, in arrangements of sigmoid (jogs), echelon, subparallel stepped, relay, horsetails, and extensional nets (swarms).

A total of eleven mineralized prospects have been identified across the Property to date. These include the Silver Sand deposit and the El Fuerte, San Antonio, Aullagas, Snake Hole, Mascota, Esperanza, North Plain, Jisas, Jardan, El Bronce, occurrences. Silver Sand, Snake Hole, Jisas, and El Bronce have been tested by drilling. Another nine prospects were defined by rock chip and grab sampling of ancient and recent artisanal mine workings and dumps. Exploration results from surface outcrops and underground workings defined a silver mineralized belt 7.5 km long and 2 km wide. At the Silver Sand deposit mineralization has been traced for more than 2,000 m along strike, to a maximum width of about 680 m and a dip extension of more than 250 m.

Four mineralization styles have been recognized in the Property, and these in order of importance are: (1) sandstone-hosted silver mineralization, (2) porphyritic dacitic-hosted silver mineralization, (3) diatream breccia-hosted silver mineralization, and (4) manto-type tin and base metal mineralization.

The mineralization in Silver Sand project comprises silver-containing sulphosalts and sulphides occurring within sheeted veins, stockworks, veinlets, breccia infill and disseminated within host rocks. The most common silver-bearing minerals include freibergite [$(Ag,Cu,Fe)_{12}(Sb,As)_4S_{13}$], miargyrite [$AgSbS_2$], polybasite [$(Ag,Cu)_6(Sb,As)_2S_7$] [$Ag_9CuS_4$], bournonite [$PbCuSbS_3$] (some lattices of copper may be replaced by silver), andorite [$PbAgSb3S_6$], and boulangerite [$Pb_5Sb_4S_{11}$] (some lattices of lead may be replaced by silver). Most silver mineralization is hosted in La Puerta sandstone units with minor amounts in porphyritic dacite diatreme breccia.

Silver mineralization is hosted by faults, fractures, fissures, and crackle breccia zones in the Cretaceous La Puerta (brittle) sandstone and porphyritic dacitic dikes, laccolith, and stocks. In the mineralized sandstone, open spaces are filled with silver-containing sulphosalts and sulphides in forms of sheeted veins, stockworks, and veinlets, as well as breccia fillings and minor disseminations. Most silver mineralization in the Property is structurally controlled with secondary rheological controls. The intensity of mineralization is dependent on the frequency of various mineralized vein structures developed in the brittle host rocks.

Silver and base metal mineralization in the Silver Sand Property was formed during the regional uplifting and erosion process associated with the Tertiary orogenic events in the Eastern Cordillera. The genetic model of silver and tin mineralization in the Property is a magmatic-hydrothermal system related to a deep-seated magmatic centre.

1.5 Exploration

Since October 2017, New Pacific has carried out an extensive property-scale reconnaissance investigation program by surface and underground sampling of the mineralization outcrops and the accessible ancient underground mine workings across the Property.

A total of 1,046 rock chip samples were collected from 35 separate outcrops by New Pacific. Continuous chip samples were collected at 1.5 m intervals along lines roughly perpendicular to the strike direction of the mineralization zones. Sample lines covered a total length of 2,863 m. Most of the sampled outcrops are located above or near old mine workings.

New Pacific has also mapped and sampled 65 historical mine workings comprising 5,780 m of underground tunnels. A total of 1,171 continuous chip samples have been collected at 1 - 2 m intervals along walls of available tunnels that cut across the mineralized zones.

Mine dumps from historical mining activities are scattered across a significant portion of the Property. New Pacific has collected a total of 1,408 grab samples from historical mine dumps. The majority of samples collected were remnants of high-grade narrow veins extracted from underground mining activity. Of the 1,408 samples collected from historical mine dumps to date, 439 samples (31%) returned assay results between 30 and 3,290 grams per tonne (g/t) Ag with an average grade of 194 g/t Ag.

Assay results of underground chip samples and surface mine dump grab samples show that silver mineralization widely occurs in the wall rocks of the previously mined-out high-grade veins in the abandoned ancient underground mining works.

1.6 Drilling

From October 2017 to July 2022, New Pacific conducted intensive diamond drilling programs on the Property totalling 139,920 m in 564 drillholes. A total of 523 HQ diamond holes for a total metreage of 128,074 m was drilled over the Silver Sand core area to define the mineralization. After drilling specific exploration targets, holes were drilled on a 50 m x 50 m grid to delineate the spatial extensions of the major mineralized zones. This was followed up by drilling on a nominal 25 x 25 m grid, infilling defined areas of mineralization. Drilling was halted during 2020 and part 2021 due to COVID-19 protocols and recommenced later in 2021.

All holes were drilled from the surface. Drillholes were drilled up to 545 m deep at inclinations between -45° and -80° towards azimuths of 060° (~NE) and 220° (~SW) to intercept the principal trend of mineralized vein structures perpendicularly.

The drilling programs have covered an area of approximately 1,600 m long in the north-south direction and 800 m wide in the east-west direction and have defined silver mineralization at the Silver Sand deposit over an oblique strike length of 2 km, a collective width of 650 m and to a depth of 250 m below surface.

Drill coring was completed using conventional HQ (64 millimetre (mm) diameter) equipment and 3 m drill rods. Drill collars are surveyed using a Real-Time Kinematic differential global positioning system (GPS), and downhole deviation surveys are completed by the drilling contractor using a REFLEX EZ-SHOT and SPT GyroMaster downhole survey tools. Drillholes are surveyed at a depth of approximately 20 m, and on approximately 30 m intervals as drilling progresses. Upon completion of each drillhole a concrete monument is constructed with the hole details inscribed.

Core is collected by New Pacific personnel and drill core containing visible mineralization is wrapped in paper to minimize disturbance during transport. Logging is both carried out at the rig where a quick log is completed, and after transportation to the company's Betanzos core processing facility, which is located approximately 1.5 hours drive from the Property. Currently data is directly collected or loaded into MX Deposit a database software from Sequent.

In addition to drilling in the Silver Sand core area, drilling was carried out at Snake Hole (32 drillholes for 7,457 m) and at the northern prospects, (9 drillholes for 4,298 m). These holes were more exploratory in nature but the same procedures as the grid drilling in the core area were employed.

Core recovery from the drill programs varies between 0% (voids and overburden) and 100%, averaging 97%. More than 92% of core intervals have a core recovery of greater than 95%.

1.7 Sample preparation, assay, and QA/QC

New Pacific has developed and implemented good standard procedures for sample preparation, analytical, and security protocols.

New Pacific manages all aspects of sampling from the collection of samples, to sample delivery to the laboratory. All samples are stored and processed at the Betanzos facility. This facility is surrounded by a brick wall, has a locked gate, and is monitored by video surveillance and security guard 24 hours a day, seven days a week. Within the facility, there are separate and locked areas for core logging, sampling, and storage.

Samples are transported on a weekly basis by New Pacific personnel from the Betanzos facility to the ALS laboratories (ALS) in Oruro, Bolivia for sample preparation, and then shipped to ALS in Lima, Peru for geochemical analysis. ALS Oruro and ALS Lima are part of ALS Global – an independent commercial laboratory specializing in analytical geochemistry services, all of which are accredited. in accordance with ISO/IES 17025:2017, and are independent of New Pacific.

All core, chip, and grab samples are prepared using the following procedures: (1) crush to 70% less than 2 mm; (2) riffle split off 250 g; and (3) pulverize split to better than 85% passing a 75-micron sieve.

Sample analysis in 2017 and 2018 comprised an aqua regia digest followed by Inductively Coupled Plasma (ICP) Atomic Emission Spectroscopy (AES) analysis of Ag, Pb, and Zn (ALS code OG46). Assay results greater than 1,500 g/t Ag were sent for fire assay and gravimetric finish analysis. In 2019 New Pacific changed its analysis protocol to include systematic multielement analysis for an initial 51 element ICP mass spectroscopy (MS) analysis. Over-limit samples were handled differently for different elements and protocols were further amended for the 2021-2022 drilling.

Drill programs have included Quality Assurance / Quality Control (QA/QC) monitoring programs which have incorporated the insertion of certified reference materials (CRMs), blanks, and duplicates into the sample streams, and umpire (check) assays at a separate laboratory at different times.

Four different CRMs have been used throughout the project history. A total of 4,495 CRMs was submitted between October 2017 and July 2022 representing an average overall insertion rate of 5%. Insertion rates for CRMs have been consistently above 5% on a yearly basis with the exception of 2019.

Blank material from two different quarry sites been used over time and coarse blanks have been inserted consistently at an acceptable insertion rate. While there have been some changes in failure criteria, there has been no evidence of systemic contamination and failures are dealt with by a re-assay protocol. Pulp blank samples have been inserted since 2021, but at a low insertion rate of less than 2.5%. Duplicates are also inserted, comprising field duplicates, coarse duplicates and pulp duplicates. In 2021 and 2022 they have been consistently included but at a rate of between 3.65% and 4.07%. Coarse rejects were also submitted to Actlabs Skyline as umpire samples in the 2017 to 2019 period. Actlabs Skyline is an independent geochemical laboratory certified according to ISO 9001:2015.

The Qualified Person (QP) has reviewed the QA/QC procedures used by New Pacific including certified reference materials, blank, duplicate and umpire data and has made some recommendations. The QP does not consider these to have a material impact on the Mineral Resource estimate and considers the assay database to be adequate for Mineral Resource estimation. The QP considers sample preparation, security, and analytical procedures employed by New Pacific to be adequate.

1.8 Metallurgical testing

Two significant metallurgical testwork programs have been completed since 2018.

The initial (2018/19) program was completed at SGS Mineral Services in Lima, Peru, and examined several metallurgical composites of Oxide, Transition, and Sulphide mineralization from two areas of the Silver Sand deposit. A geometallurgical sampling approach was used and was designed to highlight the effect of differences in silver grade, degree of oxidation, and lithology. Four independent geometallurgical testwork programs (mineral characterization, comminution, froth flotation, and cyanide leaching) were carried out on the different metallurgical composites. Six metallurgical domains were identified for the flotation and leaching testwork and six geological domains were branded for the comminution work.

The second (2020/21) program, also completed at SGS Mineral Services in Lima Peru, maintained the initial geometallurgical definitions and examined a larger and more representative set of metallurgical samples via master composites and high / low grade variants of Oxide, Transition, and Sulphide mineralization. A more comprehensive scope of work was completed in this program, including physical and chemical characterization, heavy liquids separation, mineralogical analysis, particle sorting, flotation, cyanidation, and environmental characterization.

Both metallurgical testing programs demonstrated that good silver recoveries are possible using conventional extraction methods and that further improvements and refinements should be possible in future programs after fine-tuning the various test parameters. Highlights of the two testwork programs are as follows:

- An initial assessment of ore sorting showed encouraging results.
- A more comprehensive assessment of physical characteristics of the different oxidation types, indicated that samples are amenable to SAG milling.
- Composite samples were found to be mostly in the soft to medium grindability range with low to medium values of Abrasion Index (Ai).
- A larger flotation program culminated in locked cycle testing of new composite samples of Oxide, Transition and Sulphide mineralization, with silver recoveries of 67.4%, 83.2%, and 87.1% respectively at concentrate mass pulls of 0.5%, 2.2%, and 5.0%. Silver recovery is expected to increase with higher concentrate mass pull.
- A more comprehensive cyanidation program included coarse-particle and fine-particle bottle roll leaching, column leaching and leaching of flotation concentrates. Cyanidation of composite samples ground to 80% -75 µm achieved silver extractions of up to 93.9%, 92.5%, and 78.3% for Transitional, Oxide, and Sulphide master composite samples respectively under conditions of sodium cyanide concentration of 2 grams per litre (g/L), dissolved oxygen concentration of 11-15 parts per million (ppm) and retention time of 48 hours.
- Initial testing of cyanide detox amenability raised no concerns and suggests that SO_2/Air is able to achieve residual cyanide concentration of 20 ppm WAD cyanide (CN) or less.
- Initial environmental testing of flotation tailing and cyanidation residue was completed, including ABA and TCLP characterization.
- Samples of oxide mineralization were submitted for coarse column (100% passing 12.7 mm) leach cyanidation testing and this achieved up to 88.3% silver extraction after 75 days.
- High recoveries achieved during cyanidation tests indicate that silver-bearing minerals within the sulphide and transition composite samples tested can be considered non-refractory in nature.

The results of the two testwork programs are consistent and suggest that the mineralized materials from the Silver Sand project would be amenable to processing using conventional flotation or large-scale whole ore cyanidation at atmospheric pressure.

A process options trade off study completed in 2022 determined that a flowsheet including crushing, grinding, cyanidation in agitated tanks and Merrill Crowe zinc precipitation can provide a superior balance of costs and revenue, resulting in the highest relative IRR. This flowsheet was carried through to the PEA and is summarized in Section 1.11 and described in Section 17 of this report.

1.9 Mineral Resources

The Mineral Resource estimate was completed using 556 drillholes on the Property comprising 136,220 m of diamond core and 92,164 assays. Grade interpolation was completed for silver, lead, zinc, copper, arsenic, and sulphur. Only silver is reported as it is the only economic metal. All estimation utilized ordinary kriging (OK) except for the 127 small domains which were estimated using the inverse distance squared (ID^2) method.

The mineralization domains were built by New Pacific using Leapfrog Geo 4.0 software. The mineralization domains were reviewed and accepted by the QP with some changes, including separating the main domain into two areas based on vein orientation. The QP estimated into these domains and also estimated a background block model that was combined with the domain mineralization to form the final block model.

New Pacific performed 6,297 bulk density measurements on the core drilled on the Property. As the mineralization is hosted in one rock type, after reviewing the density data, the QP assigned a single bulk density measurement to the block model of 2.54 t/m^3.

The pit-constrained Mineral Resources are reported for blocks above a conceptual pit shell based on a US$22.50/ounce silver price. There is not a reporting restriction to within the AMC claim boundary as in the 2020 Technical Report as an agreement has been reached with COMIBOL in regard to the surrounding MPC.

The cut-off applied for reporting the pit-constrained Mineral Resources is 30 g/t silver. Assumptions made to derive a cut-off grade (COG) included mining costs, processing costs and recoveries and were obtained from comparable industry situations. The model is depleted for historical mining activities. The assumptions are shown in Table 1.1.

Table 1.1 Assumptions for pit optimization

Input	Units	Value
Silver price	$/oz Ag	22.5
Silver process recovery	%	91
Payable silver	%	99
Mining recovery factor	%	100
Mining cost	$/t mined	2.6
Process cost	$/t minable material > COG	16
G&A cost	$/t minable material > COG	2
Slope angle	degrees	44 - 47

Notes:
- Sustaining capital cost has not been included.
- Measured, Indicated and Inferred Mineral Resources included.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The Mineral Resource for the Silver Sand deposit has been estimated by Ms Dinara Nussipakynova, P.Geo. Principal Geologist of AMC Consultants, who takes responsibility for the estimate.

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

Table 1.2 Mineral Resource as of 31 October 2022

Resource category	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
Measured	14.88	131	62.60
Indicated	39.38	110	139.17
Measured & Indicated	**54.26**	**116**	**201.77**
Inferred	4.56	88	12.95

Notes:
- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- The QP is Dinara Nussipakynova, P.Geo. of AMC Consultants.
- Mineral Resources are constrained by optimized pit shells at a metal price of US$22.50/oz Ag, recovery of 91% Ag and COG of 30 g/t Ag.
- Drilling results up to 25 July 2022.
- The numbers may not compute exactly due to rounding.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The QP is not aware of any known significant factors or risks that might affect access or title, or the right or ability to perform work on the Property, including permitting and environmental liabilities to which the project is subject.

In last three years Bolivia experienced a transition from social turmoil to stability. The government of the current President, elected at the end of 2020, supports and encourages private and foreign investments in the economic sectors of the country. New laws were approved by congress to encourage private investments in the mining sector, for example, Law 1391 (Decree 4579) waives value added tax for import of equipment and vehicles.

Although the country is now generally friendly to private and foreign investments in the mining sector, risks associated with instability of government caused by political polarization and visible divisions in the governing party remains. In addition, local protests and blockages by various social groups may pose unforeseen instability from time to time. Overall, political and social risks are currently manageable in Bolivia.

There are no Mineral Reserves on the Property.

1.10 Mining

The Silver Sand project comprises four open pit areas — the Main pit, two small northern satellite pits (NP1 and NP2), and one eastern satellite pit (EP1). The open pits are proposed to be mined using a conventional truck and excavator mining method using 140 t payload trucks and 200 - 260 t excavators. A mining contractor operation is proposed, with ore and waste to be mined on 10 m benches. A mining recovery of 92% and a mining dilution of 8% at zero grade has been assumed.

The Lerchs-Grossmann pit optimization algorithm, as implemented in the Whittle software, was used to define the ultimate pit shell for Silver Sand. The selected pit shells were then used to produce pit designs and the mining schedule. Pit optimization was allowed to extend outside the AMC claim boundary into the MPC area to the NE and SW.

In total four phases have been designed in the Main area (Main 1 to 4) and one for each of the three small satellite pits. Haulage ramps have been designed at 32 m wide for double lane traffic at a 10% gradient. Single lane ramps of 17 m width were designed for the bottom bench access and the small satellite pits.

A single out-of-pit waste dump has been designed immediately south-west of the open pits in a natural depression in the topography. The waste dump has been designed to accommodate the totality of the waste mined from the pits, as well as the disposal of filtered tailings from the plant. Two in-pit dumps have been designed in the main pit to provide flexibility and costs savings for waste placement. Re-sloping the waste dumps, in-pit dumps, and ROM pad and placement of topsoil will be carried out post mine closure.

The open pit contains approximately 55.4 Mt of mineralized material with a grade of 106.6 g/t Ag, and 199.7 Mt of waste material, with an overall waste to mineralized material strip ratio of 3.60 to 1. The open pit operation includes one year of pre-strip (Year -1) and fourteen-years of production.

To optimize the overall value of the project and the sequence of mining, the value for each pit phase was estimated. The value, defined as the indicative undiscounted cashflow per tonne of mineralized material, accounts for preliminary mining costs, General and Administration (G&A), and processing costs. The projected value from each source and consideration of practical scheduling constraints provided a basis for the order in which the pits are scheduled.

The conceptual process feed schedule is summarized in Table 1.3. In a typical year 4.0 Mt of ore will be delivered to the process plant. The total annual ex pit material mined peaks at 18.5 Mtpa, before dropping to approximately 13 Mtpa at the end of the open pit mine life.

Table 1.3 LOM process plant feed schedule

	Total	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14
Total process feed (Mt)	55.4	-	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.4
Ag (g/t)	106.6	-	135.3	135.6	131.5	139.1	103.4	96.6	74.8	72.7	102.3	93.3	113.6	113.3	102.3	74.2
Mine to Process (Mt)	46.6	-	3.0	4.0	4.0	4.0	3.2	4.0	1.3	2.0	4.0	3.5	4.0	4.0	4.0	1.6
Ag (g/t)	116.3	-	136.1	135.6	131.5	139.1	117.9	96.6	133.5	99.4	102.3	100.0	113.6	113.3	102.8	106.6
Stockpile to Process (Mt)	8.8	-	1.0	-	-	-	0.8	-	2.7	2.0	-	0.5	-	-	-	1.8
Ag (g/t)	55.6	-	132.7	-	-	-	48.3	-	45.5	45.4	-	45.3	-	-	45.3	45.3
Mine to Stockpile (Mt)	8.8	1.6	0.8	0.8	1.1	1.5	1.0	1.2	0.1	-	0.6	-	0.1	-	-	-
Ag (g/t)	55.6	99.9	45.4	46.0	46.1	47.3	45.5	44.5	42.5	-	45.0	-	45.1	-	-	-

Source: AMC Mining Consultants (Canada) Ltd., 2022.

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

1.11 Processing

Results from two recent metallurgical testwork programs have been used to select a processing flowsheet for the Silver Sand project. Interpretation of the testwork has enabled the completion of a process trade off study, the preparation of preliminary process design criteria and initial equipment selections.

Several processing options were considered for this PEA, including heap leaching, froth flotation, and agitated tank cyanidation (using carbon or zinc precipitation for silver recovery from solution). After preliminary trade-off studies to compare the estimated capital cost, operating cost and metallurgical efficiency of different options, an agitated tank cyanidation process was selected as the PEA base case.

The selected flowsheet represents a very conventional, low-risk approach to silver extraction, and consists of the following unit operations:

- Run-of-mine (ROM) receiving, crushing, and crushed rock storage.
- Stockpile discharge, grinding via SAG milling, and ball milling.
- SAG mill pebble crushing via SAG mill pebble ports, scalping screen, recycle conveyors, and cone crusher.
- Pre-leach thickening and cyanide leaching using stirred, oxygen sparged tanks.
- Liquid / solid separation using counter-current decantation (thickeners).
- Recovery of silver from pregnant leach solution using a zinc precipitation process followed by drying and smelting with fluxes to produce silver doré bars.
- Thickening and filtration of leach residues.
- Conveying of filter cake and long-term storage at the tailing storage area.

The base case flowsheet is expected to recover an average of 91% silver into a doré product for export to international markets.

1.12 Infrastructure

Currently there is no significant infrastructure in place. As a comprehensive greenfield project, the Silver Sand project will require the development of supporting infrastructure. The Property is accessible from Potosi via a 54 km long road made up of a 27 km stretch of the paved Bolivia National Highway 5 and an all-season gravel road built for mining in the Colavi District.

The Silver Sand project is estimated to require approximately 25 to 35 megawatts (MW) of power annually. New Pacific has engaged with Bolivia’s national power supply companies CNDC and ENDE. A preliminary power supply plan for the future operations has been discussed and agreed upon. The Company has submitted a power supply application to the Bolivia Ministry of Energy, following the formal procedure in the country. The Ministry of Energy issued an official letter to the Company acknowledging the application.

Water for domestic use can be obtained from a small lake, approximately 3.5 km north-west of the Property. Water for drilling can be sourced from nearby drainages. It is proposed that a water dam will be built up stream from the mine in the narrowest part of the creek to hold the water in a reservoir with a capacity of about 2.6 million cubic metres. This will provide water for the mineral processing plant and mining camp and could supply downstream residents for farming and daily life water requirement if required.

The Filtered Tailings Storage Facility (Filtered TSF of TSF) will be integrated within the waste rock storage area. The TSF will be fully lined to provide protection against release of potentially contaminated water to the local surface and groundwater systems.

Accommodation and other infrastructure such as offices, workshop, warehouse, and laboratory are envisaged to be built close to the processing plant.

1.13 Capital and operating costs

The capital and operating costs estimate have been developed by the following contributors:

- Halyard Inc: process plant, and plant infrastructure.
- NewFields: Tailings storage facility.
- AMC Consultants: site infrastructure, and open pit operating mining costs.
- New Pacific: owner's costs, and general and administration costs.

Costs are presented in US dollars ($) and are based on prices obtained during the fourth quarter of 2022 (4Q22).

Open pit mining costs are estimated based on contract mining.

G&A costs include camp accommodation, site administration compensation for land use, and mine closure costs.

Operating costs for the project have been estimated and are summarized in Table 1.4.

Table 1.4 Operating costs summary

Description	LOM average cost ($/t feed)	Total LOM cost ($M)
Mining cost	9.55	529.7
Processing cost	14.20	787.3
Tailings storage cost	0.65	36.0
G&A cost	1.86	103.1
Total operating cost	**26.26**	**1,456.1**

Note: Totals may not add up exactly due to rounding. G&A includes mine closure and land use compensation cost.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

Capital costs for the project have been estimated and are summarized in Table 1.5.

Owner's capital costs include relocation / resettlement, additional studies, permit applications, local community projects, flights, and accommodation.

Table 1.5 Capital expenditure summary

Description	Cost ($M)
Open pit pre-stripping	47
Contractor mobilization	1
Processing plant	186
Tailings facility	25
Site infrastructure	47
Owner's cost	21
Total capital cost	**327**
Initial capital	308
Sustaining capital	**20**

Note: Includes direct, indirect, and contingency costs. Totals may not add up exactly due to rounding.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

1.14 Economics

All currency is in US$ unless otherwise stated. The cost estimate was prepared with a base date of the second half of Year -2 (1 July) and does not include any escalation beyond this date. For net present value (NPV) estimation, all costs and revenues are discounted at 5% from the base date. The economic model shows the Project under construction for 1.5 years (Year -2 and Year -1), which is considered development and then in production for the balance of the projected cash flows, which is considered operating (Years 1 to 14). Metal prices were selected after discussion with New Pacific and referencing current markets and forecasts in the public domain.

A regular Bolivian corporate income tax rate of 25% is applied. As a mining property, the Project is subject to an additional tax of 12.5%, with a 5% reduction for companies that produce pure metal products (as is the case with the Silver Sand project producing silver doré onsite). Within the AMC a 6.0% royalty is paid based on gross sales. Most of the Mineral Resources lie within the AMC. Outside the AMC, an additional 6.0% royalty is to be paid. No other royalties or levies are applicable to the Project.

A high-level economic assessment of the proposed open pit operation was conducted. The project is projected to generate approximately $1,106 million (M) pre-tax NPV and $726M post-tax NPV at 5% discount rate, pre-tax IRR of 52% and post-tax IRR of 39%. A summary of the potential economic outcome of the project is presented in Table 1.6.

Table 1.6 Summary of potential economic results

	Unit	Value
Total plant feed	kt	55,441
Total waste production	kt	199,653
Silver grade	g/t	106.6
Silver recovery	%	91
Silver price	$/oz	22.50
Discount rate	%	5
Silver payable	%	99
Payable silver metal	Moz	171.2
Total net revenue	$M	3,510
Total capital costs	$M	327
Total operating costs	$M	1,456
Mine operating costs	$M	530
Process and tails storage operating costs	$M	823
General and administrative costs	$M	103
Operating cash cost	$/oz Ag	8.45
All in sustaining cost	$/oz Ag	10.42
Pre-tax payback period	Yrs	1.4
Post-tax payback period	Yrs	1.9
Pre-tax NPV	$M	1,106
Pre-tax IRR	%	52
Post-tax NPV	$M	726
Post-tax IRR	%	39

Notes:
- G&A costs include mine closure and land use compensation cost.
- Cash costs include all operating costs and transportation charges.
- All-in Sustaining Costs (AISC) include total cash costs, initial capital expenditures and sustaining capital expenditures.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

This PEA is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

1.15 Conclusions and recommendations

The main recommendation is to advance the Silver Sand project to a pre-feasibility study level. This will require advancing the definition and engineering level of all of the mining, processing and infrastructural aspects. While the current block model will form the basis for that study work there are some geology and exploration recommendations for later.

1.15.1 Geology

There are a number of recommendations on all facets of QA/QC summarized below.

- Purchase an additional CRM at the average grade (116 g/t Ag) of the deposit which has been certified using similar digestion methodology.
- Investigate performance issues with CRMs CDN-ME-1603 and CDN-ME-1605 if these are to be used in future programs.
- If continue to use ME-MS41 analytical method going forward it is recommended that the OG46 over-limit threshold be dropped from 100 g/t Ag to a level below the anticipated COG.

- Continue to include blanks in every batch of samples submitted at a rate of at least 1 in every 20 samples (5%) and consistently monitor them in real time on a batch-by-batch basis and that remedial action is taken as issues arise.
- Ensure that all blank sample follow up is recorded.
- Implement investigative work to understand geological variance.
- Ensure that all future programs include 4 - 5% duplicate samples including field duplicates, coarse (crush) duplicates, and pulp duplicates to enable the various stages of sub-sampling to be monitored.
- In future programs, submit umpire duplicates, as was done for the October 2017 – 2019 programs.
- Submit pulp samples (rather than coarse reject) so that umpire samples only monitor analytical accuracy and variance.
- Include CRMs at the average grade and higher grades in umpire sample submissions.

For future Mineral Resource modelling the following should be considered:

- At the next update of the model include all remaining drill data which missed the closing date.
- Incorporate geometallurgical attributes into the block model.
- Verify mined-out volumes by surveying historical waste dumps.
- Conduct structural analysis of available data and complete initial structural / geotechnical drilling as required.
- Update the 3D geological model to include detailed geology – deposit oxidation domaining and structures.

The Silver Sand deposit as currently defined remains open for expansion and there has been no modern district scale exploration. While it is understood that engineering work for the pre-feasibility study will be based on the current block model, it is recommended that future drilling on the deposit should consider the following:

- Infill drilling to upgrade areas of high-grade mineralization within the current inferred resource area.
- Additional drilling around the current Mineral Resources, where the deposit remains open at depth.

The QP also notes that there has been no modern district scale exploration outside of Silver Sand deposit. It is recommended that additional drilling be completed at the other prospects to assess for the potential for Mineral Resources.

1.15.2 Metallurgical testwork development

The following metallurgical activities are recommended:

- Further development of the current geometallurgical modelling.
- Further mineralization characterization studies, including quantitative mineralogy, and comminution studies.
- Development of a particle sorting trade-off.
- Development of cyanidation parameters, on a more widespread sample set.
- Settling testwork, with more comprehensive study of slurry rheology, reagent selection, and dosage.
- Further environmental testing, including a comprehensive set of static and kinetic (humidity cell) tests.

1.15.3 Open pit mining

It is recommended that the following aspects are examined in the next study stage:

- It is recommended that a dilution study is conducted in the next stage of study to ascertain the anticipated mining dilution and ore recovery in combination with the most appropriate mining fleet and associated costs.
- The ongoing geotechnical program should be continued to collect additional data for pit wall angle stability analysis.
- It is recommended that quotes from Bolivian mining contractors are collected to firm up the mining costs estimates for the open pit operations.
- Further hydrological and hydrogeological studies should be conducted to better define dewatering requirements for the open pit. Recommendations from ITASCA Chile SpA (ITASCA) include:
  - to implement piezometers for groundwater table monitoring, at least in the future pit location.
  - Itasca recommends that the area where mining activities are developed is characterized in detail, to be used as a water quality baseline before the Silver Sand project starts to operate.
- Further work should be conducted to identify alternative dump locations with short hauls i.e., backfill in-pit dumps, and dump in the creek gully. Further work should be undertaken to develop a detailed waste and tailings disposal plan.

1.15.4 Infrastructure

- It is recommended that all technical and commercial aspects of site infrastructure are pursued to a higher level of accuracy.
- Location and placement of accommodation camp, waste dump, crusher, and process plant be confirmed following drilling.
- Negotiation with Bolivian power authorities to continue to confirm there is capacity in the existing grid and that Silver Sand can get access to that.

1.15.5 Costs

The estimated cost of the program to complete a study to prefeasibility level is $2.288M.

Contents

Tables

Figures

Abbreviations & acronyms

Abbreviations & acronyms	Description
$	United States dollar
%	Percentage
`	Feet
"	Inches
°	Degree
°C	Degrees Celsius
µm	Micron
µS/cm	Microsiemens per centimeter (a measure of electrical conductivity)
3D	Three-dimensional
AACN	National Competent Environmental Authority (Autoridad Ambiental Competente Nacional)
AAS	Atomic absorption spectroscopy
ABA	Acid Base Accounting
AES	Atomic Emission Spectroscopy
Ag	Silver
Ai	Abrasion index
AISC	All-in Sustaining Costs
AJAM	Jurisdictional Mining Administrative Authority (Autoridad Jurisdiccional Administrativa Minera)
Alcira	Minera Alcira Sociedad Anónima Alcira S.A.
ALS	ALS laboratories
AMC	Administrative Mining Contract
AMC Consultants	AMC Mining Consultants (Canada) Ltd.
AMD	Acid Mine Drainage
ARD	Acid Rock Drainage
As	Arsenic
ATE	Temporary Special Authorization
Au	Gold
BFA	Bench face angle
BOB	Bolivian Boliviano
BWi	Ball Mill Work Index
$CaCO_3$	Calcium carbonate
CaO	Calcium oxide
Capex	Capital expenditure
CCD	Counter current decantation
CCR	Crusher Control Room
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIMM	Research Center for Mining and Metallurgy
cm	Centimetre
CN	Cyanide
COG	Cut-off grade
COMIBOL	Corporación Minera de Bolivia
Congress	Congress of Bolivia
CPE	Political Constitution of the State (Constitución Política del Estado)
CR	Critically Endangered

Abbreviations & acronyms	Description
CRM	Certified reference material
CSA	Canadian Securities Administrators
Cu	Copper
CV	Coefficient of Variation
d	Day
DDH	Diamond drillhole
DIA	Environmental License
DMS	Dense Media Separation
dmtpa	Dry metric tonnes per annum
dmtph	Dry metric tonnes per hour
DO_2	Dissolved oxygen
DTM	Digital Terrain Model
DWi	Drop Weight Index
E	East
EEIA-AI	Analytical Environmental Impact Assessment Study
EIA	Environmental Impact Assessment
EN	Endangered
ENE	East-northeast
EP	Eastern pit
EPCM	Engineering, Procurement and Construction Management
Excel	Microsoft Excel
FAO	Food and Agriculture Organisation
FNCA	Environmental Categorization Form (Formulario de Categorización Ambiental)
FoS	Factor of Safety
g	Gram
G&A	General and Administration
g/L	Grams per litre
g/t	Grams per tonne
GEOBOL	Servicio Geologico de Bolivia
GPS	Global positioning system
GU	Geotechnical Unit
h	Hour
Haulage	Hexagon Mining’s Mineplan Haulage
HG	High grade
HLS	Heavy Liquids Separation
HMI	Human-Machine Interface
hr	Hours
ICP	Inductively Coupled Plasma
ID^2	Inverse distance squared
ID^3	Inverse distance cubed
IES	International Electrotechnical Commission
IRA	Inter-Ramp Angle
IRAK	Kinematic Inter-Ramp Angle
IRR	Internal rate of return
ISO	International Organization for Standardization
ITASCA	ITASCA Chile SpA

Abbreviations & acronyms	Description
kg	Kilogram
kg/L	Kilogram per litre
kg/t	Kilogram per tonne
km	Kilometre
km^2	Square kilometre
kPa	Kilopascal
kt	Thousand tonnes
kV	Kilovolt
kW	Kilowatt
kWh/t	Kilowatt-hour per tonne
kWh/m^3	Kilowatt-hour per cubic metre
L	Litre
L/h	Litre per hour
lab	Laboratory
LCT	Locked cycle test
Leapfrog	Leapfrog Geo 4.0
LG	Low grade
LOM	Life-of-mine
M	Million
m	Metre
m^2	Square metre
m^3	Cubic metre
m^3/h	Cubic metre per hour
M m^3	Million metres cubed
masl	Metres above sea level
Mbcm	Million bulk cubic metres
MC	Master composites
MCC	Motor Control Center
MCR	Main Control Room
mg	Milligram
mg/L	Milligram per litre
MIBC	Methyl isobutyl carbinol
Minemax	Minemax Scheduler 7
mm	Millimetre
MMAYA	Ministry of Environment and Water protection (Ministerio de Medio Ambiente y Agua)
MMM	Ministry of Mining and Metallurgy
Moz	Million ounces
MP	Main pit
MPC	Mining Production Contract
MS	Mass spectroscopy
Mt	Million tonnes
Mtpa	Million tonnes per annum
mV	millivolt
MW	Megawatt
MWh	Megawatt per hour
N	North

Abbreviations & acronyms	Description
NaCN	Sodium cyanide
NaOH	Sodium hydroxide
NE	North-east
New Pacific	New Pacific Metals Corp.
NI 43-101	National Instrument 43-101
NJ Mining	Ningde Jungie Mining Industry Co. Ltd.
NN	Nearest neighbour
NNE	North-northeast
NNW	North-northwest
NP	Northern pit
NPV	Net Present Value
NW	North-west
OK	Ordinary kriging
Opex	Operating expenditure
OSC	Competent sectoral agency (organismo sectorial competente)
oz	Troy ounce
p.a.	Per annum
P_{80}	80% Passing
Pb	Lead
PCS	Process Control System
PDC	Process Design Criteria
PEA	Preliminary Economic Assessment
PFS	Pre-feasibility Study
pH	pH is a measure of hydrogen ion concentration; a measure of the acidity or alkalinity of a solution
PID	Proportional-integral-derivative
PLC	Programmable Logic Controller
PLS	Pregnant leach solution
ppm	Parts per million
Property	Silver Sand Property
QA/QC	Quality assurance and quality control
QP	Qualified Person as defined by NI 43-101
RAAM	Environmental Regulations for Mining Activities, (Reglamento Ambiental para Actividades Mineras)
RC	Reverse circulation drilling
2022 Technical Report	Technical Report
RF	Revenue Factor
RGGA	General Environmental Management Regulation (Reglamento General de Gestión Ambiental)
RGRS	Regulation for Solid Waste Management (Reglamento de Gestión de Residuos Sólidos)
RMCA	Regulation on Atmospheric Contamination (Reglamento en materia de Contaminación Atmosférica)
RMCH	Water Pollution Regulation (Reglamento en materia de Contaminación Hídrica)
RMSP	Regulation for Handling of Hazardous Substances (Reglamento para Manejo de Sustancias Peligrosas)
ROM	Run-of-Mine
RPCA	Environmental Prevention and Control Regulation (Reglamento de Prevención y Control Ambiental)

Abbreviations & acronyms	Description
RPD	Relative paired difference
RQD	Rock quality designation
RSD	Relative standard deviation
S	South; Sulphur
SAG	Semi-autogenous grinding
SCADA	Supervisory Control and Data Acquisition
SCSE	Sag circuit specific energy
SD	Standard deviation
SEDAR	System for Electronic Document Analysis and Retrieval
SERNAP	National Protected Areas Service (Servicio Nacional de Areas Protegidas)
SI units	SI (Système International d'Unités) is a globally agreed system of units
Silver Sand	Silver Sand Property
SIPX	Sodium Isopropyl Xanthate
SMC	SAG Mill Comminution
Sn	Tin
SO_2	Sulfur dioxide
SSE	South-southeast
STU	Special tax unit
SW	South-west
t	Tonne
t/m^3	Tonne per cubic metre
t/op hr	Tonnes per operating hour
TCLP	Toxicity Characteristic Leaching Procedure
tpd	Tonnes per day
tph	Tonnes per hour
Trans.	Transitional
TSF	Tailings storage facility
UG	Underground
UNDP	United Nations Development Program
UPS	Uninterruptible Power Supply
US	United States
US$	United States dollar
US$/oz	United States dollar per ounce
US$/t	United States dollar per tonne
UTO	Oruro Technical University
VAT	Value-added tax
VGF	Vibrating grizzly feeder
VRA	Vertical rate of advance
VU	Vulnerable
W	West
w/w	Ratio of weight expressed as a percentage
Yr	Year
Zn	Zinc

2 Introduction

2.1 General and terms of reference

AMC Mining Consultants (Canada) Ltd. (AMC Consultants) was commissioned by New Pacific Metals Corp. (New Pacific or the Company) to prepare an independent Technical Report (2022 Technical Report) on the Silver Sand project (Property or Silver Sand) in the Potosí Department, in the Plurinational State of Bolivia (Bolivia). The 2022 Technical Report reports an updated Mineral Resource estimate and provides the results of a Preliminary Economic Assessment (PEA) for the Property. The previous Technical Report on the Property titled "Silver Sand Deposit Mineral Resource Report (Amended) for New Pacific Metals Corp. Property Potosí, Bolivia" (2020 Technical Report), has an effective date of 16 January 2020.

The 2022 Technical Report has been prepared to a standard which is in accordance with the requirements of National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101), of the Canadian Securities Administrators (CSA) for lodgment on CSA's System for Electronic Document Analysis and Retrieval (SEDAR).

2.2 The Issuer

New Pacific is a corporation incorporated under the laws of the province of British Columbia, Canada and is in the business of exploring and developing precious metal mining properties in South America and Canada. Through its three wholly owned subsidiaries Minera Alcira Sociedad Anónima Alcira S.A. (Alcira), Empresa Jisas – Jardan SRL, and Empresa El Cateador SRL, New Pacific collectively holds exploration and mining agreements over an approximate 60 square kilometres (km^2) contiguous area. The Silver Sand project is located in Potosí Department, Bolivia.

New Pacific is listed on the TSX Exchange (symbol NUAG) and the NYSE American (symbol NEWP).

2.3 Report authors

The names and details of persons who prepared, or who have assisted the Qualified Persons (QPs) in the preparation of this report, are listed in Table 2.1.

Table 2.1 Persons who prepared or contributed to this Technical Report

Qualified Persons responsible for the preparation of this Technical Report						
Qualified Person	**Position**	**Employer**	**Independent of New Pacific**	**Date of last site visit**	**Professional designation**	**Sections of Report**
Mr J.M. Shannon	General Manager / Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Geo. (BC)	2-6, 20, 23, 24, Part of 1, 25, 26
Ms D. Nussipakynova	Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	28-29 May 2022	P.Geo. (BC)	7-12, 14, Part of 1, 25, 26, 27
Mr A. Holloway	Process Director	Halyard Inc.	Yes	14-16 Jan 2020	P.Eng. (ON)	13, 17, 19, Part of 1, 21, 25, 26, 27
Mr W. Rogers	Principal Mining Engineer	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Eng. (BC)	15, 16, 22, Part of 1, 21, 25, 26, 27
Mr M. Molavi	Principal Mining Engineer	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Eng. (BC)	Part of 1, 18, 25, 26
Mr L. Botham	Principal Engineer	NewFields Canada Mining & Environment ULC	Yes	No visit	P.Eng. (SK)	Part of 1, 18, 21, 25, 26

Other Experts who assisted the Qualified Persons in the preparation of this Technical Report					
Expert	**Position**	**Employer**	**Independent of New Pacific**	**Visited site**	**Sections of Report**
Mr Y. (Alex) Zhang	Vice President, Exploration	New Pacific Metals Corp.	No	Yes, multiple times	1-11 and 23
Mr J. Zhang	Manager, Projects	New Pacific Metals Corp.	No	Yes	All
Mr S. Chan	Senior Mining Engineer	AMC Mining Consultants (Canada) Ltd.	Yes	No	22
Ms K. Zunica	Senior Geologist	AMC Consultants Pty Ltd	Yes	No	11

Source: AMC Mining Consultants (Canada) Ltd., 2022.

AMC Consultants acknowledges the numerous contributions from New Pacific in the preparation of this report and is particularly appreciative of prompt and willing assistance of Mr Alex Zhang and Mr Jason Zhang.

Ms Dinara Nussipakynova visited the Property on 28-29 May 2022. All aspects of the project were examined, specifically drill core, drilling and core processing procedures, initial Quality Assurance / Quality Control (QA/QC) procedures, and database management. Mr Andrew Holloway of Halyard visited the Property in January 2020. All aspects relating to surface infrastructure, plant location, drill core, and geometallurgical considerations were inspected at that time.

2.4 Sources of information

In preparing this report, the QPs have relied on various geological maps, reports, and other technical information provided by New Pacific. AMC Consultants has reviewed and analyzed the data provided and drawn its own conclusions augmented by its direct field observations. The key information used in this report is listed in Section 27 References, at the end of this report.

New Pacific's internal technical information reviewed by the QPs was adequately documented, comprehensive and of good technical quality. It was gathered, prepared, and compiled by competent technical persons. The QPs used their professional judgement and made recommendations in this report where it deems further work is warranted.

2.5 Other

This report includes the tabulation of numerical data which involves a degree of rounding for the purpose of resource estimation. The QPs do not consider any rounding of the numerical data to be material to the project.

All currency amounts and commodity prices are stated in US dollars and any costs provided by New Pacific were in US dollars ($). Quantities are stated in metric (SI) units. Commodity weights of measure are in grams (g) or percent (%) unless otherwise stated.

A draft of the report was provided to New Pacific for checking for factual accuracy. The effective date of the report is 30 November 2022.

3 Reliance on other experts

The QP has relied, in respect to certain information concerning legal matters relevant to the Technical Report, upon the work of the Experts listed below. To the extent permitted under NI 43-101, the QPs disclaim responsibility for the relevant section of the Report listed below.

- Experts: Mattias Garrón (Partner), PPO Law Offices, La Paz, Bolivia, as advised in letters to New Pacific Metals Corp. both with an effective date of 10 October 2022.
- Report, opinion, or statement relied upon: Legal Opinion regarding the Silver Sand project and Re: Mining Productive Contract with Corporacion Minera de Bolivia (COMIBOL).
- Extent of reliance: full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Section 4.3.

The QP has relied, in respect to certain information concerning environmental and social aspects relevant to the Technical Report, upon the work of the Experts listed below. This work has been summarized and provided by New Pacific. To the extent permitted under NI 43-101, the QPs disclaim responsibility for the relevant sections of the Report listed below.

- Experts: Independent firm, Tierralta S.R.L. La Paz, Bolivia.
- Report, opinion, or statement relied upon: Environmental baseline information for the project from the Analytical Environmental Impact Assessment Study (EEIA-AI), 30 November 2022.
- Extent of reliance: full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Section 20.1 - 20.3.5.

And

- Experts: Independent firm, Cumbre del Sajama S.A.
- Report, opinion, or statement relied upon: Final Report titled Socioeconomic Baseline, Risk Analysis and Community Relationship Recommendations for New Pacific Metals Corp - Silver Sands Project in the Department of Potosi-Bolivia, May 2018.
- Extent of reliance: full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Section 20.3.6.

And

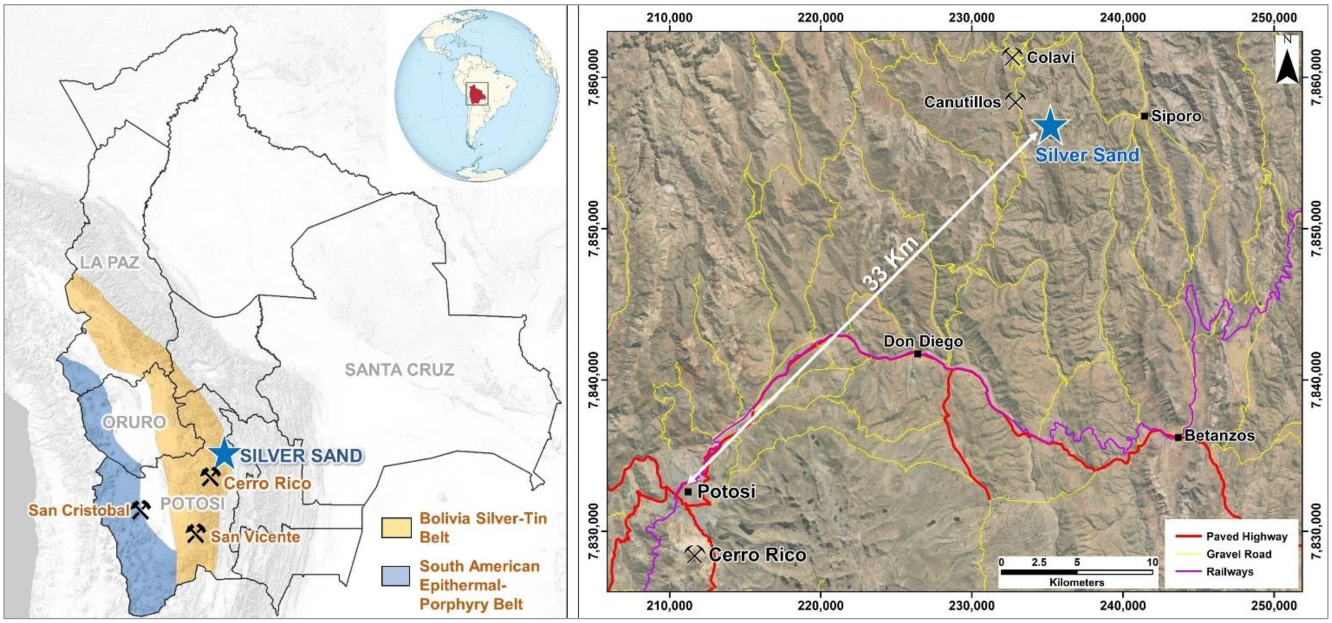
- Experts: Independent firm, CPM Investigación & Desarrollo, based in La Paz, Bolivia.
- Report, opinion, or statement relied upon: Archaeological studies, report date 29 November 2022.
- Extent of reliance: full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Section 20.3.7.

4 Property description and location

4.1 Property location

The Property is situated in the Colavi District of Potosí Department in south-western Bolivia, 33 kilometres (km) north-east of Potosí city, the department capital. The approximate geographic centre of the Property is 19°22′ 4.97″ S latitude and 65°31′ 22.93″ W longitude at an elevation of 4,072 metres above sea level (masl). The location of the Property is shown in Figure 4.1.

Figure 4.1 Location of Silver Sand Property



Source: New Pacific Metals Corp., 2022.

4.2 Bolivian Regulatory framework

The following section on the Bolivian Regulatory framework borrows from Aguirre (2019) and Bufete Aguirre Soc. Civ. (2017).

4.2.1 Overview

Bolivia began opening the mining industry to private investment in the 1980s. In 1997 a completely new Mining Code (the 1997 Code), governing most matters relating to mining activities was enacted. The 1997 Code followed the concession system considering mining concessions as real estate property which as such could be transferred, contributed to the capital of companies, mortgaged, bartered, sold, and subject to inheritance laws under the Civil Code.

A new and complete Mining and Metallurgy Law No 535 was introduced on 28 May 2014 (the 2014 Mining Law), to replace the 1997 Code. The 2014 Mining Law was modified by Law No. 845 of 24 October 2016 (the 2016 Mining Law) by Bolivian Congress.

The 2014 and 2016 Mining Laws set out rules in relation to:

- The procedures for the granting of new mining rights.
- The procedures for a change from the old mining concession system to the new system of Administrative Mining Contract (AMC) mandated by the new legislation based on the Constitution.

4.2.2 Exploration and mining rights

Exploration and mining rights in Bolivia are granted by the Ministry of Mines and Metallurgy through the Jurisdictional Mining Administrative Authority (Autoridad Jurisdiccional Administrativa Minera; AJAM). Under the new Mining Laws, tenure is granted as either an AMC or an exploration license. Tenure held under previous legislation was converted to Temporary Special Authorizations (ATEs), formerly known as "mining concessions", under the new Mining Laws. These ATEs are required to be consolidated to new 25-hectare sized cuadriculas (concessions) and converted to AMCs. AMCs created by conversion recognize existing rights of exploration and / or exploitation and development, including treatment, foundry refining, and / or trading.

AMCs have a fixed term of 30 years and can be extended for a further 30 years if certain conditions are met. Each contract requires ongoing work and the submission of plans to AJAM.

Exploration licenses are valid for a maximum of five years and provide the holder with the first right of refusal for an AMC.

In specific areas, mineral tenure is owned by the Bolivian state mining corporation, COMIBOL. In these areas development and production agreements can be obtained by entering into a Mining Production Contract (MPC) with COMIBOL.

4.2.3 Environment protection

Depending on the nature and scope of the activities to be conducted, the operator may need specific licenses or dispensations from the environmental authorities under the Ministry of Environment and Water or the Departmental Governorships. This applies to projects that may require consultation with a population that could be affected by the project.

The main law governing environmental protection, in general, is Law 1333 of 27 April 1992, which is regulated by various Supreme Decrees of the Executive Branch. The special Decree containing the mining rules is of primary importance. Strict parameters must be followed for the protection of the environment. Breach of environmental obligations may even trigger criminal liabilities under the Constitution.

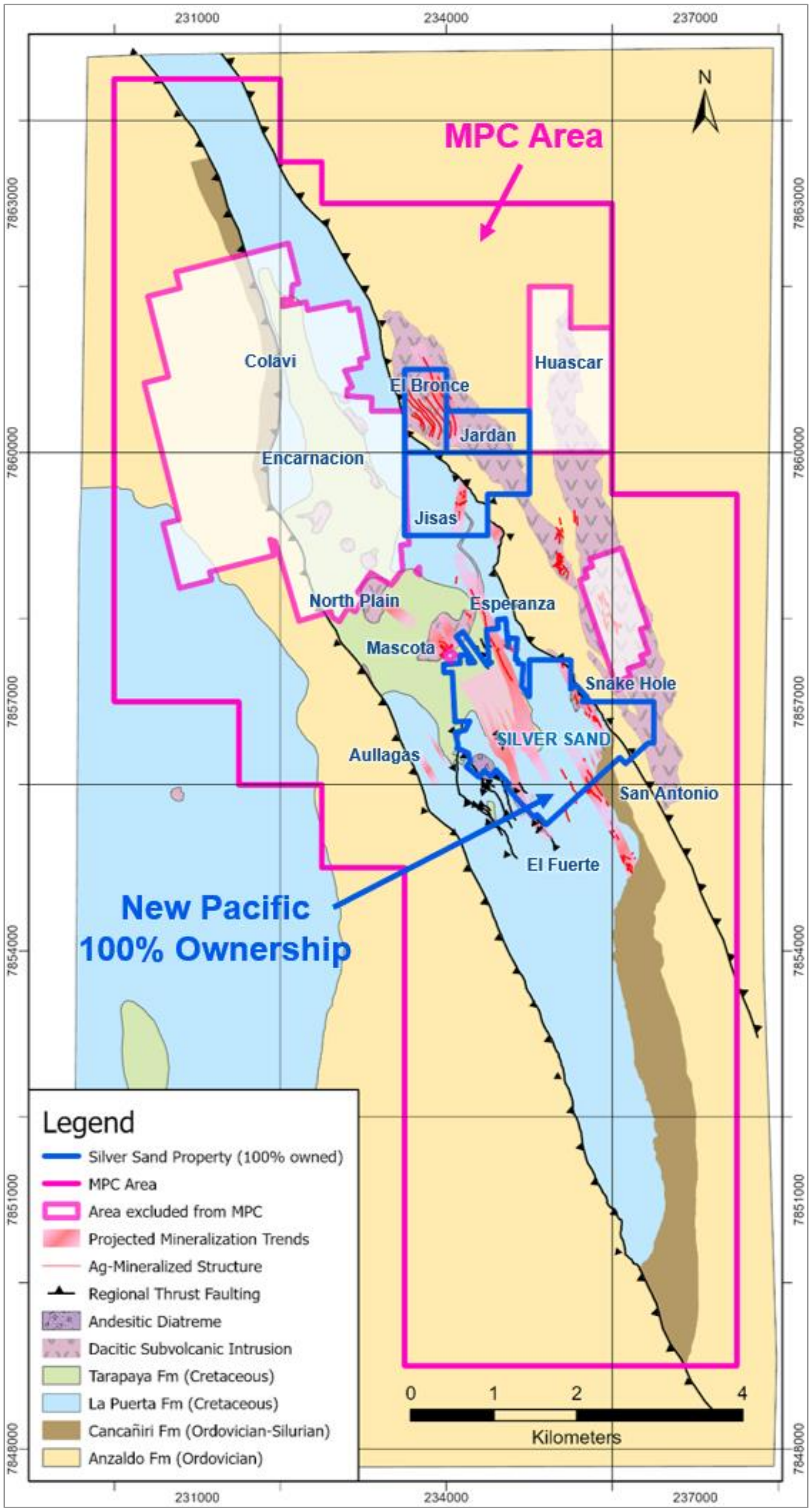
Licenses must be updated depending on the changes as triggered by the ongoing activities and operations. An Environmental Impact Assessment (EEIA) is normally required to obtain the appropriate license. Specialized environmental authorities follow up and control compliance. As required under the licenses, any impact on the environment must be notified to the authorities. Remediation measures and rehabilitation projects are compulsory. For mine closure, the operator must create a financial reserve that is maintained on an annual basis. A final closure study on the effect on the environment would be required in due time. Under a special law known as the "Mother Earth Law", a certain requirement of restitution must be met.

4.3 Mineral tenure

4.3.1 Introduction

New Pacific's Silver Sand Property encompasses a combination of 100% owned concessions (ATEs and AMCs) and an MPC with COMIBOL which gives the Company access to approximately 60 km^2, in this emerging silver district.

Figure 4.2 Mineral concessions and MPC area



Notes: MPC Area = Mining Production Contract with the Bolivian Mining Corporation, NUAG Property= 100% New Pacific owned mineral tenure.
Source: New Pacific Metals Corp., 2022.

4.3.2 100% owned New Pacific tenure

The Property originally comprised 17 ATEs, now converted to a consolidated AMC covering an area of 3.1656 km^2. These ATEs were acquired by New Pacific in its original purchase of the interests of Alcira, now New Pacific's wholly owned subsidiary. They are valid for 30 years and can be extended for an additional 30 years.

In accordance with the 2014 and 2016 Mining Laws, New Pacific (through Alcira) submitted all required documents for the consolidation and conversion of the original 17 ATEs, which comprise the core of the Silver Sand project, to Cuadriculas and AMC, to AJAM. Conversion was initially approved by AJAM in February 2018. On 6 January 2020, Alcira signed an AMC with AJAM pursuant to which the 17 ATEs were consolidated into one concession named as Arena De Plata (Silver Sand) with an area of 3.1656 km^2. This AMC is registered with the mining register with mining registration number 1-05-1500055-0001-21, notary process completed and registration published in the mining gazette on 15 July 2021.

In addition, New Pacific acquired 100% interest in three continuous concessions currently consisting of ATEs called Jisas, Jardan and El Bronce originally owned by third party private entities. These three concessions, when converted to AMCs, will total 2.25 km^2. The Jisas and Jardan concessions were acquired in July 2018 and are held through 100% owned subsidiary Empresa Jisas - Jardan SRL. The El Bronce concession was acquired in late 2019 and is held through 100% owned subsidiary Empresa El Cateador SRL.

The total area of AMCs under full control of the Company will be 5.42 km^2 after the consolidation and conversion procedures are complete for the recently acquired ATEs. This conversion process has already been completed for the Silver Sand South Block which hosts the Mineral Resource area.

Table 4.1 summarizes New Pacific's Silver Sand Mineral Tenure held on a 100% basis. All concessions are valid for 30 years of signing of an Administrative Resolution.

Table 4.1 Mineral tenure controlled by New Pacific

Concession number	National registry	Name	Concession type	Size in hectares	Title holder	Expiry date
AMC #s 4694 - 4710	1-05-1500055-0001-21	Arena De Plata	AMC	316.56	Minera Alcira Sociedad Anonima	6 January 2050
13235	503-02753	Jisas	ATE	125	Empresa Jisas – Jardan SRL	25 October 2049
13257	503-02734	Jardan	ATE	50		25 October 2049
11313	503-03740	El Bronce	ATE	6	Empresa El Cateador SRL	31 August 2050
	Totals			**498**		

Notes:
- ATEs have been fully converted to AMCs and consolidated into one concession for Arean De Plata.
- The Quota Purchase agreement with the former shareholders of Cateador will need to be registered with Registry of Commerce.

Source: New Pacific Metals Corp., 2022.

4.3.3 Mining production contract

New Pacific, through Alcira, entered into an MPC with COMIBOL on 11 January 2019. An updated MPC was entered with COMIBOL on 19 January 2022. The updated MPC covers 12 ATEs and 196 Cuadriculas for a total area of about 55 km^2 surrounding the Silver Sand core area. For COMIBOL to obtain mining rights over such areas, AJAM will have to grant them by way of AMCs or Exploration Licenses in accordance with Bolivian mining laws. In addition, the MPC must be ratified by the Congress of Bolivia (Congress) to be valid and enforceable.

Once the MPC has been ratified by Congress, the MPC with COMIBOL will be valid for 15 years which may be automatically renewed for an additional 15-year term and potentially, subject to submission of an acceptable work plan, for an additional 15-year term for a total of 45 years. According to the terms of the MPC, the Company has a minimum investment commitment of $6 million (M) during the first four years of exploration. The Company will pay COMIBOL a 6% gross sales value if the mineral concessions covered by the MPC are commercially exploited at a future date.

4.4 Environmental permits

New Pacific has successfully obtained environment permits from local authorities to conduct mineral exploration and drilling activities in the mineral concessions fully owned by the Company and the MPC areas owned by COMIBOL. There are no known significant factors or risks that might affect access or title, or the right or ability to perform work on the Property, including permitting and environmental liabilities to which the project is subject.

4.5 Land holding costs

AJAM employs a special tax unit (STU), that is indexed to the "Unidad de Fomento a la Vivienda", to calculate the annual fee ("patente") which mineral concession holders must pay to the government. Depending on the type and size of mineral concessions, the number of STUs varies between 375 and 692 STUs per Cuadricula. In 2019, each STU was equivalent to 2 Bolivianos. Note that the STU may change slightly year by year.

Table 4.2 below provides details of fees paid to the government from 2019 to 2022. In years 2019 to 2021, fees were paid based on the 17 ATEs. Starting from year 2022, fees are paid based on the consolidated concession of AMCs. For the concessions covered by the MPC with COMIBOL, fees are paid only for 7 ATEs in year 2019. The Company does not have to pay any fees to the government for the remaining ATEs owned by COMIBOL and covered by the MPC as they are nationalized concessions. The fees were paid for year 2019 only as COMIBOL did not provide account information to make payments for years 2020, 2021, and 2022. For the 196 Curadriculas, according to the terms of MPC, the Company will have to pay the annual fees to the government when COMIBOL is granted mineral concessions by AJAM. In addition, the Company will pay COMIBOL a management fee of $10,000 per month for all the concessions covered by the MPC upon ratification.

Table 4.2 Fees paid to government from 2019 to 2022

Concessions	Title holder	2019	2020	2021	2022
17 ATEs	Minera Alcira Sociedad Anonima "Alcira" S.A.	11,644	11,869	12,093	
Arena de plata	Minera Alcira Sociedad Anonima "Alcira" S.A.				6,140
Bronce	Empresa El Cateador SRL	222	226	230	233
Jisas	Empresa Jisas – Jardan SRL	4,620	4,710	4,800	4,850
Jardan	Empresa Jisas – Jardan SRL	1,848	1,884	1,920	1,940
7 ATEs of MPC	COMIBOL	3,215			
	Total BOB	**21,549**	**18,689**	**19,043**	**13,163**
	Equivalent to $	**3,096**	**2,685**	**2,736**	**1,891**

Notes:
- The 17 ATEs were converted to AMCs in 2021 and now treated as one concession called Arena De Plata.
- The fees are in local currency, Bolivian Boliviano (BOB).

Source: New Pacific Metals Corp., 2022.

4.6 Surface rights

As per the 2014 Mining Law, holders of mining rights may obtain surface rights (i) through administrative agreements entered into with AJAM. In addition, surface rights may be obtained on third-party contract areas and by neighbouring properties by the following means: i) agreement between parties; ii) payment of compensation; and iii) compliance with the regulations and procedures for authorization. Once surface rights are obtained, holders of mining rights may build treatment plants, dams and tailings, infrastructure, and other infrastructure necessary to carry out mining activities. New Pacific has not yet obtained surface land rights.

4.7 Royalties and encumbrances

For the MPC, if commercial production commences, "COMIBOL will receive six percent (6%) over the gross sales value of the minerals obtained from the mining activities".

AMCs are subject to the following royalties and duties:

- Mining royalty: The royalty is applicable to all mining actors and applies to the exploitation, concentration and / or commercialization of mineral and metals non-renewable resources at the time of their internal sale or export pursuant to the 2014 Mining Law. The royalty is established according to the status of the mineral (raw, refined, etc.), on whether the mineral will be exported, and international mineral prices. The royalty applicable to silver pre-concentrates, concentrates, complexes, precipitates, bullion or molten bar and refined ingot is as shown in Table 4.3.

Table 4.3 Royalty applicable to silver in the AMC

Official silver price per troy ounce ($)	%
Greater than $8.00	6
From $4.00 to $8.00	0.75 * official silver price
Less than $4.00	3

Source: New Pacific Metals Corp., 2022.

- Mining Patent: Is a requirement for the mining operator to continue holding mining rights over the mining area. Patents are calculated according to the size of the area under the exploration license or contract, as set out in the 2014 Mining Law. Failure to pay for the patents will trigger the loss of the underlying exploration or mining rights.

With the exception of political risk discussed in Section 14.1 and the need for final execution of some land agreements, AMC Consultants is not aware of other significant factors and risks which may affect access, title, or right to perform work on the Property.

5 Accessibility, climate, local resources, infrastructure, and physiography

5.1 Accessibility

The Property is located approximately 36 km north-east of the Cerro Rico de Potosí silver and base metal mine, 46 km south-west of the city of Sucre, and 33 km north-west of city of Potosí. The Property is accessed from Sucre and Potosí by travelling along a paved highway to the community of Don Diego, and then north from Don Diego along a 27 km, maintained, all-weather gravel road. Don Diego is accessed by driving 129 km to south-west from Sucre, or 29 km to the north-east from Potosí along paved Highway 5. Key roads and locations are shown in Figure 4.1.

Sucre has a population of 290,281 (worldpopulationreview.com) and is the constitutional capital of Bolivia and the capital city of Chuquisaca department (a department is the largest administrative division in Bolivia). Potosí has a population of 264,402 (worldpopulationreview.com) and is the capital city of Potosí department. Sucre is connected to major Bolivian cities and beyond by highways and commercial air flights. From Potosí, the Pan American highway provides access to La Paz, the capital city of Bolivia. Chilean port cities of Arica and Iquique can be accessed from Potosí via all-weather roads.

Figure 5.1 shows the administrative location of and transportation access to the Property.

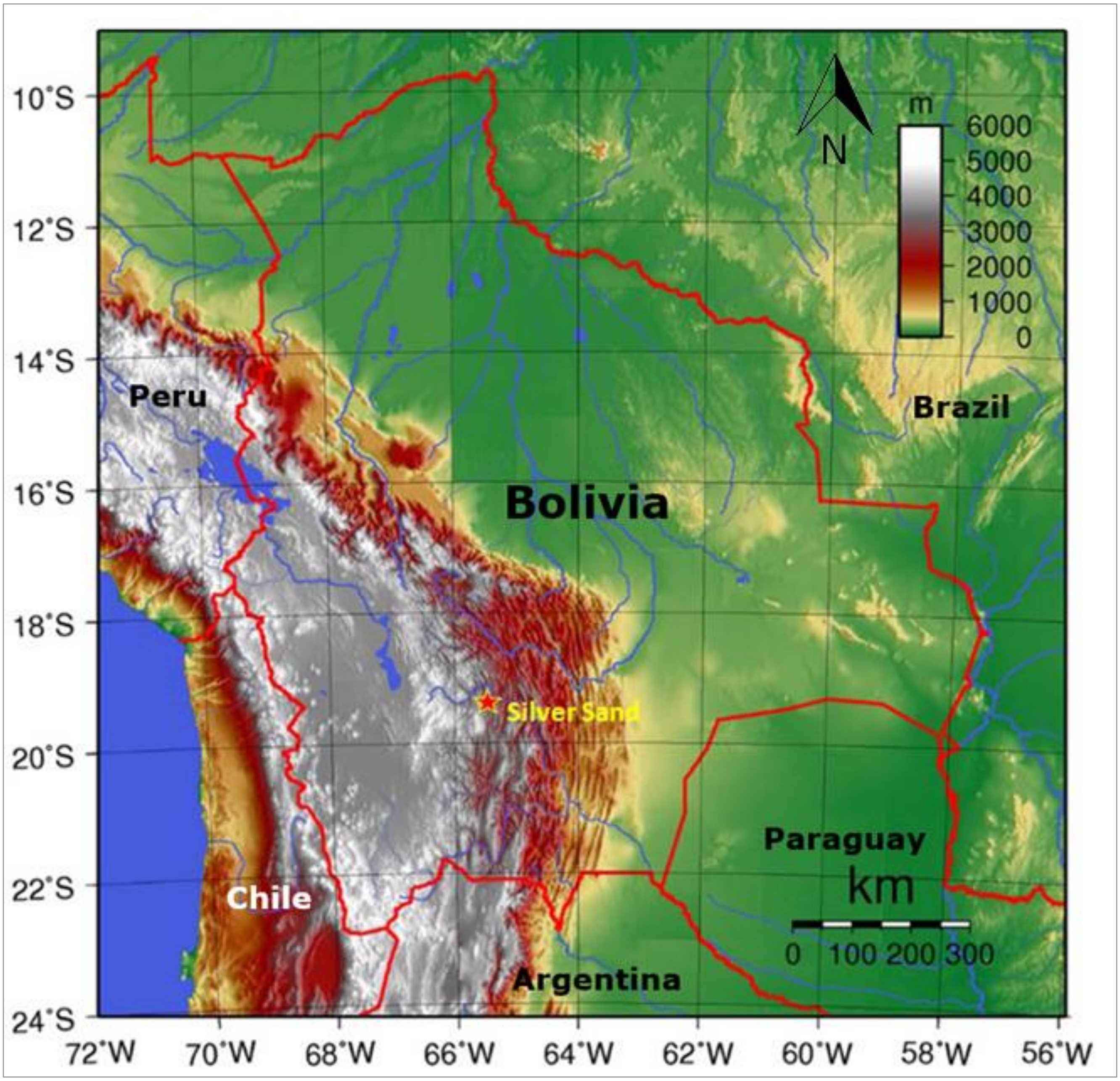
Figure 5.1 Administrative location and transportation access of Silver Sand Property

Source: Provided by New Pacific 2019 adapted from Geology.com.

5.2 Physiography

Bolivia is divided into five north-west-trending physiographic zones as shown in Figure 5.2. These include, from west to east; the Western Cordillera (or Cordillera Occidental), the Altiplano, the Eastern Cordillera (or Cordillera Oriental), the Sub-Andean, and the Amazon Basin to the east.

Figure 5.2 Physiographic zones of Bolivia



Notes: Amazon Basin=green, Sub-Andean=red, Eastern Cordillera=white, Altiplano=gray, Western Cordillera=white. Red outlines represent country borders.
Source: New Pacific, 2019 - Adapted from Wikipedia: Geography of Bolivia.

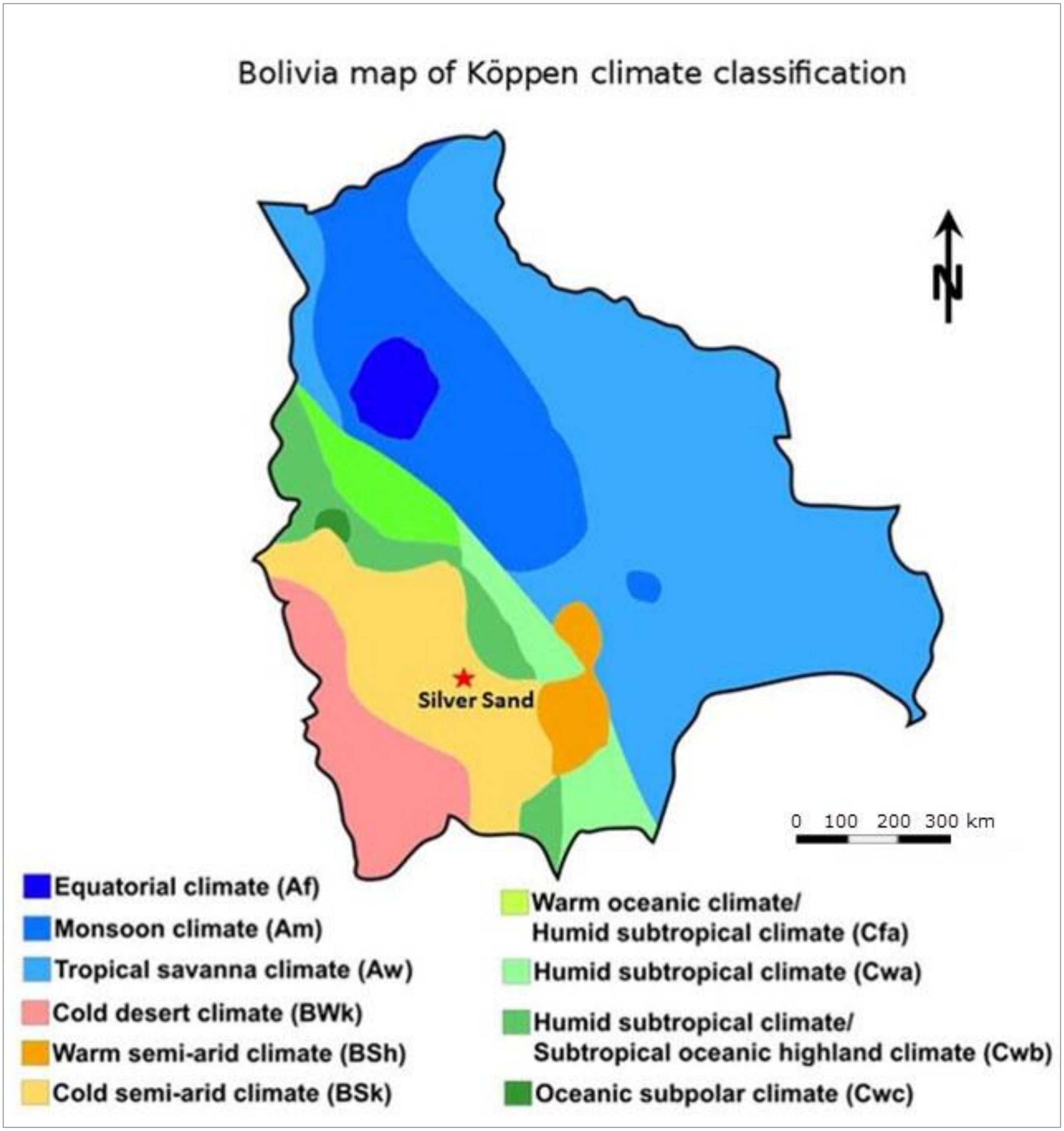
The Property is situated approximately within the central section of the Eastern Cordillera zone and consists of rolling hills with elevation ranging from 3,900 to 4,100 masl.

5.3 Climate and vegetation

Due to the high elevation, the Property area has a cold, semi-arid desert climate despite the region's location approximately 19 degrees south of the equator. Vegetation on the Property is poorly developed and mainly consists of sparsely scattered low grasses and shrubs. In valleys below 4,000 m elevation, some eucalyptus trees are grown. Animals such as alpacas, llamas, vicunas, and guanacos are common in the Cordillera Oriental and the local peoples herd llamas and alpacas for food and wool.

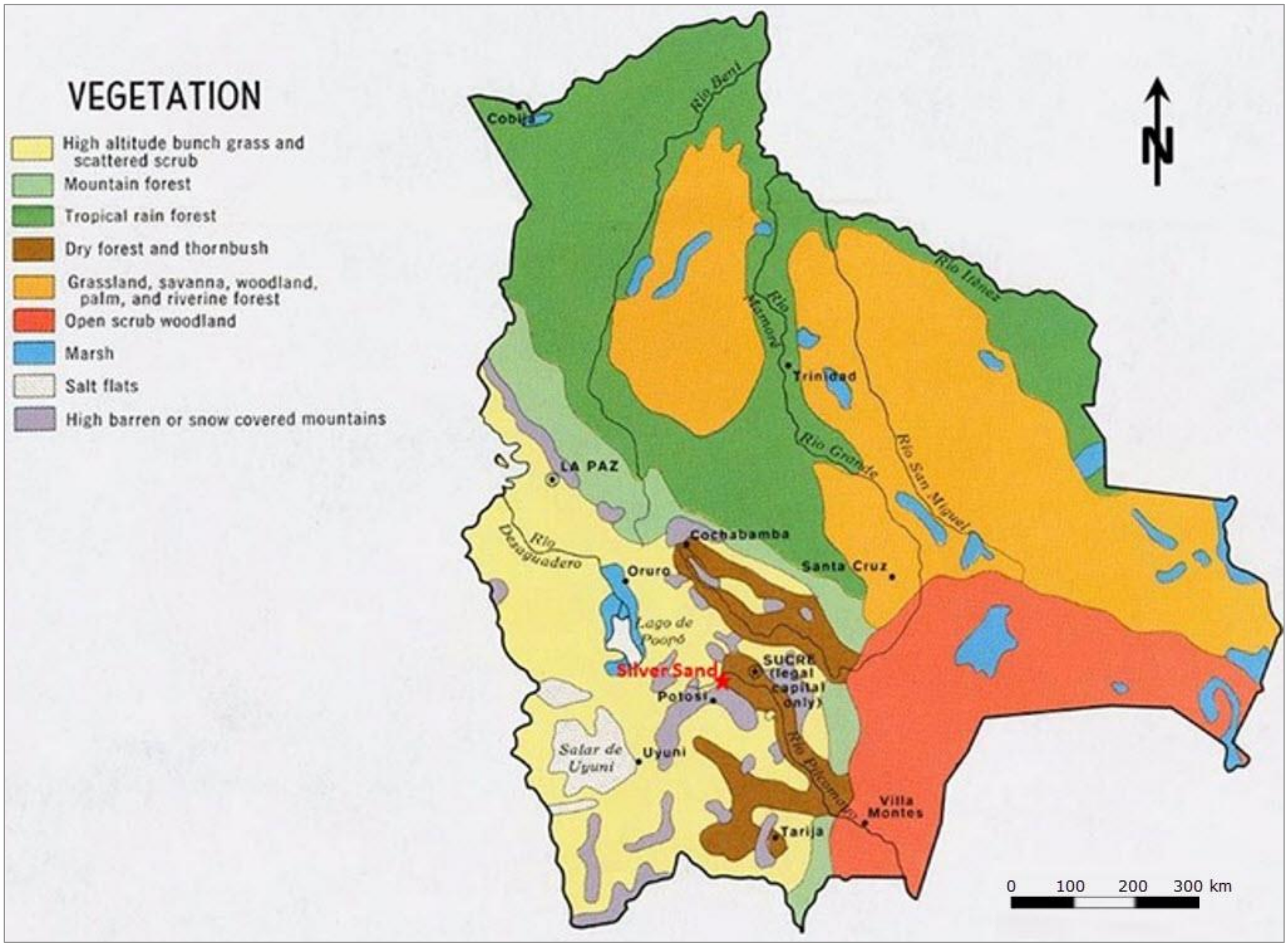
Figure 5.3 shows a climate map of Bolivia and Figure 5.4 shows a vegetation map of Bolivia.

Figure 5.3 Climate map of Bolivia



Source: World Köppen Classification. Enhanced, modified, and vectorized by Ali Zifan, 20 February 2016.

Figure 5.4 Vegetation map of Bolivia



Source: U.S. Central Intelligence Agency, 1971.

Temperatures on the Property are relatively constant year-round with daily maximums between 14.8°Celsius (C) and 20.5°C. Minimum temperatures range between -5.6°C and 5.1°C. Minimum temperatures are typically below freezing between May and September.

The region experiences a rainy season in the warmer summer months from December to ~mid-April which contributes approximately 80% of the average annual precipitation of 393 millimetres (mm). The driest period is from May to August with very little precipitation.

None of these climate factors preclude operations from being conducted on a year-round basis.

Table 5.1 shows the annual weather averages in the Potosí area.

Table 5.1 Annual weather averages in Potosí area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. temperature (°C)	10.6	10.9	10.6	8.4	8	4.6	5.4	6.6	8.5	11	12.4	11.9
Min. temperature (°C)	4.1	4.6	4.1	0.3	-1.2	-5.6	-4.6	-3.1	-0.6	2	4.3	5.1
Max. temperature (°C)	17.2	17.2	17.2	16.5	17.2	14.8	15.5	16.4	17.6	20.1	20.5	18.7
Precipitation (mm)	102	79	50	13	3	2	0	3	9	21	34	77

Source: Data adapted from www.climate-data.org.

5.4 Local resources and infrastructure

Intensive mining for silver, tin, lead, and zinc has occurred in various locations around the city of Potosí ever since the discovery of the large silver deposit Cerro Rico de Potosí (the Rich Hill) in 1545. As a result, many residents of Potosí are employed in mines or mining-related businesses, providing a potential source of workers and services that may be needed at the Property.

A high voltage power line services the adjacent Canutillos mine to the west, and the Colavi mine north-west of the Property respectively. Both Canutillos and Colavi mines are adjacent to the Silver Sand Property boundary and are discussed in Section 22.3.

Water has not been a concern at the Property, though the greater Potosí area has experienced a drought in recent years. Water for domestic use can be obtained from a small lake, approximately 3.5 km north-west of the Property. Water for drilling can be sourced from nearby drainages. The previous owner, Ningde Jungie Mining Industry Co. Ltd. (NJ Mining) recorded groundwater at the Property. New Pacific have carried out some hydrological and hydrogeological work conceptual nature in 2022, and three piezometers were installed in October 2022. Additional work is required to determine whether there is sufficient water present to supply future production scenarios.

There is currently no infrastructure on site. The core processing facility is located at Betanzos, a town situated at a lower elevation where the project office is also located. Betanzos is approximately a 1.5-hour drive to the south of the Property.

Potential tailings storage and waste disposal areas, and potential processing plant sites are discussed in Section 18.

6 History

Modern exploration on the Property commenced in 2009. The project history has been compiled from Birak (2017), Redwood (2018), Sugaki et al. (1983), and New Pacific (2017).

6.1 Property ownership

In 2009, NJ Mining purchased Alcira, owner of the Silver Sand project, from Empresa Minera Tirex Ltda, a private Bolivia mining company. New Pacific entered into an agreement to acquire Alcira from NJ Mining, pursuant to the terms announced on 10 April 2017. The acquisition was finalized on the 20 July 2017.

New Pacific subsequently acquired 100% of the interests of a local private company who owns the mineral rights of two additional concessions (Jisas and Jardan) in July 2018. No exploration work was completed on the two concessions.

In December 2019, New Pacific acquired 100% of the interests of Empresa El Cateador SRL, a local private company which owns the mineral rights to a single ATE (El Bronce) located to the north of the Property. No exploration work was ever completed on this concession.

In January 2022, an updated MPC was signed between New Pacific's subsidiary Alcira and COMIBOL securing access to an additional 55 km^2 of prospective property surrounding the original Silver Sand concessions.

6.2 Mining

Mining activity has been carried out on the Silver Sand Property and adjacent areas by various operators intermittently since the early 16th century. There are widespread small mine workings and numerous abandoned miners' villages on the Property. Machacamarca, a historic silver mine on the Property, was mined from colonial times until the price declined in about 1890. Since then, local mining activities have focused on tin mineralization at the adjacent Colavi and Canutillos mines.

Historical mining activities on the Property mainly targeted high-grade vein structures.

Records of historical mine production are not available.

6.3 Exploration

Despite the long history of mining on the Silver Sand Property and its adjacent areas, there has been little modern systematic exploration work recorded prior to 2009. The only documented exploration campaign was completed by NJ Mining between 2009 and 2015.

NJ Mining carried out a comprehensive exploration program across the Property. Exploration work comprised geological mapping, surface and underground sampling, trenching, and drilling as shown in Table 6.1. All exploration samples were analyzed at NJ Mining's laboratory facilities near Potosí, Bolivia for silver and, in some cases, tin.

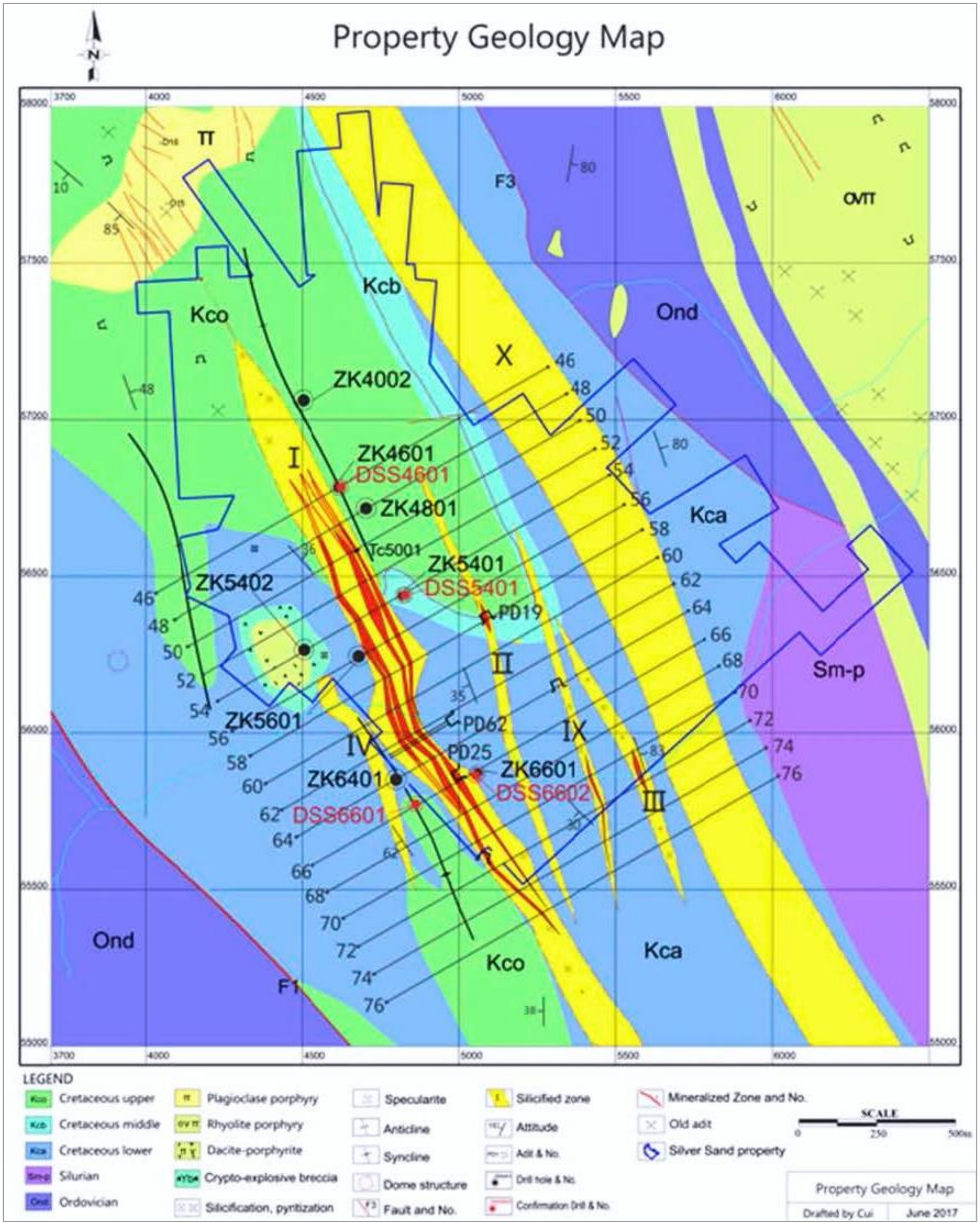
Table 6.1 Exploration work completed by NJ Mining from 2009 to 2015

Type of exploration	Work completed
1:5,000 geological mapping	3.15 km^2
1:1,000 geological traverse surveying	7,272 m in 15 NE-SW exploration lines
Topographic survey	8 survey points
Mapping historic workings	208 m
Diamond core drilling and logging	2,334 m in 8 holes
Trenching	40 m
Reconnaissance mapping	292 points
Reconnaissance sampling	1,202 samples
Mineralogy and lithology identification	19 thin sections
Petrography study	9 thin sections
Channel sampling	1,628 m with 546 samples
Core sampling	504 samples
Specific gravity measurement	31 samples
QA/QC	215 samples

Source: New Pacific Metals Corp., 2022.

Six silicified mineralization zones (Zones I, II, III, IV, IX, and X) were defined from results of the exploration program. This mineralization was defined over an area 1,500 m in length and up to 125 m in width as shown in Figure 6.1.

Figure 6.1 Mineralization zones defined in previous exploration programs



Source: New Pacific, 2019 adapted from Birak, 2017.

6.3.1 Surface and underground channel sampling

NJ Mining collected channel samples from both surface outcrop and abandoned underground workings. Surface channel samples were completed along 100 m spaced, south-west trending exploration lines (sections). They were designed to target north-west trending mineralization zones. Surface and underground samples were collected between Lines 76 and 50 over a strike length of 1,300 m Section lines are shown in Figure 6.1 above.

Both surface and underground channel samples were taken from a 10 centimetre (cm) wide, 2 - 3 cm deep channel cut horizontally into rock with a diamond saw. Individual samples represented 1 to 2.5 m along the channel. An example of sampling channels from Zone 1 is shown in Figure 6.2.

Figure 6.2 Historical channel sampling from Zone I, Silver Sand Property

Source: New Pacific Metals Corp., 2019.

Significant results from channel sampling are presented in Table 6.2.

Table 6.2 Selected result of historical surface channel sampling program

Section number*	Sample location	Zone intersected	Interval (m)	Average silver grade (g/t)	Number of samples
50	Surface	Zone I	62.7	174	31
54	Surface	Zone I	112	127	59
58	Surface	Zone I	83	93	44
	Underground	Zone II	21.4	263	10
62	Surface	Zone I	90.7	233	48
	Underground	Zone I	72.1	207	36
66	Surface	Zone I	71.9	145	38
70	Surface	Zone I	33.8	131	18
	Surface	Zone II	6.7	141	4
72	Surface	Zone III	16.9	198	9

Note: *Locations of exploration lines (sections) are shown in Figure 10.1.
Source: New Pacific Metals Corp., 2022.

6.3.2 Test drilling

NJ Mining conducted two test drill programs consisting of a total of eight diamond holes to evaluate the spatial extensions of the mineralization zones defined at the surface. Table 6.3 shows a summary of the 2012 and 2015 drilling programs completed by NJ Mining.

Table 6.3 Summary of previous drilling programs

Year	Drillhole ID	Collar location (UTM)		Collar elevation (m)	Length (m)	Azimuth (degree)	Dip angle (degree)
		Easting	Northing				
2012	ZK5601	234,681.33	7,856,244.63	3,962.40	242	61	-76
	ZK6401	234,808.24	7,855,854.01	4,005.90	314.5	64	-73
	ZK4002	234,504.00	7,857,063.00	4,092.00	155.3	0	-90
	ZK4801	234,708.00	7,856,719.00	4,052.00	64.8	0	-90
Subtotal = 776.6 m							
2015	ZK4601	234,617.28	7,856,785.18	4,094.90	313.1	241	-76
	ZK5401	234,824.67	7,856,443.33	4,063.80	413.7	243	-75
	ZK5402	234,510.12	7,856,267.07	3,991.10	546.6	0	-90
	ZK6601	235,057.10	7,855,869.01	3,926.00	284.3	258	-76
Subtotal = 1,557.7 m							
Total = 2,334.3 m							

Source: New Pacific Metals Corp., 2022.

In 2012, two short, vertical diamond drillholes ZK4002 and ZK4801, targeting the shallow dipping tin mineralization, were drilled from the hanging wall of Zone I but did not intersect silver mineralization. Two angled holes ZK5601 and ZK6401 drilled in the same period but in the footwall of Zone I also did not intercept silver mineralization.

Four holes were drilled in 2015. Three angled holes ZK4601, ZK5401, and ZK6601 drilled from the hanging wall of Zone I mineralization intersected significant silver mineralization. One vertical hole ZK5402 collared in the footwall missed the silver mineralization zones. The mineralization intersections from the three historical drillholes are listed in Table 6.4.

Table 6.4 Results of historical drill intersections

Hole number	Section number	Average sample length (m)	Mineralized interval			
			From (m)	To (m)	Length (m)	Ag (g/t)
ZK4601	46	1.28	83.3	85.6	2.3	60
			122	277.2	155.2	179
		Incl.	122	145.4	23.4	261
		Incl.	170.9	231.3	60.4	266
		Incl.	258.6	277.2	18.6	290
ZK5401	54	1.27	151.1	346.4	195.3	168
		Incl.	151.1	177.9	26.8	302
		Incl.	195.2	249.5	54.3	303
		Incl.	304	321.7	17.7	284
		Incl.	336.4	346.4	10	321
ZK6601	66	1.33	51.9	243.2	191.3	246
		Incl.	51.9	108.1	56.2	329
		Incl.	132.1	182.6	50.5	316
		Incl.	200.3	243.2	42.9	283

Source: New Pacific Metals Corp., 2022.

6.4 Historical Resource and Reserve estimate

There are no known historical estimates of Mineral Resources or Mineral Reserves at the Property.

6.5 Production

There has been no documented production from the Property.

7 Geological setting and mineralization

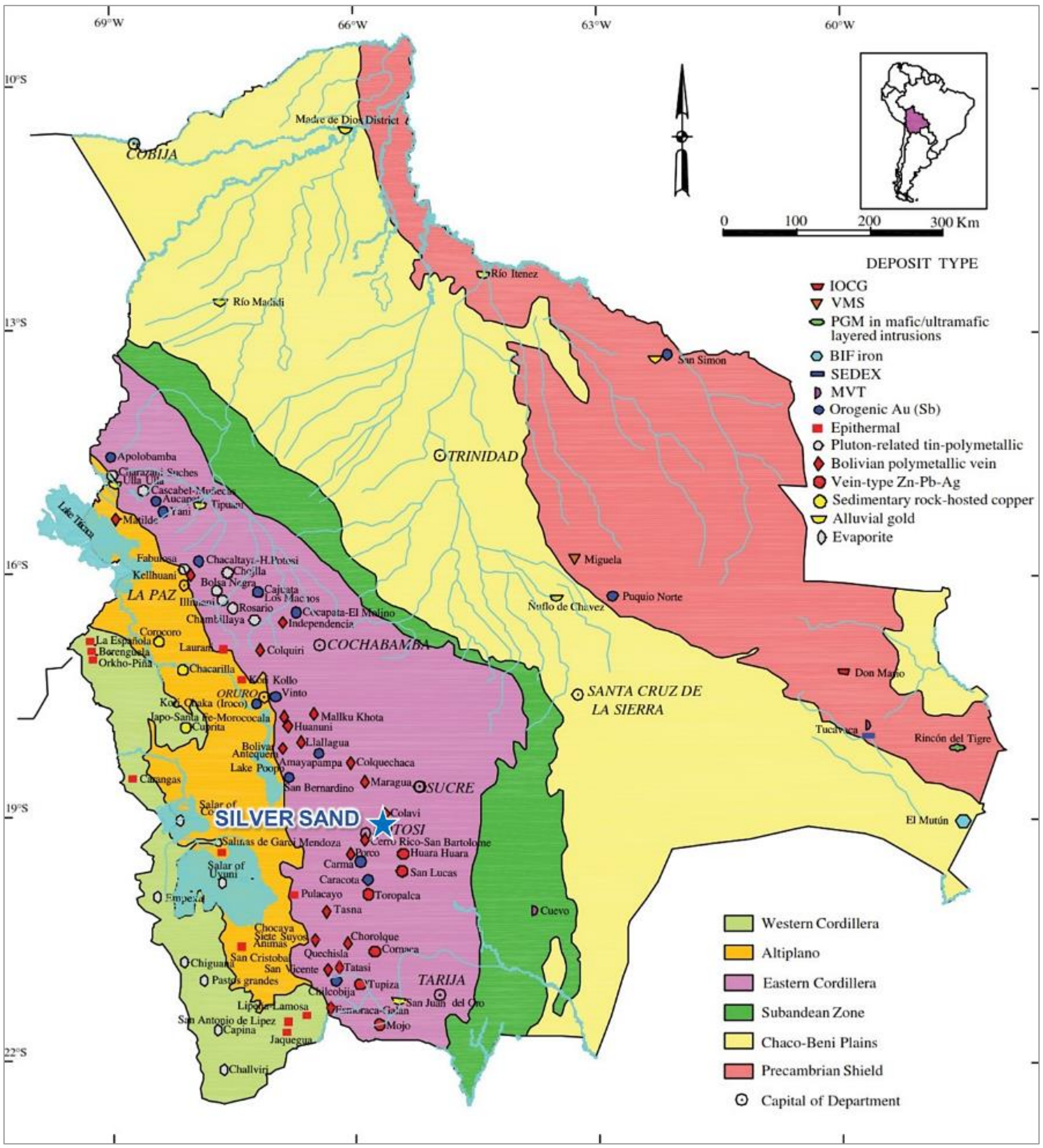
7.1 Regional geology and metallogeny

7.1.1 Geotectonic framework of Bolivia

The regional geological and tectonic framework of Bolivia can be divided into six geotectonic belts. From east to west these comprise: the Precambrian Shield, the Chaco-Beni Plains, the Subandean Zone, the Eastern Cordillera, the Altiplano, and the Western Cordillera. These are shown in Figure 7.1.

Four of these geotectonic belts form part of the Central Andes and are discussed in more detail below.

Figure 7.1 Bolivian geotectonic framework



Source: New Pacific Metals Corp., 2019. Adapted from Arce-Burgoa and Goldfarb, 2009.

7.1.2 Geology of Central Andes

The Bolivian Central Andes comprise the four western geotectonic belts (Arce-Burgoa and Goldfarb, 2009). These belts were configured by the Mesozoic-Cenozoic orogeny as a result of persistent compressive deformation from the subduction of the oceanic Nazca plate beneath the South American plate since the Cretaceous period. The geology of these major belts is described herein from east to west.

7.1.2.1 Subandean Belt

The Subandean Belt is a series of north- and north-west-trending mountain ranges with elevations ranging from 500 to 2,000 masl. The bedrock of the Subandean belt consists of Paleozoic marine siliciclastic sedimentary rocks and Mesozoic and Tertiary continental sedimentary rocks.

7.1.2.2 Eastern Cordillera Belt

The Eastern Cordillera (Cordillera Oriental) comprises a series of mountain chains that attain elevations over 4,000 masl. The bedrock of the Eastern Cordillera is comprised of up to 10 km thick, intensively deformed sequences of Paleozoic marine clastic sedimentary rocks and thinner (<3 km), less-deformed Cretaceous and Cenozoic continental sedimentary rock sequences. Granodiorite and adamellite (quartz monzonite) plutonic rocks occur as batholiths and laccoliths in the northern part of the Eastern Cordillera. Permian to Triassic igneous rocks found in the middle and southern parts of the cordillera are mainly hypabyssal and volcanic rocks occurring as stocks and volcanic necks that intruded the Paleozoic sedimentary sequences. Tertiary andesitic volcanic rocks and related hypabyssal rocks associated with the Andean orogenic movement are seen along the western portion of the Eastern Cordillera.

7.1.2.3 Altiplano Belt

The Altiplano Belt is a 130 km wide series of intermontane, continental basins forming a high plateau at elevations between 3,600 and 4,100 masl (Arce-Burgoa and Goldfarb, 2009). The Altiplano Belt comprises a Proterozoic to Paleozoic basement which is covered by vast volcanic rocks and continental sediments. Miocene-aged andesitic volcanic rocks occur in the southern portion of the belt. Miocene to Pliocene rhyolitic pyroclastic rocks occur in the northern part of the belt. Continental sediments have been deposited from Cretaceous to recent times.

7.1.2.4 Western Cordillera Belt

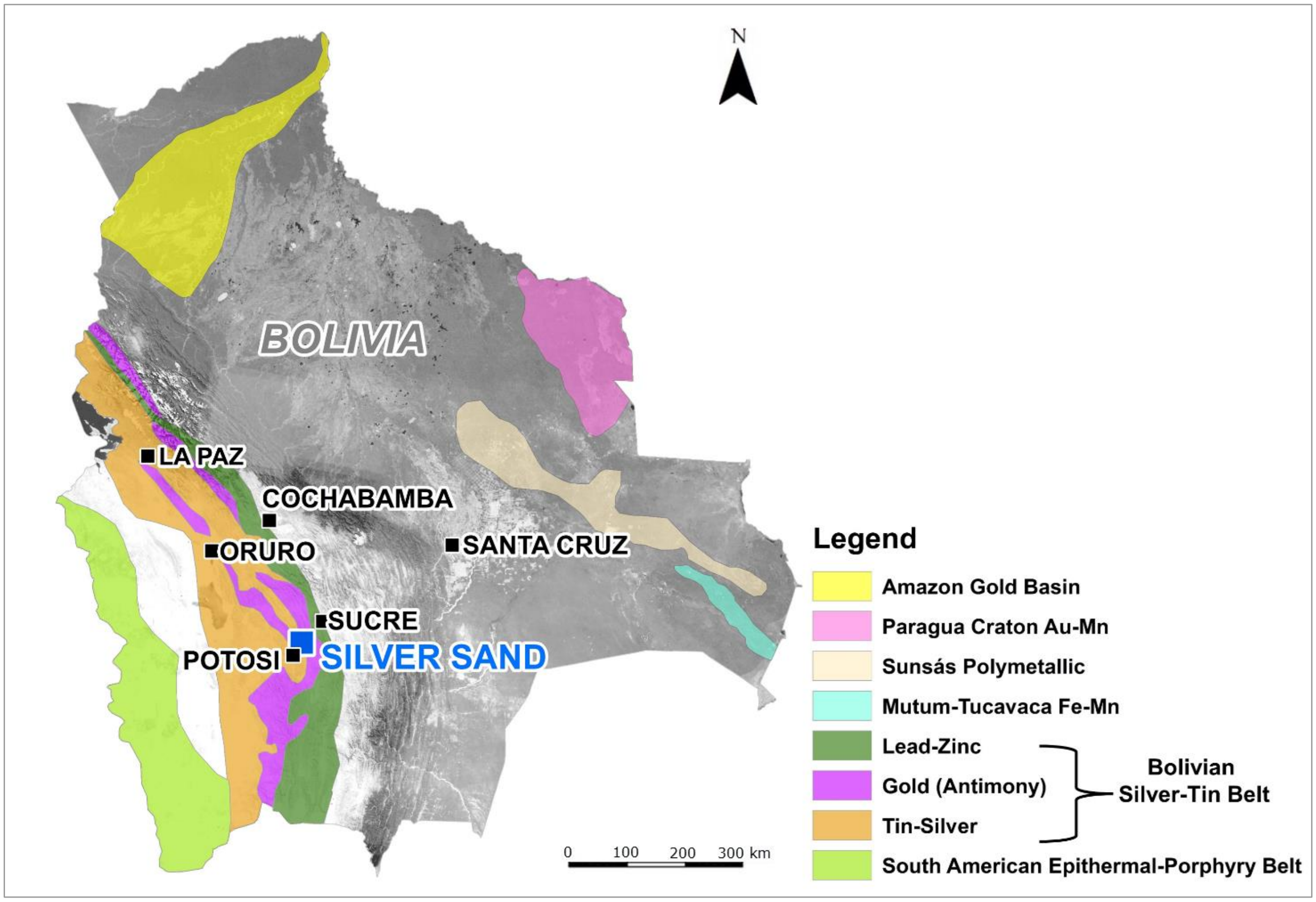
The Western Cordillera (Cordillera Occidental) is an active volcanic mountain chain consisting of spaced Miocene and Quaternary andesitic volcanoes and small volcanic centers that have erupted through a sequence of Cenozoic and Cretaceous rocks. Volcanic cones rise over 2,000 m above the general land surface, reaching elevations above 6,000 masl (Lamb et al., 1997).

The Western Cordillera is extensively covered by Miocene to recent volcanic rocks erupted along the uplifting axis in the north-south direction. Continental sediments lie between the volcanic bodies.

7.1.3 Regional metallogeny of Central Andes

The Bolivian Central Andes is characterized by a diverse series of deposits and metallogenic belts as shown in Figure 7.2. These include the Miocene to Pliocene red-bed copper deposits, epithermal Ag-Au-Pb-Zn-Cu deposits in the Altiplano and Western Cordillera, the Mesozoic and Cenozoic Tin Belt, the Paleozoic gold antimony belt, and the lead-zinc belt in the Eastern Cordillera (Arce-Burgoa and Goldfarb, 2009).

Figure 7.2 Bolivian metallogenic belts



Source: New Pacific Metals Corp., 2022. Adapted from Arce-Burgoa and Goldfarb, 2009.

The Bolivian Silver-Tin Belt is a 900 km long, north-west to north-south trending belt containing significant deposits of tin, silver, and tungsten related to orogenic and magmatic processes which occurred between the late Paleozoic and late Tertiary. Pluton related Sb-W mineralization occurs within Triassic-Jurassic and Miocene aged rocks in the northern portion of the belt. Pluton related Sn-W and volcanic rock associated Sn-Ag-Pb-Zn mineralization occur within Miocene to Pliocene aged rocks in the central and southern portion of the belt (Rivas, 1979).

Deposits of the tin belt can be divided into four groups (Arce-Burgoa and Goldfarb, 2009):

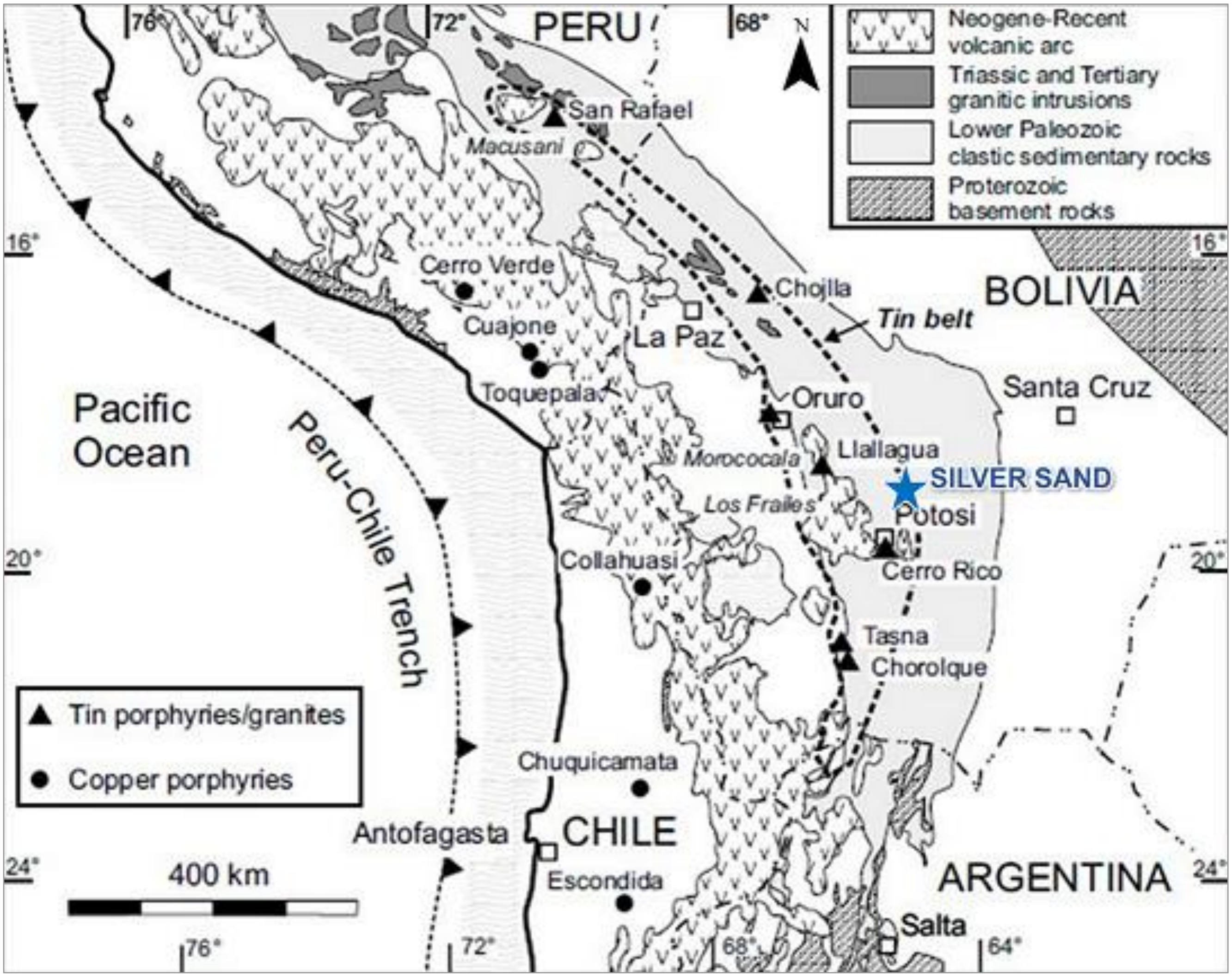
1 Porphyry-associated tin deposits.
2 Volcanic rock-associated Sn-Ag-Pb-Zn deposits which include bonanza-type Ag and Sn.
3 Sedimentary rock-hosted Sn-Ag-Pb-Zn deposits.
4 Distinct pluton-related Sn-Au-W-Zn deposits.

Groups 2 and 3 are collectively defined as Bolivian polymetallic vein deposits which are mainly located in the southern half of the Bolivian Tin Belt (Arce-Burgoa and Goldfarb, 2009).

Bolivian polymetallic vein-type ore deposits are genetically related to Miocene and Pliocene subvolcanic intrusions. Mineralization occurs as veins, veinlet, stockwork, and disseminated ores hosted in Paleozoic and Mesozoic sedimentary rocks, Cenozoic volcanic rocks, and Paleozoic to Mesozoic plutons. The shallower erosion levels in the southern part of the belt results in the partial preservation of the upper silver-rich parts of deposits.

Two world-class silver and tin deposits, the Cerro Rico de Potosí deposit, considered to be the largest silver deposit in the world, and the Llallagua deposit, considered to be the largest vein-type tin deposit discovered to date, both belong to the Bolivian polymetallic vein type. The Silver Sand Property is located about 35 km north-east of the Cerro Rico de Potosí deposit and 150 km south-east of the Llallagua deposit within the same tin metallogenic belt. Figure 7.3 shows the major deposits in the Bolivian Tin Belt.

Figure 7.3 Major deposits in the Bolivian Tin Belt



Source: New Pacific Metals Corp., 2022. Adapted from Dietrich et al., 2000.

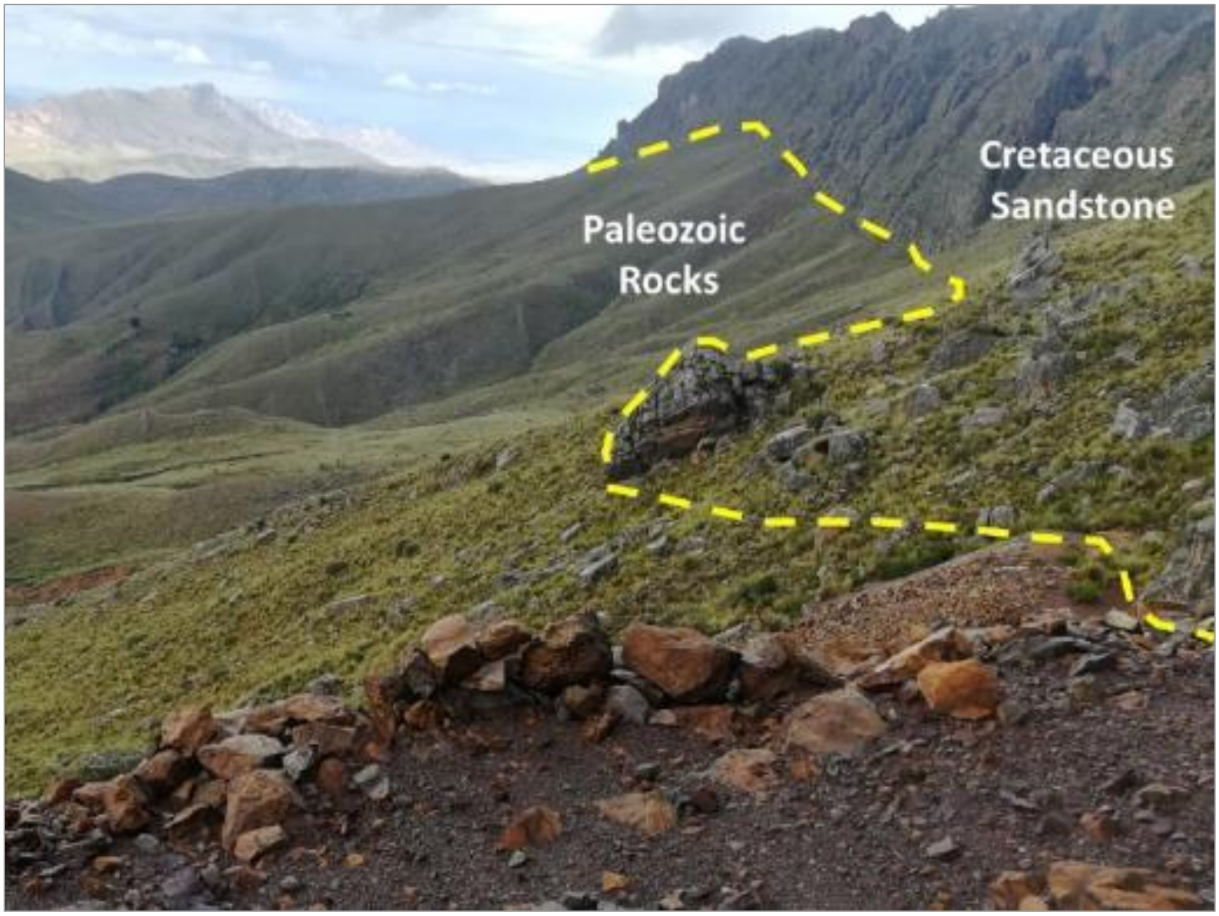
7.2 Geological setting and mineralization

7.2.1 Property geology

The Property is located in the polymetallic tin belt in the Eastern Cordillera. Evidence of historical mining activities such as abandoned mining adits and mining villages can be seen across the Property. The oldest rocks observed within the Property comprise Ordovician to Silurian marine, clastic sediments which have been intensely folded and faulted.

The Paleozoic basement is unconformably overlain by weakly deformed, lower Cretaceous continental sandstone, siltstone, and mudstone. These Mesozoic rocks form an open syncline that plunges gently to NNW and is bound to the SW and NE by NW trending faults. The unconformity between Mesozoic rocks and deformed Paleozoic basement is observed in the south-east part of the Property as shown in Figure 7.4. This is a panoramic view looking to the SW showing the unconformity contact between Paleozoic and Cretaceous Sedimentary Sequences at El Fuerte.

Figure 7.4 Unconformity and thrust fault contact



Source: New Pacific Metals Corp., 2019.

There is a thrust fault observed on the east side of the Property, north of the Snake Hole prospect (shown on Figure 7.5), which faults Palaeozoic rocks over the Cretaceous sandstone.

Figure 7.5 Thrust Fault north of Snake Hole

Source: New Pacific Metals Corp., 2019.

The Cretaceous sedimentary sequence within the Property is divided into the lower La Puerta Formation and the upper Tarapaya Formation.

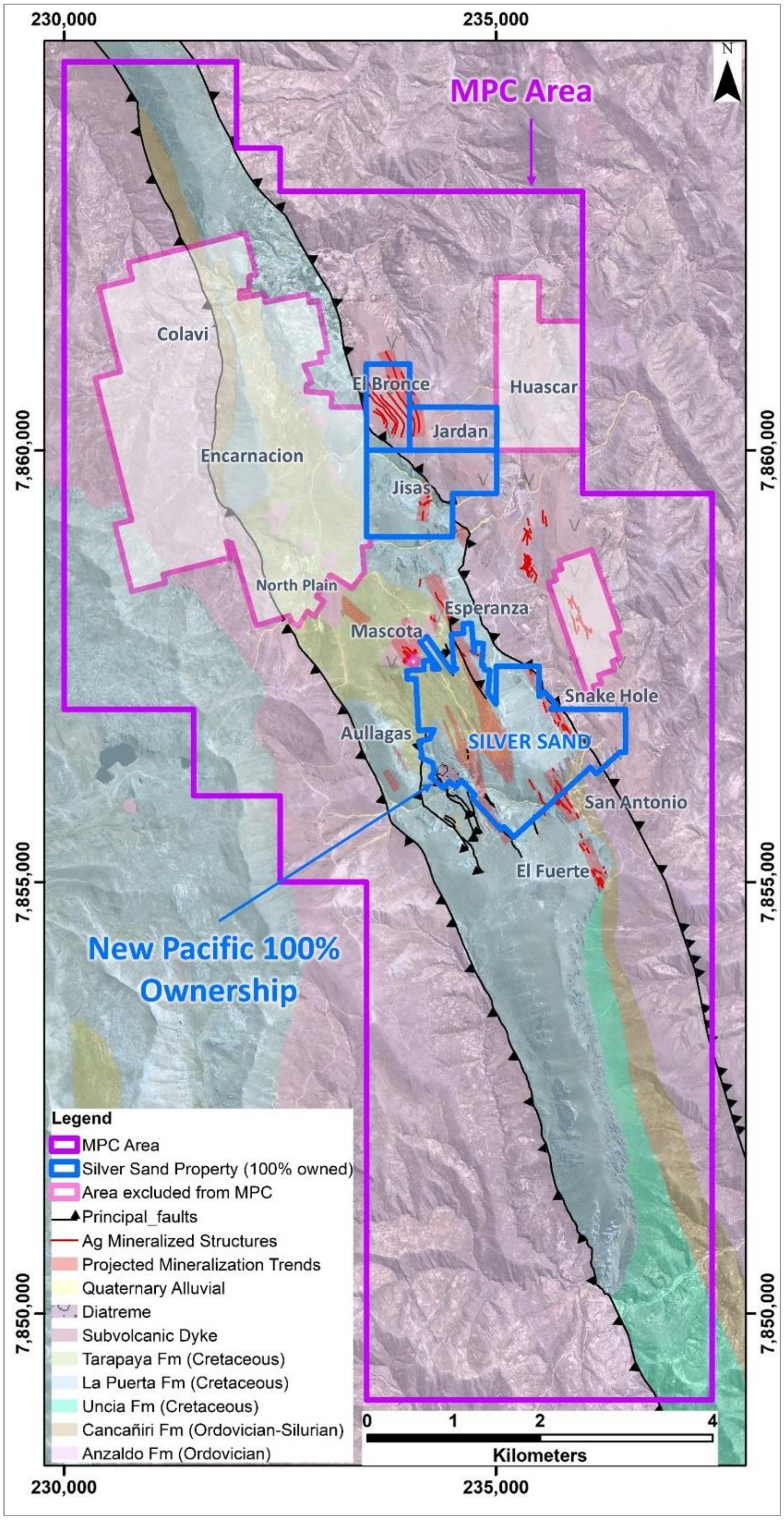
The La Puerta Formation consists of a sequence of mixed aeolian and fluvial sandstones exhibiting distinct massive, bedded, cross-bedded, and bioturbated "streaky" units which unconformably overlies the Paleozoic basement. The Tarapaya Formation conformably overlies the La Puerta sandstones in the central part of the Property and comprises red siltstones and mudstones intercalated with minor sandstone.

Several Miocene aged subvolcanic porphyritic dacite intrusions occur within Cretaceous and Paleozoic sequences. A porphyritic dacite laccolith is exposed overlying the Cretaceous Tarapaya siltstones at the landmark San Cristobal Hill at Mascota located in the approximate centre of the Property. This laccolith is similar to that hosting polymetallic systems in the southern tin belt. Porphyritic dacite dikes are also exposed in mine workings along the eastern Cretaceous Paleozoic thrust contact. Elongate stocks up to 5 km in length are recorded to the east of the Cretaceous sequence within Paleozoic basement.

A number of andesitic breccias with phreatic, crackle, and other breccia textures are recorded at the Property. A large, oval body of andesitic diatreme breccia cross cutting La Puerta Formation sandstone is seen in outcrop close to the west side of the major Silver Sand mineralization zone in the southern portion of the Property. Geological mapping has defined this zone over an area of approximately 300 m in length and 200 m in width along an NNE orientation. A separate ENE-striking sub-vertical diatreme breccia dike of about 13 m in width is seen in outcrop at Aullagas, central to the Property and about 500 m west of the diatreme outcrop. This unit has welded tuff and sandstone clasts and is cemented by abundant limonite.

The general geology of the Property is presented in Figure 7.6.

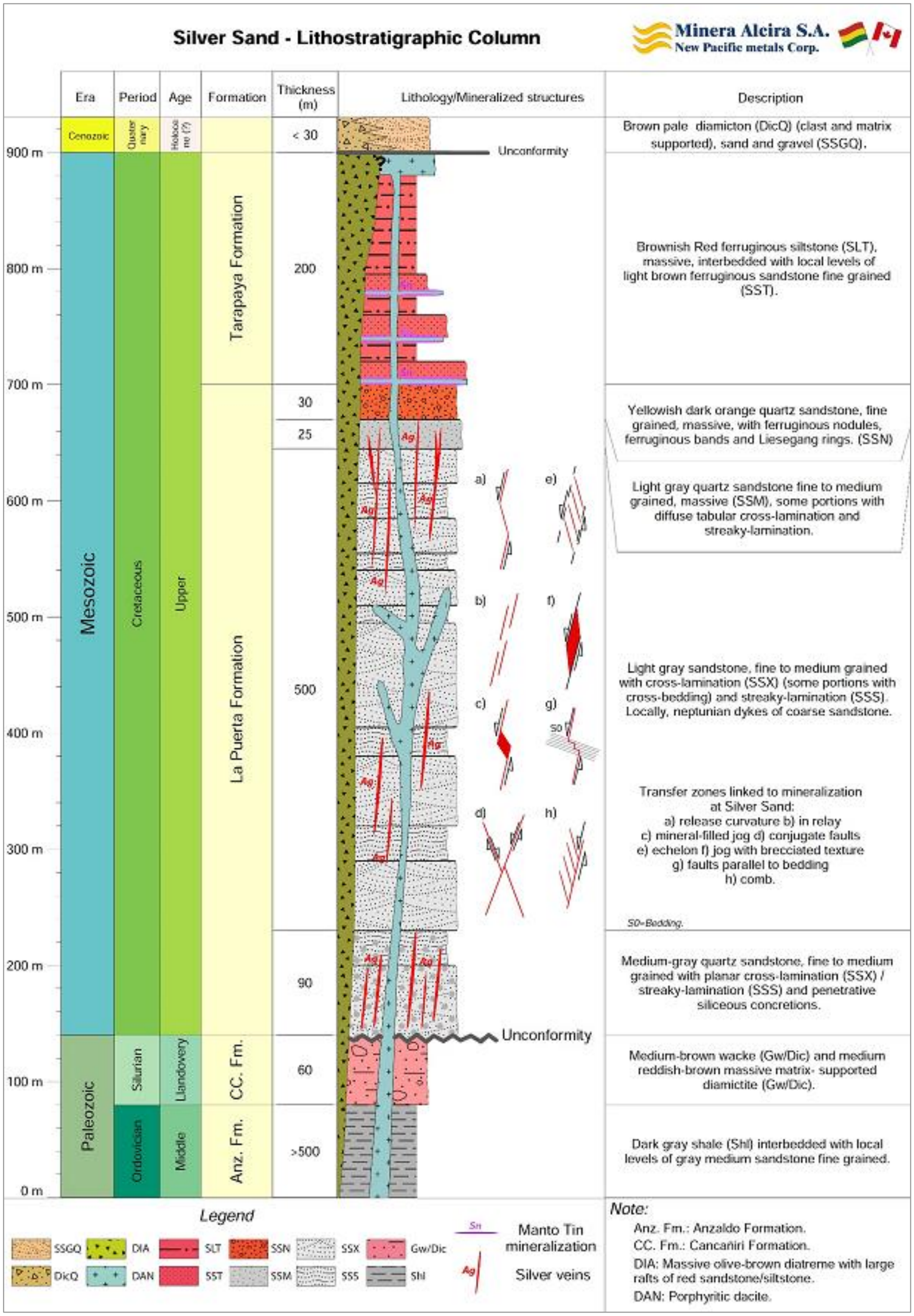
Figure 7.6 General geology of Silver Sand Property



Source: New Pacific Metals Corp., 2022.

The stratigraphic column for the Silver Sand Property is presented in Figure 7.7.

Figure 7.7 Stratigraphic column for the Property

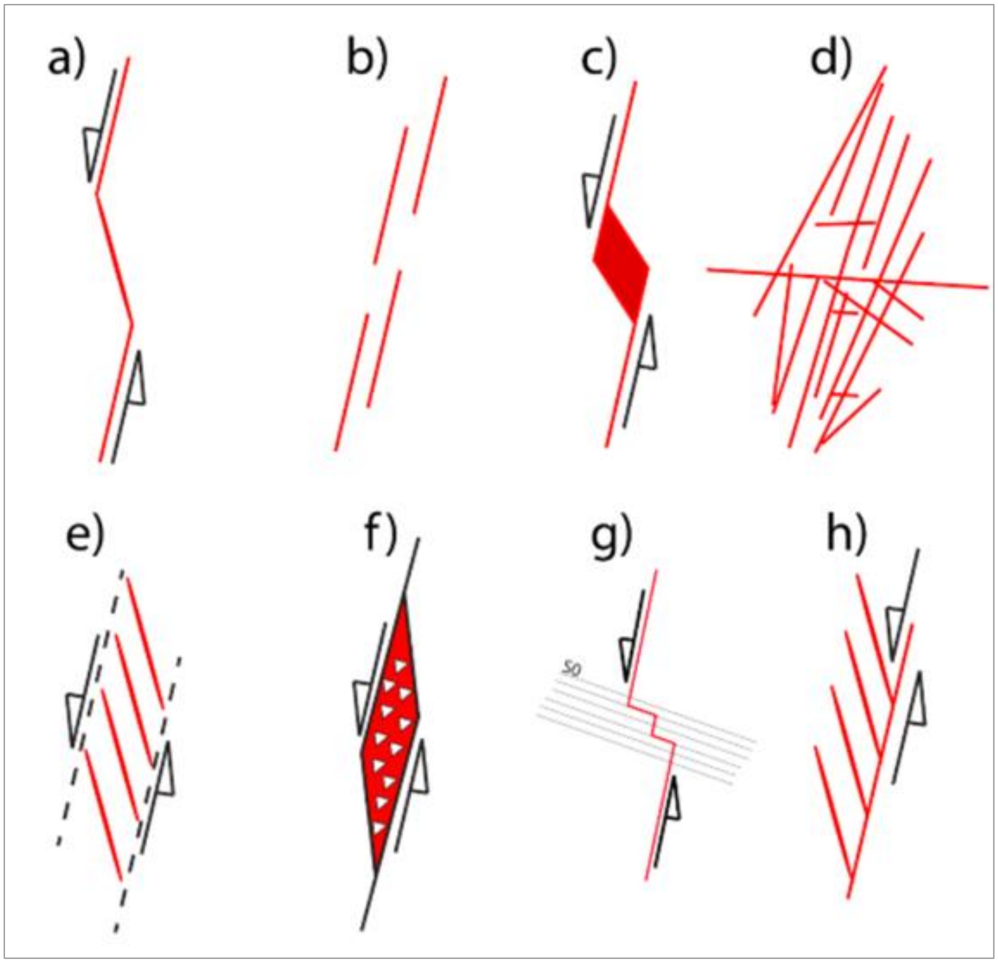


Source: New Pacific Metals Corp., 2022.

7.2.2 Structural control

The Property exhibits a variety of geometries and morphology of the mineralized bodies which are controlled and hosted by local transfer faults. Some are evident in outcrops, but the best examples are observed in drill cores (Warren & Francis-Smith, 2018) and in underground workings. Mineralized structures usually appear as steps-overs developed between two neighboring fault / vein segments that exhibit an echelon arrangement and may or may not be connected by lower-ranking faults / vein. These types of structures are of fractal type, which implies that they repeat their geometry, regardless of the observation scale, in arrangements of sigmoid (jogs), echelon, subparallel stepped, relay, horsetails, and extensional nets (swarms). Line drawings of these features are shown in Figure 7.8.

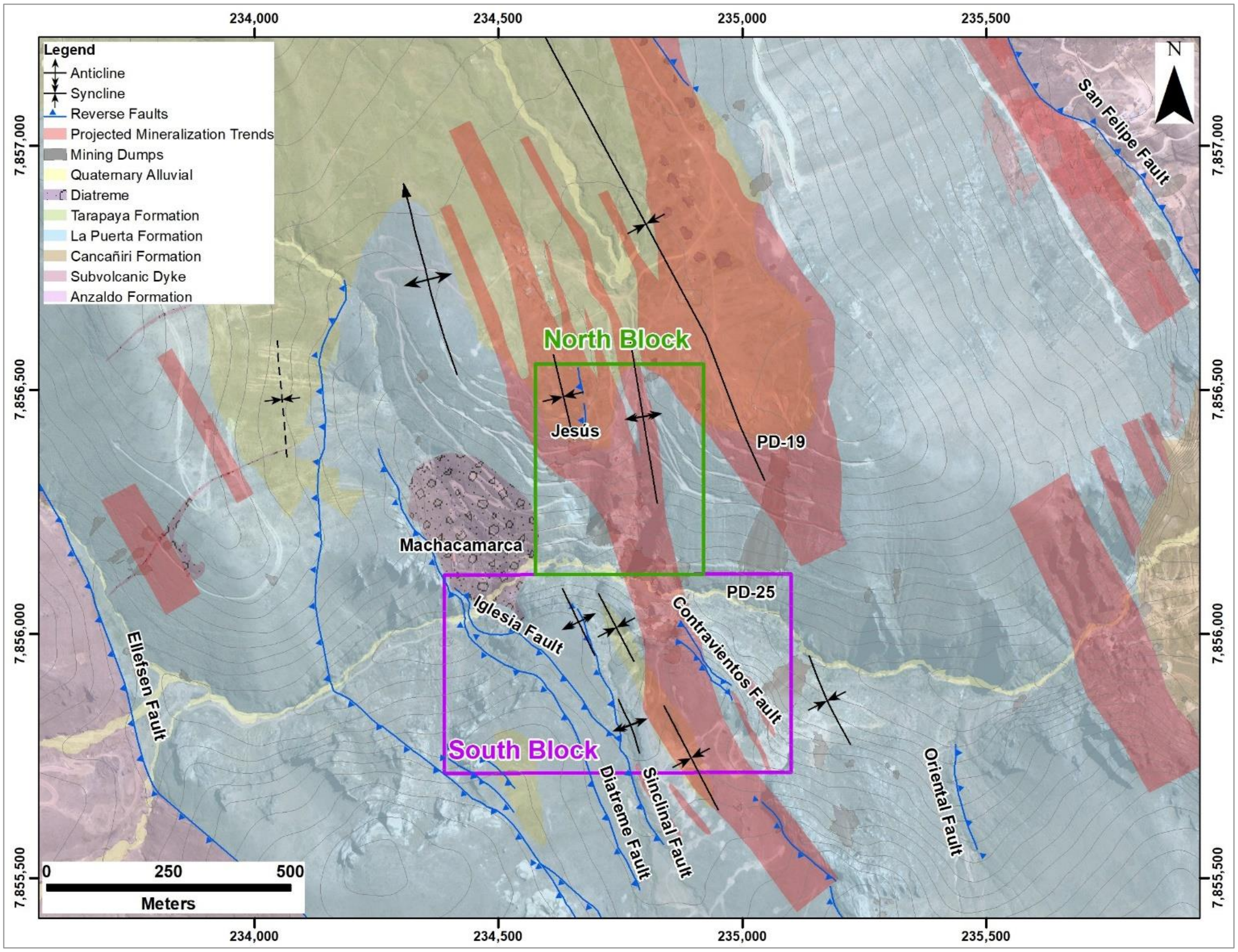
Figure 7.8 Transfer zones linked to mineralization at Silver Sand



Notes: a) release curvature, b) in relay, c) mineral filled jog, d) swarm, e) echelon, f) jog with brecciated texture, g) faults parallel to bedding, h) comb style.
Source: New Pacific Metals Corp., 2022.

Detailed geological and structural mapping of surface and accessible underground mining workings has been carried out in the Silver Sand deposit. by the project geology team of Silver Sand from 2018 to 2022. A total of 545 structural measurements including main foliations and tectonic lineations were collected. In addition, other structural data including strike and dip measurements were collected from oriented drillholes. Based on structural style (thrust assemblages) and geometric characteristics (listric faults and conjugate steeply dipping faults), the area has been divided into two blocks, North and South Block, as shown in the location map in Figure 7.9.

Figure 7.9 Location of North and South Block



Notes: Machacamarca is a silver mine.
Source: New Pacific Metals Corp., 2022.

7.2.2.1 North Block

This block covers an area of approximately 0.6 km^2 (0.69 x 0.86 km), characterized by thrust-type pre-mineralization structures and listric faults. Penetrative conjugate fault systems in X (crossing) and Y (abutting) are superimposed on these structures and are the main hosts of mineralization, with preferential attitudes of mineralized structures N12°W/77°SW (major) and N12°W/80°NE (minor).

7.2.2.2 South Block

This block covers an area of approximately 0.15 km^2 (0.30 x 0.5 km), where the first order structure is constituted by the Machacamarca syncline, a cap of the Tarapaya formation (up to 30 m) and a system of penetrative conjugate fault system in X and Y being the main host of mineralization, with preferential attitudes of N20°W/74°SW (major) and N20°W/74°NE (minor).

7.2.3 Mineralization

A total of eleven mineralized prospects have been identified across the Property to date. These include the Silver Sand deposit and the El Fuerte, San Antonio, Aullagas, Snake Hole, Mascota, Esperanza, North Plain, Jisas, Jardan, El Bronce, occurrences. Silver Sand, Snake Hole, Jisas, and El Bronce have been tested by drilling. The other nine prospects were defined by rock chip and grab sampling of ancient and recent artisanal mine workings and dumps. Exploration results from surface outcrops and underground workings defined a silver mineralized belt 7.5 km long and 2 km wide.

Table 7.1 summarizes the style of mineralization for each mineral occurrence. Each style is described in more detail in the sections below.

Table 7.1 Mineral occurrences and styles of mineralization

Style of mineralization	Mineral occurrence
Sandstone-hosted silver	Silver Sand, El Fuerte, San Antonio, Snake Hole, Esperanza, North Plain, and Jisas
Porphyritic dacite-hosted silver	Mascota, El Bronce
Diatreme breccia- hosted silver	Aullagas
Manto-type tin mineralization	Tarapaya siltstone and mudstone covered areas, such as Canutillos and North Plain

Source: New Pacific Metals Corp., 2022.

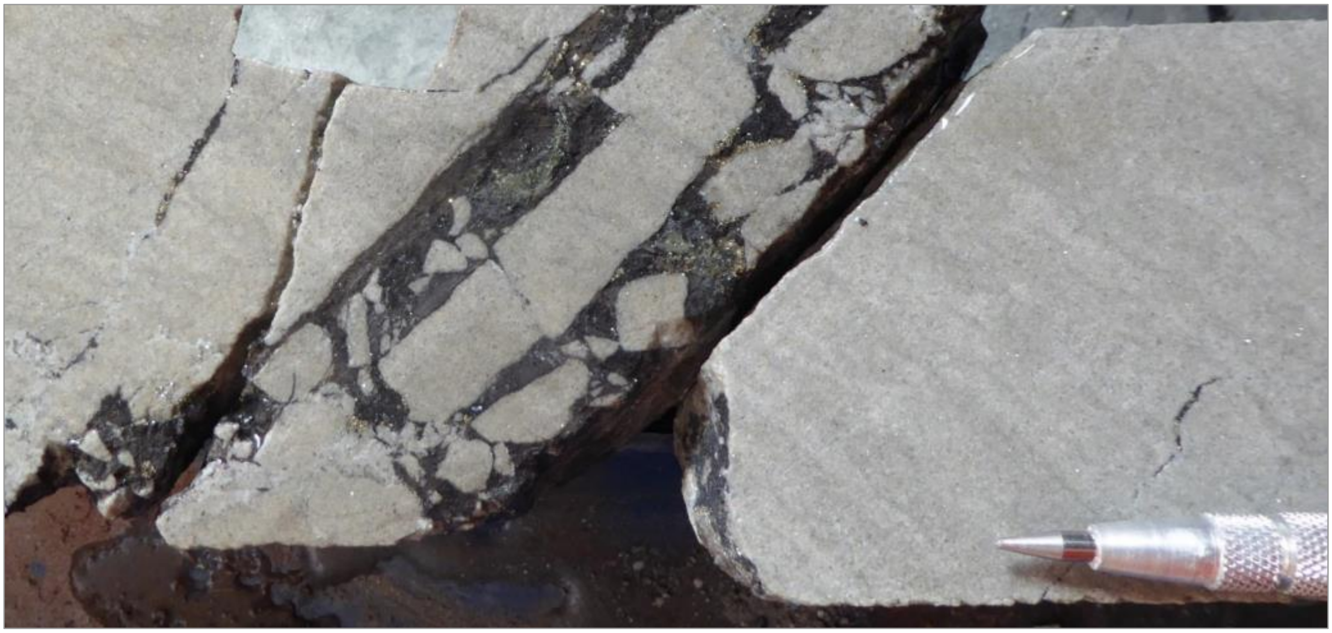
7.2.3.1 Sandstone-hosted silver mineralization

The mineralization in the Silver Sand project comprises silver-containing sulphosalts and sulphides occurring within sheeted veins, stockworks, veinlets, breccia infill, and disseminated within host rocks. The most common silver-bearing minerals include freibergite [$(Ag,Cu,Fe)_{12}(Sb,As)_4S_{13}$], miargyrite [$AgSbS_2$], polybasite [$(Ag,Cu)_6(Sb,As)_2S_7$] [$Ag_9CuS_4$], bournonite [$PbCuSbS_3$] (some lattices of copper may be replaced by silver), andorite [PbAgSb3S_6], and boulangerite [$Pb_5Sb_4S_{11}$] (some lattices of lead may be replaced by silver). Most silver mineralization is hosted in La Puerta sandstone units with minor amounts in porphyritic dacite diatreme breccia.

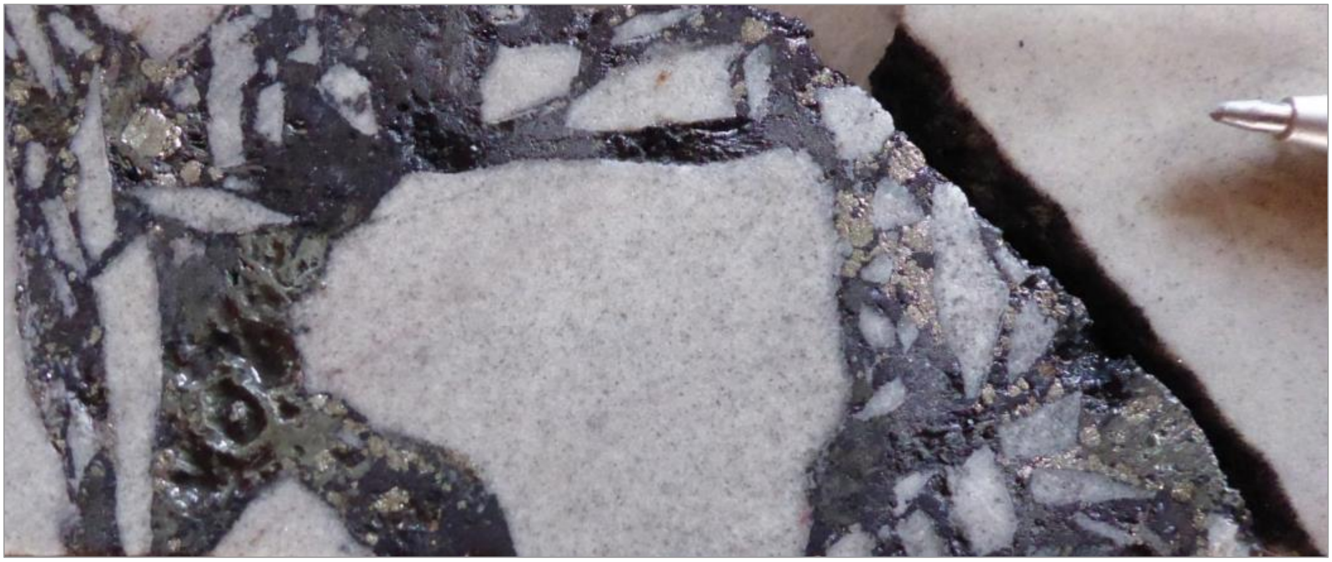
The silver mineralization is the majority of mineralization occurring almost exclusively within the Cretaceous-aged red quartz sandstones of La Puerta formation, which demonstrate extensive sericitic alteration (bleaching). This style of mineralization is usually structurally controlled. The intensity of mineralization is dependent on the density of various mineralized vein structures developed in the brittle host rocks.

Sandstone-hosted silver mineralization is recognized at the core area of Silver Sand deposit and in all regional prospects. Figure 7.10 shows examples of silver mineralization associated to Cretaceous sandstone from drill core.

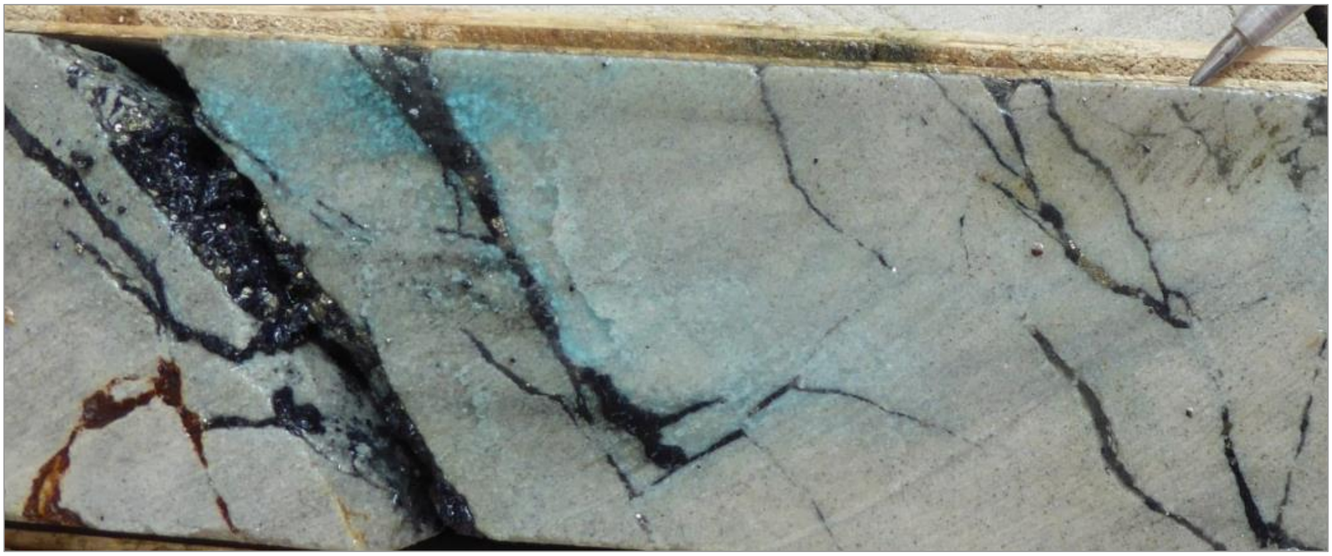
Figure 7.10 Silver mineralization in drill cores



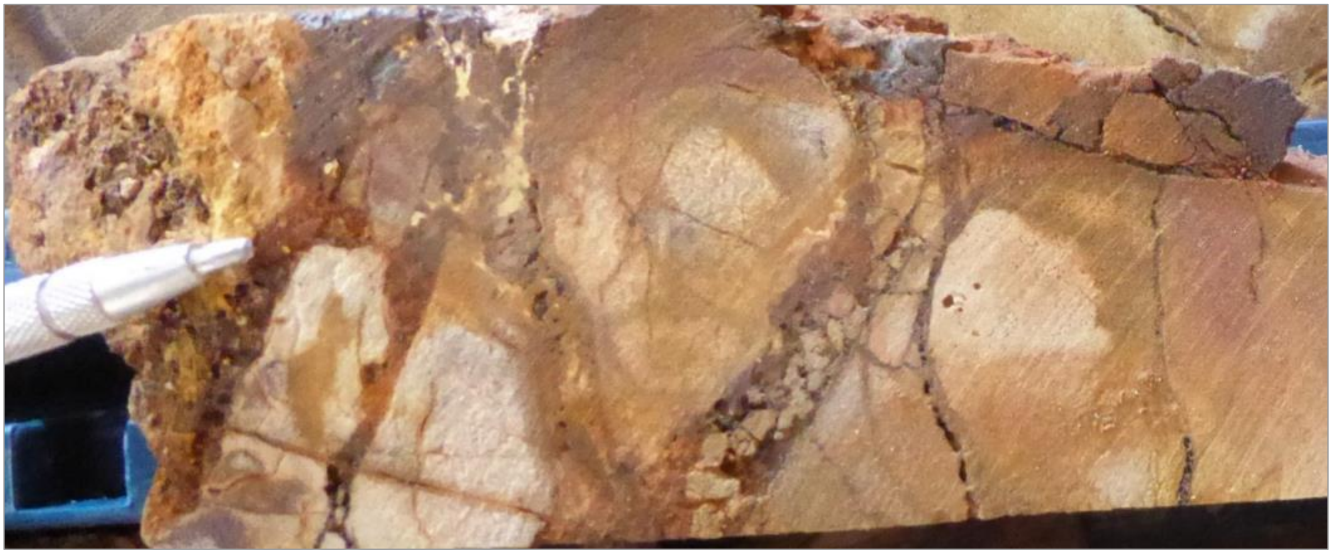
Note: DSS565001 Sulphides and sulfosalts crackle breccia @ 141 m (265 g/t Ag, 0.28% Pb, 1.51% Zn).
Source: New Pacific Metals Corp., 2019.



Note: DSS665001 Sulphides and sulfosalts crackle breccia @ 125.81 m (1,290 g/t Ag, 0.92% Pb, 4.05% Zn).
Source: New Pacific Metals Corp., 2019.



Note: DSS5803 Sulphides and sulfosalts veinlets @ 188.20 m (205 g/t Ag).
Source: New Pacific Metals Corp., 2019.

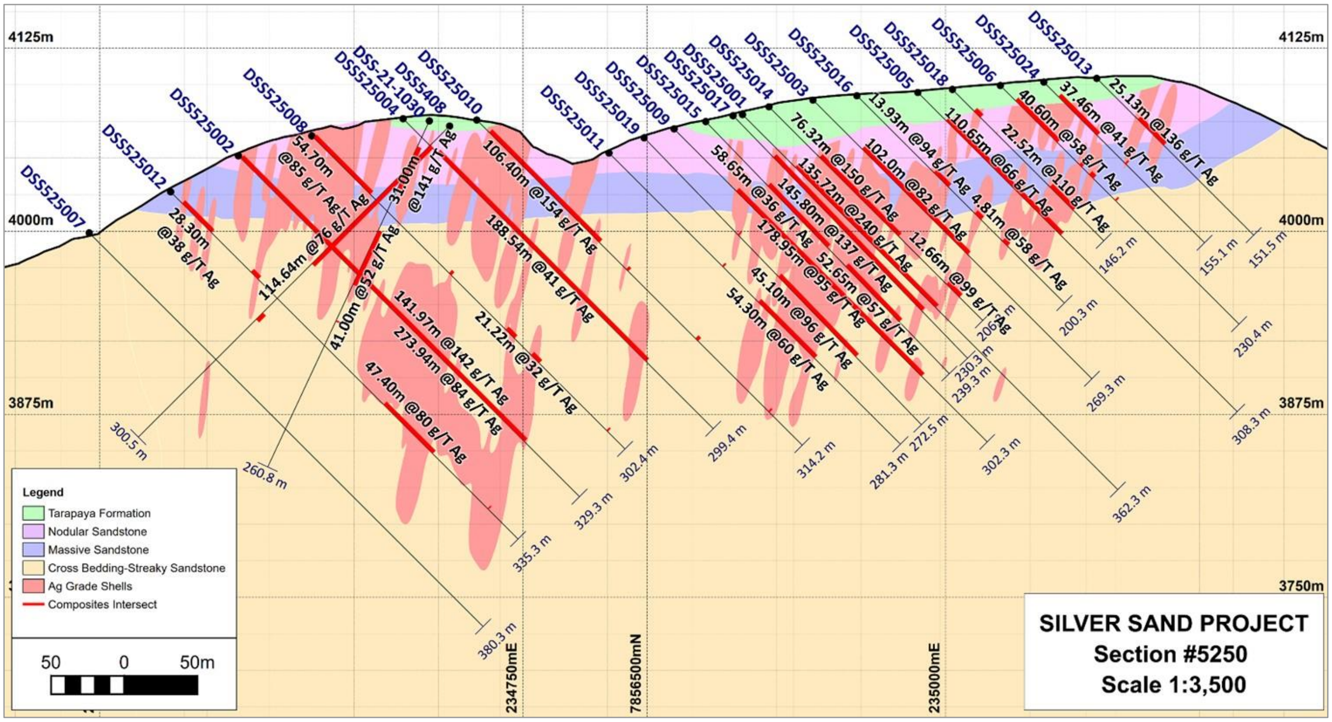


Note: DSS525001 Oxidized crackle breccia @ 65.30 m (892 g/t Ag).
Source: New Pacific Metals Corp., 2019.

The exploration drill program confirmed the characteristics of the Silver Sand deposit. The mineralization has been traced for more than 2,000 m along strike, to a maximum width of about 680 m and a dip extension of more than 250 m. Figure 7.11 is a cross section through the central portion of the deposit illustrating the extension of mineralization across strike and downdip.

Other regional mineralization occurrences hosted in sandstone units have been defined by chip sampling of mineralized outcrops and grab sampling of mining dumps. The Snake Hole, El Fuerte, and Jisas mineralization have been traced along a strike length of more than 1,000 m. This strike length is defined by the distribution of old mine working and sampling results of surface outcrops and underground workings.

Figure 7.11 Cross Section 5250, Silver Sand Zone



Source: New Pacific Metals Corp., 2022.

7.2.3.2 Porphyritic dacite-hosted silver mineralization

Silver mineralization within porphyritic dacite is observed at the Mascota and El Bronce prospects. These occurrences experienced extensive artisanal mining activities.

Moderate to strong alteration and well-developed stockwork are seen at the outcrops and in cores. Systematic grab sampling on mining dumps has returned silver grade from 50 to 500 grams per tonne (g/t) Ag. The El Bronce zone has been traced with grab sampling results for more than 1,000 m along strike. The zone is defined by silver assays > 50 parts per million (ppm). In the Jardan area north of Jisas, tin mining is also conducted along north-east-trending veins in porphyritic intrusions at Chiaraque.

Drilling at El Bronce prospect intersected porphyritic dacite intervals with moderate oxidation (limonite-jarosite), weak to moderate sericitic alteration, and argillization patches. Moderate to strong pyrite dissemination with stringers of pyrite, unknown fine sulphides, and minor amount of chalcopyrite, sphalerite, boulangerite, and brecciated intervals of limonite and jarosite in oxidized zones also occur.

Figure 7.12 Crackle breccia intervals in altered porphyritic dacite

Note: DSSJS1701 Porphyritic Dacite with oxidized crackle breccia @ 11.10 m (XRF 889 g/t Ag, Assay pending).
Source: New Pacific Metals Corp., 2022.

7.2.3.3 Diatreme breccia-hosted silver mineralization

Diatreme breccia hosted silver mineralization is observed in the Aullagas zone. Based on surface mapping, the Aullagas zone occurs within a north-east-trending dike-like breccia body of about 40 m in length and 13 m width, hosted by bleached sandstone. Breccia fragments consist of ignimbrite and sandstone clasts cemented with highly ferruginous material. Surface grab samples have returned silver grades from 50 to 298 g/t Ag. Further investigation is needed to define the size and potential of the diatreme breccia.

Figure 7.13 Diatreme breccia outcrop in Aullagas zone

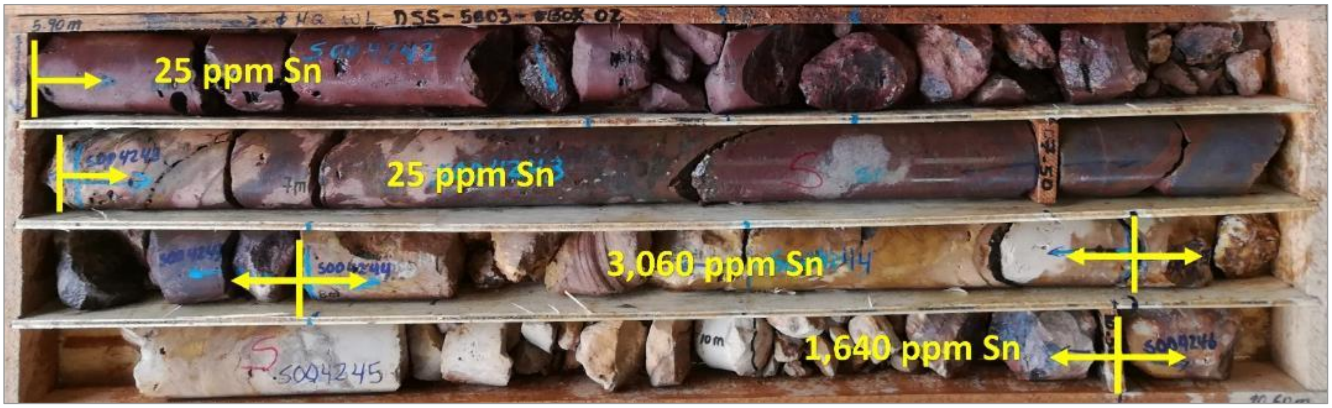
Note: Aullagas prospect diatreme breccia strongly oxidated. Grab Sample 293 g/t Ag.
Source: New Pacific Metals Corp., 2022.

7.2.3.4 Manto-type tin mineralization

Manto-type tin mineralization on the Property occurs as metasomatic replacement of the calcareous horizons in the siltstone and mudstone at the base of the Tarapaya Formation. Very fine-grained cassiterite is accompanied by abundant pyrite and lesser ankerite, siderite, and barite in the stratiform manto.

Historically, and as early as 1890, artisanal mining of the manto-type tin mineralization occurred at the contact between the La Puerta sandstone and the Tarapaya siltstone and mudstone on the Property. Some drillholes in the current exploration drilling program intersected the tin manto-type mineralization horizon in the contact of Tarapaya siltstone with La Puerta Formation nodular sandstone unit.

Figure 7.14 Example of tin mineralization associated contact Tarapaya with Cretaceous sandstone



Note: Hole DSS5803 Showing mantle type tin mineralization in contact Tarapaya formation with La Puerta Formation Sandstone.
Source: New Pacific Metals Corp., 2022.

7.2.4 Relative timing of hydrothermal alteration and mineralization

At the Silver Sand deposit magmatic and hydrothermal processes are proposed to have occurred as two separate events within a single metallogenic epoch associated with the most recent orogenic event within the Eastern Cordillera. The initial event comprised an early stage of alteration and mineralization associated with a deep heat and fluid source (intrusion) within a mesothermal environment. This was followed by uplift and erosion of the Eastern Cordillera during Cenozoic orogenic events, and epithermal style mineralization.

The initial phase of metasomatic activity resulted in manto-type tin mineralization of selected calcareous horizons within the Tarapaya siltstone and mudstone package. The manto-type mineralization comprised high-temperature minerals indicative of a mesothermal environment including cassiterite, pyrite, magnetite, ankerite, siderite, and barite.

The underlying La Puerta sandstone was also intensely altered during this event. Metasomatic fluids resulted in the leaching of ferruginous cement from the sandstone, pervasive sericitization and silicification and introduction of pyrite veinlets and disseminated pyrite and sphalerite. Collectively, this alteration changed the rheological properties of the La Puerta sandstone units providing structural preparation for subsequent metasomatic events.

Progressive uplifting and erosion of the Eastern Cordillera during the Cenozoic orogenic events resulted in a transition to an epithermal environment. Hydrothermal activities during this time led to extensive fracturing, hydrothermal brecciation, and reactivation of earlier structures in the brittle sandstone and porphyritic intrusions and deposition of silver sulphides and sulphosalts. North-west trending fractures and faults with moderate to high-angle dips are thought to have acted as conduits for mineralizing fluids. This mineralization was superimposed on rocks altered during the initial hydrothermal event.

This hypothesis is supported by Rivas (1979) who noted the porphyritic dacite dikes displace manto-style mineralization at the Colavi mine. At the Silver Sand deposit, veins of silver sulphides and sulphosalts crosscut earlier pyrite veinlets, and pyrite in druses are coated with later silver minerals. Silver mineralization zones are spatially associated with porphyritic dacite intrusions but are formed at a later stage than the intrusion. The abundance of low-temperature silver sulphosalts in silver veins and the widespread mineralized hydrothermal and structural breccia suggest an epithermal environment.

7.2.5 Oxidation

Mineralized zones on the Property have been oxidized to a vertical depth of more than 250 m in places. The base of oxidation is commonly irregular resulting in significant mixed oxide and sulphide zones (transition zones) due to the strong local influence of fractures.

Oxide minerals are dominated by limonite, jarosite, goethite, and minor hematite resulting pervasive staining within sandstones, and pseudomorphic of sulphide minerals within fractures, breccias, veinlets and veins.

Figure 7.15 shows an example of oxidized mineralization grading into transition Material.

Figure 7.15 Oxidation material in core

Note: Hole DSS525001 Oxidation interval (Limonite, jarosite), showing silver grades.
Source: New Pacific Metals Corp., 2022.

Figure 7.16 shows an example of transition mineralization intervals where oxidation is developed along fractures.

Figure 7.16 Transition material in core

Note: DSS529001 Transition interval (oxide and sulphides), showing silver grades.
Source: New Pacific Metals Corp., 2022.

8 Deposit types

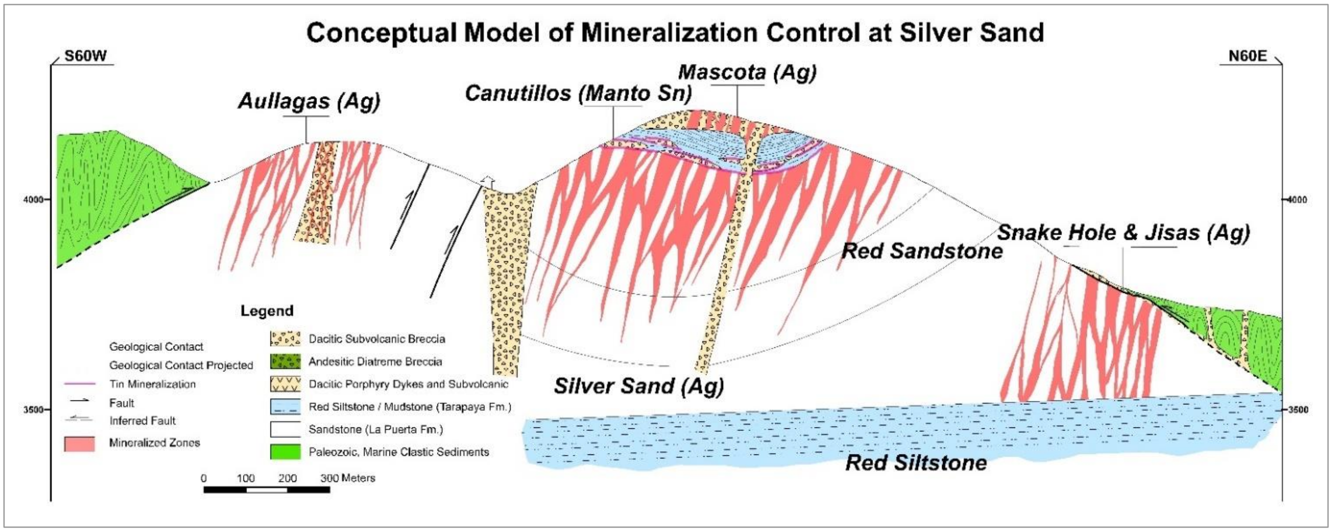
Silver and base metal mineralization in the Silver Sand Property was formed during the regional uplifting and erosion process associated with the Tertiary orogenic events in the Eastern Cordillera. The genetic model of silver and tin mineralization in the Property is a magmatic-hydrothermal system related to a deep-seated magmatic center. The ore-forming processes in the Property are outlined as follows:

1. Tin-bearing hydrothermal solutions derived from the magmatic center moved upwards through major faults cutting through the Paleozoic and Mesozoic sedimentary sequences in a mesothermal environment at the early stage of orogeny.
2. The ductile and impermeable red siltstone and mudstone of the Tarapaya Formation overlying the porous and permeable La Puerta sandstone acted as a barrier to the upward movement of the high-temperature tin-bearing hydrothermal solutions. This early hydrothermal activity resulted in the extensive sericitic alteration (bleaching) the La Puerta sandstone and the formation of the stratiform metasomatic replacement (manto-type) tin and base metal mineralization at the base of the Tarapaya siltstone and mudstone.
3. With persistent uplifting and erosion, the hydrothermal system evolved into an epithermal environment and subvolcanic activities developed in the Property area. Porphyritic dacite rocks intruded Paleozoic and Mesozoic sedimentary sequences and displaced the manto-type mineralization in the Tarapaya siltstone and mudstone. The subvolcanic activities likely caused intensive fracturing, faulting, and brecciation of the previously bleached brittle La Puerta sandstone.
4. Following the dacitic porphyry intrusions, silver-rich, and tin-bearing hydrothermal fluid migrated though faults, fractures, and breccia structures in the La Puerta sandstone and porphyritic dacite intrusions both beneath and above the Tarapaya Formation. This later-stage hydrothermal activity is characterized by typical epithermal features such as hydrothermal brecciation and a low-temperature mineral assemblage.
5. The continuous uplifting and erosion of the region has exposed the mineralization and resulted in oxidation of the mineralized zones along deep-seated fractures.

The stratiform metasomatic replacement tin mineralization formed in the earlier hydrothermal event is manto-type tin and base metal mineralization which is unique in the Bolivia Tin Belt. The silver and tin mineralization formed in the later hydrothermal event is typical of the Bolivian polymetallic vein-type deposits represented by the giant Cerro Rico de Potosí silver mine. The Bolivian polymetallic vein-type mineralization in the Property includes three subtypes, the sandstone-hosted, the subvolcanic-hosted, and the diatreme breccia-hosted mineralization.

A conceptual model of mineralization controls in the Property is established from the above discussion and is shown in a schematic format in Figure 8.1.

Figure 8.1 Conceptual model of mineralization controls at Silver Sand Property



Source: New Pacific Metals Corp., 2020.

9 Exploration

9.1 Introduction

Since the acquisition of the Property by New Pacific in October 2017, exploration work has focused on geological mapping and sampling of surface outcrops, historical mine dumps, and accessible historical underground workings. After an overview of the programs, the results are discussed in Sections 9.2 to 9.4.These samples are not truly representative and are not used in any estimates.

Samples collected from outcrop and underground workings were between 1 to 1.5 m long and were taken along sample lines. Representative grab samples were taken from historical mine dumps. A total of 3,625 rock samples were collected at Silver Sand between October 2017 to July 2022 as shown in Table 9.1.

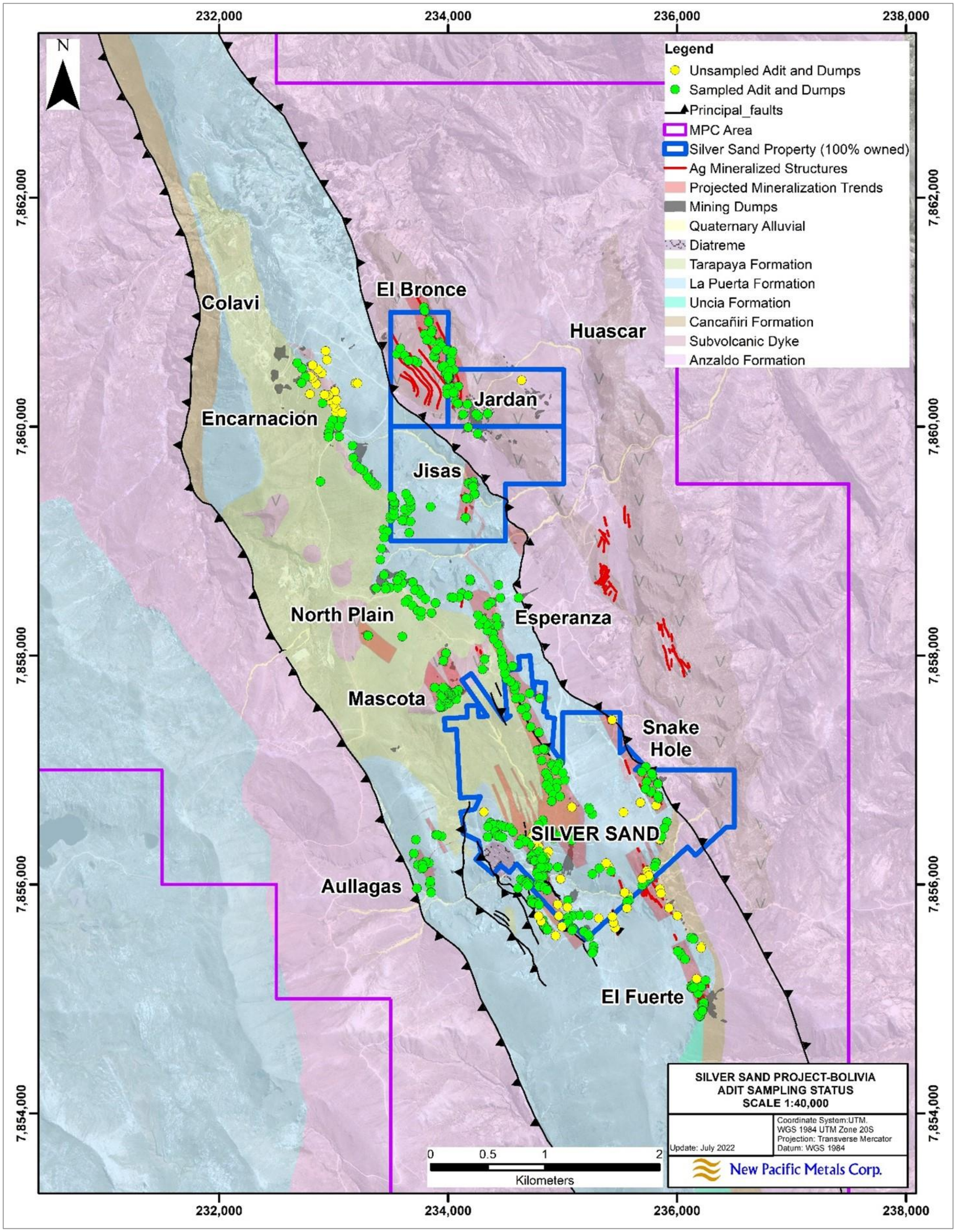
Table 9.1 Summary of underground and surface sampling programs

Sample type	Total samples	Comments
Surface samples	1,046	Rock chips from channels, including the Silver Sand project and regional prospects.
Mine dump samples	1,408	Grab samples from historic mine dumps.
Underground samples	1,171	Rock chip samples from channels in 5,780 m of underground development in 65 locations.
Total	**3,625**	

Source: New Pacific Metals Corp., 2022.

Figure 9.1 shows the distribution of the abandoned artisanal adits and mine dumps across the Property. New Pacific has sampled all mine dumps and accessible adits with silver mineralization showings. Areas mined for tin mineralization over the Tarapaya formation rocks have not been systematically sampled.

Figure 9.1 Location of historic adits and mine dumps



Source: New Pacific Metals Corp., 2022.

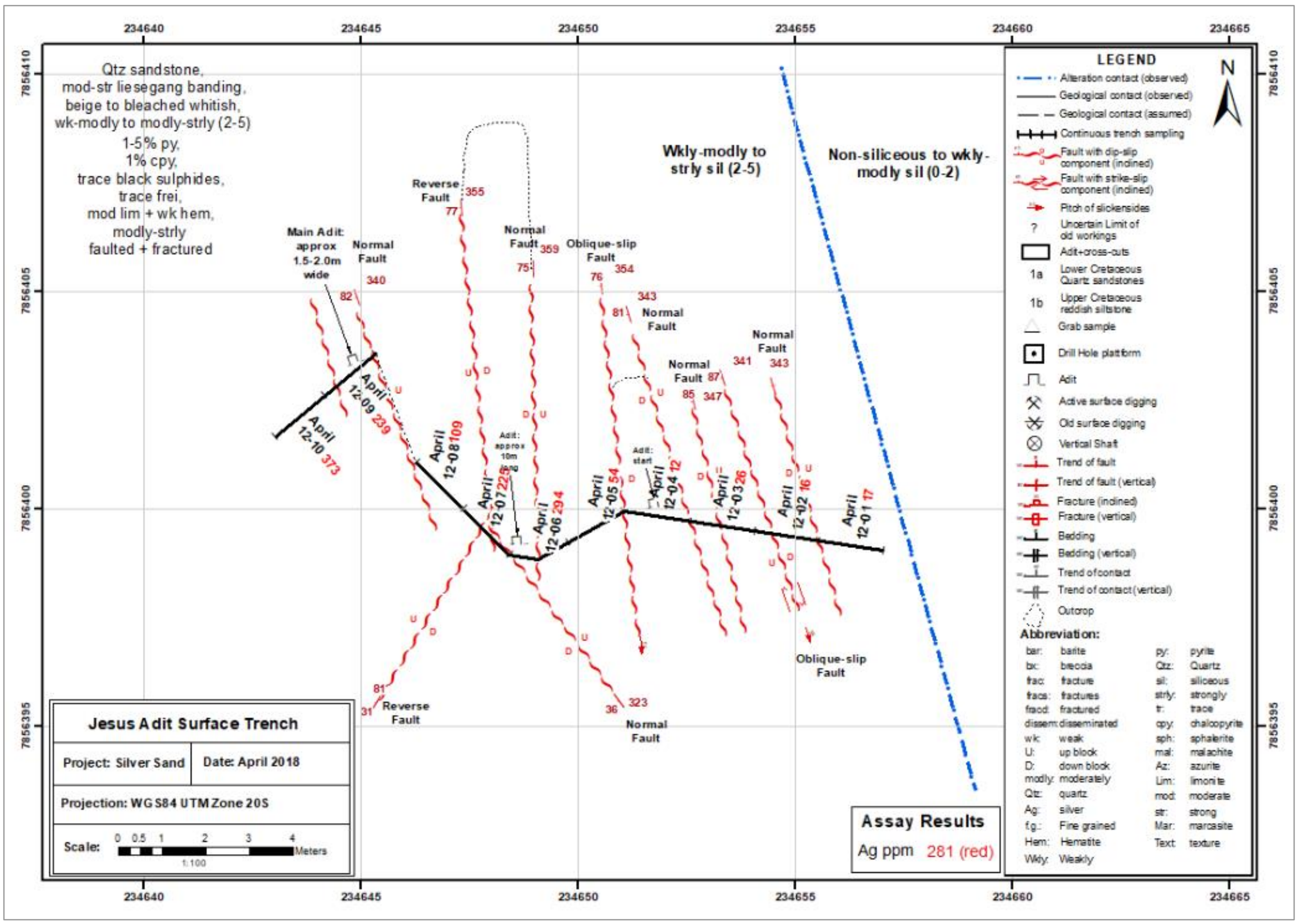
9.2 Surface chip sampling

A total of 1,046 rock chip samples were collected from 35 separate outcrops by New Pacific since 2017. Most of the outcrops sampled were located above or proximal to historical workings. Samples were collected at 1.5 m intervals along sample lines oriented approximately perpendicular to the strike direction of mineralization, for a total length of 2,863 m. An example of surface chip sample locations is shown in Figure 9.2. A panoramic photo of chip sampling being carried out in the Jardan prospect is shown in Figure 9.3.

For each sample, the sample type, location, and a description of the lithology, alteration, and mineralization were recorded by New Pacific personnel using Microsoft Excel (Excel) worksheet. Geological and structural mapping was also completed at the same time. Assay data is compiled and stored in the MX Deposit central database as point data. Geological and assay data are then compiled onto a geological plan map.

Of the 1,046 samples collected to date, 101 samples (9.6%) returned a grade between 30 and 840 g/t Ag with an average grade of 150 g/t Ag.

Figure 9.2 Results from the Jesus adit trench



Source: New Pacific Metals Corp., 2022.

Figure 9.3 Channel sampling at the Jardan Prospect

Note: Photo looking west showing channel sampling process March 2020 at the Jardan prospect.
Source: New Pacific Metals Corp., 2022.

9.3 Dump sampling

Mine dumps from historical mining activities are scattered across a significant portion of the Property. These provide valuable insight into subsurface mineralization and geology.

New Pacific collected a total of 1,408 grab samples from historical mine dumps. Most samples collected were remnants of high-grade narrow veins extracted from underground mining activity.

Of the 1,408 samples collected to date, 439 samples (31%) returned assay results between 30 and 3,290 g/t Ag with an average grade of 194 g/t Ag.

9.4 Underground chip sampling

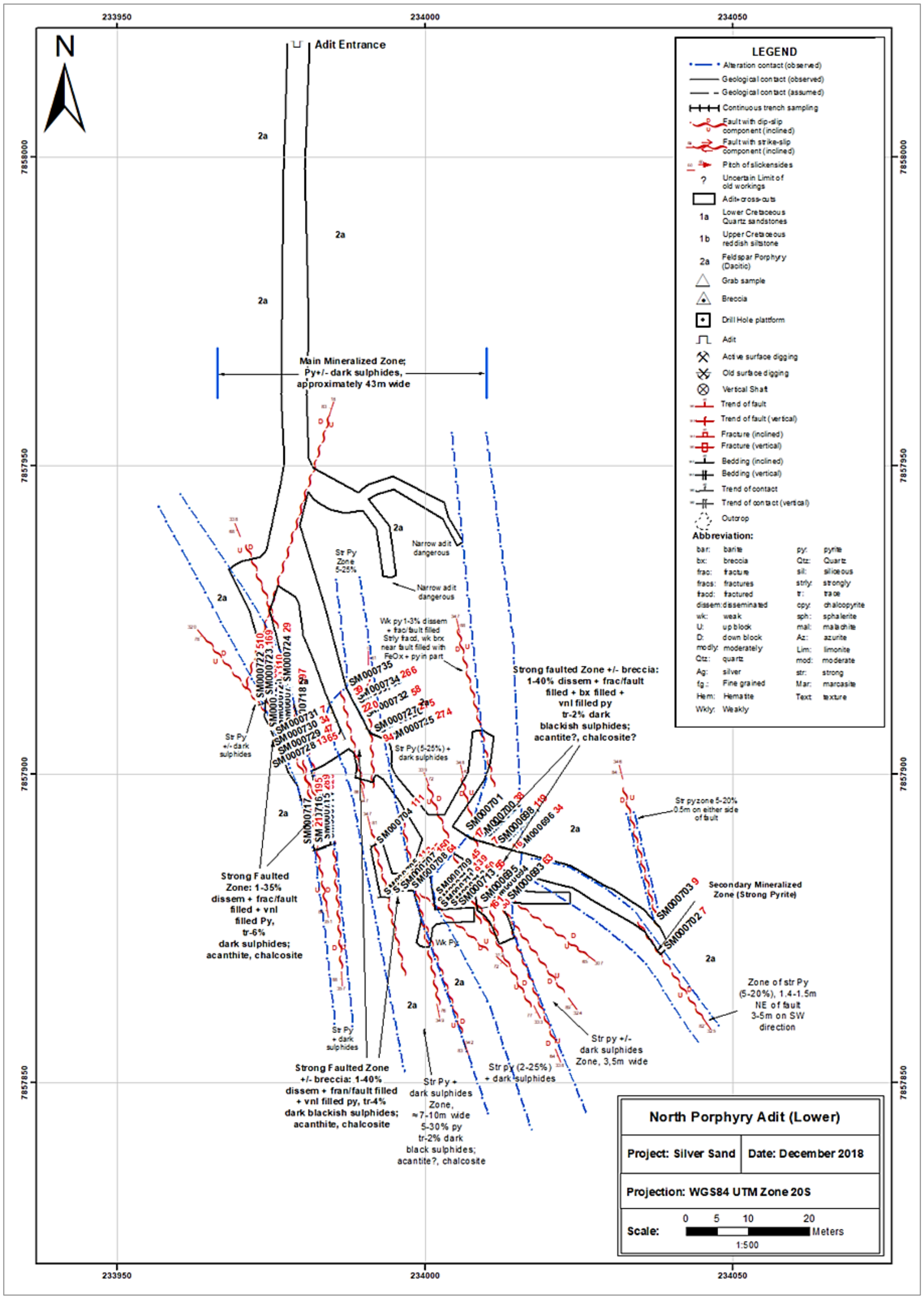
The Property encompasses significant historical underground mine workings which date back to the 16th century. A number of adits and tunnels provide access to underground workings from the surface. New Pacific has surveyed all safe and readily accessible tunnels within a 2 km wide and 6 km long area encompassing the mineralized La Puerta sandstone, and porphyritic dacite dykes and intrusions. Mine workings have typically focused on high-grade veins.

New Pacific has mapped and sampled 65 historical mine workings comprising 5,780 m of underground tunnels. A total of 1,171 continuous chip samples have been collected at 1 - 2 m intervals along walls of available tunnels that cut across the mineralized zones.

Of the 1,171 samples collected to date, 404 samples (34.5%) returned assay results between 30 and 2,710 g/t Ag with an average grade of 205 g/t Ag.

New Pacific geological personnel record geological features on both a map and in an Excel worksheet. Assay results are compiled in the MX Deposit central database. A compilation map comprising the surveyed mine workings, geology, and assay data is subsequently collated. An example of underground mapping and sampling is presented in Figure 9.4.

Figure 9.4 Underground mapping and sampling at Mascota prospect



Source: New Pacific Metals Corp., 2022.

Table 9.2 provides a summary of the results of underground sampling.

Table 9.2 Selected underground sampling results

Name of adit	Length (m)	Sample type	Number of samples	Mineralized samples			Host rock
				Number	Grade range Ag (g/t)	Average grade Ag (g/t)	
Jesus Adit Lower	145	Chips	31	14	31-2,710	371	Sandstone
Jisas Jardan Adit 1	275	Chips	44	19	31-281	109	Sandstone, Porphyry
North Porphyry Adit Lower	385	Chips	45	36	30-1,365	220	Porphyry
North Porphyry Adit Upper	290	Chips	18	15	31-812	244	Porphyry
Silver Sand PD_25	250	Chips	98	26	33-666	114	Sandstone
Silver Sand PD_62	177	Chips	77	24	34-750	179	Sandstone
Snake Hole Principal Adit 1	188	Chips	8	6	85-433	251	Sandstone
Snake Hole Zone Adit 3	82	Chips	4	4	34-495	164	Sandstone
Snake Hole Zone Middle Adit 2	76	Chips	38	22	31-1,460	157	Sandstone
South Adit 1	300	Chips	47	10	34-767	240	Sandstone
South Adit 4 Level 1-4	113	Chips	23	23	38-1,500	583	Sandstone
Esperanza Adit 1	55	Chips	13	8	75-830	337	Sandstone
Esperanza Adit 2	153	Chips	41	19	39-568	150	Sandstone
Esperanza Adit 3	195	Chips	24	10	32-536	234	Sandstone
Esperanza Adit 4	26	Chips	13	6	35-176	103	Sandstone
Esperanza Adit 5	6	Chips	3	3	189-1,300	624	Sandstone
Esperanza Adit 6	34	Chips	17	5	40-148	95	Sandstone
Esperanza Adit 7	14	Chips	7	1	118	118	Sandstone
Esperanza Adit 8	36	Chips	18	5	33-110	61	Sandstone and Porphyry
Esperanza Adit 9	52	Chips	26	0	-	-	Sandstone
El Bronce Main Adit 1 Upper and Lower	120	Chips	11	7	37-785	331	Porphyry
El Bronce Adit 2	30	Chips	9	7	49-318	108	Porphyry
El Fuerte Adit 2	73	Chips	7	5	86-589	261	Sandstone
El Fuerte Adit 1	100	Chips	12	8	34-214	100	Sandstone

Source: New Pacific Metals Corp., 2022.

9.5 Discussion of exploration results

Assay results of underground chip samples and surface mine dump grab samples suggest historical mining focused on high-grade veins within the core of the mineralized system and that in-situ mineralized material exists outside of the principal or main veins. This material forms continuous mineralized zones from several metres to several tens of metres in width in bleached sandstone and porphyritic dacite.

Results of samples collected to date show comparable average grades between the underground chip samples and the grab samples from historical waste dumps. Surface rock chip sample grades are consistently lower. The significant difference in silver grades between underground and surface chip samples may be the result of oxidation and leaching of silver sulphides and sulphosalts from the host rocks on surface.

A summary of results from surface rock chip samples, waste dump samples, and underground chip samples is presented in Table 9.3. Mineralized samples listed in the table below are samples with > 30 g/t silver.

Table 9.3 Summary of underground and surface sampling results

Sample type	Total samples	Average Ag grade of all samples (g/t)	Number of mineralized samples	Grade Ag range (g/t)	Average Ag grade of mineralized samples (g/t)
Surface samples	1,046	18	101	30 - 840	150
Mine dump samples	1,408	94	439	30 – 3,290	194
Underground samples	1,171	76	404	30 – 2,710	205

Note: Mineralized samples are samples with > 30 g/t silver.
Source: New Pacific Metals Corp., 2022.

The main regional prospects where mapping has been carried out are described below:

Snake Hole: This prospect is located approximately 600 m east of the Silver Sand deposit and consists of artisanal underground workings on structures that trend NNW-SSE. The workings and associated surface mine dumps were started in the Spanish colonial era and have continued sporadically to recent times, creating a “glory hole”. Developed in altered (bleaching) quartz sandstones, the workings are traceable over more than 1,000 m strike length with widths varying from a few metres up to 100 m. Geochemical sampling of the workings and mine dumps returned encouraging results, typically ranging from 100 g/t Ag to 300 g/t Ag.

Surface mapping suggests that the mineralized fracture zone remains open to the north, where it potentially trends undercover towards the Jisas prospect located approximately two kilometres to the north.

Figure 9.5 Mineralized structures and fractures in historically mined Snake zone glory hole

Notes: Historical mined structures and fractures. Left: Intersection of principal NS. Right: conjugate EW.
Source: New Pacific Metals Corp., 2022.

El Fuerte: This prospect is located south-east of the Silver Sand deposit and covers an area of 0.46 km^2. The host rock is the Cretaceous La Puerta Formation with clear signs of alteration seen as bleaching. Multiple old mining works were observed in the area, showing a fracture zone with brecciated intervals and vein stocks with moderate to strong oxidation.

The mineralized structures and breccias consist of hematite, limonite, goethite, quartz, jarosite, and pyrolusite. A total of 170 rock samples were taken in the area. Chip sampling includes 114 samples with grades up to 589 g/t Ag. Grab / selected sampling includes 56 samples with grades up to 983 g/t.

Figure 9.6 El Fuerte prospect main structure

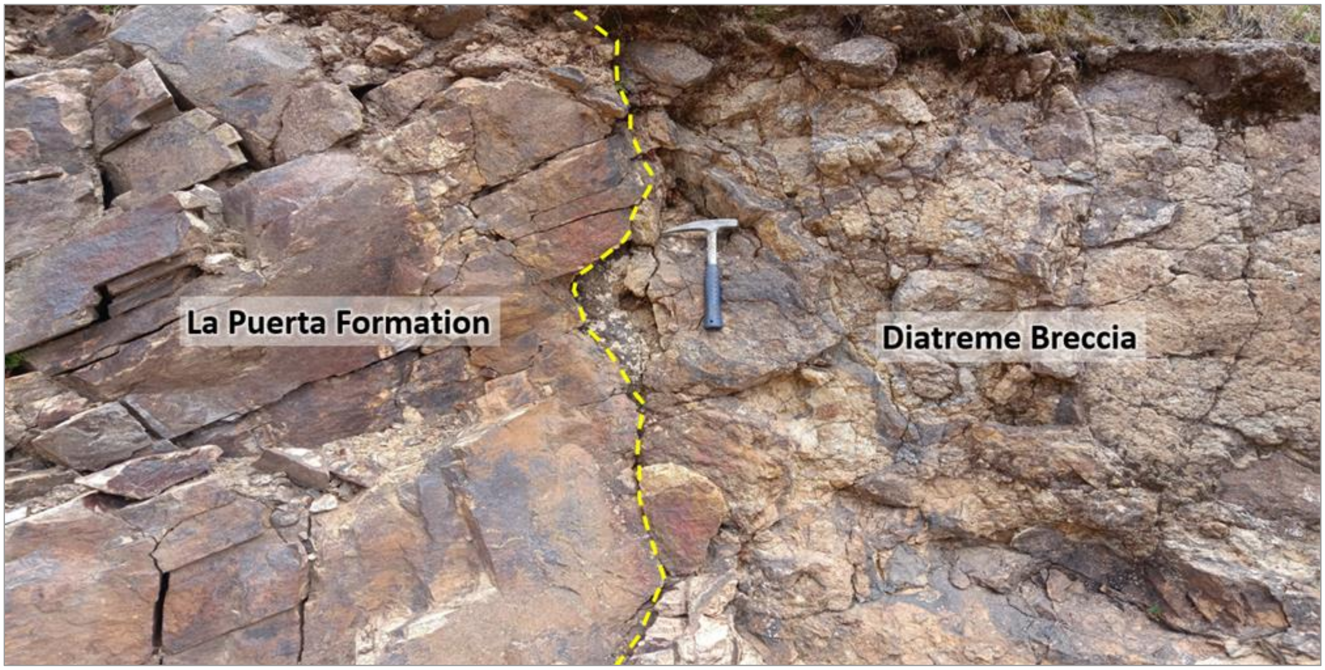
Notes: Picture looking to NE. Showing brecciated structure of 1.35 m wide (320°/85°SW).
Source: New Pacific Metals Corp., 2022.

Aullagas: This prospect is located west of the Silver Sand deposit, covering an area of 0.54 km^2. The host rock is also the Cretaceous La Puerta Formation with clear signs of alteration seen as bleaching.

The prospect contains two diatreme breccias with a northeast-southwest orientation. Both breccia bodies are subvertical or dipping south at high angles. The northern one has a reddish fine-grained matrix with polymictic subrounded clast from 0.5 to 10 cm. The southern breccia is in the center of the prospect. It has polymictic subrounded to angular clast from 0.2 to 15 cm and some up to size blocks of Anzaldo formation. The limonite and hematite content of the breccia is high.

The diatreme breccia bodies present a mineralogical association established by the presence of pyrite-limonite-hematite. Grab and channel sampling results have silver grades from 20 to 293 Ag g/t.

Figure 9.7 Aullagas prospect outcrop



Notes: Looking to West. Showing contact between Cretaceous La Puerta Formation and diatreme breccia.
Source: New Pacific Metals Corp., 2022.

El Bronce: This prospect is located NW of the Silver Sand deposit, covering an area of 0.5 km^2. The area has outcrops with porphyritic rhyolitic-dacitic intrusive rocks, and hosts several mineralized zones scattered with widespread historical mine workings and dumps. The mining probably dates back to colonial times. Silver minerals (acanthite-freibergite), zinc (sphalerite), copper (malachite) and some tin minerals were observed.

Detailed geological mapping indicates the intrusive host rock is pervasively flooded by moderate to intense alteration. This reflects the passage of silver-rich hydrothermal fluids (phylic alteration (sericite) with local argillic (kaolinite) and propylitic (chlorite-epidote) zones). Surface mapping has also identified good to moderate micro-veining and stockwork development between the principal historically exploited structures thereby forming an attractive bulk tonnage target.

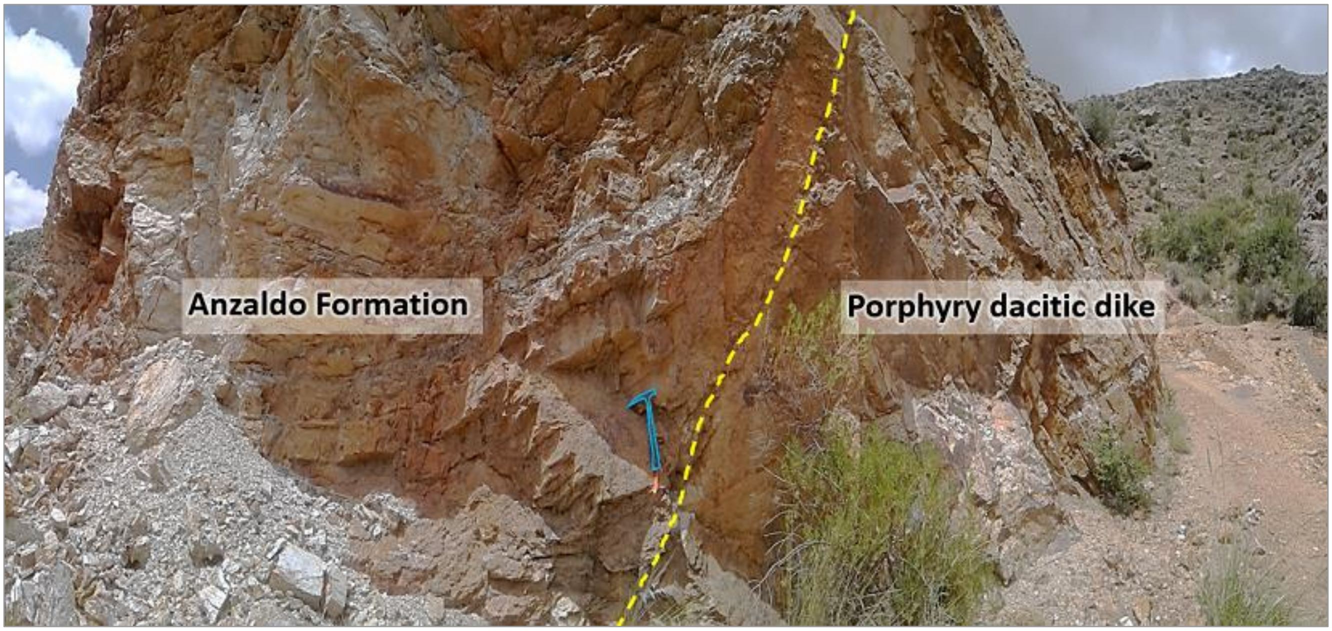
Figure 9.8 El Bronce prospect

Notes: Mine dump sampling at El Bronce, looking south.
Source: New Pacific Metals Corp., 2022.

Jisas: The prospect is located north of the Silver Sand deposit, covering an area of 1.25 km^2. The host rock is whitish bleached Cretaceous La Puerta Formation sandstone bounded to the east by a regional low angle thrust overlain by strongly folded and faulted Paleozoic clastic sediments of the Anzaldo Formation. The thrust is striking NW, dipping east at a dip of around 30 degrees. Locally, dacitic intrusions are emplaced along the thrust and intrude both Cretaceous sandstone and Paleozoic sediments.

Three sets of mineralized fractures were identified from surface outcrops and underground workings. The major set is striking roughly NW direction and dips west at high angles. The other two minor sets strike NW and NE respectively. The mineralized structures are oxidized to various extent near surface, with mineralization characterized by quartz, cassiterite, pyrrhotite, pyrite, siderite, and barite freibergite, andorite, bournonite, blende, chalcopyrite, argentite, and malachite.

Figure 9.9 Jisas prospect outcrop photo



Notes: Contact between the Anzaldo formation and porphyry dacitic dike. The contact yellow line with direction N65°W/75°NE.
Source: New Pacific Metals Corp., 2022.

10 Drilling

10.1 Drilling overview

This section describes diamond drill programs completed by New Pacific at the Property between October 2017 to July 2022. Drilling completed by previous operators is discussed in Section 6.

In total, New Pacific has completed 564 diamond core drillholes for a total of 139,920 m. Drilling programs were completed in four drill campaigns (Phases). The initial Phase consisted of drilling of the main Silver Sand target area between October 2017 and December 2018. This program was designed to test areas with anomalous surface and underground rock chip results and resulted in the discovery of the main Silver Sand deposit. Ongoing drilling resulted in a nominal 50 x 50 m spaced drill grid over an area of 1,600 m x 800 m at Silver Sand.

The second Phase of drilling was completed between April 2019 and December 2019 comprised infill drilling of key portions of the Silver Sand deposit to a nominal 25 x 25 m grid, as well as exploration drilling at the Snake Hole prospect, discussed in Section 10.5.2. In 2020 and 2021 the scheduled drilling programs were interrupted by country wide pandemic lockdown and this Phase spans both years. In 2022 the drilling continued at the Silver Sand deposit and commenced in the North Block prospects (El Bronce and Jisas).

Drill statistics by year are presented in Table 10.1.

Table 10.1 New Pacific drilling by year

Year	Phase	Silver Sand		Snake Hole		North prospects		Total	
		Holes	Metres	Holes	Metres	Holes	Metres	Holes	Metres
2017	Phase 1 drilling	18	5,020	-	-	-	-	18	5,020
2018		177	49,991	-	-	-	-	177	49,991
2019	Phase 2 drilling	182	39,917	24	5,957	-	-	206	45,874
2020	Phase 3 drilling	5	899	8	1,590			13	2,489
2021	Phase 3 drilling	54	12,814	-	-	-	-	54	12,814
2022	Phase 4 drilling	87	19,433	-	-	9	4,298	96	23,731
Total		**523**	**128,074**	**32**	**7,547**	**9**	**4,298**	**564**	**139,920**

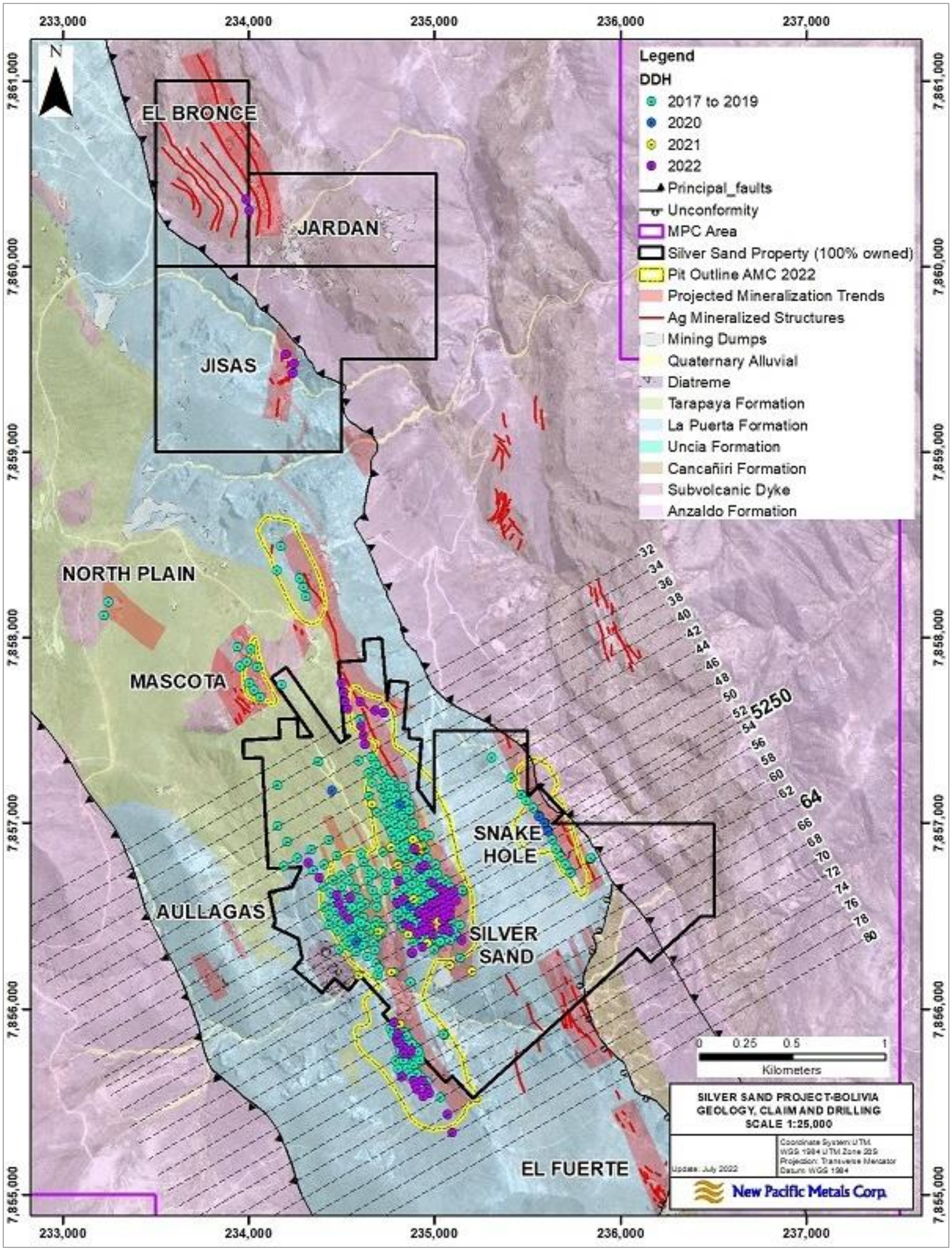
Notes:
- Table predominantly refers to drilling inside the 100% owned New Pacific mineral tenure as shown in Figure 10.1.
- Numbers may not compute exactly due to rounding.

Source: AMC Mining Consultants (Canada) Ltd., 2020, based on data provided by New Pacific Metals Corp.

A local drill grid has been developed across the Property, comprising 100 m spaced drill sections orientated 060°-240° and numbered from 32 in the north-west, to 80 in the south-east shown in Figure 10.1. Drillhole IDs comprise a prefix which reflects the drillhole section, followed by a drillhole number. Drillholes have been drilled up to 545 m deep at inclinations between -45° and -80° towards azimuths of 060° (~NE) and 240° (~SW) to intercept the principal trend of mineralized vein structures perpendicularly.

Figure 10.1 shows the location of New Pacific drillholes completed at the Silver Sand Property.

Figure 10.1 Location map of drillholes in Silver Sand area



Source: New Pacific Metals Corp., 2022.

10.2 Drilling procedures

Diamond drill programs completed at the Property were designed and managed by New Pacific personnel. Drilling was completed by contract drilling companies Maldonado Exploraciones and Leduc Drilling SRL both out of La Paz, Bolivia.

Drillhole collars are located by New Pacific geologists using a Real-Time Kinematic differential global positioning system (GPS) and marked with a wooden stake. The site is then cleared, and sumps constructed to manage drill water and cuttings. The drill is then positioned by the drilling contractor and the drill alignment (inclination and azimuth) is confirmed by New Pacific geologists. The coordinate system used is WGS 84 UTM Zone 20S.2. Drilling operations are carried out as two separate shifts, 24 hours per day, seven days per week.

Core drilling is completed using conventional HQ (64 mm diameter) equipment and 3 m drill rods. The core is placed in plastic core boxes by the drilling contractor. Core blocks are placed at the end of each drill run with the driller marking the core recovery and drillhole depth by the drilling contractor. Each core box is marked with the drillhole ID and the corresponding from and to depths.

At the completion of each drillhole, PVC casing is placed by the drilling contractor in the drillhole. New Pacific personnel subsequently construct a concrete monument and mark the collar with the drillhole ID, depth, dip, azimuth. Such a monument and Leduc Rig #2-hole drilling DSS565013a, are shown in Figure 10.2.

Figure 10.2 Silver Sand drilling

Source: New Pacific Metals Corp., 2022.

10.2.1 Drillhole deviation surveys

Drillhole deviation surveys are completed by the drilling contractor using a REFLEX EZ-SHOT and SPT GyroMaster downhole survey tools. Drillholes are surveyed at a depth of approximately 20 m, and on approximately 30 m intervals as drilling progresses. A second confirmation survey is carried out once the hole is complete. This is done on 30 m intervals as the drill rods are pulled out of the hole (multi-shot).

10.2.2 Core processing and logging

New Pacific's drill site supervising geologists visit each drill at least once daily to monitor drillhole progress. Core boxes are sorted and placed in order to enable core blocks and depths to be checked. Preliminary logging is then completed. This consists of completing a "quick log" of major geological features, marking of natural breaks, and analyzing veins with a portable XRF to determine silver concentrations, markings readings of XRF gun on drill cores and taking core photos on drill site. The drill-site core photos are uploaded to the Company's Dropbox account for the Company's management to review on daily basis so that drill plan can be adjusted instantly based on actual drill progress and mineralization.

Figure 10.3 Jisas North prospect drilling, showing "quicklog" process

Source: New Pacific Metals Corp., 2020.

Prior to transportation, individual segments of core are sequentially numbered, and the core box is photographed as part of the chain of custody. Core containing visible mineralization is also wrapped in paper to minimize core damage during transport. Lids are placed on core boxes prior to transport.

Core boxes are transported by New Pacific personnel to the Company's secure Betanzos core processing facility (Betanzos), daily following preliminary processing at site.

On arrival at Betanzos, the core boxes are checked and recorded in a core handover form that is signed by the receiver. Core boxes are then moved to the logging shack where detailed logging, processing, and sampling are completed. From 2017 to 2020 logging data was collected on paper templates which were later transferred to an Excel file before being exported to an Access database. Since September 2020, as part of data management improvements the data entry and database compilation has been migrated to MX Deposit software, a Sequent product.

In general, New Pacific's core logging process carried out at Betanzos comprises the following:

- Core is cleaned and drill core segments are pieced together.
- The length of core for each drill run is measured and recovery is calculated.
- Drillhole depths are marked on the core.
- Rock quality designation (RQD) is measured and basic geotechnical features are noted (fracture frequency).
- Geological logging is completed entering the data into MX Deposit software in computer tablets. The geological data collected includes oxidation style and intensity, lithology, alteration, structure, and mineralization information using codes established by New Pacific.
- Once the logging is complete, a geologist determines the core to be sampled based on alteration and mineralization, marks sample intervals and determines what QA/QC samples to be included.
- Samples for bulk density determinations are collected approximately every 20 m or every main alteration-mineralization interval. The samples are measured at a dedicated measuring station using water immersion and the Archimedes principle.
- Prior to core cutting, photographs of wet core are taken using a high-definition camera for the entire hole.
- After photography a cutting line is marked on the core based on the observed mineralization and structures.
- Core is cut in half using a diamond core saw and sampling is completed.
- Core boxes are then stored at Betanzos.
- Samples are dispatched to the laboratory on a weekly basis.

Sampling, shipment, and security protocols are described in Section 11 of this report.

10.3 Sample recovery

Core recovery from New Pacific drill programs varies between 0% (voids and overburden) and 100%, averaging 96.85%. More than 94.55% of core intervals have a core recovery equal or greater than 95%.

10.4 Drilling programs

10.4.1 Exploration drilling – 2017 - 2018

The 2017 – 2018 phase one drill program was designed to test the depth and continuity of mineralization delineated by surface mapping and sampling in the Silver Sand area. Positive drill results led to ongoing drilling and the definition of numerous north-northwest striking and moderate to steeply west dipping zones of silver mineralization. The completed program was at a nominal drill spacing of 50 x 50 m and over a 1,600 x 800 m area. Ninety seven percent of drillholes (190 out of 195) encountered silver mineralization.

10.4.2 Definition and exploration drilling - 2019

A phase two drill program commenced in April 2019. This program was designed to infill existing drilling within the Silver Sand deposit, and to assess the potential strike extensions of major mineralized zones beneath the Tarapaya Formation north of Section 44. The phase two 2019 drill program comprised the drilling of 182 drillholes for a total of 39,917 m. Drillholes ranged from 86 to 365 m in depth, averaging 225 m.

The assay results confirmed the continuity of mineralization delineated in previous drilling campaigns and were used in the initial Mineral Resource estimation in early 2020 and as reported in the 2020 Technical Report.

10.4.3 Definition, exploration, and metallurgical drilling - 2020

A phase three drill program was carried out from February to March 2020, prior to interruption. The program included collecting samples for metallurgy testwork, infill the existing drilling grid within the Silver Sand deposit, assess the potential strike extensions of major mineralized zones beneath the Tarapaya Formation and to test the mineralized zone at Snake Hole. Due to the pandemic lockdown, the drilling programs were paused from April 2020 to July 2021. A total of 13 drillholes for 2,489 m were completed in the attenuated program with hole lengths ranging from 100 m to 292.8 m and averaging 191 m.

10.4.3.1 Definition and geotechnical drilling - 2021

The phase three drill program was continued in July 2021 and completed in September 2021. 54 drillholes for a total of 12,814 were completed during this stage. Drillholes ranged from 2.1 (abandoned) to 715.95 m in depth, averaging 237 m.

10.4.4 Definition, exploration North prospects, and geotechnical drilling - 2022

The phase four drill program was completed from January 2022 to July 2022. The programs were designed to infill the high-grade core area of mineralization at the Silver Sand deposit, step-out test the known mineralization zones, and drill for the geotechnical study of the initially proposed pit wall. A further facet of the program was to explore and test the North Block prospects of EL Bronce and Jisas. A total of 96 drillholes for a total of 23,731 m were completed in this period. Drillholes ranged from 54.85 to 721.5 m in depth, averaging 247 m.

10.5 Discussion of drilling results

10.5.1 Silver Sand

Drill programs completed between October 2017 and July 2022 have defined silver mineralization at the Silver Sand deposit over a strike length of 2.5 km, and a width of 650 m and to a depth of more than 250 m below surface.

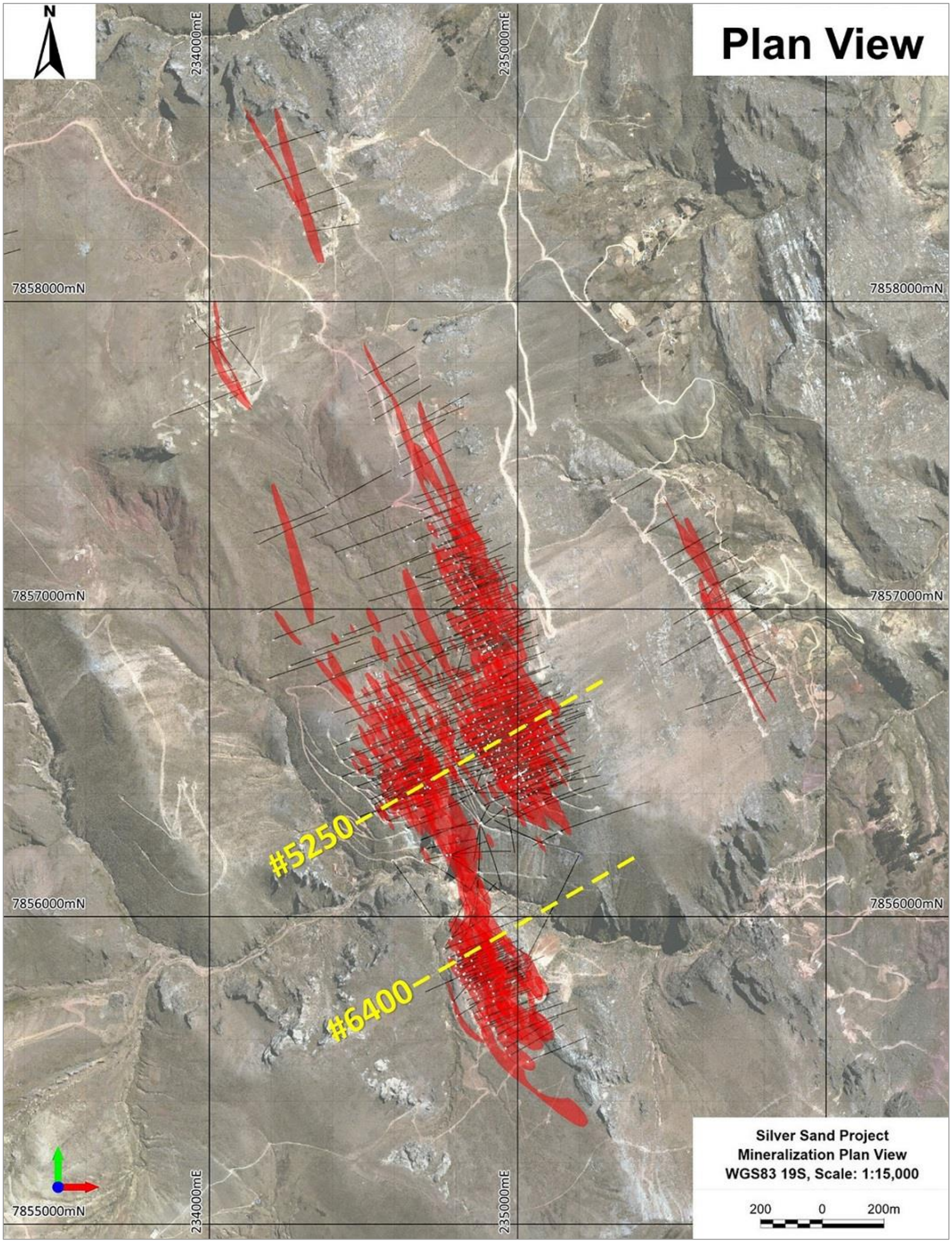
Silver mineralization occurs predominantly associated with dissemination, brecciated intervals, fractures, veinlets, and veins within the bleached and altered La Puerta sandstone. Within the core of the system, where vein density is greatest, mineralized zones are relatively continuous along strike and to depth, reaching thicknesses of up to 300 m. The core portion of the system shows good continuity. Mineralization outside of the core occurs as discontinuous pods and lenses often only multiple meters thick.

North of Section 60 mineralized zones generally dip west to the west at high angles. Drilling in this area typically intersects up to 50 m of red Cretaceous Tarapaya Formation before intersecting massive, white, altered and mineralized La Puerta sandstone. The contact between the Tarapaya and La Puerta Formation commonly contains massive pyrite which is up to 2 m thick. Historical mining activity does not appear to be widespread in this area.

South of Section 60, massive, altered, and fractured La Puerta sandstone is exposed at surface. Zones of silver mineralization typically dip to the west at high angles, and historical mining activity appears to be extensive.

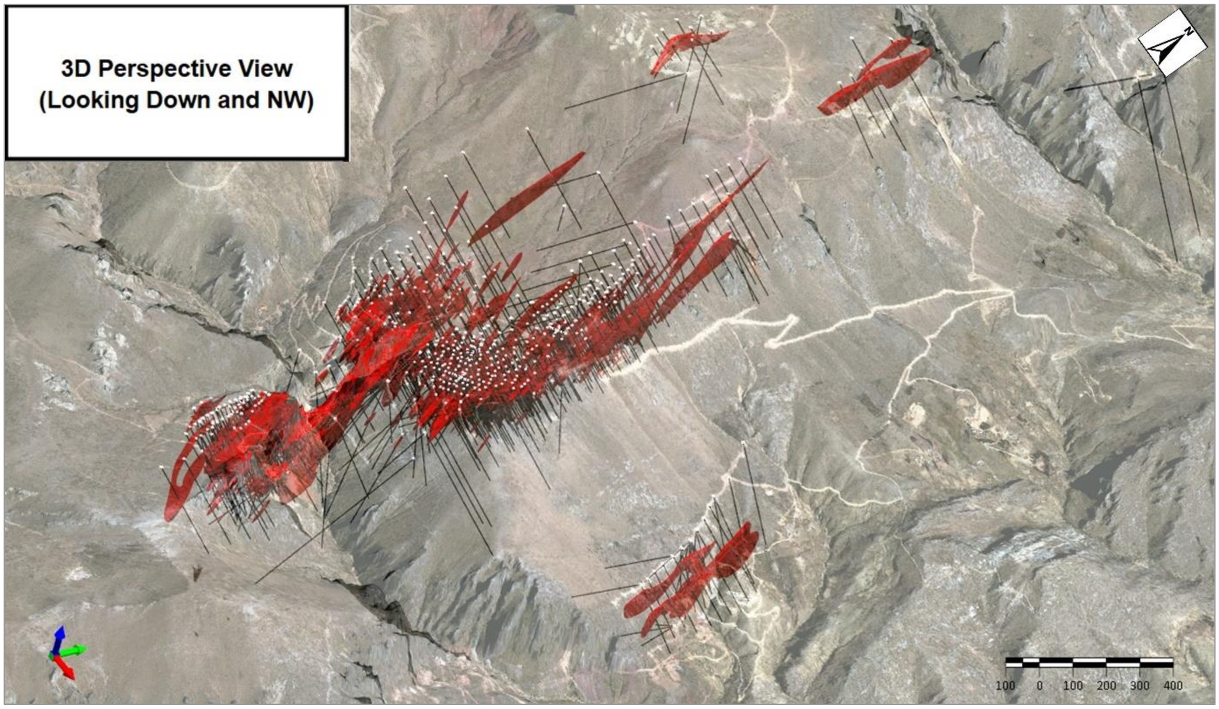
Figure 10.4 and Figure 10.5 show a plan view and three-dimensional (3D) perspective of the mineralization on the Property, respectively.

Figure 10.4 Silver Sand mineralization – plan view



Source: New Pacific Metals Corp., 2022.

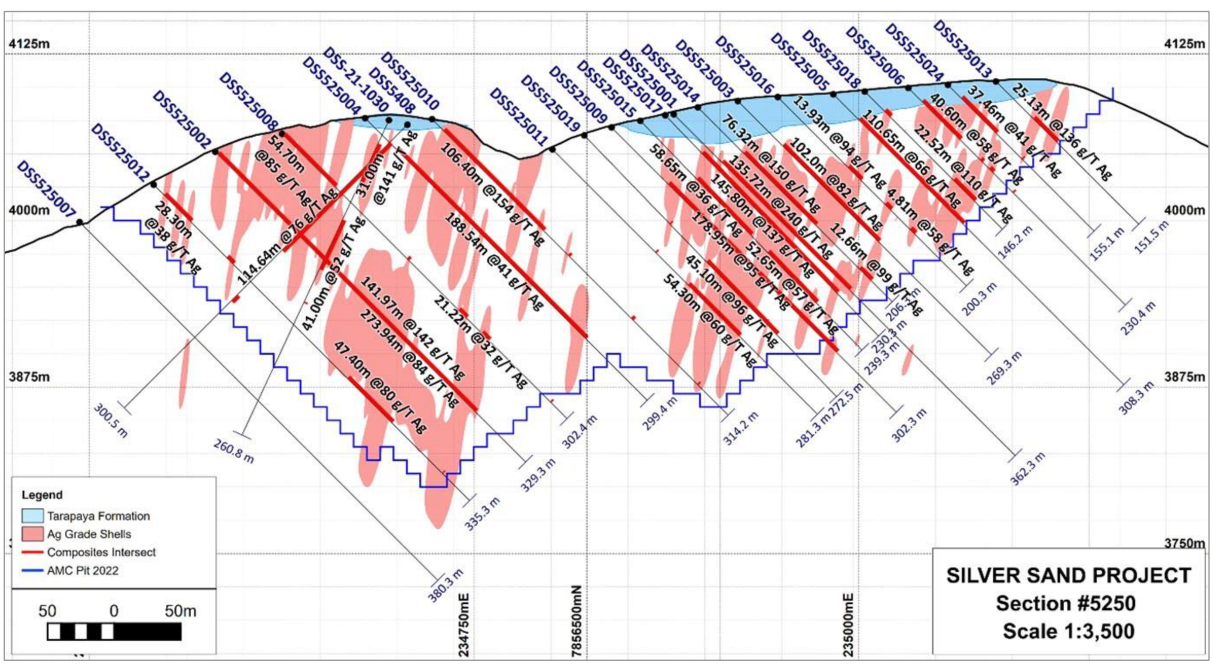
Figure 10.5 Silver Sand mineralization – 3D perspective



Source: New Pacific Metals Corp., 2022.

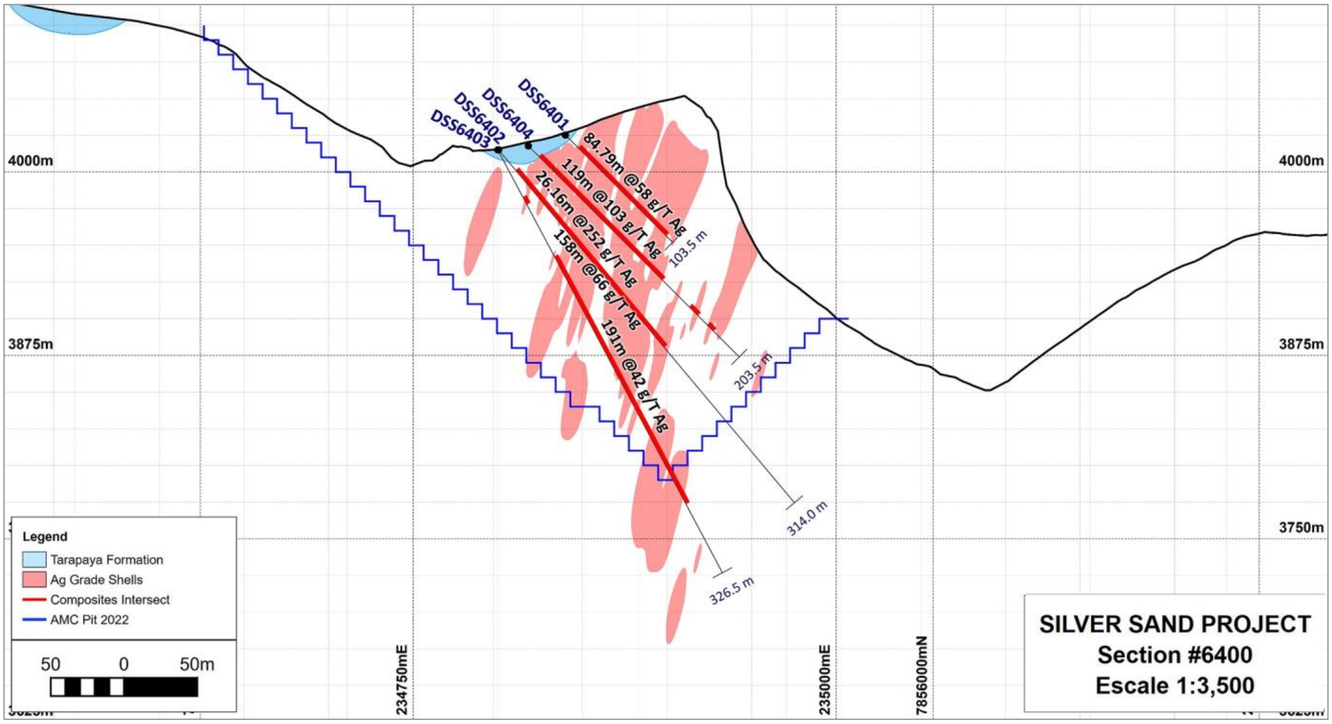
Figure 10.6 and Figure 10.7 present cross section views through the center and south portions of deposit, showing the intersection angles of the zones by the drilling. The grade shells shown are built at a > 20 g/t Ag threshold and the mineralized intersections shown are calculated at a 30 g/t Ag cut-off.

Figure 10.6 Cross Section 5250, Silver Sand center area



Source: New Pacific Metals Corp., 2022.

Figure 10.7 Cross Section 6400, Silver Sand south area



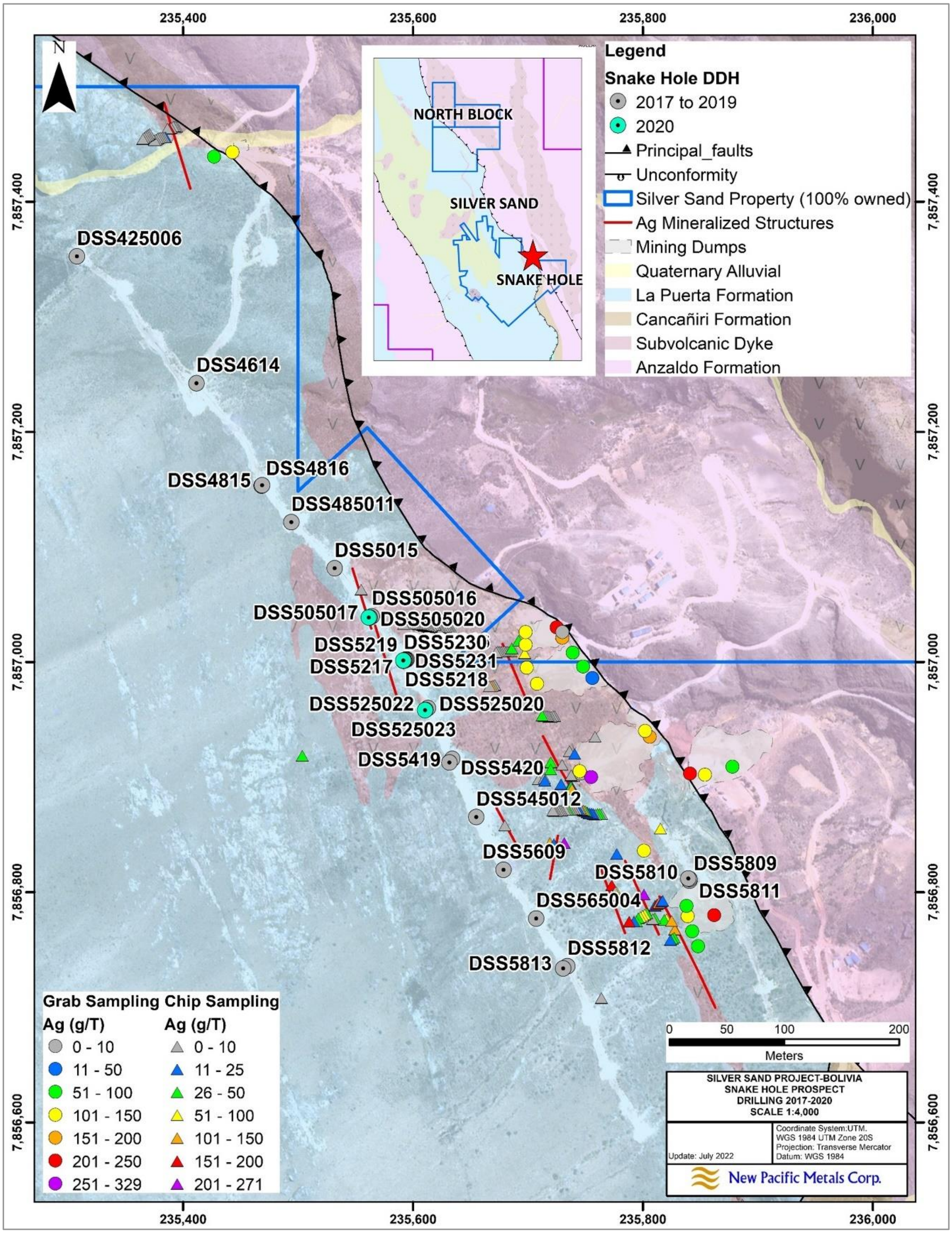
Source: New Pacific Metals Corp., 2022.

10.5.2 Snake Hole

New Pacific's Snake Hole prospect is located approximately 600 m east of the Silver Sand deposit. This prospect comprises a 1 km long NNW-SSE trend comprising extensive historical artisanal mining activities and mine dumps. Historical workings are developed in bleached sandstone and suggest mineralization is between a few metres and up to 100 m wide. Previous sampling of workings and dumps in this Snake Hole area by New Pacific returned numerous assay results between 100 g/t Ag and 300 g/t Ag. Geological mapping also suggested that mineralized structures extend north-west towards the Company's Jisas-El Fuerte prospects.

A total of 32 HQ diamond drillholes totalling 7,547 m were completed to assess sub-surface mineralization within the Snake Hole prospect area between August 2019 to March 2020 Drillholes were completed on a drilling grid at a 50 m spacing along the steeply dipping structure striking NNW-SSE. Each section was drilled with at least one drillhole at an inclination between 40° and 80°. The majority of drillholes were drilled towards an azimuth of 060°, four holes were drilled towards 240° and two drillholes were drilled towards 285° and 195° respectively as part of a drill fan. Drillhole locations are presented in Figure 10.8.

Figure 10.8 Location of drillholes, Snake Hole prospect



Source: New Pacific Metals Corp., 2022.

10.5.3 Drilling of North prospect

The North prospect consists of El Bronce and Jisas, which are located approximately 3.5 km to NNW from the center of Silver Sand deposit. This prospect comprises a 2 km long NNW-SSE trend comprising extensive historical artisanal mining activities and mine dumps. Historical workings are developed in bleached sandstone and strongly altered dacitic intrusive rocks, and suggest mineralization is between a few metres and up to 100 m wide.

A total of nine HQ diamond drillholes totaling 4,297.9 m were completed between May to July 2022. Drillholes were completed on a drilling grid at a 50 m spacing along the East-West section lines at Jisas and along a N20E grid at El Bronce. All holes were drilled at an angle of -45°. The majority of drillholes were drilled on the grids. Only one hole (DSSJS1703) was drilled off grid. Hole DSSJS1702 was abandoned due to downhole issues. Drillhole locations are presented in Figure 10.9. Drillhole collar information is presented in Table 10.2.

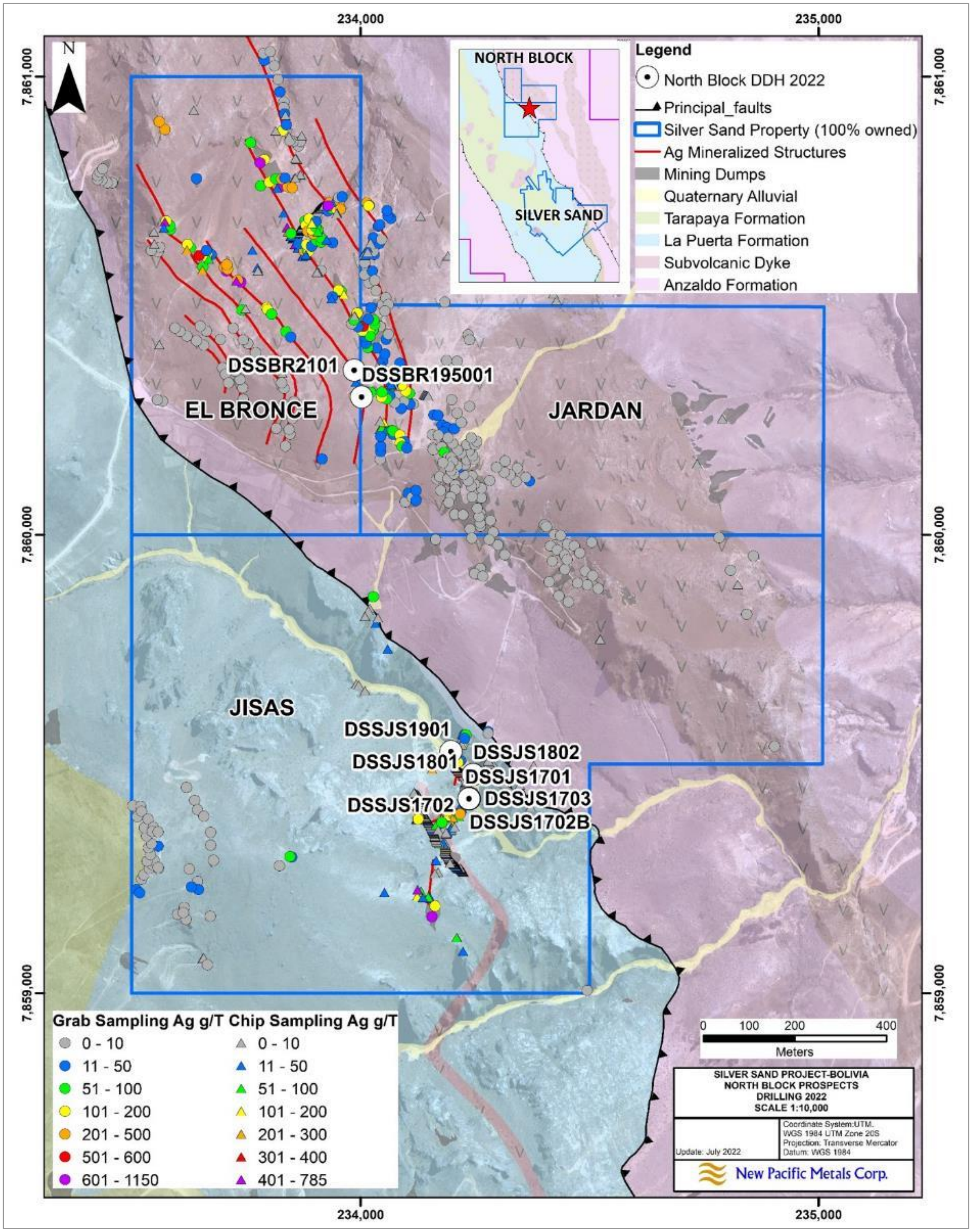
Table 10.2 Summary of North Prospects drillholes

Hole ID	East (m)	North (m)	Elevation (m)	Depth (m)	Azimuth (°)	Dip (°)
DSSJS1901	234,197.57	7,859,527.14	3,869.13	541.5	90	-45
DSSJS1701	234,237.50	7,859,423.20	3,856.11	433.5	270	-45
DSSJS1702	234,238.25	7,859,423.60	3,856.16	223.5	90	-45
DSSJS1702B	234,237.97	7,859,424.53	3,856.19	565.5	90	-45
DSSJS1703	234,236.98	7,859,423.94	3,856.20	505.5	218	-45
DSSBR195001	234,002.18	7,860,300.51	4,102.29	301.9	60	-45
DSSJS1801	234,246.02	7,859,476.75	3,862.35	496.5	90	-45
DSSBR2101	233,986.24	7,860,359.37	4,079.55	721.5	60	-47
DSSJS1802	234,245.60	7,859,476.84	3,862.27	508.5	270	-45

Note: Coordinate system: WGS 84, UTM20 S.
Source: AMC Mining Consultants (Canada) Ltd., based on information provided by New Pacific Minerals Corp.

Drill results of North Block are pending as of the effective date of this report.

Figure 10.9 Drillholes of North Block



Source: New Pacific Metals Corp., 2022.

10.6 Review of drilling results

To the end of July of 2022, a total of 139,920 m in 564 drillholes have been completed on the Property. Most holes intersected silver mineralization hosted in altered sandstones and dacitic intrusions. Drill results confirmed the extent and continuity of mineralization at the Silver Sand deposit which remains open on strike and at depth.

Up to July 2022, assay results for 544 of 564 drillholes have been received. Highlights of drillhole intersections are presented in Table 10.3. The grades are length-weighted average, based on intersected widths and composited at a nominal 20 g/t Ag cut-off. As to a large degree the intersections are not far off normal to the trend of the mineralization the intersected and true widths are similar. This is demonstrated in Figure 10.6 and Figure 10.7.

Table 10.3 Drill intercepts for the Silver Sand deposit

Hole_ID		From (m)	To (m)	Interval (m)	Ag (g/t)	Pb (%)	Zn (%)
DSS4402		69.85	214.7	144.85	86	0.03	0.05
	Incl.	129.50	178.0	48.50	211	0.03	0.03
DSS4609		63.38	147.3	83.92	116	0.07	0.10
	Incl.	84.30	94.70	10.40	398	0.28	0.04
	Incl.	138.40	147.30	8.90	414	0.15	0.02
DSS505003		59.85	285.67	225.82	116	0.05	0.01
	Incl.	185.76	285.67	99.91	244	0.09	0.01
DSS505004		73.50	168.70	95.20	162	0.06	0.13
	Incl.	117.70	134.40	16.70	703	0.10	0.00
	Incl.	161.40	168.70	7.30	291	0.09	0.00
DSS5604		39.92	119.40	79.48	135	0.06	0.01
	Incl.	39.92	62.65	22.73	330	0.05	0.01
		220.66	226.60	5.94	96	0.03	0.00
DSS525009		59.90	238.89	178.99	96	0.03	0.02
	Incl.	126.49	144.52	18.03	362	0.03	0.00
DSS525010		12.00	118.40	106.40	154	0.04	0.03
	Incl.	12.00	50.75	38.75	165	0.04	0.04
	Incl.	92.43	96.46	4.03	2,366	0.42	0.00
DSS5407		64.07	140.10	76.03	205	0.09	0.01
	Incl.	64.07	124.96	60.89	251	0.10	0.01
DSS645001		27.46	113.00	85.54	119	0.06	0.01
	Incl.	27.46	53.50	26.04	189	0.05	0.00
	Incl.	81.84	113.00	31.16	156	0.09	0.02
DSS6603A		7.90	73.15	65.25	181	0.08	0.10
	Incl.	7.90	39.90	32.00	304	0.08	0.15
DSS665001		44.23	134.00	89.77	115	0.12	0.31
	Incl.	44.23	48.68	4.45	394	0.06	0.01
	Incl.	58.00	95.15	37.15	149	0.17	0.34
DSS642501		23.15	137.38	114.23	117	0.06	0.02
	Incl.	23.15	31.43	8.28	265	0.01	0.00
	Incl.	46.20	53.09	6.89	313	0.13	0.01
	Incl.	103.83	107	3.17	1,105	0.21	0.06

Hole_ID		From (m)	To (m)	Interval (m)	Ag (g/t)	Pb (%)	Zn (%)
DSS422501		41.70	146.20	104.50	183	0.05	0.11
	Incl.	80.25	146.20	65.95	282	0.05	0.00
DSS507502		82.10	165.52	83.42	116	0.03	0.04
	Incl.	82.10	108.65	26.55	242	0.06	0.05
	Incl.	145.38	165.52	20.14	155	0.02	0.00
DSS507503		98.50	155.86	57.36	354	0.11	0.02
	Incl.	98.50	116.94	18.44	403	0.16	0.01
	Incl.	142.70	146.30	3.60	3,378	0.72	0.05
DSS522503		62.95	244.22	181.27	100	0.04	0.01
	Incl.	128.05	222.23	94.18	177	0.06	0.01
	Incl.	205.55	222.23	16.68	754	0.20	0.01
DSS5213		61.90	241.80	179.90	88	0.09	0.02
	Incl.	114.90	132.00	17.10	265	0.59	0.01
	Incl.	173.98	187.15	13.17	339	0.04	0.00
DSS5214		51.60	161.35	109.75	96	0.07	0.03
	Incl.	54.35	68.50	14.15	250	0.06	0.01
	Incl.	87.30	103.80	16.50	228	0.11	0.02
DSS522506		73.80	239.30	165.50	204	0.06	0.01
	Incl.	73.80	167.30	93.50	336	0.10	0.00
	Incl.	116.30	161.30	45.00	641	0.19	0.01
DSS422503		65.86	209.30	143.44	110	0.04	0.03
	Incl.	173.30	183.47	10.17	860	0.18	0.00
DSS522510		5.30	53.39	48.09	176	0.02	0.00
		213.5	216.07	2.57	748	0.35	0.00
DSS565006		19.91	84.37	64.46	250	0.09	0.01
	Incl.	40.00	60.70	20.70	613	0.16	0.01
DSS645005		27.10	235.17	208.07	73	0.11	0.28
	Incl.	86.57	90.28	3.71	513	0.33	0.46
	Incl.	180.74	205.00	24.26	270	0.13	0.07
DSS407502		90.12	158.00	67.88	218	0.04	0.00
	Incl.	137.00	149.34	12.34	496	0.11	0.00
DSS522513		40.32	149.3	108.98	228	0.13	0.01
	Incl.	43.84	98.30	54.46	414	0.20	0.01
DSS525021		4.90	284.15	279.25	91	0.09	0.00
	Incl.	217.55	232.95	15.40	657	0.24	0.00
DSS527505		40.10	118.30	78.20	245	0.17	0.16
	Incl.	43.30	71.74	28.44	335	0.20	0.07
	Incl.	83.10	96.30	13.20	541	0.19	0.47
DSS644001		23.00	156.63	133.63	91	0.05	0.04
	Incl.	56.92	65.75	8.83	296	0.11	0.00
	Incl.	90.00	112.56	22.56	246	0.06	0.02
DSS325001		147.66	155.30	7.64	448	0.09	0.00
		163.00	182.76	19.76	150	0.06	0.10
DSS702501		84.90	139.09	54.19	132	0.38	0.54
		178.80	184.00	5.20	46	0.04	0.00

Hole_ID		From (m)	To (m)	Interval (m)	Ag (g/t)	Pb (%)	Zn (%)
DSS685002		11.66	42.96	31.30	171	0.02	0.00
	Incl.	26.75	41.46	14.71	298	0.03	0.00
		120.2	148.53	28.33	48	0.09	0.02
DSS7002		25.28	40.54	15.26	285	0.02	0.00
		131.59	144.7	13.11	62	0.11	0.14
		180.47	183.15	2.68	215	0.19	0.14
DSS487505		32.45	51.93	19.48	337	0.00	0.00
	Incl.	38.53	47.16	8.63	715	0.00	0.00
		91.83	103.88	12.05	160	0.03	0.00
		162.96	180.87	17.91	78	0.48	0.01
DSS582501		30.57	75.34	44.77	214	0.10	0.00
		151.46	176.50	25.04	143	0.07	0.11
	Incl.	151.46	154.00	2.54	823	0.07	0.00
	Incl.	169.00	171.12	2.12	536	0.31	0.17
DSS5218		60.50	132.94	72.44	279	0.06	0.04
	Incl.	84.95	117.91	32.96	517	0.10	0.06

Source: AMC Mining Consultants (Canada) Ltd., based on information provided by New Pacific Minerals Corp.

10.7 Drilling conclusions

At this time there are no known drilling, sampling, or recovery factors that could impact the accuracy and reliability of the results. Due to fine-grained mineralization occurring on fractures, there is the possibility of loss of mineralization during the drilling, transportation, and core handling processes, which may lead to underestimation of the grade.

11 Sample preparation, analyses, and security

This section describes the sampling methods, analytical techniques and assay QA/QC protocols employed at the Silver Sand Property between October 2017 and July 2022, with a focus on the 2020 – July 2022 period. All exploration programs were managed by New Pacific, and all work was carried out in accordance with New Pacific's internal procedures.

11.1 Sampling methods

11.1.1 Rock chip sampling

Rock chip samples were collected by New Pacific personnel from surface outcrop and existing underground workings. In both cases, continuous samples were collected from sample lines across mineralization using a hammer and chisel. Surface outcrop sample lines were orientated approximately perpendicular to the strike of mineralization and samples were collected at 1.5 m intervals. Underground samples were collected at 1.0 m intervals from the walls of accessible tunnels that cross-cut mineralization.

In both instances, samples were collected in plastic bags. Sample information was recorded in a sample tag book pre-numbered with a unique sample identifier and multiple tear-off tags. One sample tag is included in the plastic bag with the sample, before the bag is sealed. The sample number is also written on each bag with a permanent indelible marker.

11.1.2 Grab sampling

Grab samples were collected by New Pacific personnel from waste rock dumps generated by historical mining operations. Samples were collected randomly from the waste dumps. The number of samples collected was dependent on the size of the dump.

11.1.3 Drillhole sampling

All drilling completed at the Property between September 2021 and July 2022 was completed by contract diamond drillers using HQ (64 mm) sized equipment. Drilling, logging, and core processing procedures are described in detail in Section 10 of this report. This process is in line with the procedures which were implemented for the earlier programs which were described in the 2020 Technical Report.

Core sampling was completed by New Pacific personnel at Betanzos as part of the core processing workflow. After samples are logged, sample intervals are identified by the geologists based on visual parameters. Individual sample intervals are physically marked out on the core using an indelible marker or crayon at intervals between 1.0 and 1.5 m lengths and respecting geological, structural and alteration contacts and poor sample recovery (voids, sample loss) as appropriate. Sampling intervals typically extend above and below the visually mineralized zone by 2 m. Core intervals with no recovery due to core loss or intersection of historical mine workings are identified and recorded.

During this sampling process the geologist records the hole ID and relevant from and to interval of the sample in a sample tag book pre-numbered with a unique sample identifier and two tear-off tags. A cut line is also marked along the core axis with a marker of crayon by geologists at this time.

After the core has been photographed, core to be sampled is cut in half along the cut line using a diamond saw. Half of the core is then collected consistently from one side of the cutting line and placed into sample bags pre-labelled with a corresponding unique sample number. Samples intervals are cross checked with the sample tag book and the prelabelled sample bag. The outer portion of the tear off sample tag is affixed to the core box at the start of the sample interval and the inner tear-off tag is placed into the sample bag.

Once sampling is complete the geologist checks the samples and seals the plastic sample bags with staples and tape. QA/QC samples are inserted into the sample sequence and sample bags are then placed into large poly-weave sample bags for transportation to the laboratory. Individual sample batches comprise up to 100 samples.

Figure 11.1 New Pacific Betanoz core logging and sampling facility

Notes: Left: core logging area, Right: diamond core saws.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

11.2 Sample shipment and security

New Pacific manages all aspects of sampling from the collection of samples to sample delivery to the laboratory. All samples are stored and processed at Betanzos. This facility is surrounded by a brick wall, has a locked gate, and is monitored by video surveillance and security guard 24 hours a day, seven days a week. Within the facility, there are separate and locked areas for core logging, sampling, and storage.

Drilling samples are collected from the drill site at the Property at least every 24 hours as part of routine site inspections and drill management completed by site geologists. Geological “quick logs”, portable XRF analyses and photographs of each core box are completed during the site inspection and before core boxes are transported.

Samples are transported from the Betanzos facility to the laboratory in Oruro, Bolivia for sample preparation. This is done on a weekly basis by New Pacific personnel. Sample shipments typically comprise up to 800 samples.

Figure 11.2 New Pacific Betanoz core processing facility

Notes: Left: core processing facility security, Right: core storage.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

11.3 Sample preparation and analysis

All drill core, chip and grab samples collected by New Pacific between September 2021 and July 2022 were dispatched to ALS laboratories (ALS) in Oruro, Bolivia for sample preparation, and then to ALS in Lima, Peru for geochemical analysis. ALS Oruro and ALS Lima are part of ALS Global – an independent commercial laboratory specializing in analytical geochemistry services. Both labs are certified in accordance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IES) "General requirements for the competence of testing and calibration laboratories" (ISO/IES 17025:2017).

All samples are prepared in accordance with ALS preparation code PREP-31 which involves crushing samples to 70% less than 2 mm, riffle splitting off 250 g and then pulverizing the split sample to better than 85% passing a 75 µm (micron) sieve.

All pulp samples were then transferred to ALS Lima for sample analysis. A summary of analytical methods used is presented in Table 11.2.

Sample analysis completed in 2017 and 2018 comprised an aqua regia digest followed by Inductively Coupled Plasma (ICP) Atomic Emission Spectroscopy (AES) analysis of Ag, Pb, and Zn (ALS code OG46). Samples returning assay results greater than 1,500 g/t Ag (over-limit samples) were analyzed by fire assay and gravimetric finish (ALS code Ag-GRA21). New Pacific subsequently requested all pulp samples with Ag values greater than 5 ppm be analyzed using an ICP-AES 35 element analysis (ALS code ME-ICP41). This approach was taken primarily to understand the impact of potential credit elements gallium and indium.

New Pacific changed its analysis protocol in 2019 to include systematic multielement analysis. All samples were sent for an initial 51 element ICP mass spectroscopy (MS) analysis (ALS code ME-MS41). Over-limit samples (>100 ppm Ag, or >10,000 ppm Pb or >10,000 ppm Zn) were then analyzed by ALS code OG46. For the third pass, for over-limit Samples with Ag results which exceeded the upper limit of detection of the OG46 analysis (>1,500 ppm) were then subsequently analyzed by fire assay and gravimetric analysis (Ag-GRA21).

Table 11.1 New Pacific sample analysis

Drill campaign	ALS analysis code*	Elements	Detection range	Description	Protocol notes
2017 – 2018	Ag-OG46 Pb-OG46 Zn-OG46	Ag Pb Zn	1-1,500 ppm 0.001-20% 0.01-10%	0.4 g sample Aqua-regia digest ICP-AES analysis	Initial analysis Ag samples > 1,500 ppm analyzed by AG-GRA21
	Ag-GRA21	Ag	5-10,000 ppm	30 g sample Fire assay gravimetric analysis	Over limit analysis
	VH-ME-ICP4 (Actlabs)	Ag Pb, Zn 35 other elements	0.2-100 ppm 2-10,000 ppm variable	0.5 g sample Aqua-regia digest ICP-OES analysis	Subsequent analysis completed on pulps with Ag >=5 ppm
2019 2020 - 2022	ME-MS41	Ag Pb Zn 48 other elements	0.01-100 ppm 0.2-10,000 ppm 2-10,000 ppm variable	0.5 g sample Aqua-regia digest ICP-MS analysis	Initial analysis Over limit samples analyzed by OG-46
	Ag-OG46 Pb-OG46 Zn-OG46	Ag Pb Zn	1-1,500 ppm 0.001-20 % 0.01-10 %	0.4 g sample Aqua-regia digest ICP-AES analysis	(Over limit analysis #1) Ag samples > 1,500 ppm analyzed by Ag-GRA21
	Ag-GRA21	Ag	5-10,000 ppm	30 g sample Fire assay, gravimetric analysis	(Over limit analysis #2)

Notes: *Unless otherwise stated.
Overlimit protocols shown for 2019 but were refined for later programs as described in the text below.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

For the 2020 – 2022 analysis protocol, there was a slight variation in how over-limit samples were defined after the ICP mass spectrometry analysis. First pass over-limit samples (Ag > 30 ppm, or > 10,000 ppm Pb or Zn) were analyzed using aqua regia digestion with ICP-AES or AAS finish (ALS Code OG46).

Samples with gold mineralization went to a second pass of analysis by fire assay and AAS finish (ALS Code Au-AA25). If these samples > 100 ppm, they were analysed by fire assay with gravimetric finish (ALS Code Au-GRA21) which has an upper detection limit of 1,000 ppm. Au samples > 1,000 ppm underwent analysis by fire assay with gravimetric finish (ALS Code Au-CON01).

Samples with > 1,500 ppm Ag were analysed by fire assay with gravimetric finish (ALS Code Ag-GAR21) with an upper detection limit of 10,000 ppm. Ag samples > 10,000 ppm underwent analysis by fire assay with gravimetric finish (ALS Code Ag-CON01).

Samples with > 20% Pb, 30% Zn, and 40% Cu underwent analysis by classic titration methods (ALS Code Pb-VOL70, Zn-VOL50, and Cu-VOL61).

11.4 Bulk density

Density measurements are completed by New Pacific personnel as part of routine core processing procedures. Samples are selected in both mineralized and non-mineralized areas at a rate of 1 in every 15 samples. Measurements are completed at a dedicated density weigh station using the Archimedes principle, whereby water displacement is used to approximate volume. Density is calculated by dividing the dry weight by the calculated volume. This method is considered to be appropriate for competent, non-porous core samples. Weigh scale calibration is completed regularly as part of the density sampling program.

The QP recommends New Pacific improve density QA/QC procedures by:

- Incorporating the regular use of a density standard.
- Weigh samples following immersion to ensure that the sample is not absorbing water.
- Sending a portion of samples to a third-party laboratory for a density measurement check.

11.5 Quality Assurance / Quality Control

New Pacific has established QA/QC procedures which cover sample collection and processing at the Silver Sand Property. All drilling programs completed on the property incorporate the insertion of certified reference materials (CRMs), blanks, and duplicates into the sample stream on a batch-by-batch basis. The QP completed a detailed review of QA/QC protocols during a site visit in 2019 and again in May 2022. The following discussion is based on the QP's findings from the site visit and an independent review of drilling and QA/QC databases associated with the 556 drillholes for which assays have been received at the date of closure of the database for the Mineral Resource.

New Pacific monitors Ag, Au, Pb, Zn, and Cu assay values in CRMs, blanks, and duplicates however only the results of silver are discussed in this report as silver constitutes the majority of the value in the Mineral Resource.

A summary of QA/QC samples from the October 2017 – July 2022 program is presented in Table 11.2.

Table 11.2 Silver Sand QA/QC samples by year[1] (October 2017 – July 2022)

Year[2]	Drill Samples	CRMs[3]	Coarse Blanks	Pulp Blanks	Field duplicates (¼ core)	Pulp duplicates	Coarse reject duplicates	Coarse reject umpire duplicates
2017	3,213	172	31	0	16	0	0	173
2018	34,638	1,747	1,684	0	208	0	0	1,615
2019	30,629	1,106	1,159	0	243	0	0	1,063
2020	1,735	359	422	0	0	0	0	0
2021	7,688	433	327	141	309	288	312	0
2022	12,292	678	435	305	496	449	484	0
Total	**90,175**	**4,495**	**4,058**	**446**	**1,272**	**737**	**796**	**2,851**

Notes:
[1] Based on 556 drillholes with assay results.
[2] Drillhole year based on the date of the Ag assay.
[3] CRM statistics excludes CRMs submitted with umpire duplicate samples.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Table 11.3 summarizes the insertion rate of these QA/QC samples. New Pacific's QA/QC submission rate protocols are:

- CRMs: 5%
- Coarse blanks – 3%
- Field duplicates – 2 - 3%
- Coarse reject duplicates – 2 – 3%
- Pulp duplicates – 2 – 3%
- Umpires – 5%

The QP recommends that insertion rates should be approximately 5% for CRMs and blanks and 6% for duplicates (2% each for field, coarse reject, and pulps duplicates) and 5% for umpires.

Table 11.3 Silver Sand QA/QC submission rates[1] (October 2017 – July 2022)

Year[2]	CRMs[3]	Coarse Blanks	Pulp Blanks	Field duplicates (¼ core)	Pulp duplicates	Coarse reject duplicates	Coarse reject umpire duplicates	Total QA/QC
2017	5.4%	1.0%	0.0%	0.5%	0.0%	0.0%	5.4%	12.2%
2018	5.0%	4.9%	0.0%	0.6%	0.0%	0.0%	4.7%	15.2%
2019	3.6%	3.8%	0.0%	0.8%	0.0%	0.0%	3.5%	11.7%
2020	20.7%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	45.0%
2021	5.7%	4.3%	1.8%	4.0%	3.8%	4.1%	0.0%	23.6%
2022	5.5%	3.5%	2.5%	4.0%	3.7%	4.0%	0.0%	23.2%
Overall	**5.0%**	**4.5%**	**0.5%**	**1.4%**	**0.8%**	**0.9%**	**3.2%**	**16.3%**

Notes:
[1] Based on 550 drillholes with assay results.
[2] Drillhole year based on the date of the Ag assay.
[3] CRM statistics excludes CRMs submitted with umpire duplicate samples.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

11.5.1 Certified Reference Materials

11.5.1.1 Description

Four different CRMs were used by New Pacific in the 2017 – July 2022 drill programs, one of which, CDN-ME-1605 was discontinued in 2018. All CRMs were supplied by CDN Resource Laboratories of Langley, British Columbia, Canada and are certified for Ag, Au, Pb, Cu, and Zn analysis by four acid digest and ICP. All CRMs have a relative standard deviation (RSD) of less than 5%.

Details of CRMs used at Silver Sand are presented in Table 11.4.

Table 11.4 Silver Sand CRMs (October 2017 – July 2022)

CRM	Ag (g/t)		Number of CRMs inserted by year					
	Expected value	Certified SD	2017	2018	2019	2020	2021	2022
CDN-ME-1501	34.6	1.15	0	0	370	133	189	231
CDN-ME-1603	86	1.5	0	999	496	144	155	285
CDN-ME-1810	154	4.5	0	0	240	82	89	162
CDN-ME-1605	274	4.5	172	748	0	0	0	0

Notes: All CRM values shown are certified for four-acid digest and ICP analysis, SD=standard deviation.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

CRMs are supplied as both 100 g individual sealed packages and in bulk 1 kg containers. New Pacific personnel package bulk material into 100 g ‘zip-lock’ bags for insertion into the sample stream. Disposable gloves and spoons are used to ensure contamination does not occur during this process.

New Pacific’s internal procedures require that one CRM is inserted for every 20 samples. CRM performance is monitored on a batch-by-batch basis. New Pacific considers CRMs with laboratory assay results outside of three standard deviations as stipulated on the CRM certificate to have failed. Failed samples are investigated by New Pacific and sample batches are re-analyzed as required. For ME-MS41 analysis, New Pacific accepts assay results within 10% plus 2 times the detection limit of the expected value of the CRM, based on internal discussions with ALS. New Pacific has re-assayed two sample batches. Batches that failed but did not contain mineralized material were not re-assayed.

11.5.1.2 Discussion

CRMs contain standard, predetermined concentrations of material (Ag) which are inserted to into the sample stream to check the analytical accuracy of the laboratory. The QP recommends an insertion rate of at least 5% of the total samples assayed. CRMs should be monitored on a batch-by-batch basis and remedial action taken immediately if required. For each economic mineral, the QP recommends the use of at least three CRMs with values:

- At the approximate cut-off grade (COG) of the deposit.
- At the approximate expected grade of the deposit.
- At a higher grade.

A total of 4,495 CRMs was submitted between October 2017 and July 2022 representing an average overall insertion rate of 5.0%. Insertion rates for CRMs have been consistently above 5% on a yearly basis except for 2019.

The average grade of the Silver Sand open pit Mineral Resource is approximately 116 g/t Ag at a 30 g/t Ag COG. The QP considers CDN-ME-1501 (34.6 g/t Ag) to be appropriate to monitor the analytical accuracy at the COG of the deposit. CDN-ME-1603 (86 g/t Ag) and CDN-ME-1810 (154 g/t Ag) monitor analytical accuracy below and above the average grade. CDN-ME-1605 (274 g/t Ag) monitors analytical accuracy at higher grades, however this CRM was not used beyond the 2018 program. The QP notes that there was no CRM used in 2017 or 2018 to monitor laboratory accuracy at the cut-off and average grades. While there is presently no individual CRM monitoring the average grade of the deposit, the QP considers CDN-ME-1603 and CDN-ME-1810 to adequately cover the anticipated grade ranges and provide confidence in analytical results.

The QP typically recommends re-assaying batches where two consecutive CRMs in a batch occur outside two standard deviations (warning), or one CRM occurs outside of three standard deviations (fail) of the expected value described on the assay certificate.

Control charts are commonly used to monitor the analytical performance of an individual CRM over time. CRM assay results are plotted in order of analysis. Control lines are also plotted on the chart for the expected value of the CRM, two standard deviations above and below the expected value, and three standard deviations above and below the expected value. These charts show analytical drift, bias, trends, and irregularities occurring at the laboratory over time. Table 11.5 presents detail on CRM performance for the entire period October 2017 – July 2022.

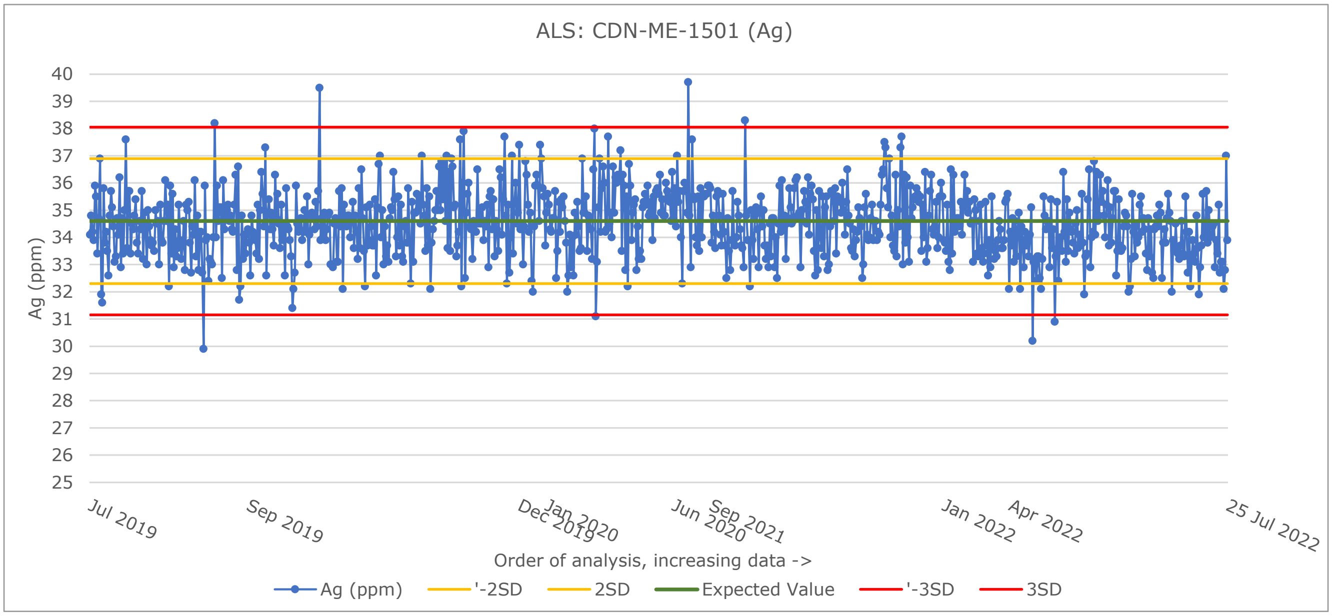
Table 11.5 Silver Sand CRM warnings and fails (October 2017 – July 2022)

CRM ID	Expected value (Ag)	Certified SD	Number of assays	# Low warnings (-2SD)	# High warnings (+2SD)	# Low fail (-3SD)	High fail (+3SD)	Fail % (>3SD)
CDN-ME-1501	34.6 g/t	1.15	923	25	21	4	4	0.87
CDN-ME-1603	86 g/t	1.5	2,079	182	38	86	54	6.73
CDN-ME-1810	154 g/t	4.5	573	7	6	0	0	0.00
CDN-ME-1605	274 g/t	4.5	920	73	13	24	3	2.9

Notes: SD=standard deviation.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

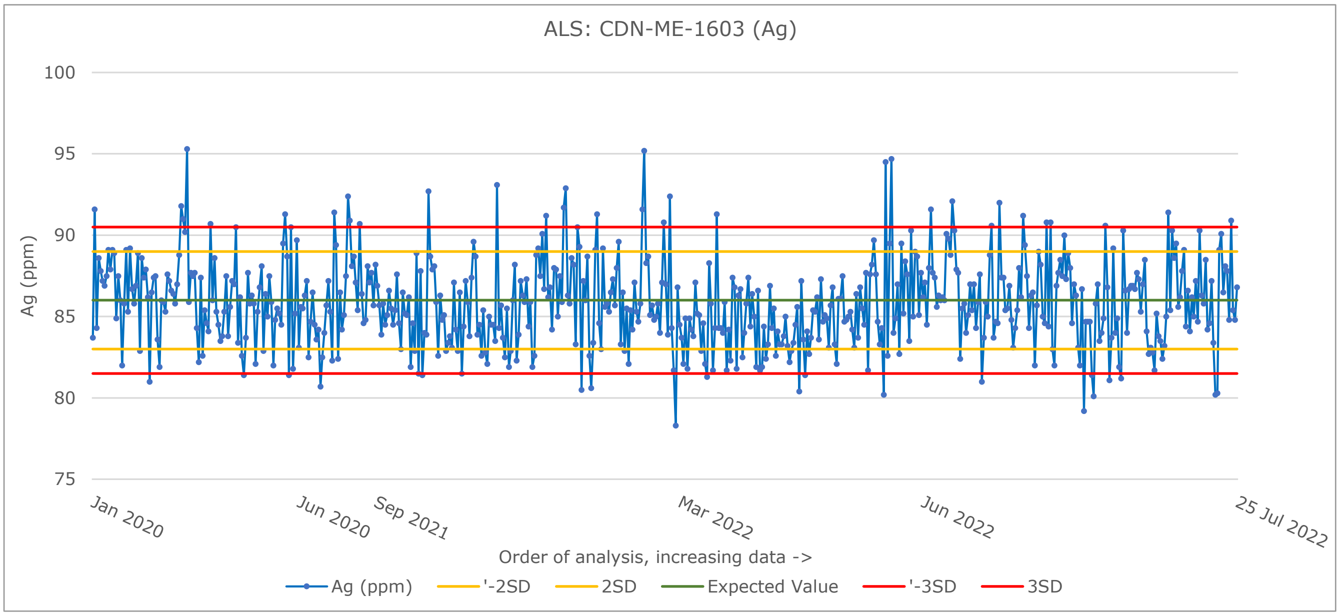
Figure 11.3 to Figure 11.5 presents CRM control charts for silver. Control charts include control lines for two and three standard deviations and show the warnings and fails. The control charts cover the period from 2020 to July 2022, (2019 to July 2022 in the case of CDN-ME- 1501). Example control charts from the period of 2017 to 2019 were presented in the 2020 Technical Report.

Figure 11.3 Control chart for CDN-ME-1501 (Ag) (2019 – July 2022)



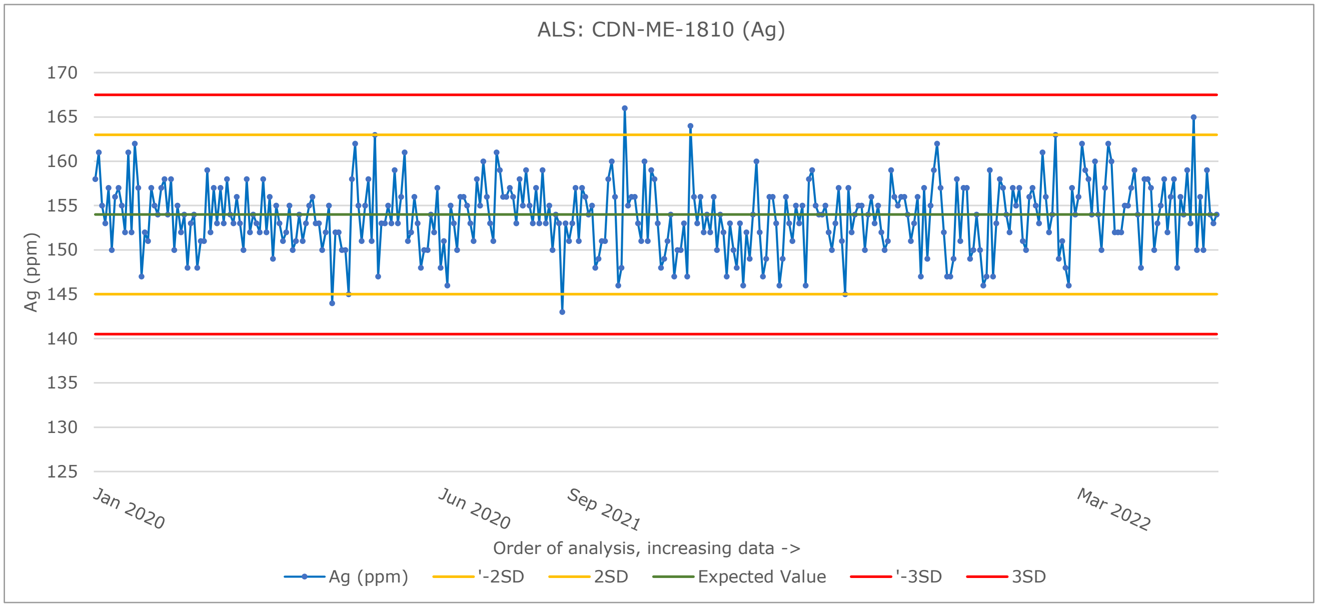
Note: CDN-ME-1501 contains all samples from 2019, not all 2019 samples were reported in the previous Technical Report.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Figure 11.4 Control chart for CDN-ME-1603 (Ag) (2020 – July 2022)



Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Figure 11.5 Control chart for CDN-ME-1810 (Ag) (2020 – July 2022)



Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Table 11.6 shows the comparison between the CRM and analytical results for the period 2020 – July 2022. There has been a slight improvement for CDN-ME-1603 since the end of 2019 onwards, the means are very similar and there is a slight reduction in the difference between the standard deviations. The other two CRMs performed similarly, with acceptable comparisons.

Table 11.6 Comparison between CRM values and analytical results (2020 – July 2022)

CRM	CRM		Analytical results			Comparison	
	Expected Ag value (ppm)	SD	Number of assays	Mean	SD	Mean vs expected	SD of results vs expected
CDN-ME-1501	34.6	1.2	923	34.5	1.2	99.71%	100%
CDN-ME-1603	86	1.5	584	85.8	2.7	99.77%	144.44%
CDN-ME-1810	154	4.5	333	153.8	3.9	99.87%	85%

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

The QP noted the following in the previous Technical Report for the property regarding CRM performance, which covered the period October 2017 – 2019:

- CRMs used at Silver Sand generally show overall acceptable analytical accuracy.
- The mean and standard deviation of analytical results approximate the certified performance criteria and provide confidence in analytical results at the deposit COG and at higher grades (150 g/t Ag).
- From 2017 – 2019 CDN-ME-1603 showed poor analytical precision with a significant number of analytical results occurring outside of two standard deviations, and 5.4% of samples occurring outside of three standard deviations (failure limits).
- CRM CDN-ME-1605 also showed sub-optimal analytical precision with a significant number of analytical results occurring outside of two standard deviations and 2.9% of samples occurring outside three standard deviations (failure limits). While the average analytical results of CDN-ME-1605 are only ~1% lower than the certified mean, the majority of samples outside control limits are biased low. The standard deviation of analytical results is ~1.5 times greater than the certified value.

- The excessive number of warnings and failures occurring in CDN-ME-1603 and CDN-ME-1605 is concerning and should be further investigated prior to continued use. Standard deviations of analytical results from these CRMs are 1.5 times greater than the between laboratory standard deviation provided by the CRM supplier. The QP notes that CRMs were certified using a four-acid digest but that methods OG46 and ME-MS41 comprise an aqua-regia digest. This difference in sample digestion may explain poor CRM performance.

The QP notes that similar results are observed in CRM performance post 2019 and reiterates the following with respect to CRM performance for the 2020 – July 2022 period:

- CRMs used at Silver Sand generally show overall acceptable analytical accuracy.
- CRMs CDN-ME-1501 and CDN-ME-1810 still show acceptable analytical precision, exhibiting low failure rates and with the majority of results falling within the control limits (3 standard deviations).
- The number of warnings and failures occurring in CDN-ME-1603 should be further investigated prior to continued use. The QP notes that CRMs were certified using a four-acid digest but that methods OG46 and ME-MS41 comprise an aqua-regia digest. This difference in sample digestion may explain poor CRM performance.

11.5.1.3 Recommendations

The QP makes the following recommendations regarding CRMs at the Silver Sand project:

- Purchase an additional CRM around the average grade (116 g/t Ag) of the deposit which has been certified using a similar digestion method.
- Investigate performance issues with CRM CDN-ME-1603 if this CRM is to be used in future programs. This could be done by preparing several separate sample batches comprising 20-30 CRMs each and comprising at least two different CRMs in random order. Each batch should then be sent to both the primary laboratory and at least one other check laboratory. If results occur outside of certified performance criteria, expected values and standard deviation can be calculated from laboratory results and used as performance criteria.
- Re-evaluate the use of ME-MS41 analytical method. If this method is to be used going forward it is recommended that the OG46 over-limit threshold be dropped from 100 g/t Ag to a level below the anticipated COG. This is because of the poor precision of this method for Ag.

11.5.2 Blank samples

11.5.2.1 Description

New Pacific uses material collected from quarry sites, local to the deposit as the source of coarse blank material. Cobble to boulder sized material is collected from a quarry site and broken with hammers into cm sized pieces by New Pacific personnel for insertion into the sample stream.

Two different sources have been used as blank material over time. Limestone from a quarry site near Betanzos was used as the initial source of blank material, however this was changed in July 2018 after receiving numerous results with elevated base metals. A new blank quarry site was subsequently sourced approximately 30 km west of Silver Sand. Blank material collected from this quarry comprises red quartz sandstone of similar age and composition to that hosting mineralization at the Silver Sand deposit. Five grab samples from this quarry site were sent for analysis at ALS using ME-MS41. Results ranged between 0.01 and 0.04 g/t Ag, averaging 0.02 g/t Ag.

New Pacific's internal procedures require that one coarse blank is inserted for every 20 samples. For the period October 2017 – 2019, New Pacific considered blank samples with assay results above 1.3 g/t Ag as a warning and samples above 2.4 g/t Ag a fail. These control limits were developed by New Pacific after reviewing analytical data, removing outliers, and calculating the average background grade and standard deviation of the blank material. The warning and fail limits are set at three times the standard deviation, and six times the standard deviation of background samples respectively. Commencing in August 2019 New Pacific implemented a procedure for laboratory follow up. Assays from blank samples that exceed the warning limit are investigated by New Pacific personnel and followed up as necessary. Assays from blank samples that exceed the fail limit are discussed with the laboratory and re-analyzed as required.

For the programs post 2019, the New Pacific protocols for the assessment of the performance of blanks has been adjusted slightly, a warning is considered above 1 Ag ppm and a failure is considered above 2 Ag ppm. The change in protocol means that the threshold for failure is lower than for the 2017 – 2019 coarse blank samples. The QP considers this adjustment reasonable.

Pulp blanks were submitted in 2021 and 2022. The blank material is CRM CDN-GEO-1901. The source of the CRM is from a copper-gold porphyry deposit in British Columbia. The CRM has a provisional mean for Ag of 1 ppm with a standard deviation of 0.15. The analytical method was four acid digestion with instrumental finish.

11.5.2.2 Discussion

Coarse blanks

Coarse blanks test for contamination during both sample preparation and assaying. Blanks should be inserted in each batch sent to the laboratory. In the QP's opinion, when using typical feed grade analytical methods, 80% of coarse blanks should be less than three times the detection limit.

A total of 4,058 coarse blank samples have been inserted since 2017, 1,184 of which were submitted between 2020 – July 2022, representing an overall insertion rate of 4.5%. The QP considers this an acceptable insertion rate.

For the October 2017 – 2019 period blank performance, New Pacific used a failure criteria for samples analyzed by ALS method OG46 as 2.4 times the Ag detection limit. The QP acknowledged that applying a failure limit of three times this detection limit (0.01 g/t Ag) may not be practical for ore grade level analysis but recommended the failure criteria level be reduced from 2.4 g/t Ag if ME-MS41 was to be used on an ongoing basis. This has been implemented. In the QP's opinion the blank monitoring procedures implemented by New Pacific over the 2017 – 2019 period were adequate to identify significant sample contamination during sample preparation and analysis. Blank samples showed no significant systematic levels of contamination.

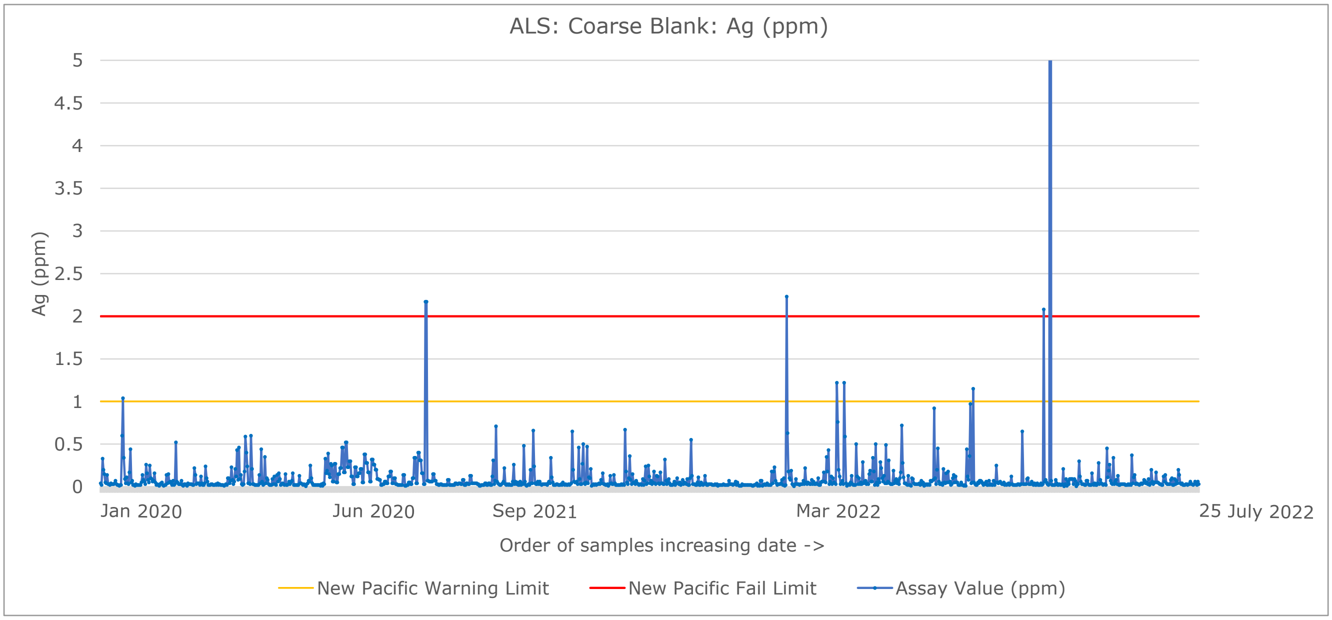
Table 11.7 summarizes the coarse blank performance based on the New Pacific failure criteria for the period 2020 – July 2022. There has been an improvement in performance since 2019. Coarse blank samples show no significant systematic levels of contamination.

Table 11.7 Silver Sand coarse blank performance (2020 – July 2022)

Year	Total	<1 Ag ppm (Pass)	1 - 2 Ag ppm (Warning)	> 2 ppm (Fail)
2020	422	419	1	2
2021	327	326	0	1
2022	435	430	2	1
Total	**1,184**	**1,175**	**3**	**4**

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Figure 11.6 Coarse blank control chart (2020 – July 2022)



Note: The extreme value recorded in 2022 is 20.5 Ag ppm.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

The QP notes that consistent monitoring and follow up of coarse blank samples has only been completed and clearly documented since mid-2019, in that same year two sample investigations were completed. In both cases, samples before and after the failed blank were re-analyzed. Contamination was found to have occurred during sample preparation, from a preceding high-grade Ag interval. For 2020 onwards, only three failures have been recorded in 2022. Investigation determined that this was due to elevated values in the blank sample which can happen due to the source of the material. These samples also returned slightly elevated values for base metals.

In the QP's opinion, the coarse blank monitoring procedures implemented by New Pacific are adequate to identify significant sample contamination during sample preparation and analysis. Blank samples show no significant systematic levels of contamination.

Pulp blanks

Pulp blanks test for contamination occurring during the analytical process. Blanks should be inserted in each batch sent to the laboratory. In the QP's opinion, when using typical ore grade analytical methods is that 90% of pulp blanks should be within two times of the detection limit.

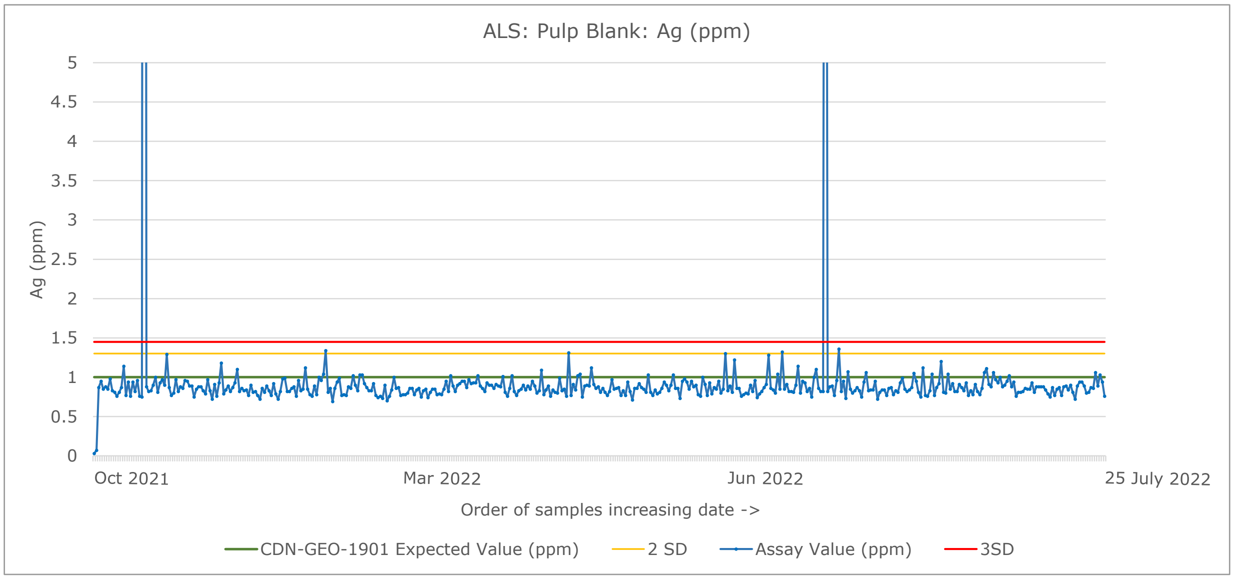
A total of 446 pulp blank samples have been inserted since 2021, representing an overall insertion rate of 0.5%. The QP has applied the following protocols for assessing the pulp blank samples. The value of 1.3 Ag ppm is equivalent to the provisional mean of the CRM plus two times the standard deviation. This would equate to a warning value for a CRM, and a failure value of 1.45 Ag ppm (provisional mean plus three standard deviations). Table 11.8 and Figure 11.7 show the pulp blank performance. There are two samples which show contamination.

Table 11.8 Silver Sand pulp blank performance (2021 – July 2022)

Year	Total	<1.3 ppm Ag (Pass)	1.3 to 1.45 ppm Ag (Warning)	> 1.45 ppm Ag (Fail)
2021	141	139	1	1
2022	305	301	3	1
Total	**446**	**440**	**4**	**2**

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Figure 11.7 Pulp blank control chart (2021 – July 2022)



Note: The two extreme values are 35.5 and 18.6 Ag ppm, respectively.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

In the QP's opinion, the pulp blank monitoring procedures implemented by New Pacific are adequate to identify significant sample contamination during sample analysis. Blank samples show no significant systematic levels of contamination.

11.5.2.3 Recommendations

The QP makes the following recommendations regarding blank samples:

- Continue to include coarse and pulp blanks in every batch of samples submitted at a rate of at least 1 in every 20 samples (5%).
- Continue to ensure that blanks are consistently monitored in real time on a batch-by-batch basis and that remedial action is taken as issues arise.
- Ensure that all blank sample follow up is recorded.

11.5.3 Duplicate samples

11.5.3.1 Description

New Pacific has submitted a total of 1,272 quarter core field duplicate samples during the period October 2017 – July 2022, of which 805 were submitted from 2021 – July 2022. Field duplicate samples are selected once assay results have been received to ensure that duplicate samples encompass the entire grade range. Duplicate samples are collected by cutting the remaining half core in half. One portion of the quarter core is submitted for duplicate analysis, and the remaining portion of quarter core is returned to the core tray.

New Pacific did not submit pulp duplicates prior to 2019, however, submitted 737 pulp duplicate samples between 2021 and July 2022.

New Pacific did not submit coarse reject duplicates prior to 2019, however, submitted 796 coarse reject duplicate samples between 2021 and July 2022.

11.5.3.2 Discussion

Field duplicates monitor sampling variance, sample preparation and analytical variance, and geological variance. Coarse reject samples monitor sub-sampling variance, analytical variance, and geological variance. Pulp duplicates monitor analytical and geological variance.

The QP recommends that field, coarse and pulp duplicate samples be selected over the entire range of grades seen at the Project to ensure that the geological heterogeneity is understood. However, the majority of duplicate samples should be selected from zones of mineralization. Unmineralized or very low-grade samples should not form a significant portion of duplicate sample programs as analytical results approaching the stated limit of lower detection are commonly inaccurate, and do not provide a meaningful assessment of variance.

Duplicate data can be assessed using a variety of approaches. The QP typically assesses duplicate data using scatterplots and relative paired difference (RPD) plots. These plots measure the absolute difference between a sample and its duplicate. For field duplicates it is desirable to achieve 80% to 85% of the pairs having less than 20% RPD between the original assay and check assay. For coarse reject duplicates it is desirable to achieve 80% to 85% of the pairs having less than 15% RPD between the original assay and check assay. For pulp duplicates it is desirable to achieve 80% to 85% of the pairs having less than 10% RPD between the original assay and check assay. In these analyses, pairs with a mean of less than 15 times the lower limit of analytical detection are excluded. Removing these low values ensures that there is no undue influence on the RPD plots due to the higher variance of grades expected near the lower detection limit, where precision becomes poorer (Long et al., 1997). For the assessment of the 2021 – July 2022 field duplicates, a lower detection limit of 0.01 Ag ppm was used and is based on the ME-MS41 analytical method. Prior to this, a lower detection limit of 1 Ag ppm was used based on the Ag-OG46 analytical method.

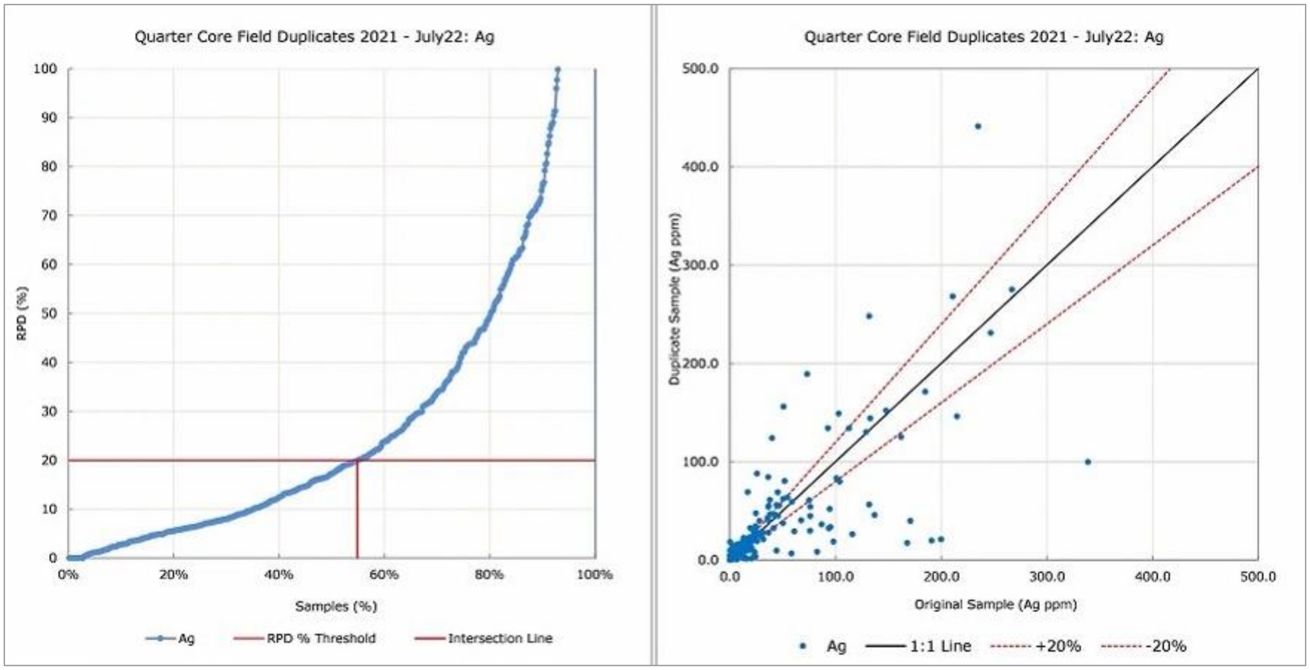
Field duplicates

Submission rates for the field duplicates has varied from year to year, with < 1% submission rates prior to 2021. For 2021 and 2022, the submission rates are 4%. The overall submission rate of field duplicates for the period October 2017 – July 2022 is 1.4%.

Field duplicate performance for the period October 2017 – 2019 showed a relatively poor correlation between duplicate sample pairs with only 34% of samples occurring within 20% RPD. Based on these results the QP formed the opinion that that mineralization is heterogenous, that sample errors are occurring during the sampling process, or a combination of both factors. The QP recommended further work to confirm whether the friable nature of silver sulphosalts might have resulted in loss of portions of the mineralized veins during the core cutting and sampling process, resulting in progressive decrease in sample grade with each stage of processing, and an overall net underestimation of metal.

The results of the field duplicate performance for the period 2021 – July 2022 is presented using RPD and scatter plots shown in Figure 11.8 and a statistical comparison is presented in Table 11.9. The duplicate data ranges from 0.01 ppm – 1,540 Ag ppm, with a mean of 14.27 Ag ppm. There are 643 samples greater than 15 times the detection limit, which provides a reasonable sample size from which to make an assessment. The duplicates cover the appropriate grade range.

Figure 11.8 Silver Sand field duplicate RPD and scatter plot (2021 – July 2022)



Note: the scatterplot is limited to 500 Ag ppm, only 2 samples in the dataset are above 500 Ag ppm.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Table 11.9 Silver sand field duplicate statistical summary (2021 – July 2022)

Ag (ppm)	Original	Duplicate
Number of samples	805	805
Number of samples > 15 times detection limit	643	643
Mean	14.27	13.69
Maximum	1,525.00	1,540.00
Minimum	0.01	0.01
Pop Std Dev.	70.58	72.46
CV	4.95	5.29
Cor Coeff	0.94	-
Bias (all data)	4.05%	-
Percent Samples <20% RPD	**54.90**	-

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

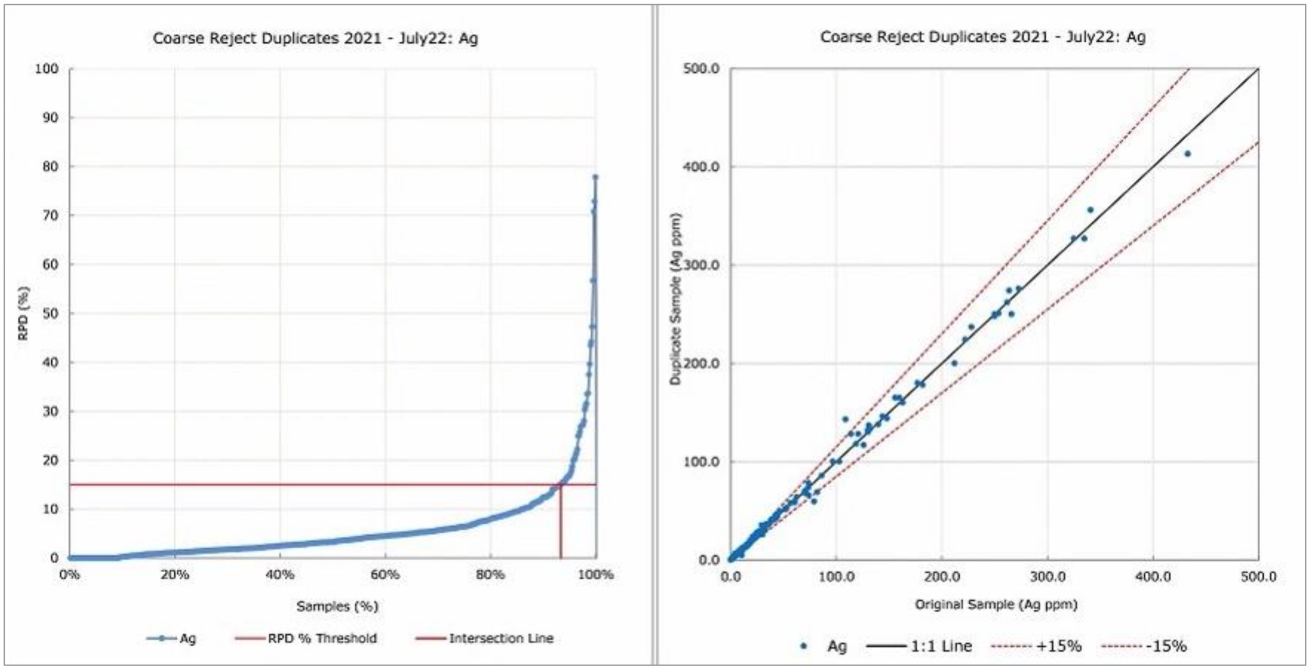
The QP notes that the performance of the field duplicates has improved significantly since 2019, although still showing poor precision. There is a slight bias towards the original sample.

Coarse reject duplicates

Submission rates for the coarse reject duplicates is approximately 4%, noting that these were only submitted between 2021 and July 2022. The QP considers the insertion rate to be reasonable.

The results of the coarse reject duplicate performance for the period 2021 – July 2022 is presented using RPD and scatter plots shown in Figure 11.9 and a statistical comparison is presented in Table 11.10. The duplicate data ranges from 0.01 ppm – 2,090 Ag ppm, with a mean of 19.42 Ag ppm. There are 634 samples greater than 15 times the detection limit, which provides a reasonable sample size from which to make an assessment. The duplicates cover the appropriate grade range.

Figure 11.9 Silver Sand coarse reject duplicate RPD and scatter plot (2021 – July 2022)



Note: the scatterplot is limited to 500 Ag ppm, only 3 samples in the dataset are above 500 Ag ppm.
Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Table 11.10 Silver sand coarse reject duplicate statistical summary (2021 – July 2022)

Ag (ppm)	Original	Duplicate
Number of samples	794	796
Number of samples > 15 times detection limit	634	634
Mean	19.42	19.81
Maximum	1,970.00	2,090.00
Minimum	0.01	0.01
Pop Std Dev.	99.36	102.78
CV	5.12	5.19
Cor Coeff	1.00	
Bias (all data)	-1.98%	
Percent Samples <15% RPD	**93.38**	

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

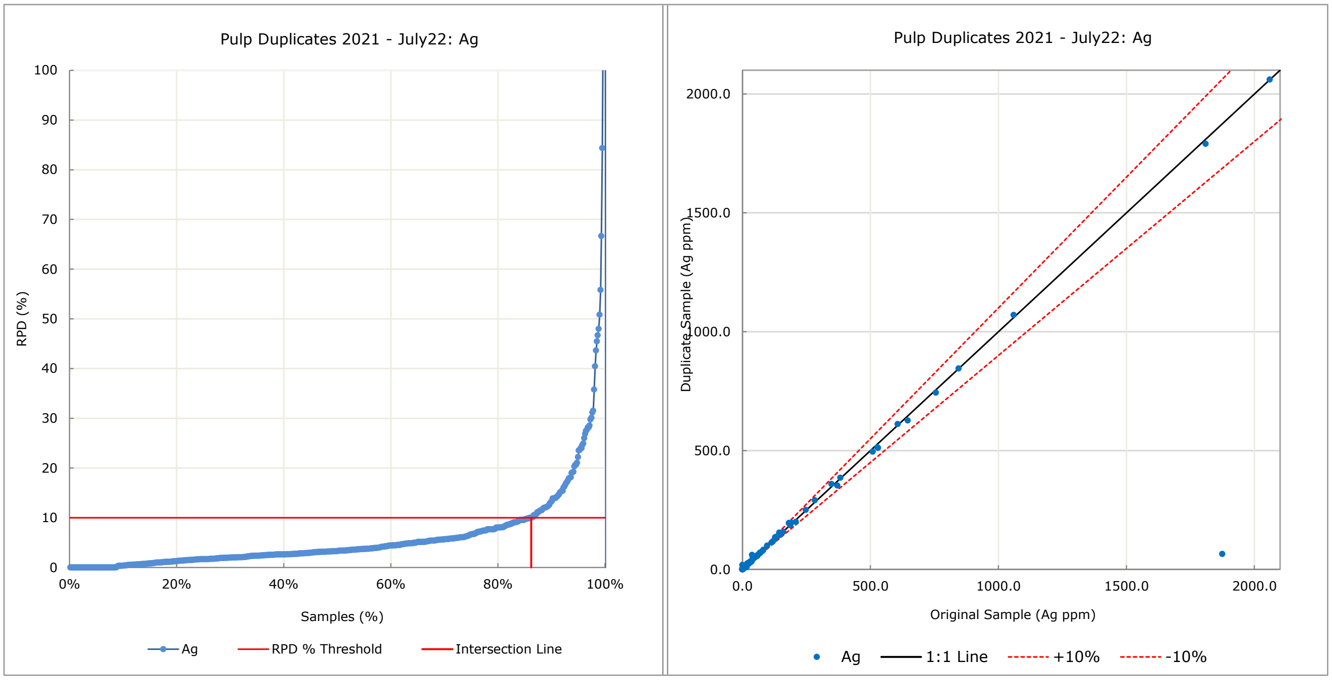
The QP notes that the coarse reject performance is acceptable, with > 90% within 15% RPD. There is a slight negative bias towards the original sample.

Pulp duplicates

Submission rates for the pulp duplicates is just below 4%, noting that these were only submitted between 2021 and July 2022.

The results of the pulp duplicate performance for the period 2021 – July 2022 is presented using RPD and scatter plots shown in Figure 11.10 and a statistical comparison is presented in Table 11.11. The duplicate data ranges from 0.01 ppm – 2,060 Ag ppm, with a mean of 25.23 Ag ppm. There are 595 samples greater than 15 times the detection limit, which provides a reasonable sample size from which to make an assessment. The duplicates cover the appropriate grade range.

Figure 11.10 Silver Sand pulp duplicate RPD and scatter plot (2021 – July 2022)



Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

Table 11.11 Silver Sand pulp duplicate statistical summary (2021 – July 2022)

Ag (ppm)	Original	Duplicate
Number of samples	735	737
Number of samples > 15 times detection limit	595	595
Mean	25.23	22.86
Maximum	2,060.00	2,060.00
Minimum	0.01	0.01
Pop Std Dev.	145.60	127.79
CV	5.77	5.59
Cor Coeff	0.89	
Bias (all data)	9.39%	
Percent Samples < 10% RPD	**86.22**	

Source: Compiled by AMC Mining Consultants (Canada) Ltd., 2022.

The QP notes that 86% of samples fall within 10% RPD. This shows good precision. There is a bias towards the original samples of approximately 9%. There is an outlying sample, where the original value is 1,875 Ag ppm and the duplicate value is 64.7 Ag ppm. Removing this sample reduces the bias to -0.47% and the mean of the original samples to 22.71 Ag ppm. As such, the QP does not consider there to be any bias between the original and duplicate samples.

11.5.3.3 Recommendations

The QP notes that the field duplicates, which monitor the variance of original field sampling (core cutting), coarse reject sub-sampling, and pulp sub-sampling, show sub-optimal precision. The coarse and pulp duplicates show good analytical precision. This suggests that the majority of sampling variance is occurring during the initial sampling process. This may indicate that the quarter core sample is insufficient because of geological heterogeneity at this scale.

- Implement investigative work to understand the geological variance. This should include:
  - In future programs consider submitting field duplicates as half core rather than quarter core to assess sub-sampling error.
  - Consider drilling twin holes using triple tube diamond core or RC drilling to evaluate the deposit variance on a local scale and whether loss of vein material is occurring during drilling and sampling processes.
- Ensure that all future programs include between 4 - 5% duplicate samples including field duplicates, coarse reject duplicates and pulp duplicates to enable the various stages of sub-sampling to be monitored.

11.5.4 Umpire samples

New Pacific submitted a total of 2,851 coarse reject samples to Actlabs Skyline in Lima, Peru for check assay analysis during October 2017 - 2019. Actlabs Skyline is an independent geochemical laboratory certified according to ISO 9001:2015.

The QP compared the original and umpire duplicate assays for 2,064 sample pairs where the original and duplicate assay were 15 times the detection limit of 1 g/t Ag. These showed no sample bias and sub-optimal precision with only 62% of umpire duplicates being within 10% RPD. The sub-optimal performance may be due to additional sub-sampling variance incurred during sampling of the reject or issues with the laboratory.

No umpire samples were submitted from 2020 – July 2022.

The QP makes the following recommendations regarding umpire samples:

- In future programs, submit umpire duplicates, as was done for the October 2017 - 2019 programs.
- Submit pulp samples (rather than coarse reject) so that umpire samples only monitor analytical accuracy and variance.
- Include CRMs at the average grade and higher grades in umpire sample submissions.

11.6 Conclusions

New Pacific has developed and implemented sound procedures which manage sample preparation, analytical and security procedures.

Drilling programs completed on the Property between 2017 and July 2022 have included QA/QC monitoring programs which have incorporated the insertion of CRMs, blanks, and duplicates into the sample streams, and umpire (check) assays at a separate laboratory. The QP has compiled and reviewed the available QA/QC data for 556 drillholes where assays have been received.

New Pacific has included CRMs, blank, coarse reject, and pulp duplicate assays as part of routine analysis at slightly less than the preferred rates of 5% for the CRMs and blanks. Duplicate insertion rates are acceptable at 3%.

New Pacific has used four different CRMs throughout the project history. CRMs generally show reasonable analytical accuracy; however, one of the three CRMs did not perform within certified control limits, with an excessive number of failures. The QP postulates that poor CRM performance might be due to the CRMs being certified using a four-acid digest but analyzed using aqua-regia. The QP recommends that follow up work be completed prior to further use of these CRMs.

Blank sample results are considered acceptable and show that no significant contamination has occurred during sample preparation and analysis.

Quarter core field duplicate samples show improved, yet sub-optimal performance which suggest that mineralization is heterogenous, that sample errors are occurring during the sampling process, or a combination of both factors. The good performance of the coarse and pulp duplicates submitted in 2021 – July 2022 indicates that the majority of variance is occurring at the initial sampling stage. This should be investigated.

The QP recommends that umpire samples be submitted as pulps in future QA/QC programs.

The QP has reviewed the QA/QC procedures used by New Pacific including certified reference materials, blank, duplicate and umpire data and has made some recommendations. The QP does not consider these to have a material impact on the Mineral Resource estimate and considers the assay database to be adequate for Mineral Resource estimation. The QP considers sample preparation, security, and analytical procedures employed by New Pacific to be adequate.

12 Data verification

Dinara Nussipakynova, P.Geo. of AMC Consultants, completed a site visit to the Project between 28 – 29 May 2022, and during the inspection the following activities were carried out:

- Review of field site of Silver Sand project.
- Review of drilling and core processing procedures.
- Review of New Pacific QA/QC procedures.
- Review of randomly selected core from seven drillholes:
  - DSS5423
  - DSS487502
  - DSS504510
  - DSS527506
  - DSS527510
  - DSS529001
  - DSS646001
- Inspected the core processing facility and core storage in Betanzos.
- Held discussions with several staff on site, in regard to data collection and quality.
- Held discussions on database management procedures.
- Observed the marked and identified collars of the recent drillholes in the field.
- Reviewed the drill management process adopted by New Pacific.

As reported in the 2020 Technical Report, the QP undertook random cross-checks of assay results in the database with original assay results on the assay certificates returned from ALS (Bolivia) and Actlabs (Peru) up to 31 December 2019. This verification consisted of comparing 3,616 of the 58,420 assay results in the database to those in the certificates. This is approximately 6.2% of the total samples at that time. One typing error was detected. The QP also undertook a random cross check of the original collar and survey measurements for 18 drillholes and compared them to the database. This represented 5.5% of the total drillholes. No errors were detected.

After the 2022 site visit, the QP undertook random cross-checks of assay results of the 2020 - 2022 drillholes with original assay results on the assay certificates returned from ALS (Bolivia) and Actlabs (Peru). This verification consisted of comparing 270 of the 5,198 assay results in the database to those in the certificates. This is approximately 5.2% of the total samples. One typing error was detected. No errors were detected.

As shown in Table 12.1 a total of 6.1% of the assays have been checked.

Table 12.1 Assay verification results

Report	Total samples	# Samples selected for verification	Errors noted	% Samples verified
2020 Technical Report	58,420	3,616	1	6.2
2022 Technical Report	5,198	270	1	5.2
Total	**63,618**	**3,616**	**2**	**6.1**

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The drillhole file has undergone the following checks:

- Inconsistent FROM and TO values.
- Incorrect treatment of absent assay values.
- Duplicate records and duplicate holes.
- Downhole surveys.
- Drillhole collar elevation not matching topography wireframe.
- 556 drillholes were reviewed in 3D space and these had a total of 91,164 records.

No inconsistencies were identified during checking the drillholes in 3D. Checking the collar locations against the Digital Terrain Model (DTM) of the topography surface showed no differences in elevation.

The QP considers the database fit-for-purpose and in the QP's opinion, the geological data provided by New Pacific for the purposes of Mineral Resource estimation were collected in line with industry best practice as defined in the CIM Exploration Best Practice Guidelines and the CIM Mineral Resource, Mineral Reserve Best Practice Guidelines. As such, the data are adequate for use in the estimation of Mineral Resources.

13 Mineral processing and metallurgical

13.1 Introduction

The various tests completed as part of two recent metallurgical programs on samples of mineralization from the Silver Sand deposit indicate that the silver-bearing minerals are amenable to efficient extraction using a variety of simple, well-established mineral processing techniques. Both testwork programs were completed by SGS Minerals in Lima, Peru and these are summarized herein.

Highlights of the first metallurgical program, conducted in 2019, are as follows:

- A lab-scale rougher-scavenger flotation program resulted in silver recoveries of up to 92.0%, 86.8%, and 96.0% at concentrate mass pull of 18.4%, 10.2%, and 10.0% for samples of Oxide, Transition, and Sulphide mineralization respectively.
- Samples of Oxide, Transition, and Sulphide mineralization were submitted for bottle roll cyanidation testing and this work achieved up to 96.3%, 97.0%, and 96.7% silver extraction respectively at grind size of 80% passing 50 µm, cyanide concentration of 3.0 grams per litre (g/L) NaCN, retention time of 72 hours and dissolved oxygen of 25 - 30 ppm.
- Samples of Oxide mineralization were submitted for column leach cyanidation testing, and this achieved up to 88.3% silver extraction with crush size of 100% passing 12.7 mm, cyanide concentration of 4.0 g/L NaCN and test duration of 75 days.
- Samples submitted for initial comminution testing were found to be mostly in the soft to medium grindability range with Bond ball mill work index of 4.1 to 15.9 kilowatt-hours per tonne (kWh/t) and low to medium values of Abrasion Index (Ai).

A follow-up metallurgical program commenced in 2020, that built upon the initial work and provided a more robust base for processing trade-off studies and flowsheet development. Highlights of this program include:

- Confirmation of the geometallurgical model developed in 2018.
- An initial assessment of ore sorting showed encouraging results.
- A more comprehensive assessment of physical characteristics of the different oxidation types, with an overall indication that samples are amenable to SAG milling.
- A larger flotation program culminated in locked cycle testing of new composite samples of Oxide, Transition, and Sulphide mineralization, with silver recoveries of 67.4%, 83.2%, and 87.1% respectively at concentrate mass pulls of 0.5%, 2.2%, and 5.0%. Silver recovery is expected to increase significantly with higher concentrate mass pull.
- A more comprehensive cyanidation program included coarse-particle and fine-particle bottle roll leaching, column leaching and leaching of flotation concentrates. Cyanidation of composite samples ground to 80% -75 µm achieved silver extractions of up to 93.9%, 92.5%, and 78.3% for Transitional, Oxide, and Sulphide master composite samples respectively under conditions of cyanide concentration of 2.0 g/L NaCN, dissolved oxygen concentration of 11 - 15 ppm and retention time of 48 hours.
- Initial testing of cyanide detox amenability raised no concerns and suggests that SO_2/Air will be a suitable process to achieve residual cyanide concentration of less than 20 ppm WAD cyanide (CN).
- Initial environmental characterization testing was completed, including Acid Base Accounting (ABA) and Toxicity Characteristic Leaching Procedure (TCLP) characterization.

The metallurgical efficiency with which a mineral processing plant might recover metals into a saleable product can have a significant impact on the potential for economic extraction. The economic analysis described in Section 22 included a 91% metallurgical recovery assumption for silver and this is considered reasonable by the QP given the predicted mine plan together with test work results presented in this section. It should be noted however that the metallurgical program discussed below is preliminary in nature and is therefore limited in its ability to represent the deposit by the preliminary nature of the tested samples.

13.2 Initial metallurgical program – SGS Lima, 2018

The initial program of metallurgical testwork commenced in 2018 at the SGS Lima metallurgical facilities in Peru, with support work by Centro de Investigacion Minero Metalurgico (CIMM) (managed by the Corporacion Minera de Bolivia) and Universidad Técnica de Oruro (UTO). Comminution, flotation, and cyanide leaching programs were completed by SGS, while the mineral characterization work was completed by the CIMM and UTO in Bolivia.

The results of this work were reported in detail within the previous Silver Sand Technical Report (2020 Technical Report) and therefore not repeated here.

13.3 Second metallurgical program – SGS Lima, 2020

The second program of metallurgical testwork was initiated in 2020 and was designed specifically to build upon the initial 2018/19 studies. This program was also completed at the SGS metallurgical facilities in Lima, Peru, with support work by SGS in Lakefield, Ontario, Canada.

13.3.1 Geometallurgical characterization

A comprehensive lithogeochemical and geometallurgical study of the Silver Sand deposit was undertaken by CSA Global in early 2020. This work examined the project's geochemical database and advanced compositional domain classifications. The analysis ultimately supported the geometallurgical classifications made in the initial metallurgical study (i.e., Oxide, Transition, and Sulphide) and therefore these relatively simple classifications remained in force for the 2020 metallurgical program.

The following grade classifications were applied for the domaining exercise:

- Silver grade less than 12 g/t was anticipated to be sub-economic and was tagged as waste.
- Silver grade greater than 70 g/t was tagged as high-grade mineralization.
- Silver grade between 12 g/t and 70 g/t was tagged as low-grade mineralization.

A proxy for the degree of oxidation was determined using iron and sulphur assays (in molar percentage), in lieu of geologists logging data. The calculation and interpretation of FeOx% is given below:

FeOx Index (%) = 100*(2Fe-S)/(2Fe+S), where:

- FeOx Index greater than 90% was determined to be "Oxide".
- FeOx Index between 33% and 90% was determined to be "Transitional".
- FeOx Index less than 33% was determined to be "Sulphide".

13.3.2 Composite sample preparation

Over 300 interval samples from the four metallurgical drillholes were shipped to SGS Lima for composite sample creation. Sample selections were designed to ensure that the following broad sampling principles were respected:

- Samples should be spatially diverse.
- The distribution of silver grade within sample sets should reflect that of the overall drillhole population.

- Each geometallurgical domain should be adequately represented.
- Material should be coarse enough to allow accurate comminution work and column leach work.

Sample material consisted of ½ HQ drill cores taken from four metallurgical drillholes (422501T, 522501T, 525021T, and 642501T) selected by the QP during a 2020 site visit and drilled as twins to existing holes. QA/QC work confirmed that the distribution of grade in these twins was a close match with the original holes.

The grade and oxidation analysis discussed above resulted in the categorization of material shown in Table 13.1 (assays are based on interval assays from the diamond drillhole database).

Table 13.1 Sample categories

	HG Oxide	LG Oxide	Waste	HG Trans	LG Trans	HG Sulph	LG Sulph	Total
Samples, no	19	30	224	109	106	23	19	306
Mass, kg	89	147	1,117	133	133	110	92	704
Ag Grade, g/t	196	27	4	412	32	386	23	178
Fe Grade, %	2.1	2.1	2.1	2.9	1.6	2.8	2.5	2.3
FeOx Index, %	96%	96%	67%	56%	57%	29%	29%	62%
S Grade, %	0.10	0.10	0.72	1.71	0.92	3.17	2.70	1.38
As Grade, g/t	397	205	154	546	163	491	319	346

Source: Compiled by Halyard Inc., 2022.

From these samples, three master composites (MC) were created together with six grade variability composites:

- Oxide MC, made from 50% HG oxide and 50% LG oxide
- Transitional MC, made from 30% HG transition and 70% LG transition
- Sulphide MC, made from 30% HG sulphide and 70% LG sulphide
- Oxide High Grade
- Oxide Low Grade
- Transitional High Grade
- Transitional Low Grade
- Sulphide High Grade
- Sulphide Low Grade

Note that 224 samples (approximately 1,100 kg of material) carried a silver grade of below 12 g/t and were defined as non-economic. These samples were excluded from composite recipes.

The QP designed the sampling protocols described above and worked with geologists during a 2020 site visit to select metallurgical drill hole locations. The QP finds this, together with the subsequent selection of sub-samples and composites to be acceptable for a preliminary metallurgical program. The sampling allows for a preliminary assessment of metallurgy by geometallurgical domain, but further work on more spatially diverse composite sets is recommended in order to complement the domain results and to verify that the metallurgical assumptions hold true.

13.3.3 Chemical analysis

A staged crushing / blending exercise was completed to prepare the nine metallurgical composite samples. A representative subsample of each was subsequently removed for head assay analysis. Results are summarized in Table 13.2.

Table 13.2 Composite head assays

Sample	Ag (g/t)	Au (g/t)	Pb (ppm)	Zn (ppm)	Cu (ppm)	Fe (%)	S (%)
LG Oxide Composite	28	0.021	850	67	86	2.69	0.09
HG Oxide Composite	157	0.025	1,222	65	104	2.83	0.12
Oxide Master Composite	91	0.017	977	53	89	2.81	0.10
LG Transitional Composite	33	0.008	507	141	265	2.08	0.92
HG Transitional Composite	306	0.027	1,085	57	202	3.40	1.73
Transitional Master Composite	113	0.014	639	113	236	2.38	1.16
LG Sulphide Composite	19	0.014	640	3,806	345	3.00	2.58
HG Sulphide Composite	385	0.045	944	333	1,418	3.16	2.62
Sulphide Master Composite	119	0.023	690	2,568	595	3.10	2.60

Source: Compiled by Halyard Inc., 2022.

13.3.4 Physical characterization

Representative sub-samples were removed at appropriate stages of composite preparation and submitted for SMC testing, Bond ball mill work index testing, and abrasion index determination. Results are summarized in Table 13.3.

The initial SAG mill design parameters should be supplemented by additional data in order for them to become statistically meaningful, but as initial estimates of SAG mill performance, these test results indicate that a SAG-based comminution circuit is a suitable option for grinding the Silver Sand mineralization.

Table 13.3 Grindability test data

	Sulphide MC	Transitional MC	Oxide MC
DWi, kWh/m^3	6.3	3.9	4.7
SG, t/m^3	2.56	2.53	2.52
A*b	40.6	64.4	53.6
SCSE, kWh/t	9.62	7.95	8.54
Bond BWi, kWh/t	12.3	14.1	16.6
Abrasion Index (g)	0.365	0.325	0.309

Source: Compiled by Halyard Inc., 2022.

With A x b values of 40.6, 64.4, and 53.6, are judged to be softer than average.

Ball Mill Work Index (BWi) with a closing screen of 106 µm confirm the data obtained in earlier metallurgical testing and suggest that a reasonable range of work index (12.3 – 16.6 kWh/t) will be seen in the mill circuit, with hardness increasing relative to the degree of oxidation (i.e. Higher FeOx figures = higher BWi).

Abrasion index tests indicate that all composite samples are only slightly abrasive, and no major wear-related concerns should arise from the processing of these materials.

13.3.5 Size fraction assaying

Earlier work had noted some upgrading of silver to the finer fractions and thus a size fraction analysis was carried out on a coarse crushed sample of the master composites to determine if a size-based preconcentration step could be included in the Silver Sand flowsheet. A 4 kg subsample was removed from the preparation of each master composite at the -3/4" stage of crushing, sized into several fractions, and assayed. Results were generally unremarkable, with upgrades only seen in the finest fraction (-300 µm).

Table 13.4 Master composite size / assay summary

Retained size	Mass		Assay of Retained Fraction			Distribution %		
	g	%	Ag (g/t)	Fe (%)	S (%)	Ag	Fe	S
Sulphide -300 µm	282	7	332	3.1	3.1	12.1	8.1	8.2
Sulphide Head	3,999	100	193	2.7	2.6	100.0	100.0	100.0
Transitional -300 µm	266	7	119	2.6	1.4	8.8	8.2	8.5
Transitional Head	4,029	100	89	2.1	1.1	100.0	100.0	100.0
Oxide -300 µm	336	8	194	2.8	0.1	16.9	9.0	10.7
Oxide Head	4,321	100	94	2.6	0.1	100.0	100.0	100.0

Source: Compiled by Halyard Inc., 2022.

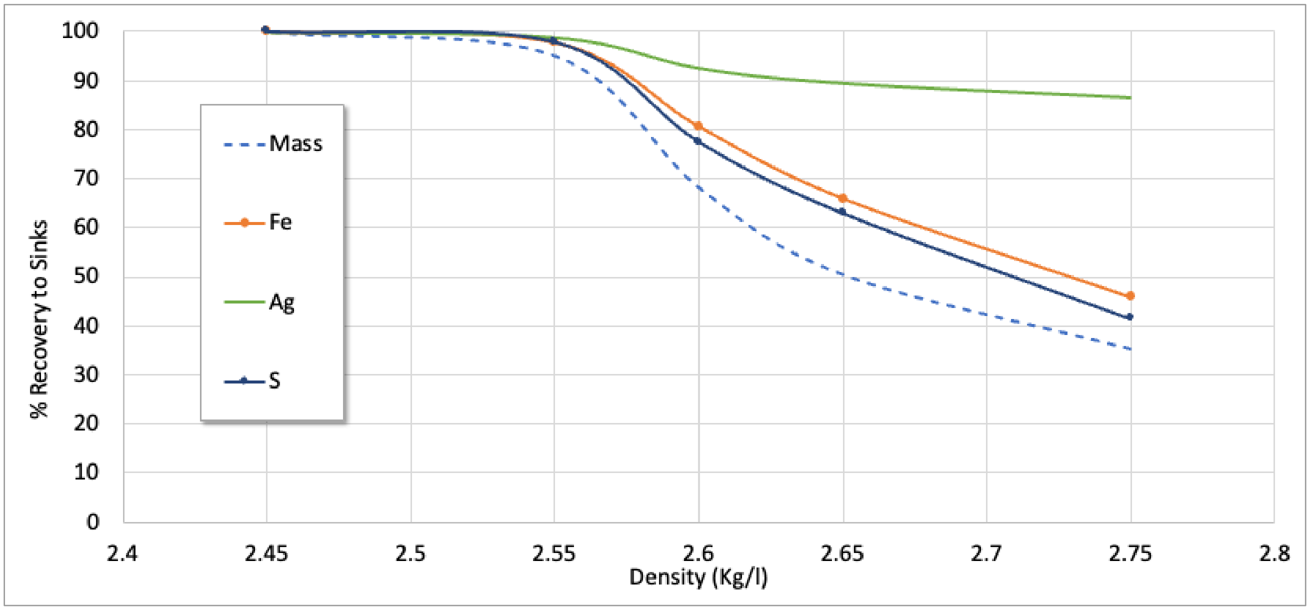
As an effective industrial scale size separation at 300 µm would be more challenging, this work was not pursued further.

13.3.6 Heavy Liquids Separation (HLS) testing

In addition to size fraction assaying, a series of simple density-based separation tests were attempted using heavy liquids on coarse (100% -1/2”) unsized subsamples of the three master composite samples. This testing was completed at SGS in Lakefield, Ontario. Each heavy liquids test composite had the fines (-1.5 mm) removed beforehand and HLS testing was completed on the coarse fraction only (+1.5 mm). The HLS tests were conducted at several different densities, with incremental sink fractions collected at each stage. This method allows the preparation of a simple washability curve for scoping level determination of separability.

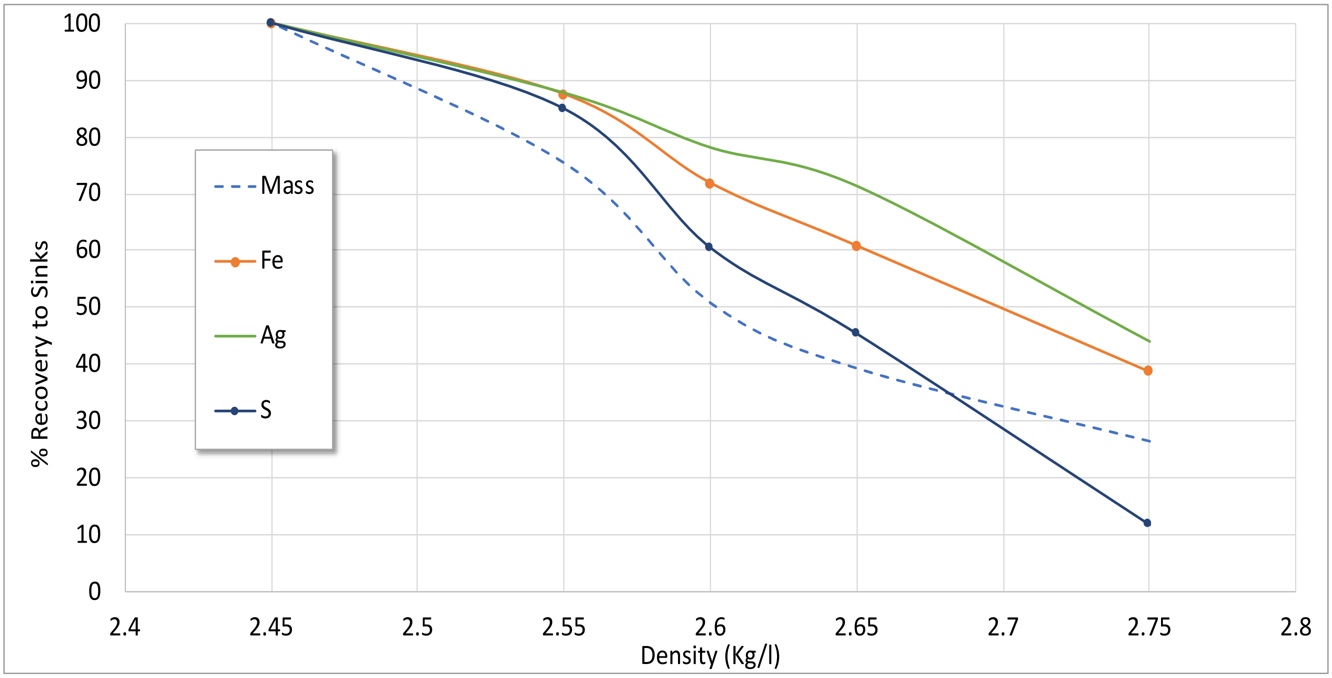
HLS test results for the Sulphide, Transitional, and Oxide composites are plotted in Figure 13.1, Figure 13.2, and Figure 13.3 (note that these results include the recombination of fines bypass to the product stream).

Figure 13.1 HLS recovery curves, Sulphide MC



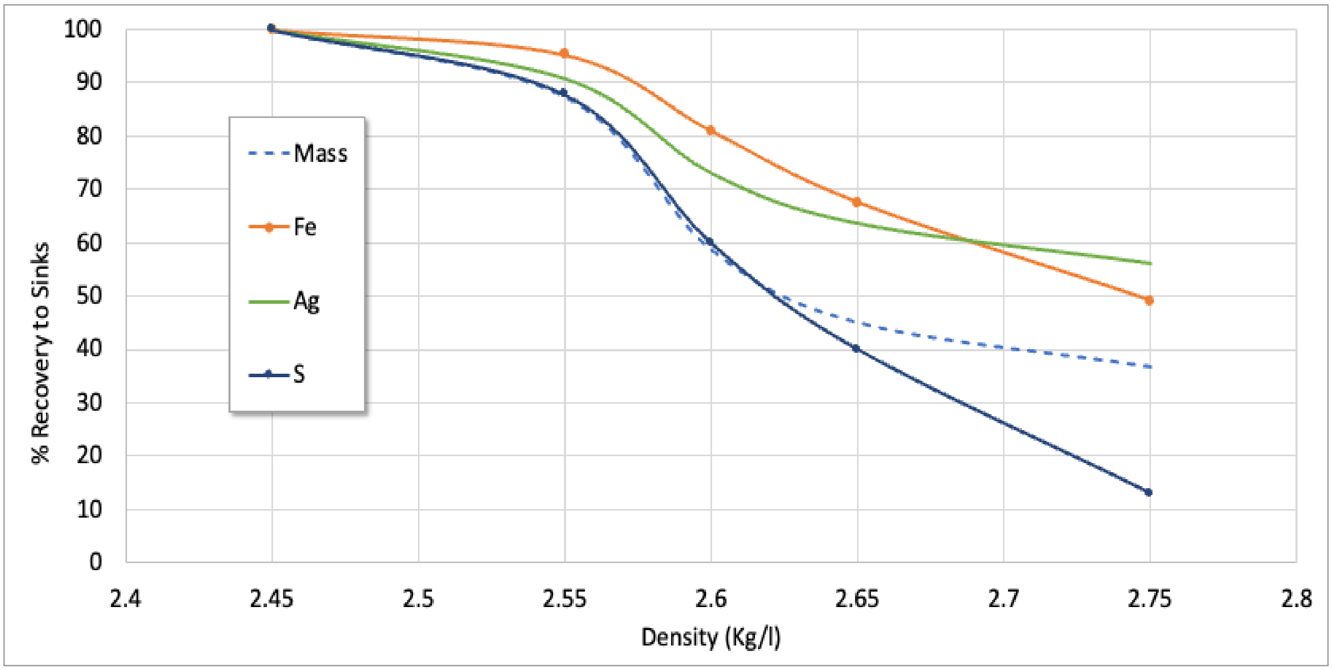
Source: AGP Mining Consultants Inc., 2021.

Figure 13.2 HLS recovery curves, Transitional MC



Source: AGP Mining Consultants Inc., 2021.

Figure 13.3 HLS recovery curves, Oxide MC



Source: AGP Mining Consultants Inc., 2021.

For the Sulphide master composite, the curves illustrate that for example a separation at 2.6 kg/L cut yields a 92.5% silver recovery into 68.2% of the feed mass. The silver grade of the concentrate would be 143 g/t whilst that of the reject stream would be 25 g/t.

The Transitional sample results are worse: a separation at 2.6 kg/L cut would yield a 78.0% silver recovery into 50.8% of the feed mass. Reducing the separation density to 2.55 kg/L would result in 87.7% silver recovery into 75.4% of the feed mass. The silver grade of a 2.60 kg/L concentrate would be 147 g/t whilst that of the reject stream would be 43 g/t.

For the Oxide master composite, separability is also quite poor: a split at 2.6 kg/L cut would yield a 73.2% silver recovery into 58.8% of the feed mass. If the separation density was reduced to 2.55 kg/L, then 90.9% of silver would be recovered into 87.5% of the feed mass. The silver grade of a 2.60 SG concentrate would be 171 g/t whilst that of the reject stream would be 89 g/t.

The heavy liquids tests suggest that a Dense Media Separation (DMS) preconcentration process would not provide an economic separation, and therefore the work was not pursued further.

13.3.7 Mineralogical analysis

Samples of Sulphide, Transitional, and Oxide Master composite samples were submitted to the Advanced Mineralogy Facility at the SGS Lakefield site. The objectives of this investigation were to determine the bulk mineralogy of the samples with emphasis on the silver mineral attributes. Samples were characterized using XRD and TIMA-X data.

XRD measurement showed that the three samples consist mainly of quartz, with minor mica, chlorite and for the sulphide composite, pyrite. Qualitative observations are given in Table 13.5.

Table 13.5 XRD analysis

	Sulphide MC	**Transitional MC**	**Oxide MC**
Major	Quartz	Quartz	Quartz
Moderate	-	-	-
Minor	Mica, Pyrite	Mica	Mica, Chlorite
Trace	Chlorite, K-feldspar, jarosite, chlorite, plagioclase	Pyrite, chlorite, goethite, k-feldspar, jarosite, plagioclase	Pyrite, goethite, k-feldspar, jarosite, plagioclase, maghemite

Source: Compiled by Halyard Inc., 2022.

The bulk modal mineralogy of the three samples as determined by TIMA-X is summarized in Table 13.6. The Sulphide, Transitional, and Oxide samples consist mainly of quartz (84.8%, 89.1%, to 88.7%), micas / chlorite / clays (4.9% to 3.5% to 3.1%), and Fe-oxides (0.7%, 2.7%, and 6.4%, respectively). Trace amounts of other minerals are also present. Note the presence of pyrite which ranges from 7.2% to 3.2% to 0.1%, and Pb-Bi-Sb-Cu sulfosalts from 0.29% to 0.13% to 0.1% in the Sulphide, Transitional, and Oxide samples, respectively.

Table 13.6 Modal mineralogy

Mass distribution, %	Sulphide MC	Transitional MC	Oxide MC
Quartz	84.8	89.1	88.7
Pyrite	7.22	3.17	0.10
Micas / Chlorite / Clays	4.88	3.49	3.13
Fe-Oxides	0.68	2.70	6.44
Sphalerite	0.65	0.03	0.01
Sulphosalts	0.29	0.13	0.10
Ti Oxides	0.26	0.23	0.20
Tetrahedrite	0.16	0.01	-
Other Sulphides	0.08	0.06	-
Argentite / Chloroargyrite	0.02	0.03	0.03
Galena	0.02	-	-
Other Oxides	0.10	0.14	0.24
Carbonates	-	0.01	-
Jarosite	-	0.02	0.02
Other (Misc)	0.78	0.79	1.00
Total	**100**	**100**	**100**

Source: Compiled by Halyard Inc., 2022.

The D_{50} (50% passing value) as determined by TIMA-X for major mineral components is given in Table 13.7.

Table 13.7 Mineral grain size data (D_{50})

Mineral D50 measured (µm)	Sulphide MC	Transitional MC	Oxide MC
Pyrite	50	50	47
Quartz	42	50	48
Micas / Chlorite / Clay	17	17	15
Fe-Oxides	9	17	12

Source: Compiled by Halyard Inc., 2022.

The deportment of silver amongst the various minerals within each composite was also derived using TIMA-X data and is given in Table 13.8. Note that the SGS Mineralogist mentions that the wide variation in measured silver concentration in oxides and sulfosalts means that the data is semi-quantitative only.

Table 13.8 Silver deportment

	Sulphide MC	Transitional MC	Oxide MC
Argentite / Chloroargyrite	52.4	94.4	97.1
Tetrahedrite	34.8	1.9	-
Sulphosalts	12.7	3.0	2.3
Iron Oxide	-	0.5	0.4
Other	0.1	0.2	0.2

Source: Compiled by Halyard Inc., 2022.

The silver deportment data highlights the main difference between the Sulphide composite sample and the Oxide and Transitional composite samples, with roughly half the silver in tetrahedrite and sulphosalts for the sulphide sample and almost all silver in Argentite / Chloroargyrite for the oxide and transitional samples.

13.3.8 Particle sorting

A total of 45 hand-picked samples of half core were sent to TOMRA in Germany who are the manufacturers of XRF / XRT sorting machines for what is described as a “First Inspection” process. The test involves measurement of each particle using various sensor heads and comparing these signatures with the actual grade measured for each particle by assay (measured after the testwork is complete). A typical set of the samples sent for measurement is shown in Figure 13.4.

Figure 13.4 Particle sorting samples (oxide core)

Source: TOMRA, 2020.

The results of this program are discussed in detail within the TOMRA report. After measurement, each sample was individually pulverized and assayed, to allow for a quantitative analysis (albeit with somewhat poor statistics due to the small overall sample size).

Results were generally encouraging, with only a small number of false negatives (i.e. Identified as "Waste" ID but with significant silver grade by assay) and false positives (i.e. Identified as "HG" ID but low silver grade by assay). The remaining samples were correctly identified by the sorter.

This sorting testwork should be advanced in future studies using more significant sample mass, and operational strategies should be developed in parallel with other flowsheet development work.

13.3.9 Flotation

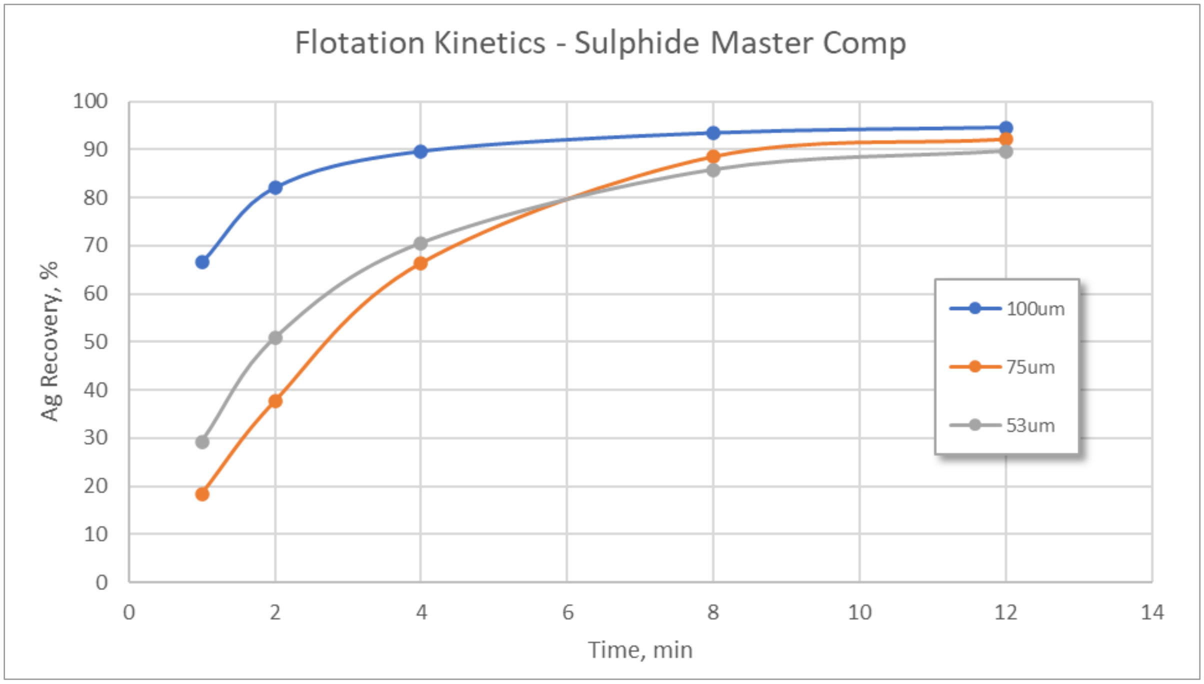
A flotation program consisting of rougher kinetic tests, open circuit cleaner tests and locked cycle tests was completed at SGS Lima. The majority of flowsheet development work was conducted on the master composite samples, with a short program included to verify the variability composites for each oxidation type. Flotation tests were completed using a standard Denver D12 flotation machine, and flowsheet details picked up from the previous (2019) testwork program.

13.3.9.1 Primary grind size determination

The first round of rougher flotation tests was designed to establish the relationship between metallurgical performance and primary grind size. Three grind size targets (80% passing 100 µm, 75 µm, and 53 µm) were selected for each master composite sample. Other parameters such as reagent dosage, % solids and air rates were kept constant. Concentrates were collected after 1, 2, 4, 8, and 12 minutes. The remaining solids after completion of flotation were filtered and collected as a rougher tailing. PAX was used as the baseline collector, as it is very strong and non-selective. MIBC was used as a frother for these preliminary evaluations.

Silver flotation kinetics for the Sulphide master composite sample are plotted below in Figure 13.5.

Figure 13.5 Rougher flotation kinetics, Sulphide master

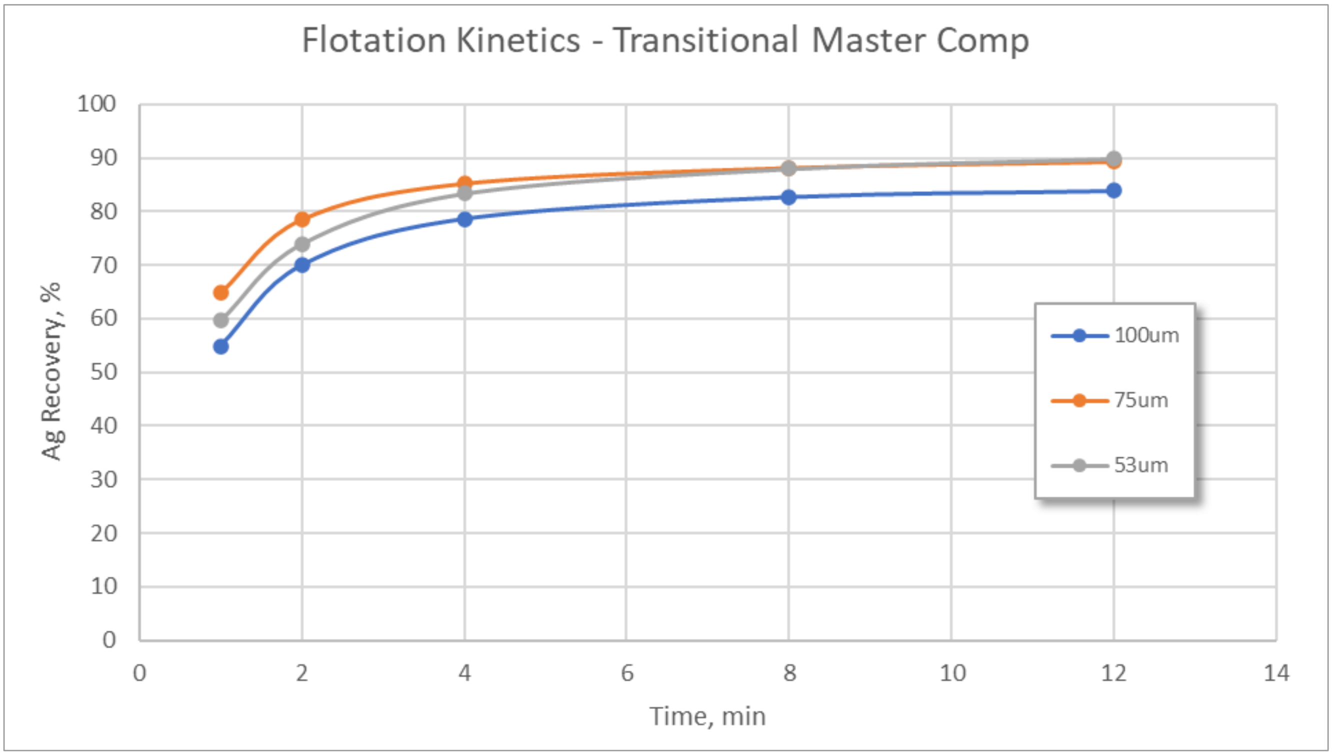


Source: AGP Mining Consultants Inc., 2021.

Silver recoveries of 90 – 95% at concentrate mass pull of 12 - 15% after 12 minutes flotation time is an encouraging result, although the data suggests that the initial concentrate appears to be negatively impacted by finer grinds. In fact, looking at photographs of the individual tests, froth stability was very poor (over-collected) in the 53 µm and 75 µm tests – a well-known effect of the PAX collector used in these tests. In all likelihood, a stronger frother or different collector would allow the finer grind tests to perform properly.

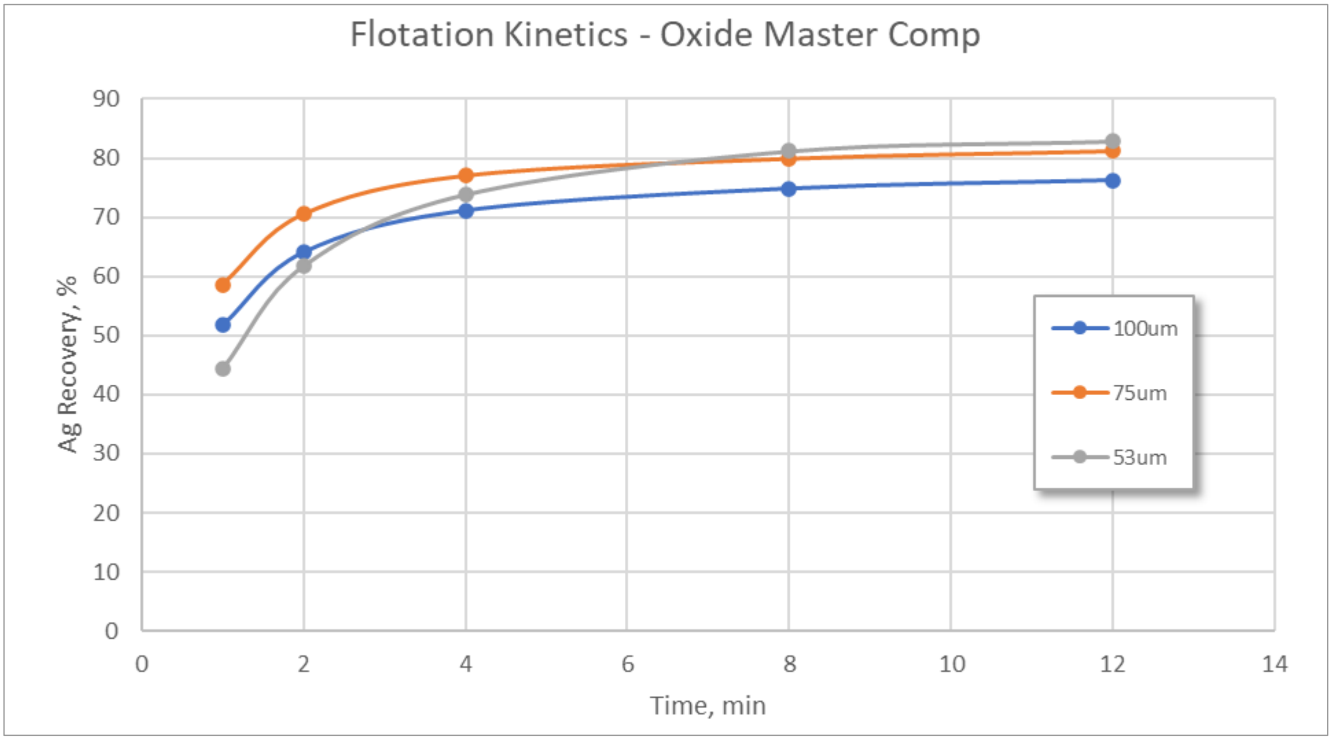
For the Transitional and Oxide composite samples, good silver recoveries were achieved, although gradually lower overall as the degree of oxidation increases.

Figure 13.6 Rougher flotation kinetics, Transitional master



Source: AGP Mining Consultants Inc., 2021.

Figure 13.7 Rougher flotation kinetics, Oxide master



Source: AGP Mining Consultants Inc., 2021.

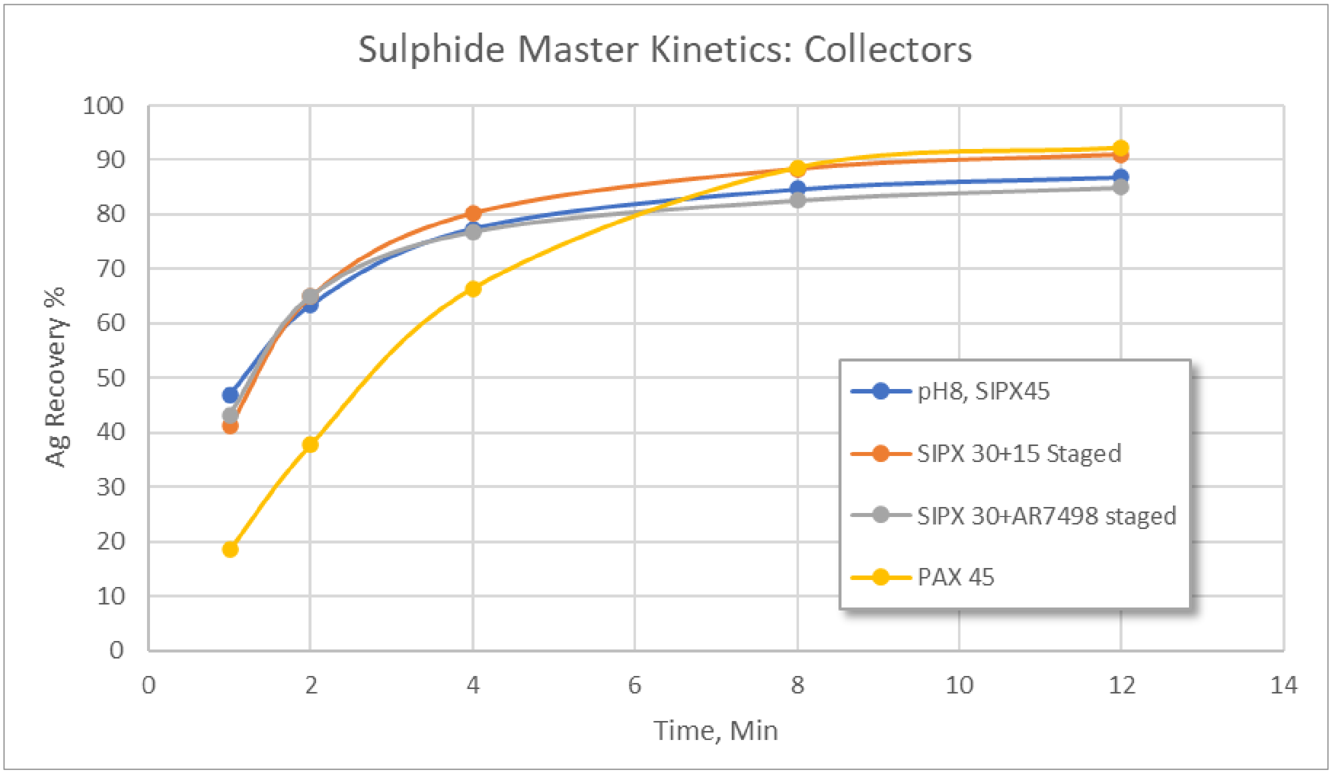
At 12 minutes of flotation time, the net effect of grind size appears to be slight, although there is a slightly larger drop in recovery at the P_{80} = 100 µm level for the transitional and oxide composite samples. Logically, this effect would be expected for the Sulphide composite also – assuming that froth stability issues were addressed through adjustment of reagents.

On the basis of these results, a grind size of 80% passing 75 µm was selected for subsequent testwork.

13.3.9.2 Collector optimization

With the primary grind size fixed, adjustments to the reagent recipe were subsequently attempted. Tests were completed with combinations of Sodium Isopropyl Xanthate (SIPX) and AR7498 (a locally-sourced dithiophosphate) instead of the less-selective PAX. In addition, lime was added to one test in order to provide an alkaline environment (pH =8) for improved sulphide recovery.

Figure 13.8 Rougher flotation kinetics, Sulphide master

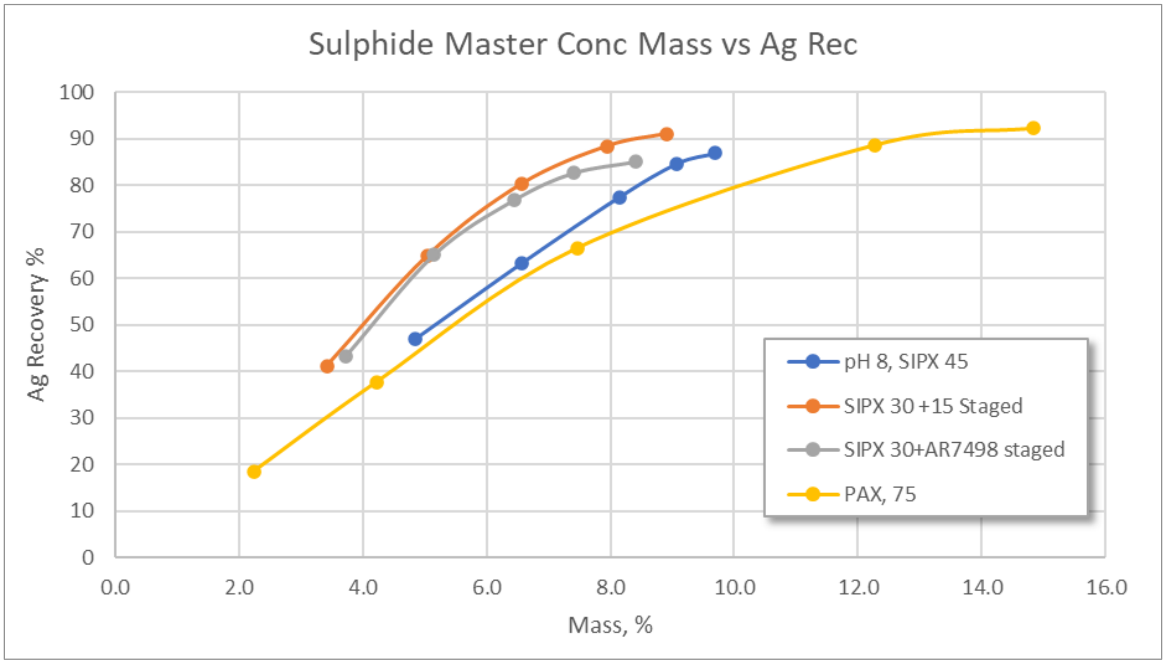


Source: AGP Mining Consultants Inc., 2021.

The improvement in early flotation (less than 4 minutes) for the new tests is clear – highlighting the effect of early over-collection in the initial grind test, where PAX was dosed heavily upfront. It appears that for the sulphide composite, lower initial xanthate dosages are appropriate, as are staged collector dosages. The test at a higher pH (pH=8 vs the natural pH of ~6) did not result in an improvement and the dithiophosphate did not appear to work as well as the straight xanthates.

If one looks at the impact of xanthate strength on concentrate mass pull (shown in Figure 13.9), the positive impact of a less selective collector is quite apparent. Using SIPX in a staged addition (30 g/t initial + 5 then 5 then 5 g/t in the later stages of flotation) results in a similar overall silver recovery (91% vs 92.2% in the initial PAX test), but with a concentrate mass of only 9% vs 15% for the PAX.

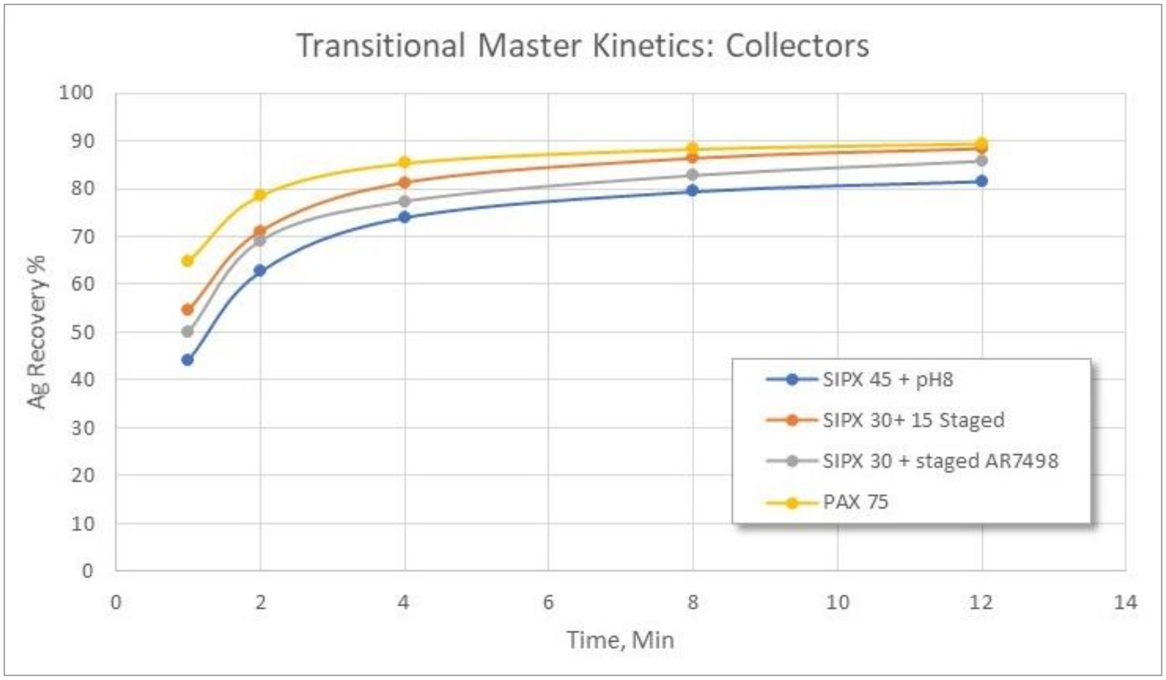
Figure 13.9 Rougher flotation mass pull vs Ag recovery curves



Source: AGP Mining Consultants Inc., 2021.

For the transitional master composite, overall silver recovery results are similar (see Figure 13.10), although the effect of over collection in early flotation using 45 g/t PAX is absent here and the PAX test gives superior kinetics early on. In contrast to the sulphide master result, PAX and SIPX overall mass pull is similar, so none of the new reagent combinations can match the original 45 g/t PAX addition.

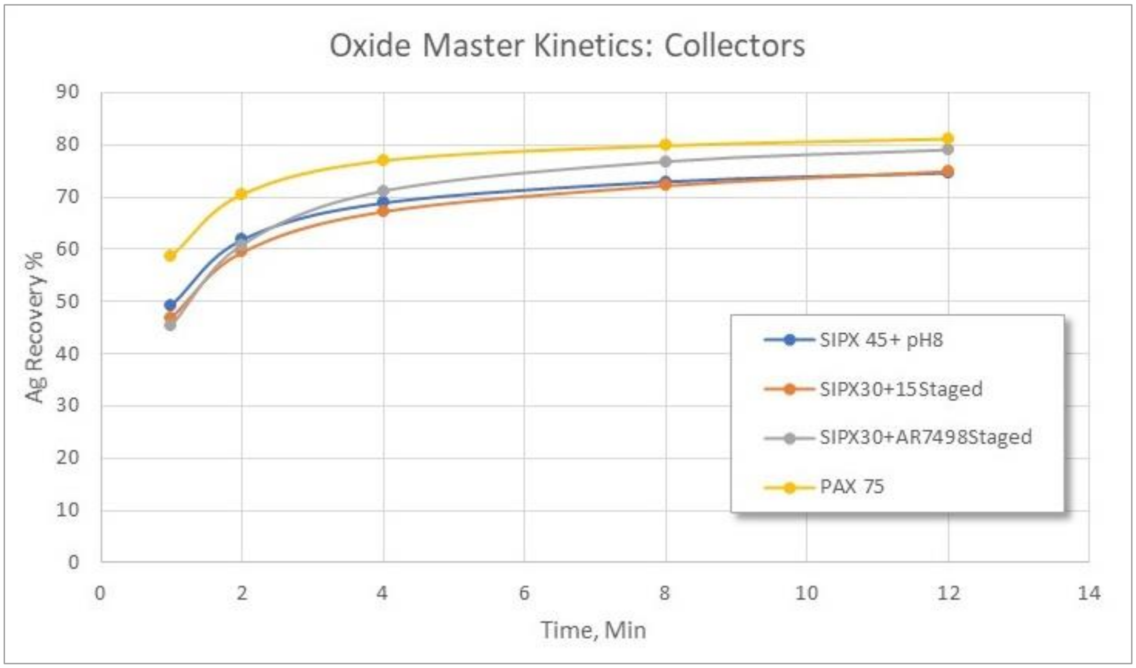
Figure 13.10 Rougher flotation kinetics, Transitional master



Source: AGP Mining Consultants Inc., 2021.

For the oxide master composite, results are similar to those from the transitional master testing (see Figure 13.11).

Figure 13.11 Rougher flotation kinetics, Oxide master



Source: AGP Mining Consultants Inc., 2021.

As with the Transitional master composite, the results using SIPX and / or higher pH did not match the results of the original PAX test (45 g/t PAX). It is worth noting that the oxide composite resulted in little collection of mass to the concentrate, with less than 3% mass recovery observed in most tests. The concentrate grades achieved in the first minute of flotation were impressive, with up to 12,000 g/t achieved in one test.

The rougher flotation tests completed in this program confirm that standard non-selective sulphide collectors at natural pH are quite suitable for good grade / recovery performance at a primary grind size of 80% passing 75 µm.

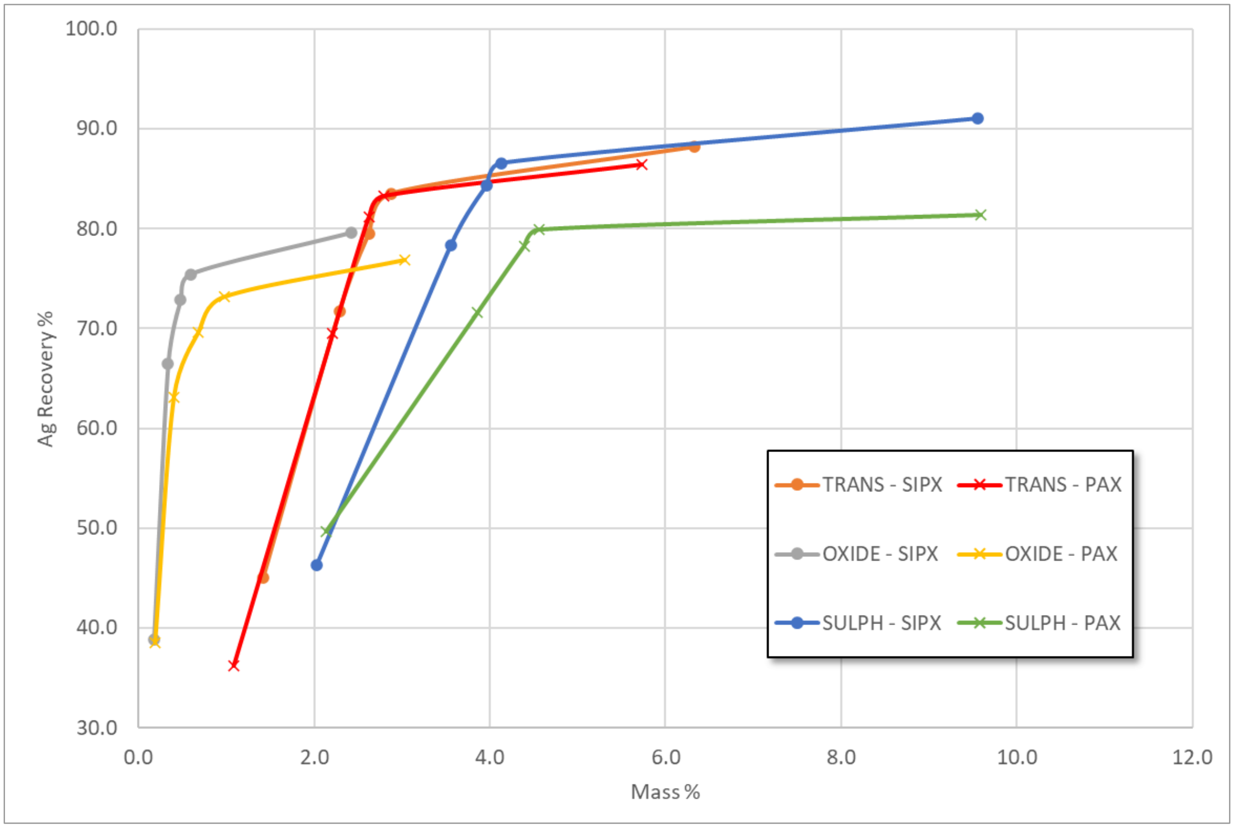
13.3.9.3 Batch cleaner tests

Cleaner flotation is generally aimed at increasing concentrate grade to a saleable level, via additional liberation (regrinding) and multiple stages of selective silver recovery to reject the entrained gangue minerals. For the Silver Sand project, commercially attractive concentrate grades likely require payable base metal (Cu, Pb, or Zn) content in addition to silver grades.

Initial cleaner tests consisted of a single stage upgrade of a bulk rougher flotation concentrate and later testing used two cleaner stages. Concentrate regrinding was not tested as selective flotation was achievable without regrind.

PAX and SIPX were compared as collectors for rougher and cleaner flotation of the three master composites. Bulk rougher concentrates were prepared for each using the conditions determined in previous programs (i.e., 45 g/t SIPX or PAX, 75 µm grind, MIBC frother, etc.) and cleaner concentrates were recovered from the rougher concentrate incrementally over 10 minutes. A plot of cleaner concentrate mass pull vs recovery for the three composites is shown below (Figure 13.12), illustrating how performance is generally better when SIPX is used as the primary collector.

Figure 13.12 Cleaner #1 flotation response, master composites x 3



Source: AGP Mining Consultants Inc., 2021.

In general, between 3% and 5% of silver recovery reported to the cleaner tailing stream. For locked cycle testing and industrial scale flotation, this stream would be recirculated to the rougher / scavenger feed where a percentage of that loss could be recovered. Cleaner concentrate vs rougher concentrate grades and recoveries are compared in the following Table 13.9.

Table 13.9 Rougher vs one-stage Cleaner silver flotation performance

SIPX cleaner flotation	Ag grade (ppm)	Ag recovery (%)
Sulphide Rougher Concentrate	1,128	91.0
Sulphide Cleaner Concentrate	2,486	86.5
Transitional Rougher Concentrate	1,676	88.2
Transitional Cleaner Concentrate	3,488	83.2
Oxide Rougher Concentrate	3,007	79.6
Oxide Cleaner Concentrate	11,564	75.4

Source: Compiled by Halyard Inc., 2022.

Each master composite was subsequently tested using two stages of cleaner flotation, using SIPX as the primary collector and with other conditions similar to previous tests.

The second stage of cleaning had a similar effect on the concentrate – lowering the recovery slightly and improving the concentrate grade (see Table 13.10). Note that very high silver grade is achievable from the oxide composite – albeit at relatively low recoveries.

Table 13.10 Cleaner #1 vs Cleaner #2 silver flotation performance

SIPX cleaner flotation	Ag grade (ppm)	Ag recovery (%)
Transitional Cleaner 1 Concentrate	2,931	83.0
Transitional Cleaner 2 Concentrate	4,017	76.1
Oxide Cleaner 1 Concentrate	9,130	69.9
Oxide Cleaner 2 Concentrate	27,657	61.0
Sulphide Cleaner 1 Concentrate	2,037	84.2
Sulphide Cleaner 2 Concentrate	2,169	79.9

Source: Compiled by Halyard Inc., 2022.

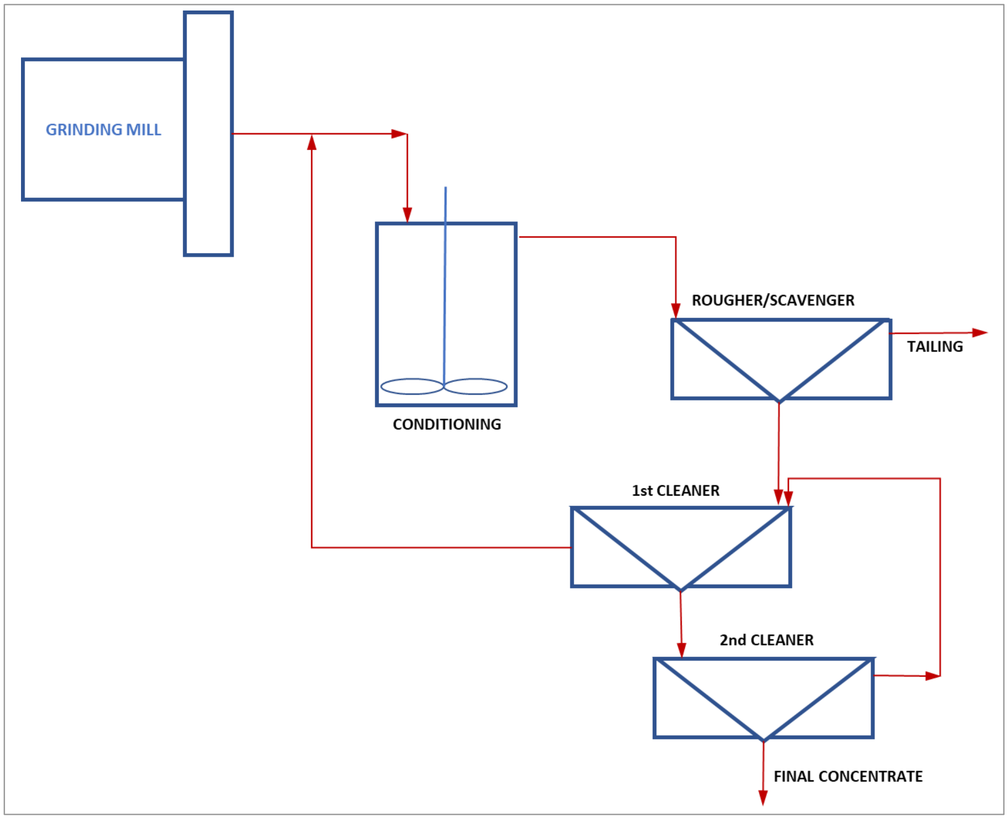
13.3.9.4 Locked cycle tests

Locked cycle testing takes the open circuit cleaner flowsheet discussed above and includes the recirculation of intermediate streams in a series of consecutive tests. The intermediate products from cycle #1 are fed into cycle #2 at the appropriate point together with a new batch of fresh feed. This is generally repeated five or six times, until the circuit masses are stable.

In this way, the effect of circulating loads within the flowsheet are included in the result. The products from these tests tend to be much more representative of continuous operation in terms of both grade and recovery.

A single locked cycle test was completed on each master composite, using the flowsheet illustrated below. SIPX was used as a collector, and flotation conditions were those established in open circuit testing as illustrated in Figure 13.13.

Figure 13.13 Locked cycle test flowsheet



Source: Halyard Inc., 2022.

For the transitional master composite, locked cycle test results are as follows in Table 13.11.

Table 13.11 Locked cycle results, transitional MC

Product	Mass (%)	Grade			Distribution (%)		
		Ag (g/t)	Fe (%)	S (%)	Ag	Fe	S
Cleaner 2 Concentrate	2.2	4,300	45.9	47.5	83.2	39.9	89.4
Combined Recycled Prod.	1.3	107.2	3.5	0.8	1.2	1.8	0.9
Combined Rougher Tails	96.6	18.0	1.5	0.1	15.5	58.3	9.7
Rougher Concentrate	3.4	2,741	30.1	30.1	84.5	41.7	90.3
Feed	100.0	111.9	2.5	1.2	100.0	100.0	100.0

Source: Compiled by Halyard Inc., 2022.

A total of 83.2% of the silver was recovered into a concentrate grading 4,300 g/t Ag and 47.5% sulphur. This is a good result, with high recovery in the cleaner circuit despite a reasonable upgrade.

For the Oxide composite, locked cycle test results are as follows in Table 13.12.

Table 13.12 Locked cycle results, oxide MC (single cleaner)

Product	Mass (%)	Grade			Distribution (%)		
		Ag (g/t)	Fe (%)	S (%)	Ag	Fe	S
Cleaner 1 Conc	0.5	12,095	16.0	9.4	67.4	2.8	39.2
Combined Recycled Prod.	0.5	480	5.3	0.2	3.1	1.1	1.0
Combined Rougher Tails	99.0	25.2	2.6	0.1	29.5	96.2	59.8
Rougher Concentrate	1.0	5,8560	10.3	4.5	70.5	3.8	40.2
Feed	100.0	74.4	1.0	0.2	100.0	100.0	100.0

Source: Compiled by Halyard Inc., 2022.

A second stage cleaner is not necessary for the oxide composite, with a grade of >12,000 g/t achieved already in the first cleaner stage.12,095 g/t concentrate grade containing 67.4% of the silver is an acceptable result for the oxide composite.

For the Sulphide master composite, good silver recovery of 87% was achieved, in contrast to the open circuit cleaner tests which could only achieve 80% to the second cleaner conc. Note also the high sulphur grade of the cleaner concentrate, at >50% Sulphur. The presence of non-silver bearing sulphides in the concentrate mean that the concentrate silver grade is relatively low, at 2,222 g/t.

Table 13.13 Locked cycle results – sulphide MC

Product	Mass (%)	Grade			Distribution (%)		
		Ag (g/t)	Fe (%)	S (%)	Ag	Fe	S
Cleaner Conc	5.0	2,222	45.5	51.4	87.1	71.5	92.9
Combined Recycled Prod.	1.1	154.3	3.1	1.7	1.3	1.0	0.7
Combined Rougher Tails	93.9	15.9	0.9	0.2	11.6	27.4	6.5
Rougher Concentrate	6.1	1,854	38.0	42.6	88.4	72.6	93.5
Feed	100.0	128.2	3.2	2.8	100.0	100.0	100.0

Source: Compiled by Halyard Inc., 2022.

No work was done to assess the effect of mixed oxide / sulphide / transitional material, and this would be recommended further work should project economics determine that flotation is a viable process route.

13.3.9.5 Flotation concentrate analysis

Final flotation concentrates from the three locked cycle tests were submitted for base metals and minor element analysis.

Base metals concentrations were measured in the concentrates generated for each cycle of the LCT and averaged in Table 13.14. The assays suggest that base metal grades in these products may be insufficient to attract reasonable smelter terms at copper, lead, or zinc smelters.

Table 13.14 Locked cycle concentrates, base metals

Product	Grade		
	Cu (%)	Pb (%)	Zn (%)
Sulphide average	0.97	0.67	5.28
Transitional average	0.58	0.13	0.38
Oxide average	0.48	0.41	1.05

Source: Compiled by Halyard Inc., 2022.

Concentrates from the last three cycles of the LCT tests were also submitted for minor element ICP scans. The data given in Table 13.15 is the average of three measurements.

Table 13.15 Locked cycle concentrates, minor elements (by ICP)

Element	Unit	Sulphide	Transitional	Oxide
Al	%	0.23	1.00	3.33
As	ppm	3,905	3,170	2,524
Ba	ppm	11	60	237
Be	ppm	<0.5	0.55	0.55
Bi	ppm	354	40	111
Ca	%	<0.01	0.02	0.10
Cd	ppm	316	13	37
Co	ppm	48	67	118
Cr	ppm	304	1,618	5,068
Fe	%	>15	>15	>15
Ga	ppm	<10	<10	19
K	%	0.10	0.41	1.3
La	ppm	1.5	5.1	10.2
Li	ppm	<1	3	4
Mg	%	<0.01	0.01	0.04
Mn	ppm	43	174	588

Element	Unit	Sulphide	Transitional	Oxide
Mo	ppm	47	197	651
Na	%	0.10	0.05	0.10
Nb	ppm	12	5	4
Ni	ppm	221	951	2,943
P	%	<0.01	0.01	0.09
S	%	>10	>10	>10
Sb	ppm	5,559	628	680
Sc	ppm	0.5	0.6	1.5
Sn	ppm	1,143	190	223
Sr	ppm	33	123	830
Ti	%	0.03	0.05	0.06
Tl	ppm	<2	<2	2
V	ppm	30	36	68
W	ppm	180	34	103
Y	ppm	0.9	1.0	1.8
Zr	ppm	21	16	26

Source: Compiled by Halyard Inc., 2022.

Somewhat high arsenic levels are noted in the concentrates, and this element could attract penalties in certain smelters. Antimony in the sulphide concentrate is due to the presence of tetrahedrite.

13.3.9.6 Variability tests

Several variability composites were created as described within Section 13.3.2, corresponding to high-grade and low-grade variants of the Sulphide, Transitional, and Oxide master composites. Rougher kinetics for each variant were evaluated for comparison to the baseline master composite work. Results were predictable, with grades and recoveries in near proximity to the master composite results. No variability concerns were raised.

13.3.10 Cyanidation

The extraction of silver using sodium cyanide as a lixiviant was tested under various conditions. Master composites and variability composites were tested, using standard bottle roll procedures over 48 - 72 hours. In addition to bottle roll testing, the Transitional Master composite was evaluated for heap leach amenability testing via a 120-day column leach test. These tests are described below.

13.3.10.1 Bottle roll testing – master composites

An initial program of bottle roll tests was carried out to determine preferred conditions (grind size, cyanide concentration, dissolved oxygen levels, etc.).

The effect of grind size was assessed using standard leaching conditions (room temperature, 45% solids, 2.0 g/L NaCN, 48-hour leach time and sparging with oxygen).

Table 13.16 Bottle roll testing – effect of grind size

Sample	P_{80} µm	Ag Head grade (g/t)		Residue Ag (g/t)	Extraction Ag (%)	Reagents (kg/t)	
		Assayed	Calc			CaO	NaCN
Sulphide master composite sample	100	119	132	35	73.3	0.64	3.01
	75		122	26	78.4	0.58	3.74
	53		136	27	80.1	0.58	3.96
Transitional master composite sample	100	113	119	10	91.5	0.34	1.63
	75		120	7.3	93.9	0.37	1.98
	53		113	7.3	93.5	0.42	2.85
Oxide master composite sample	100	91	101	9.3	90.9	0.38	1.64
	75		106	8.0	92.5	0.40	1.85
	53		101	5.7	94.4	0.46	2.79

Source: Compiled by Halyard Inc., 2022.

In all cases, the coarse grind size P_{80} (100 µm) gives rise to a marked drop in silver recovery. Oxide and Sulphide composites both see an increase in silver recovery at 48 hours for the fine (53 µm P_{80}) increment, whilst the transitional composite is less sensitive.

In common with the flotation testwork, a primary grind size of 80% passing 75 µm was chosen as the best balance of power consumption/reagent consumption and silver recovery under standard conditions.

With the primary grind size fixed, the effect of changing cyanide concentrations was subsequently assessed. For each master composite, a set of tests used cyanide concentrations that were maintained at 1.0 g/L and 3.0 g/L NaCN for comparison with the base 2.0 g/L case. High (12 - 15 ppm) dissolved oxygen ($DO_{2)}$ levels were targeted in all tests.

The effect of NaCN concentration on material 80% passing 75 µm grind, at pulp density of 45% solids, and 48 hours of retention time in bottle roll testing is shown in Table 13.17.

Table 13.17 Bottle roll testing – Effect of NaCN concentration (75 µm grind)

Sample	P_{80} µm	NaCN (g/L)	Ag Head grade (g/t)		Residue Ag (g/t)	Extraction Ag (%)	Reagents (kg/t)	
			Assayed	Calc			CaO	NaCN
Transitional master composite sample	75	1.0	113	122	31	74.8	0.41	1.47
		2.0		122	7.3	93.9	0.37	1.98
		3.0		117	7.4	93.7	0.37	2.33
Oxide master composite sample		1.0	91	106	15	85.7	0.32	1.40
		2.0		106	8.0	92.5	0.40	1.85
		3.0		103	10	89.8	0.31	1.88
Sulphide master composite sample		1.0	119	140	41	70.5	0.75	2.23
		2.0		122	26	78.43	0.58	3.74
		3.0		123	25	79.6	0.82	3.65

Source: Compiled by Halyard Inc., 2022.

These tests highlighted an unusual result for Transitional and Oxide composites: the silver extraction in the first round of tests appears to be positively offset from the tests in this second round. Upon further investigation, it was considered likely that the anomaly was an effect of the higher DO_2 levels used in first-round testing.

Under all conditions, the leaching process appeared to be incomplete after 48 hours and therefore subsequent bottle roll tests were carried out over 72 hours.

Comparing the Transitional composite data in Table 13.18, one sees that a higher DO_2 level was likely responsible for the higher silver extraction seen in the first round of tests.

Table 13.18 DO_2 levels, transitional composite

Time (hours)	Dissolved oxygen level (DO_2), ppm		
	Round 1, 2 g/L NaCN	Round 2, 1 g/L NaCN	Round 2, 3 g/L NaCN
0	6.4	9.2	10.1
2	12.2	10.3	9.4
4	16.7	10.0	11.1
8	20.1	14.2	13.5
12	20.2	11.4	13.4
24	18.9	11.1	12.3
48	13.9	10.3	7.6

Source: Compiled by Halyard Inc., 2022.

Subsequent tests under a range of different DO_2 conditions show a fair amount of scatter (the DO_2 values used here are average readings over a 48-hour duration) but results tend to confirm a broad relationship for Oxide and Transitional composite samples (less so for Sulphide). Results are summarized in Table 13.19 and plotted in Figure 13.14.

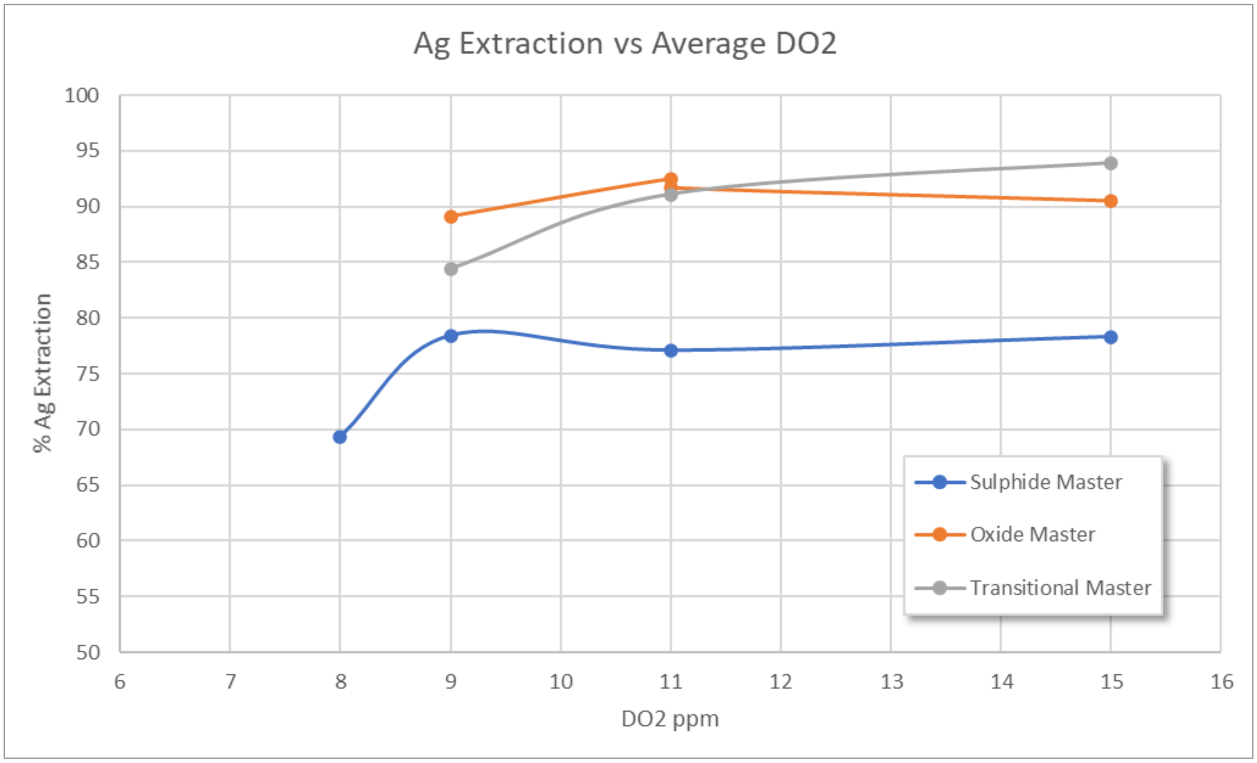
Of note, low DO_2 levels (<8 ppm) are known to be deleterious for silver cyanidation chemistry, and therefore effort should be made to ensure higher levels for any industrial processes. This can be problematic at high altitude sites such as Silver Sand and therefore has the potential to affect potential economic extraction.

Table 13.19 DO_2 levels vs % Ag extraction

Sample	Ag Extraction with 2 g/L NaCN and 75 µm grind			
	8 ppm DO_2	9-10 ppm DO_2	11 ppm	15 ppm
Sulphide MC	69.4	78.4	77.1	78.3
Transitional MC		84.5	91.0	93.9
Oxide MC		89.1	91.7	90.5

Source: Compiled by Halyard Inc., 2022.

Figure 13.14 Effect of DO_2 on Ag extraction, 75 µm grind, 2 g/L NaCN



Source: AGP Mining Consultants Inc., 2021.

The cyanidation results above highlight lower silver extraction rates for the Sulphide composites. Supposing that this might be due to the formation of a passivation layer which inhibits the diffusion of oxygen and cyanide to the silver surface, then the addition of lead nitrate to the cyanide solution can be of benefit. For the following block of tests, lead nitrate was added at various rates to assess the effect of this potential catalyst.

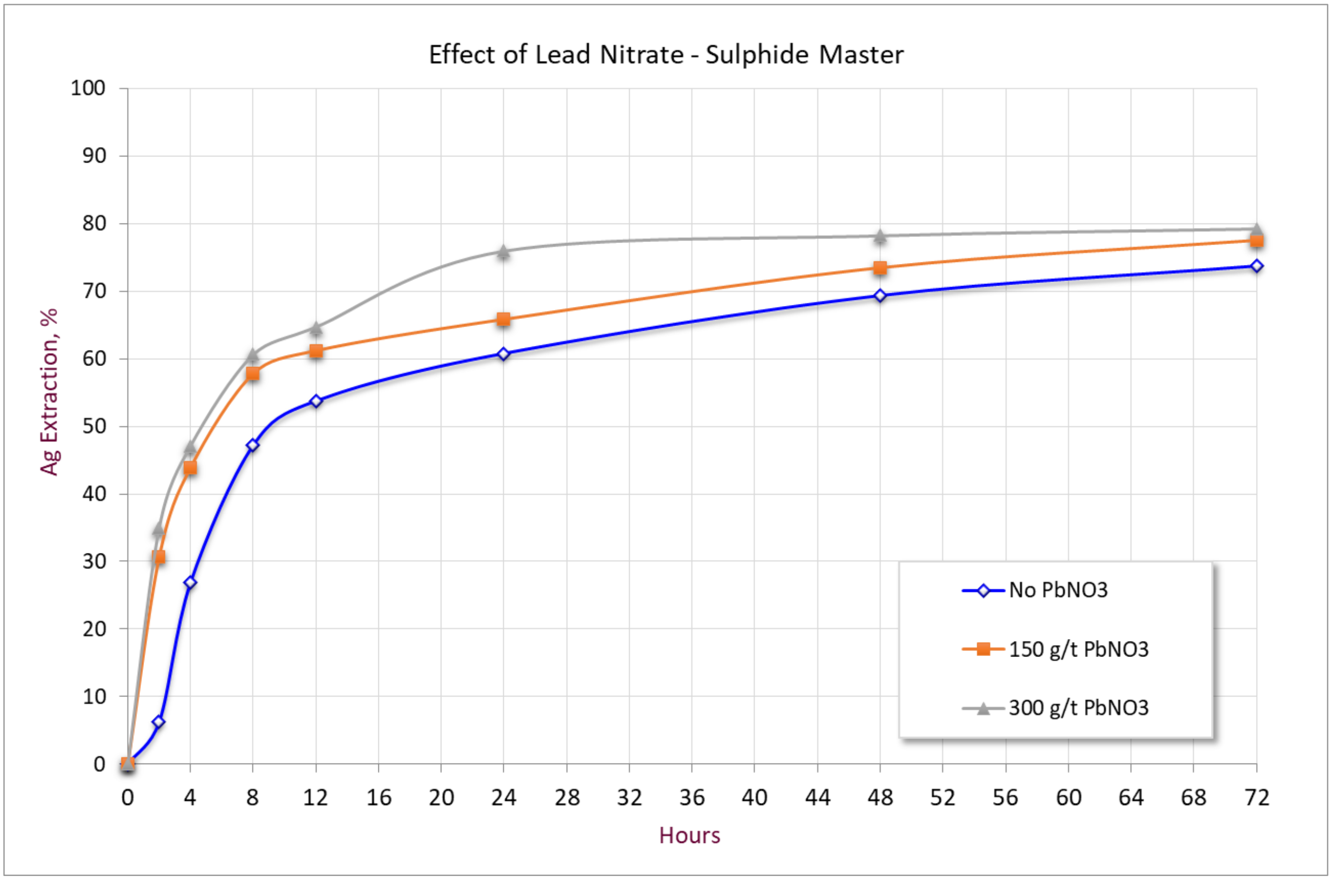
Lead nitrate was initially tested on the Sulphide master composite at 150 g/t and 300 g/t dosage. Results are summarized in Table 13.20 and Figure 13.15.

Table 13.20 Sulphide master, initial lead nitrate evaluation

ID sample	Ag Head grade (g/t)		Residue	Extraction	Reagents (kg/t)		
	Assayed	Calculated	Ag (g/t)	Ag (%)	CaO	NaCN	$Pb(NO_3)_2$
0 g/t $Pb(NO_3)_2$		130.4	34.3	73.7	0.30	3.87	0
150 g/t $Pb(NO_3)_2$	118.8	132.2	29.8	77.5	0.52	2.84	150
300 g/t $Pb(NO_3)_2$		120.8	25.1	79.3	0.57	2.67	300

Source: Compiled by Halyard Inc., 2022.

Figure 13.15 Effect of lead nitrate on Ag extraction, Sulphide comp



Source: AGP Mining Consultants Inc., 2021.

The application of 150 or 300 g/t lead nitrate to the leach solution has a positive impact on kinetics, with the 300 g/t dosage in particular showing a large improvement at the 24-hour mark. This warrants further investigation as the metallurgical programs continue.

13.3.10.2 Coarse bottle roll tests

A coarse bottle roll test was conducted on each master composite to gauge the feasibility of a coarse vat leach processing option. A sample of 100% -2 mm crushed material was leached using standard conditions (45% solids, room temperature, 2.0 g/L NaCN, oxygen sparging, 72 hours retention time, 300 g/t $Pb(NO_3)_2$) but with no grinding stage. Results are given in Table 13.21.

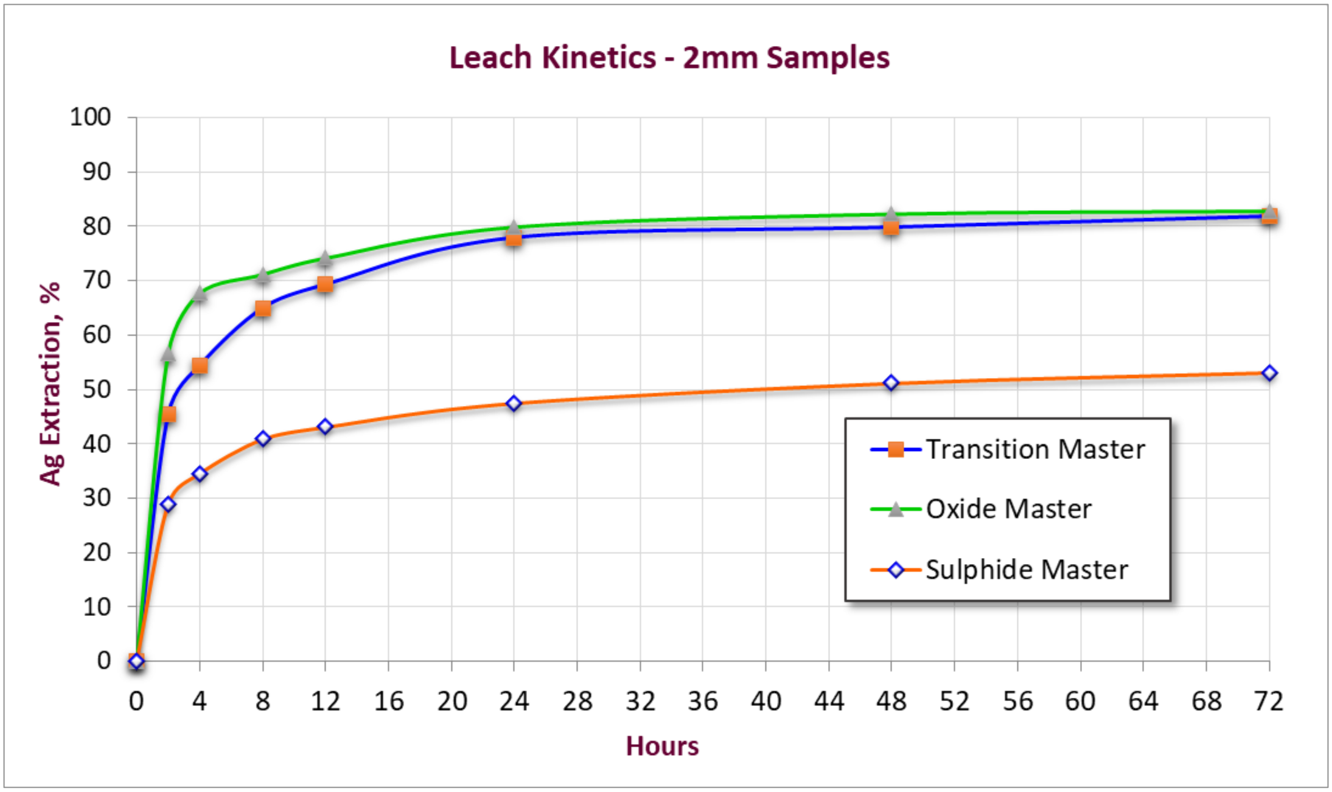
Table 13.21 2 mm Crush: Bottle roll results

ID sample	Ag Head grade (g/t)		Residue	Extraction	Reagents (kg/t)		
	Assayed	Calculated	Ag (g/t)	Ag (%)	CaO	NaCN	$Pb(NO_3)_2$
Sulphide Master	118.8	129.9	60.9	53.1	0.83	1.48	0.30
Transitional Master	113.2	117.6	21.3	81.9	0.55	0.96	0.30
Oxide Master	90.8	100.0	17.1	82.9	0.68	0.72	0.30

Source: Compiled by Halyard Inc., 2022.

Leach kinetics for the 100% -2 mm composites are illustrated in Figure 13.16.

Figure 13.16 Leaching of -2 mm master composites



Source: AGP Mining Consultants Inc., 2021.

The oxide and transitional composites leach well at the 2 mm crush size, reaching a >75% extraction within 24 hours. Looking at the transitional composite, the final extraction of 80% is achieved after around 36 hours, whereas this same is achieved in >100 days for the coarser column leach test (100% passing 12.7 mm).

The Sulphide composite does not leach well at this coarser size, and one would therefore expect similarly poor (or worse) performance under coarser heap leach conditions.

13.3.10.3 Column leaching – Transitional master composite

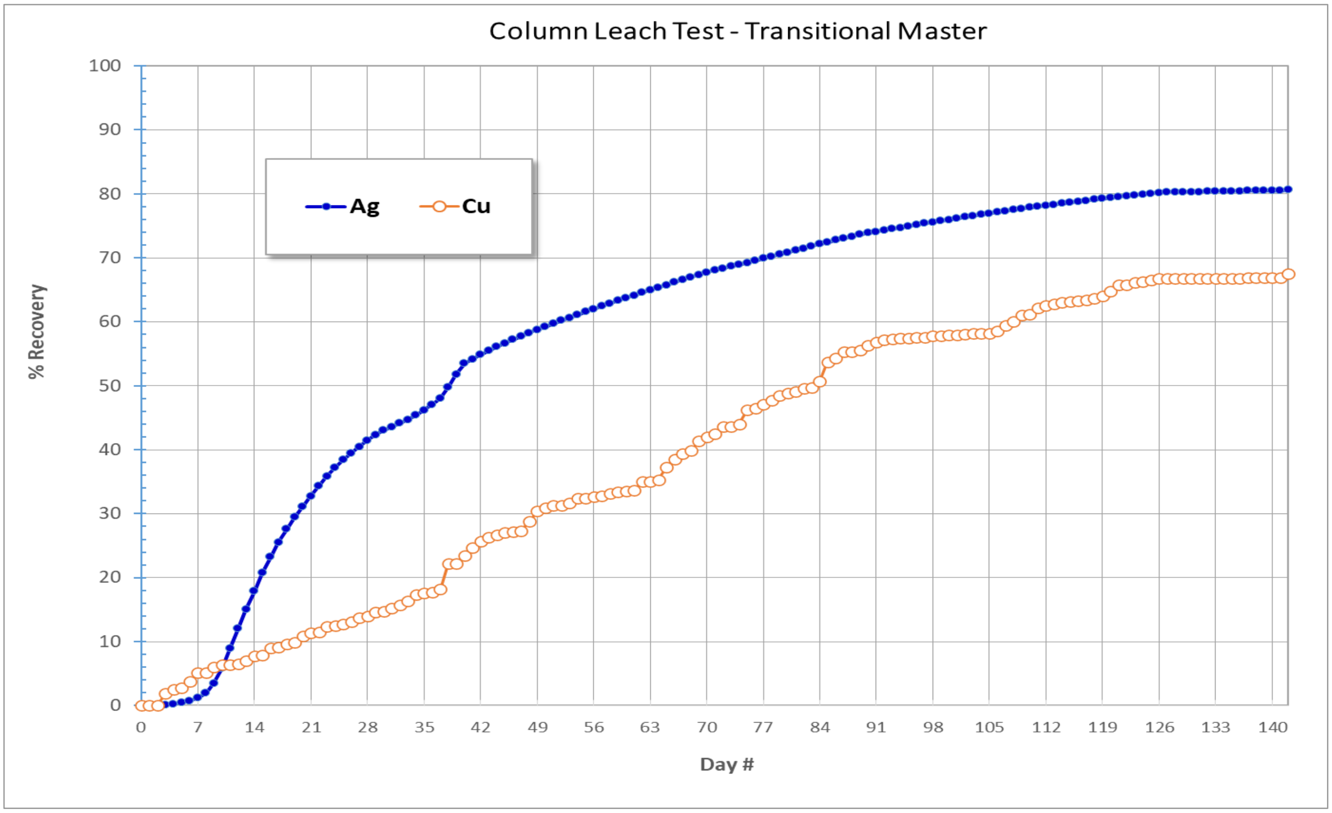
A sample of the transitional master composite was split out during sample preparation, to give roughly 100-kg of 100% -1/2″ material. This was prepared as feed for a single column leach test using a 6″ diameter x 3 m height column. The test duration was 142 days. The test was configured as a closed-circuit test, with continuous adsorption of leached silver using a carbon column on the recycled leachate. Solution cyanide concentrations were maintained at 600 ppm NaCN and the irrigation rate was maintained at 10 L/h per m^2 throughout the test.

Results of the column leach test are illustrated in Figure 13.17. An operational issue with overloaded carbon around day 36 is responsible for the slight bump in the curve at that point. This was quickly rectified and does not materially affect the overall result.

Silver recovery reaches a level of about 80% after ~120 days and copper recovery reaches 68% in the same time. This is a reasonable kinetic response and suggests that heap leaching might be a suitable processing option for low-grade mineralization. There are some scale-up concerns related to heap leaching at altitude however – the maintenance of high DO_2 within a leach pad at 4,100 m is a difficult proposition (forced air leach pads are in use but are more complicated and expensive to operate). For a tall leach pad where sulphide material is present or cyanide soluble copper content is high, it can be difficult to maintain a high-level cyanide concentration.

Cyanide consumption data shows a trend towards 1.20 kg/t at the end of the test.

Figure 13.17 Column leach kinetics (Transitional MC)



Source: AGP Mining Consultants Inc., 2021.

13.3.10.4 Bottle roll testing - Variability composites

The majority of flowsheet development work for cyanidation was completed on master composites and focused on the effect of grind size, NaCN concentration, DO_2 levels, and the addition of $Pb(NO_3)_2$ as a catalyst. To conclude the cyanidation program, a simple variability program was also completed, using high-grade and low-grade variants of the Sulphide, Transitional, and Oxide mineralization types.

The preferred bottle roll conditions were used as a standard for the variability testing, these being 80% passing 75 µm grind, 45% solids, room temperature, 2.0 g/L NaCN, oxygen sparging, 300 g/t $Pb(NO_3)_2$, and 72-hour retention time. These standard conditions make no attempt to adjust for differences in head grade, and therefore tend to highlight the effect of this variable. Results of the variability testing are listed in Table 13.22.

Table 13.22 Variability bottle roll results

ID sample	Ag Head grade (g/t)		Residue	Extraction	Reagents (kg/t)		
	Assayed	Calculated	Ag (g/t)	Ag (%)	CaO	NaCN	$Pb(NO_3)_2$
Sulphide HG	384.9	409.8	107.7	73.7	0.70	3.95	0.3
Sulphide LG	20.4	23.6	2.9	87.8	0.64	1.63	0.3
Transitional HG	306.4	349.2	86.5	75.2	0.53	3.70	0.3
Transitional LG	32.8	36.2	2.0	94.6	0.53	1.37	0.3
Oxide HG	166.8	192.5	21.3	89.0	0.61	1.75	0.3
Oxide LG	27.8	31.6	2.1	93.3	0.75	0.90	0.3

Source: Compiled by Halyard Inc., 2022.

13.3.10.5 Bottle roll testing - Flotation concentrates

A single bottle roll test was completed on each of the final concentrate samples from the locked cycle flotation tests described in Section 13.3.9.4, using typical conditions, namely 5.0 g/L NaCN, 300 g/t lead nitrate, 15 ppm DO_2, and 48 hours of leaching. These tests provide an initial simulation of a cyanidation circuit after preconcentration by flotation. Results are summarized in Table 13.23.

Table 13.23 Cyanidation of flotation concentrate

ID sample	Assayed head	Calculated head	Residue	% Ag Extraction	CaO (kg/t)	NaCN (kg/t)	$Pb(NO_3)_2$ (kg/t)
Transitional Master	4,221	3,923	182	95.4	3.56	24.86	0.3
Sulphide Master	2,214	2,094	855	59.2	4.52	25.92	0.3
Oxide Master	4,108	4,003	82	97.9	2.39	22.98	0.3

Source: Compiled by Halyard Inc., 2022.

Results of these initial tests indicate a complication for the Sulphide composite, with <60% extraction of silver using standard conditions. Additional work is required to optimize the conditions for this high sulphur (>50% S) flotation concentrate.

Combining the flotation recovery and cyanidation extraction rate for each composite, one arrives at an overall silver extraction rate, as follows:

- Transitional Master: 83.2% x 95.4% = 79.4%
- Sulphide Master: 87.1% x 59.2% = 51.6%
- Oxide Master: 67.4% x 97.9% = 66.0%

These are unremarkable results and further testing is required before this option could be considered commercially attractive.

13.3.11 Environmental characterization

A preliminary environmental program consisted of cyanide detoxification testing, together with ABA and TCLP tests on two sets of Sulphide, Transitional, and Oxide tailing / residue samples.

13.3.11.1 Cyanide detoxification

A preliminary cyanide detoxification testing program was carried out on samples of the three master composites. For each composite, 2 litres of pulp at 50% solids were passed through a standard cyanide leach process, followed by a carbon adsorption stage. The resultant slurries were then used as feed for three detox tests.

For these initial tests, a standard SO_2/Air process was assumed. Sodium Metabisulphite was added at a rate of 7.7 g SO_2 per g of CN_{WAD}, copper sulphate was dosed at 50 ppm Cu, pulp density of 40% solid, and air was sparged through the slurry at a rate of 2 litres per minute. Each test was run for 90 minutes.

Results are presented in Table 13.24.

Table 13.24 Cyanide detox test results (90 minutes)

Composite ID	Time (min)	pH	ORP (mV)	Cu (mg/L)	Cyanide Concentration (mg/L)				Reagent Cons. (kg/m^3)	
					CNFREE	CNWAD	CNTOTAL	Thiocyanate	MBS	Lime
Sulphide Master	0	8.3	85		986	1,603	1,761	1,089	-	-
	90	8.2	260	1.57	1.87	3.46	3.51	471	12.30	6.22
Transitional Master	0	8.3	127		915	1,811	1,990	408	-	-
	90	8.2	250	0.18	0.075	0.11	0.18	121	13.89	6.29
Oxide Master	0	8.3	148		735	1270	1337	68	-	-
	90	8.2	240	0.11	0.938	1.18	10.10	27	9.75	4.78

Source: Compiled by Halyard Inc., 2022.

Further optimization of the detoxification parameters is required, but these initial tests are encouraging and suggest that the SO_2/Air process will be quite acceptable for an operation treating a mixture of Oxide, Sulphide, and Transitional mineralization.

13.3.11.2 ABA tests

Samples of Sulphide, Transitional, and Oxide Master Composite locked cycle tests tailing slurry were submitted for standard ABA tests. ABA results are presented in Table 13.25.

Table 13.25 ABA tests on flotation LCT tailing (master comps)

Sample	Total sulphur (%)	Elemental sulphur (%)	Sulphate sulphur (%)	Sulphide sulphur (%)	Carbon total (%)	Organic carbon (%)	Inorganic carbon (%)	$CaCO_3$ equivalent (%)
Transitional MC	0.13	<0.01	0.03	0.10	0.02	0.01	0.01	<0.05
Oxide MC	0.09	<0.01	0.04	0.05	0.02	0.01	0.01	<0.05
Sulphide MC	0.21	<0.01	0.05	0.16	0.02	0.01	0.01	<0.05

Sample	Paste pH	Fizz rating	AP	NP	NNP	NPR
			kg $CaCO_3$/t			
Transitional MC	5.3	None	3.2	0.9	-2.30	0.28
Oxide MC	5.7	None	1.6	0.7	-0.90	0.44
Sulphide MC	4.7	None	5.0	0.4	-4.60	0.08

Source: Compiled by Halyard Inc., 2022.

Samples of Sulphide, Transitional, and Oxide Master Composite residue from the cyanide detox tests described in the previous section were also submitted for standard ABA testing. ABA results are presented in Table 13.26.

Table 13.26 ABA tests on cyanide detox residues (master comps)

Sample	Total sulphur (%)	Elemental sulphur (%)	Sulphate sulphur (%)	Sulphide sulphur (%)	Carbon total (%)	Organic carbon (%)	Inorganic carbon (%)	$CaCO_3$ equivalent (%)
Transitional MC	1.34	<0.01	0.43	0.91	0.05	0.03	0.03	<0.10
Oxide MC	0.25	<0.01	0.19	0.06	0.05	0.03	0.03	<0.15
Sulphide MC	2.78	<0.01	0.37	2.41	0.06	0.02	0.05	<0.25

Sample	Paste pH	Fizz rating	AP	NP	NNP	NPR
			kg $CaCO_3$ / t			
Transitional MC	8.0	None	28.5	5.1	-23.4	0.18
Oxide MC	8.2	None	1.8	5.1	3.3	2.83
Sulphide MC	7.9	None	75.4	5.6	-69.8	0.07

Source: Compiled by Halyard Inc., 2022.

13.3.11.3 TCLP tests

Samples of Sulphide, Transitional, and Oxide Master Composite tailings from the locked cycle flotation tests described in the previous section, plus samples of residues from cyanide detox testing were submitted for standard TCLP testing. Results are presented in Table 13.27.

The copper, lead and zinc levels for the sulphide master composite cyanidation residue sample are somewhat high, and should be monitored closely.

Table 13.27 TCLP test results: Flotation and cyanidation tail streams

Element	Unit	Flotation LCT Tailing			Cyanide Detox Residues		
		Sulphide MC	Trans. MC	Oxide MC	Sulphide MC	Trans. MC	Oxide MC
Conductivity in TCLP	µS/cm	4,620	4,610	4,620	5,240	5,145	5,055
Redox Potential in TCLP	mV	280	289	262	182	168	143
pH in TCLP	pH	5.02	4.98	5.01	5.05	5.05	5.06
Silver	mg/L	<0.005	<0.005	<0.005	<0.005	0.02	0.18
Aluminium	mg/L	0.24	0.22	0.13	1.68	2.00	1.21
Arsenic	mg/L	<0.006	<0.006	<0.006	0.01	<0.006	<0.006
Boron	mg/L	0.11	0.13	0.14	0.13	0.12	0.16
Barium	mg/L	0.38	0.88	1.30	0.06	0.05	0.07
Beryllium	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Bismuth	mg/L	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Calcium	mg/L	3.98	4.61	4.42	152	186	124
Cadmium	mg/L	0.03	<0.004	<0.004	0.18	<0.004	<0.004
Cobalt	mg/L	0.01	0.01	0.00	0.00	0.00	0.00
Chrome	mg/L	<0.004	<0.004	<0.004	0.02	0.03	0.03
Copper	mg/L	1.19	0.34	0.03	7.39	3.61	0.27
Iron	mg/L	0.07	0.17	0.10	0.32	0.54	2.76
Mercury	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Potassium	mg/L	1.83	1.78	1.48	12.42	14.97	10.76
Magnesium	mg/L	0.56	0.61	0.67	1.02	0.99	0.95
Manganese	mg/L	0.43	0.40	0.28	0.55	0.49	0.44
Molybdenum	mg/L	<0.0012	0.01	<0.0012	<0.0012	<0.0012	<0.0012
Nickel	mg/L	0.07	0.17	0.10	0.03	0.04	0.04

Element	Unit	Flotation LCT Tailing			Cyanide Detox Residues		
		Sulphide MC	Trans. MC	Oxide MC	Sulphide MC	Trans. MC	Oxide MC
Phosphorous	mg/L	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
Lead	mg/L	0.26	0.02	0.04	4.32	2.42	1.68
Antimony	mg/L	0.02	0.00	<0.002	0.91	0.14	0.07
Selenium	mg/L	0.01	0.01	0.01	<0.004	<0.004	<0.004
Tin	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Strontium	mg/L	0.04	0.05	0.05	0.22	0.23	0.22
Titanium	mg/L	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Thallium	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Vanadium	mg/L	<0.016	0.08	0.04	<0.016	<0.016	<0.016
Zinc	mg/L	0.87	0.07	0.03	4.75	0.29	0.12

Source: Compiled by Halyard Inc., 2022.

13.4 Recommendations

The work described within the following sections would be carried out as a single phase, aimed at supporting the process design and process cost engineering components of a pre-feasibility or feasibility study.

13.4.1 Sample selection and characterization

The geometallurgical models developed to date are preliminary in nature and relatively straightforward, and the continued development towards a detailed geometallurgical model for the deposit is encouraged. The completion of more extensive metallurgical sampling, characterization testwork, and modelling is recommended as exploration and infill drilling programs continue.

The physical characterization of metallurgical composites has highlighted a relatively low level of variability within the deposit, and a trend towards harder samples as oxidation levels increase. Accurate sizing and selection of comminution equipment will require additional data, and an extended variability program in this area is recommended. Large diameter core is preferred for at least a subset of the new program, allowing more accurate determination of impact resistance and determination of SAG mill requirements.

Additional quantitative mineralogy programs will assist in understanding the bulk mineralogy and silver deportment for the various geometallurgical zones and is recommended for inclusion in future metallurgical programs.

13.4.2 Preconcentration

Initial preconcentration testing has given variable results, with unremarkable density separation results and a reasonably encouraging particle sorting program completed to date. The opportunity to develop a sensor-based particle separation prior to the grinding circuit should not yet be dismissed as this approach can provide for the rejection of low-grade material and waste at a fairly coarse size (2 - 3”) and a subsequent downsizing of the downstream processes. The coarse particle nature of particle sorter testwork requires much larger samples of drillcore to improve the statistical relevance of the results however. The larger scale work also provides additional opportunity to optimize sensor response and to correlate sensor response with actual grade and / or mineralogical content. Additional work in this field is recommended.

13.4.3 Flotation

Initial trade off studies have downgraded the importance of flotation as an economic processing route, with concentrate export challenges being a hindrance, together with lower silver recoveries. This is not to say that flotation work should not continue in the future, but rather that the cyanidation work should be given priority. If scheduled, further flotation testwork should focus on the optimization of frothers and collectors to control mass pull and recovery. Achievement of a concentrate with saleable base metals grades may improve the prospects for this process route.

13.4.4 Cyanidation

Current studies have helped to show that cyanide-based processes appear to offer preferred conditions from an economic standpoint, with the higher overall silver recovery and superior saleability of a doré product in Bolivia being big drivers. The cost of imported sodium cyanide together with the high consumption of this key reagent is a significant operating cost, and further work to optimize process conditions to give minimized cyanide consumption is recommended.

As the Silver Sand process plant will be located at high altitude (>4,000 m), it is important that further cyanidation testwork should focus on the effects of low DO_2 that were noted in this round of work. The DO_2 vs recovery relationship should be firmed up to assist the justification of oxygenation steps in the flowsheet. The impact of pre-aeration and lead nitrate on cyanide consumption and silver recovery is also important, and it is recommended that this be evaluated in more detail.

Although heap leaching was not seen to offer attractive economics within the recent trade-off study, further column leaching work is still recommended. Initial column leach test results are reasonably encouraging, but the practicalities of operating a heap leach pad at altitude is seen as a significant risk, with low DO_2 conditions within the leach pad being the main concern. However, forced aeration of heap leach piles is a regular practice for secondary copper leaching operations, where oxygen availability is key to bioleaching efficiency. If the metallurgical risk associated with silver heap leaching can be mitigated through additional testwork, then the opportunity for a hybrid heap leach + grinding / tank leaching operation can be examined. In this scenario, low grade oxide and transitional material could be heap leached while higher grade Sulphide and Transitional material could be milled and leached in agitated tanks.

13.4.5 Environmental testing

A larger set of variability samples should be submitted to understand the potential for acid-generation and metals leaching in tailing streams and waste rock piles. Testwork should include static tests and kinetic (humidity cell) tests.

14 Mineral Resource estimates

14.1 Introduction

The Mineral Resource for the Silver Sand deposit has been estimated by Ms Dinara Nussipakynova, P.Geo., of AMC Consultants, who takes responsibility for the estimate.

The estimate is dated 31 October 2022 and is an update to the initial Mineral Resource estimate on the deposit, which was discussed in the 2020 Technical Report. The data used in this estimate includes results of all drilling carried out on the Property up to 25 July 2022.

The estimation was carried out in Datamine™ software. Interpolation of Ag, As and S grades were carried out using ordinary kriging (OK) for the four main mineralized domains, and the background model. The remaining 127 small domains were estimated using the inverse distance squared (ID^2) method. The grades for Pb, Zn, and Cu were estimated separately using the indicator method to define the higher grade zones and utilized OK for the estimation, ignoring the domains used for the estimation of the other metals. The indicator method was also used to define the location of the oxidation type.

The result of the current estimate is summarized in Table 14.1. The following metals were estimated: silver, lead, zinc, copper, arsenic, and sulphur. Only silver is reported as it is the only economic metal. The additional elements were estimated to enable geometallurgical modelling to be carried out. The model is depleted for historical mining activities. The Mineral Resources are reported within a conceptional pit shell and at a 30 g/t Ag COG.

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

Table 14.1 Silver Sand Mineral Resource as of 31 October 2022

Resource category	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
Measured	14.88	131	62.60
Indicated	39.38	110	139.17
Measured & Indicated	**54.26**	**116**	**201.77**
Inferred	4.56	88	12.95

Notes:
- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- The Qualified Person is Dinara Nussipakynova, P.Geo. of AMC Consultants.
- Mineral Resources are constrained by optimized pit shells at a metal price of US$22.50/oz Ag, recovery of 91% Ag and COG of 30 g/t Ag.
- Drilling results up to 25 July 2022.
- The numbers may not compute exactly due to rounding.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The QP is not aware of any known significant factors or risks that might affect access or title, or the right or ability to perform work on the Property, including permitting and environmental liabilities to which the project is subject.

In last three years Bolivia experienced a transition from social turmoil to stability. The government of the current President, elected at the end of 2020 supports and encourages private and foreign investments in the economic sectors of the country. New laws were approved by congress to encourage private investments in mining sector, for example, Law 1391 (Decree 4579) waives value added tax for import of equipment and vehicles.

Although the country is now generally friendly to private and foreign investments in the mining sector, risks associated with instability of government caused by political polarization and visible divisions in the governing party remains. In addition, local protests and blockages by various social groups may pose unforeseen instability from time to time. Overall, political and social risks are currently manageable in Bolivia. The country becomes relatively more attractive for foreign investments, and this trend is evidenced by the fact that more western exploration and mining companies started business in the country in recent years.

14.2 Data used

14.2.1 Drillhole database

The data used in the estimate consists of surface diamond drillholes only. New Pacific maintains the resource database in a Microsoft Access database and provided data to AMC Consultants as Microsoft Excel files. The number of holes and number of assays used in the AMC Consultants estimate, by year of drilling, is shown in Table 14.2.

Table 14.2 Drillhole data used in the estimate

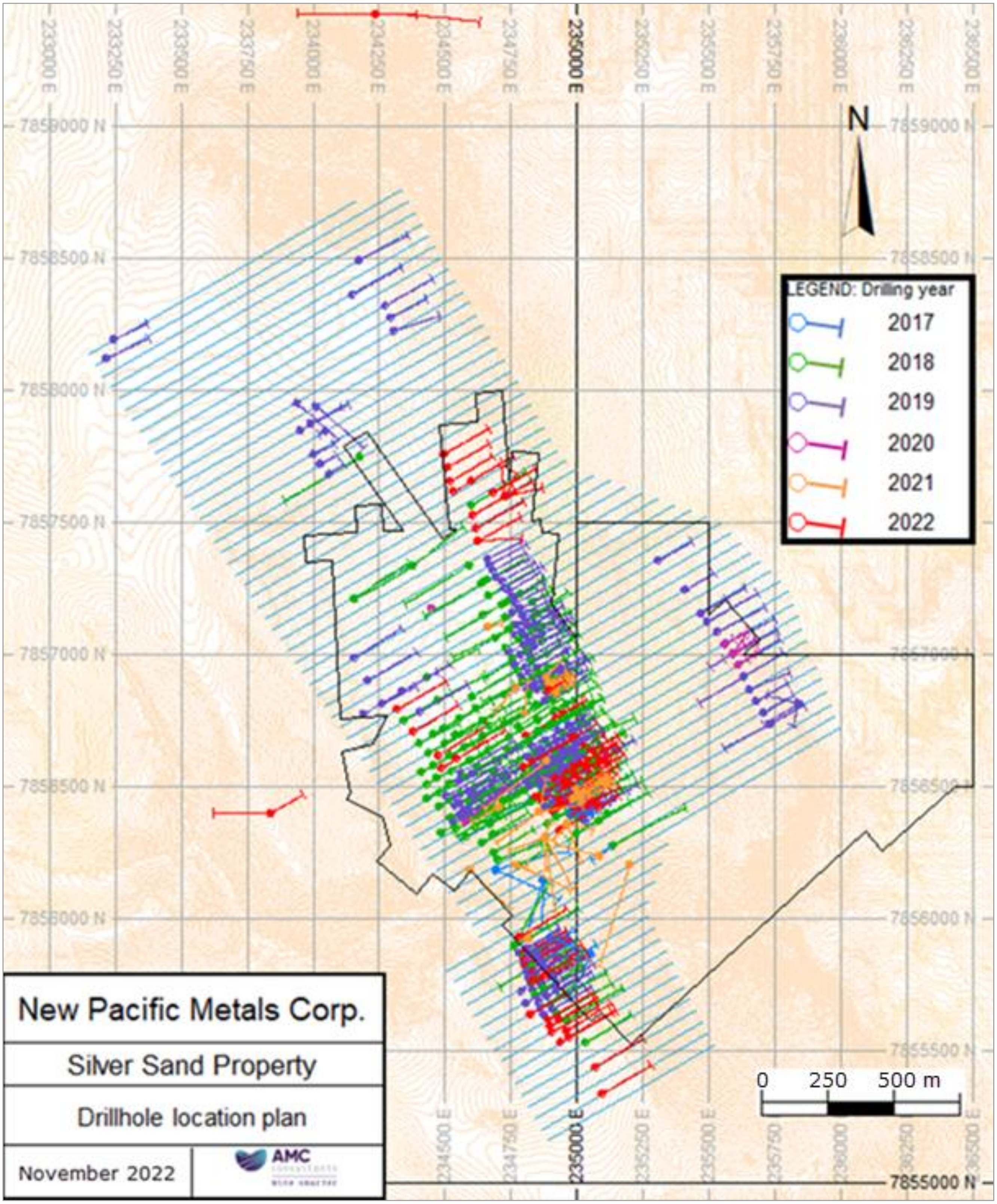
Year drilled	No. of drillholes	No. of assays	Metres drilled (m)
2017	18	3,337	5,020
2018	177	34,728	49,991
2019	206	30,662	45,874
2020	13	1,762	2,489
2021	54	7,835	12,815
2022	88	13,840	20,031
Total	**556**	**92,164**	**136,220**

Notes:
- Drillholes are surface DDHs.
- Drill data to 25 July 2022.
- Numbers may not add due to rounding.
- Number of drillholes on the Property is 566 but only 556 are in the Mineral Resource area.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 14.1 is a plan showing the location of the drillholes used in the estimate.

Figure 14.1 Silver Sand drillhole location plan



14.2.2 Bulk density

New Pacific performed 6,297 density measurements on the core drilled on the Property. The collection of bulk density measurements is described in Section 11. As the mineralization is hosted in one rock type, after reviewing the density data, the QP assigned one density measurement to the block model of 2.54 t/m^3.

14.2.3 Lithological domains

The Silver Sand deposit is hosted in La Puerta Formation sandstones and is capped by the red siltstone of the Tarapaya Formation as discussed in Section 7. New Pacific provided the contact between these two formations. The contact was modelled in Leapfrog Geo 4.0 (Leapfrog). The contact was reviewed and accepted by the QP.

14.2.4 Mineralization domains

Mineralization domains were constructed by New Pacific. The mineralization wireframes were built by the grade shell method in Leapfrog.

The mineralization domains were reviewed and accepted by the QP with minor changes including a change of the naming convention. Domains 1-4 are the main domains which contain 80% of the volume of mineralization are shown in Figure 14.2 as a red solid. In Figure 14.3 the relative percentage volumes of the domains or group of domains are shown.

Visual checks were carried out by the QP to ensure that the constraining wireframes respected the raw data.

Figure 14.2 3D view of mineralization domains looking north-east

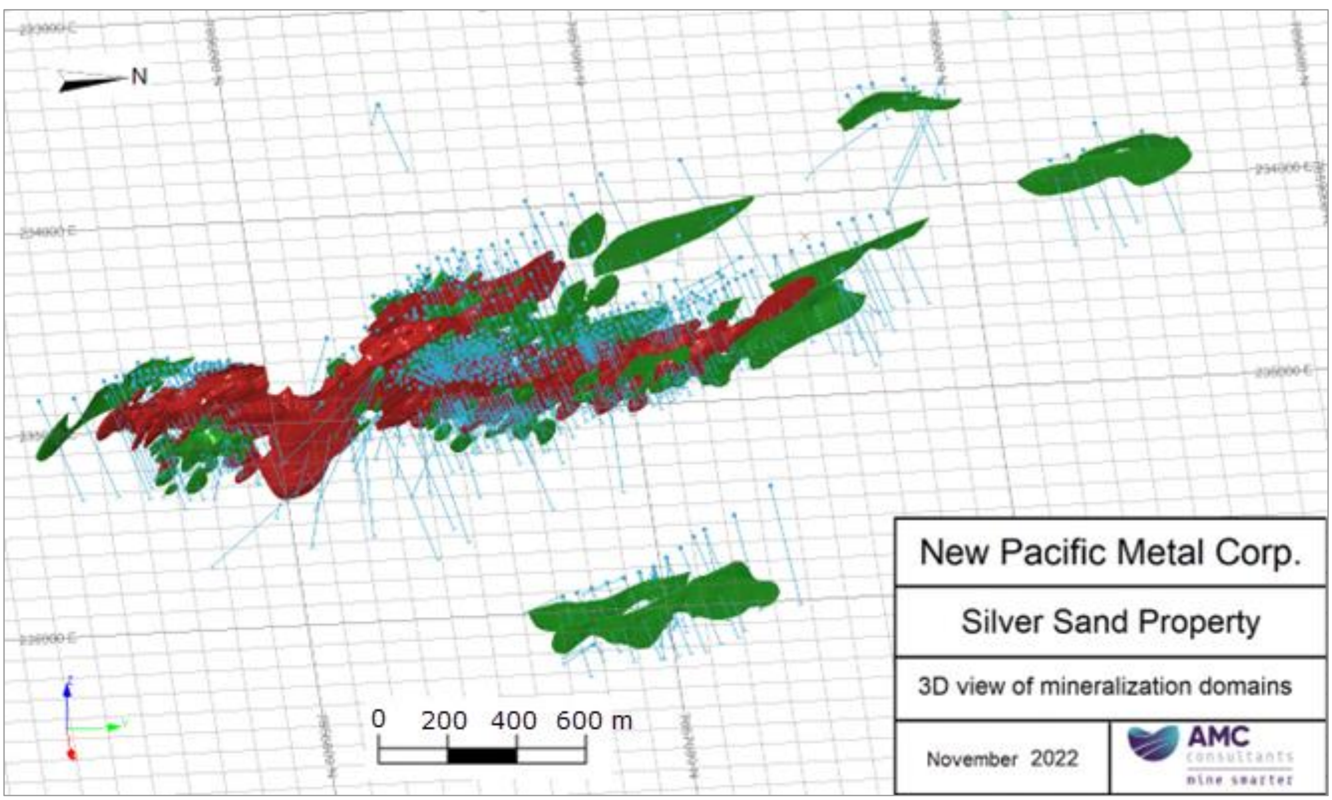
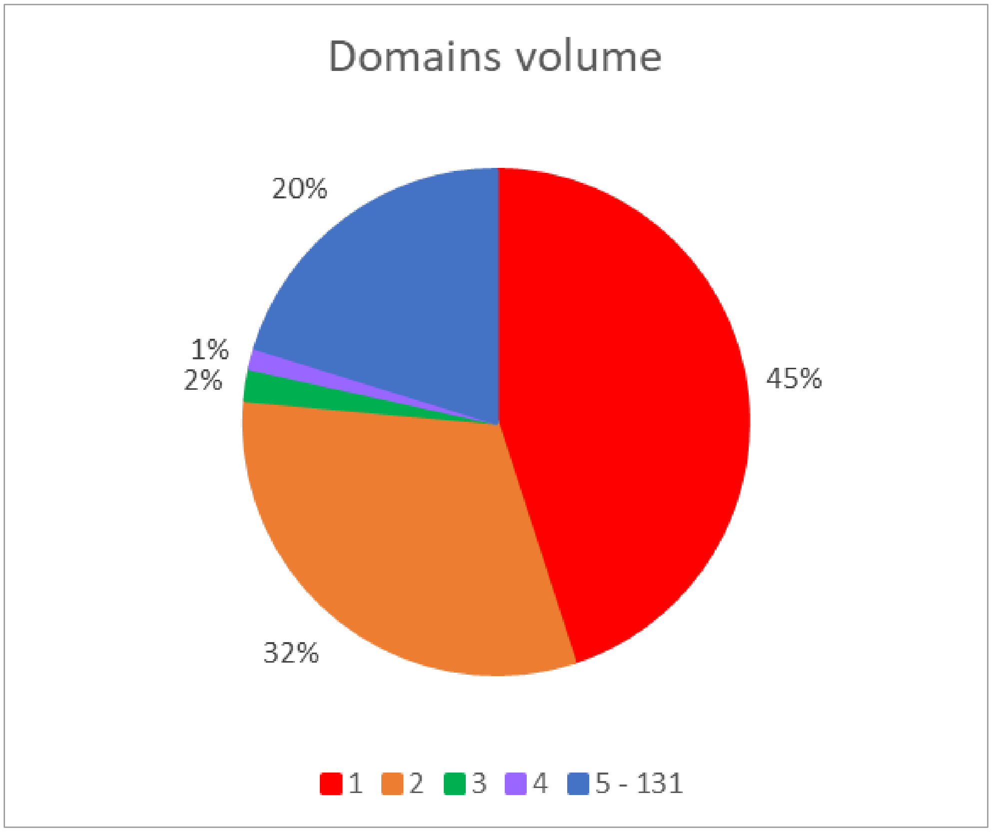


Figure 14.3 Pie-chart of the percentage volume by domains



Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.2.5 Mined-out domains

New Pacific provided AMC Consultants with void solids that are interpreted to represent historical mining. The void solids were built by extrapolating voids in Leapfrog tools. Surveying of the historical mining voids could not be undertaken due to safety issues.

The QP compared the provided solids with the drillhole database and found them to be acceptable.

14.3 Modeling approach

Grade estimation was completed using two different approaches.

1 Ag, As, and S estimation carried out within mineralization domains as described in Section 14.2.4, (the background model was unconstrained).

2 Cu, Pb, and Zn estimation was constrained into high and low grade volumes using an Indicator method.

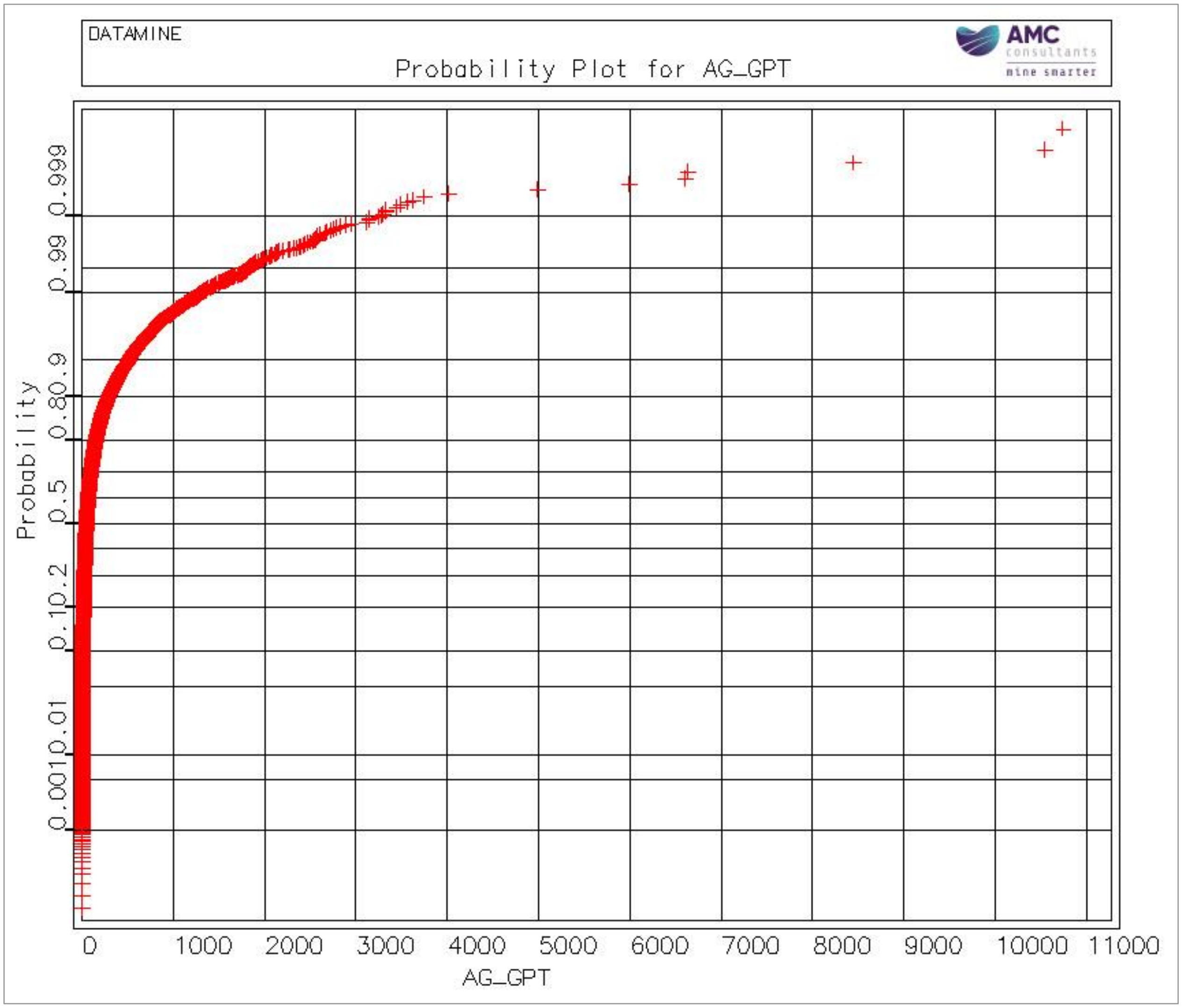
An oxidation model consisting of oxide, transition and sulfide was also constrained using an Indicator method.

14.4 Statistics and compositing

Sample lengths range from 0.01 m to 9.2 m within the resource area. The mean sample length is 1.19 m. Given this mean and considering the width of the mineralization, the QP chose to composite to 1.2 m lengths within the domains. Outside the domains for the background model a composite length of 2.5 m was used. Samples were composited by domain using Datamine's dynamic composting tool. This tool adjusts each composite length as necessary to achieve equal sample support and eliminate residuals (very short samples).

The composite data for Ag, As, and S for all mineralization domains were viewed on log probability plots, and also evaluated using the decile method, to assist with determining the capping level for higher values. The probability plot for Ag is shown in Figure 14.4.

Figure 14.4 Probability plot for Ag



Source: AMC Mining Consultants (Canada) Ltd., 2022.

Capping was applied for Ag and As after compositing with the results as shown in Table 14.3. No capping was applied for S.

Table 14.3 Grade capping for silver and arsenic

Element	Top cap	Original mean	New mean	Number of samples top cut	New mean grade as % of original
Ag (g/t)	2,000	125	120	65	96.3%
As (ppm)	2,000	236	234	76	97.9%

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The raw, composited, and capped assay data for silver for all the mineralized domains are shown in Table 14.4.

Table 14.4 Ag statistics of raw, composited, and capped assay data

Domain	Data	Number of samples	Minimum	Maximum	Mean	Standard deviation	Coefficient of variation
1	Raw selected	5,469	0.0	16,194	**113**	349.59	3.08
	Composited	5,366	0.0	10,532	**113**	293.03	2.59
	Capped	5,366	0.0	2,000	**108**	217.45	2.00
2	Raw selected	8,888	0.0	12,791	**138**	371.97	2.69
	Composited	8,726	0.0	10,740	**138**	322.44	2.33
	Capped	8,726	0.0	2,000	**133**	255.55	1.92
3	Raw selected	214	0.2	3,410	**116**	330.36	2.83
	Composited	210	0.2	3,137	**116**	302.59	2.59
	Capped	210	0.2	2,000	**111**	254.01	2.29
4	Raw selected	213	0.5	1,130	**74**	120.28	1.64
	Composited	204	0.5	1,120	**74**	110.61	1.50
	Capped	204	0.5	1,120	**74**	110.61	1.50
5 -131	Raw selected	2,294	0.0	7,830	**108**	299.12	2.78
	Composited	2,238	0.0	4,009	**108**	257.77	2.39
	Capped	2,238	0.0	2,000	**104**	219.31	2.11

Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.5 Block model parameters

The block size selected for estimating Ag, As and S within the mineralization domains was 2.5 mE x 5 mN x 2.5 mRL with sub-blocking employed. Sub-blocking resulted in minimum cell dimensions of 1.25 mE x 0.5 mN x 1.25 mRL. The background mineralization, being that outside the mineralization domains, was estimated with a parent block dimension of 10 mE x 10 mN x 10 mRL.

Cu, Pb and Zn and the oxidation attributes were estimated into 2.5 mE x 5 mN x 2.5 mRL blocks for the high grade and 5 mE x 10 mN x 5 mRL for the low grade. These elements and As an S were estimated for geometallurgical purposes only.

All models were then merged to form one model. The block model dimensions and rotation for the merged model are shown in Table 14.5. The model was rotated counter-clockwise around the Z-axis.

Table 14.5 Block model parameters

Parameter	X	Y	Z
Origin (m)	234,500	7,854,750	3,400
Maximum block size (m)*	5	10	5
Minimum block size (m)	0.625	0.250	0.250
Rotation angle (deg)	0	0	-30
No. of blocks	500	280	200

Note: *Parent block size of merged model.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.6 Variography and grade estimation

Variography was carried out on domains 1-4 and for the low-grade background model, for Ag, As, and S. The search distances for the grade estimation were based on the variogram ranges. Search parameters for domains 5-131 were based on vein orientation and visual continuity. Dynamic anisotropy was used in the estimation process for domains 60-68, where the internal orientation was variable.

Three passes were employed, each using different search distances and passes. Table 14.6 shows the search parameters for Ag.

Table 14.6 Ag grade interpolation search parameters

Domain	Pass	X (m)	Y (m)	Z (m)	Rotation angle axis Z	Rotation angle axis X	Rotation angle axis Y	Minimum no. of samples	Maximum no. of samples	Minimum no. of drillholes
1	1	80	80	12	240	70	0	6	12	2
	2	160	160	24	240	70	0	4	12	2
	3	240	240	36	240	70	0	2	12	2
2	1	86	102	12	240	70	0	6	12	2
	2	172	204	24	240	70	0	4	12	2
	3	258	306	36	240	70	0	2	12	2
3	1	76	91	10	240	70	0	6	12	2
	2	152	182	20	240	70	0	4	12	2
	3	228	273	30	240	70	0	2	12	2
4	1	72	72	17	240	70	0	6	12	2
	2	144	144	34	240	70	0	4	12	2
	3	216	216	51	240	70	0	2	12	2
5 – 59	1	80	90	15	240	77	0	6	12	2
	2	160	180	30	240	70	0	4	12	2
	3	240	270	45	240	70	0	2	12	2
60 – 68	1	80	90	15	DA	DA	0	6	12	2
	2	160	180	30	DA	DA	0	4	12	2
	3	240	270	45	DA	DA	0	2	12	2
69 – 131	1	40	45	8	240	77	0	2	12	-
	2	80	90	16	240	70	0	2	12	-
	3	120	135	24	240	70	0	2	12	-
Background	1	100	90	21	240	75	0	6	12	2
	2	200	180	42	240	75	0	4	12	2
	3	300	270	63	240	75	0	2	12	2

Note: DA - Dynamic anisotropy angles.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

The estimation was carried out in Datamine™ software and the interpolation methods used were as follows:

- Domains 1-4, Ag, As, and S grades interpolated by OK
- Background model, Ag, As, and S grades interpolated by OK
- Domains 5-132, Ag, As, and S grades interpolated ID^2
- Total model, Pb, Zn, and Cu interpolated by OK
- Oxidation attributes interpolated by OK

The blocks inside the block model are coded by estimated Ag, As, S, Cu, Pb, and Zn. In addition, the oxidation type and an assigned bulk density value are included. Only silver, which has a proven metallurgical recovery method, is reported in the Mineral Resource statement.

14.7 Resource classification

Mineral Resource classification was completed using an assessment of geological and mineralization continuity, data quality, and data density. Search passes, which were different from those used to estimate grade, were used as an initial guide for classification. Wireframes were then generated manually to build coherent areas defining the different classes.

Interpolation for classification was carried out using the OK method. Three passes were employed, each using different search distances and multiples as follows:

- Pass 1 = 1 x search distance
- Pass 2 = 2 x search distance
- Pass 3 = 3 x search distance

These are shown in Table 14.7 along with the minimum and maximum number of samples used for each pass.

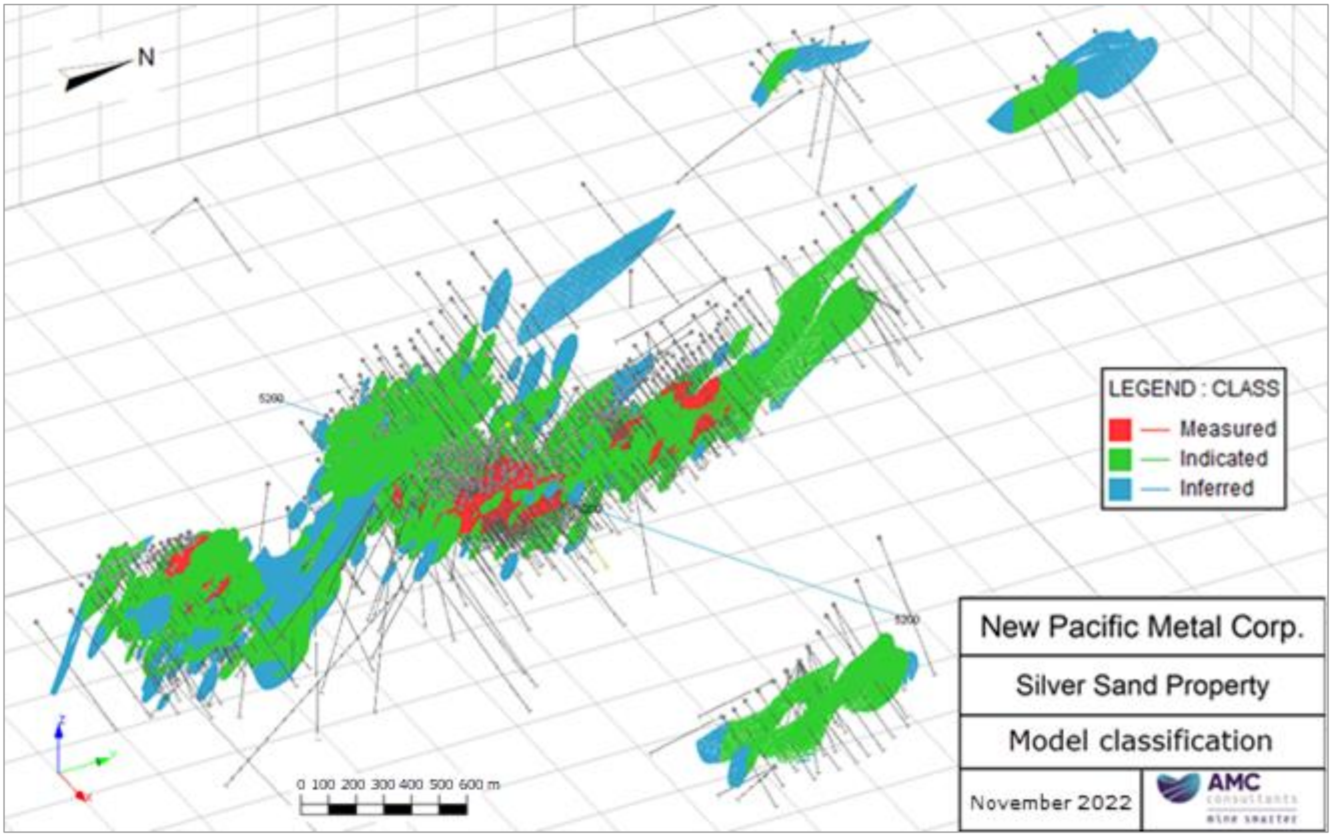
Table 14.7 Class interpolation search parameters

Pass	X (m)	Y (m)	Z (m)	Minimum no. of samples	Maximum no. of samples	Minimum no. of drillholes
1	30	30	10	8	24	4
2	60	60	20	6	20	3
3	90	90	30	4	20	2

Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 14.5 shows a 3D view of the resource classification constrained by the domains in the block model.

Figure 14.5 3D view of the resource classification



14.8 Block model validation

The block model was validated in four ways. First, visual checks were carried out to ensure that the grades respected the raw assay data. Secondly, swath plots were reviewed. Thirdly, the estimate was statistically compared to the capped assay data, with satisfactory results. Lastly the OK estimates were compared to an ID^2, and inverse distance cubed (ID^3) and a nearest neighbour (NN) estimate, all with acceptable results.

14.8.1 Visual checks

Figure 14.6 shows a plan view of the block model showing drillhole composite silver grades on drillhole traces compared to the block model estimated grades.

The comparison was viewed on a number of sections and as an example Section 5200 is located on Figure 14.6 and this section is shown in Figure 14.7 as a representative section.

Figure 14.6 Plan view of the block model and drillholes

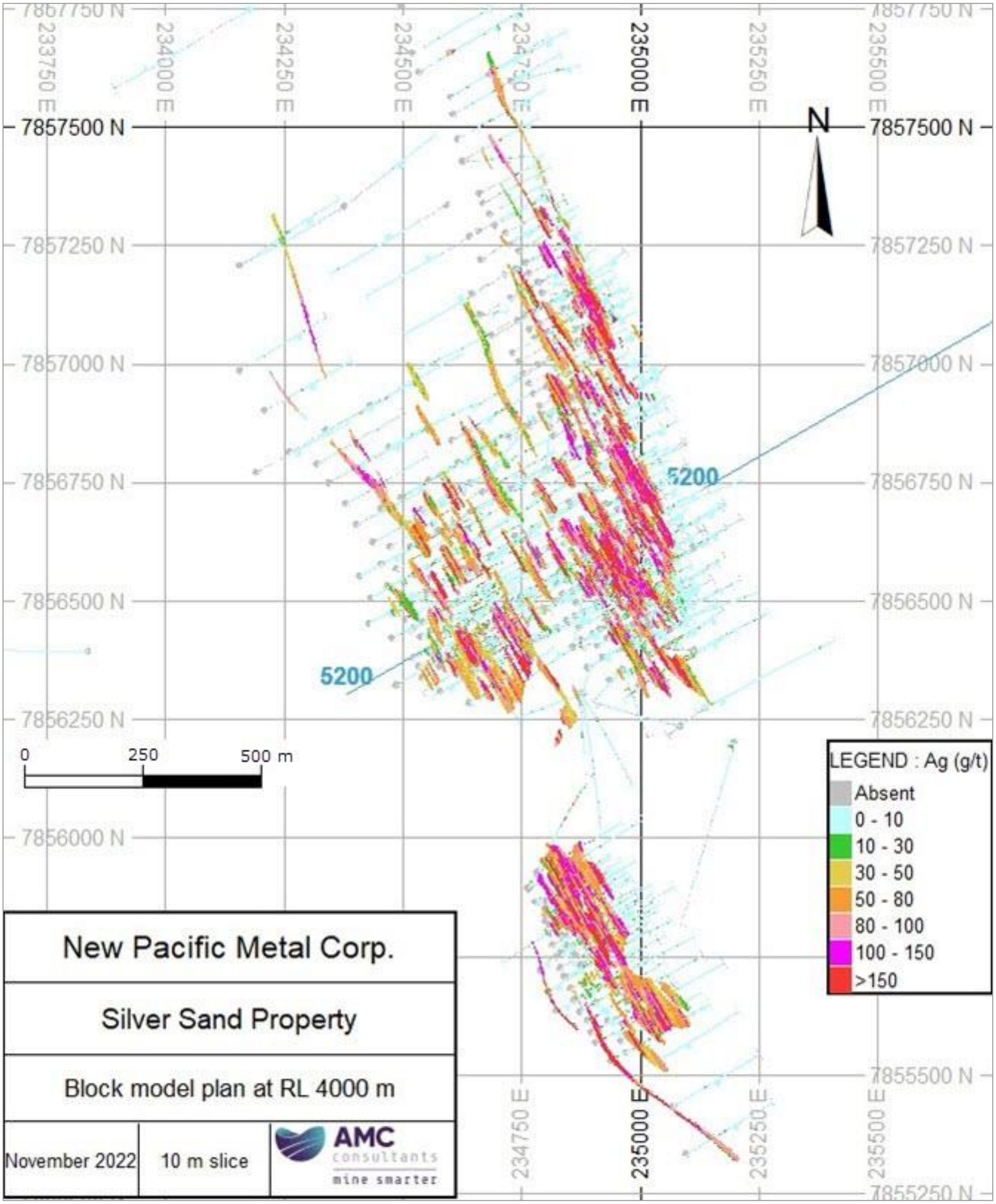
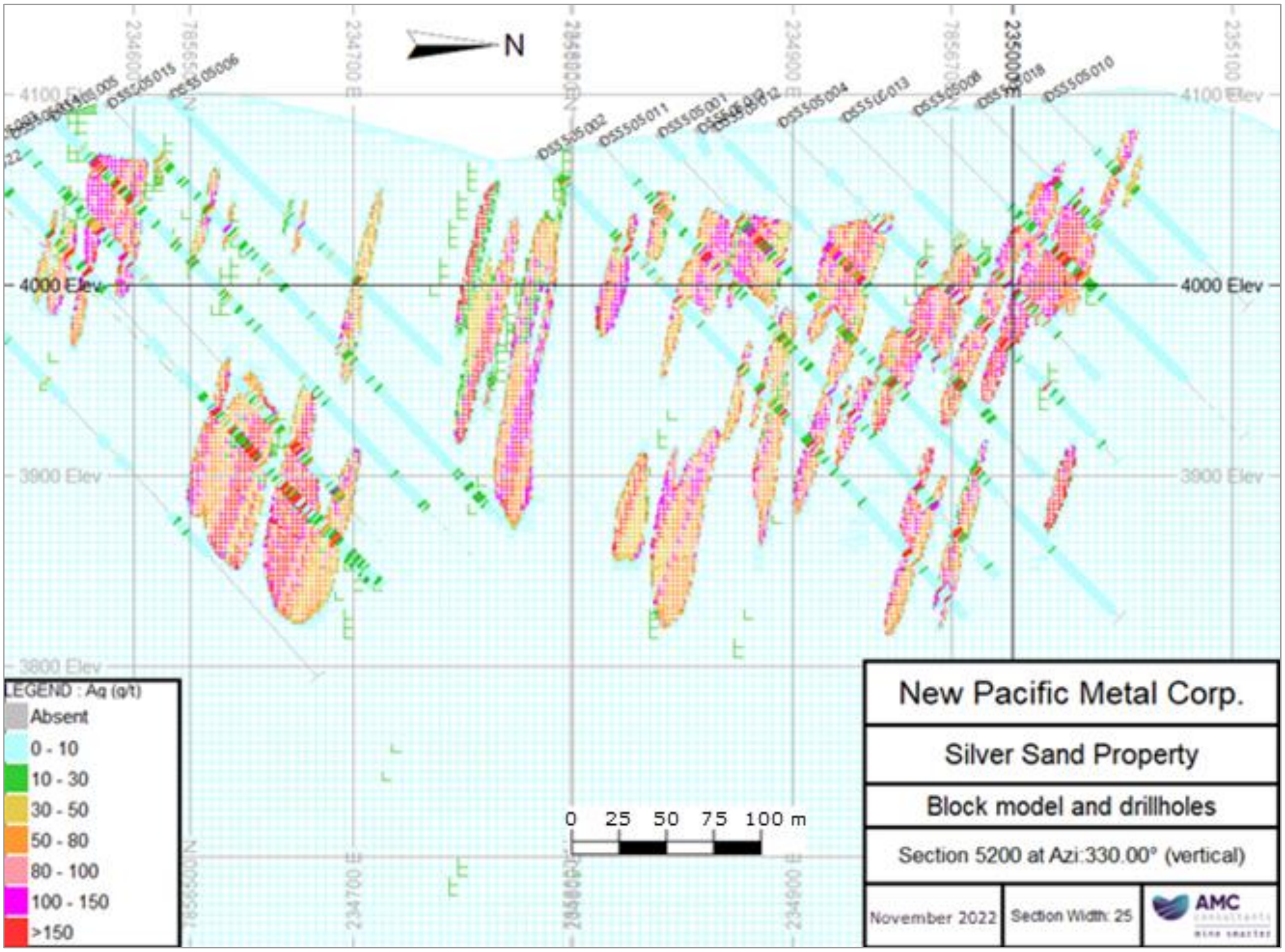


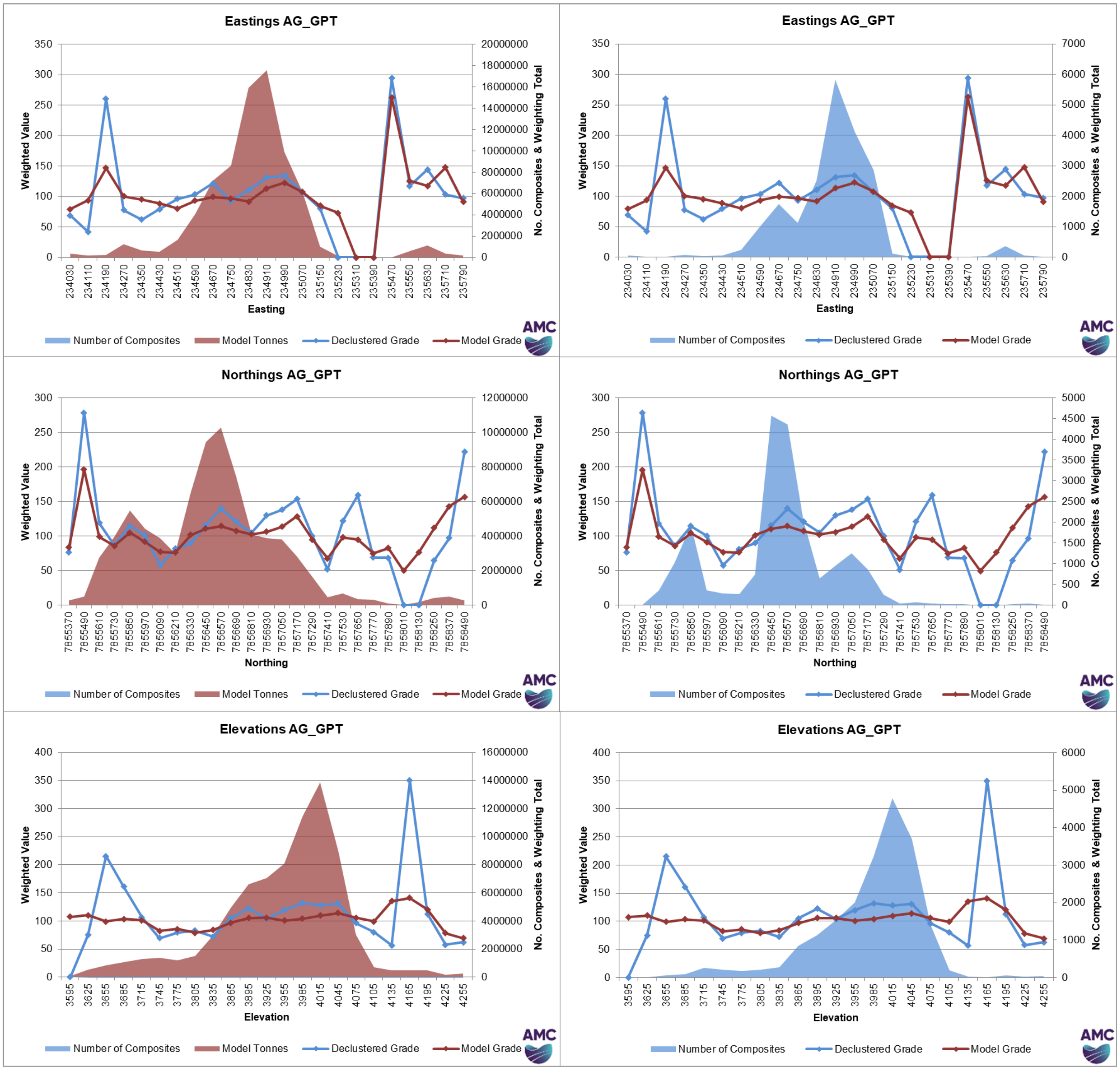
Figure 14.7 Block model versus drillhole grade on Section 5200



14.8.2 Swath plots

Swath plots for all domains for the combined Measured, Indicated, and Inferred Ag mineralization are shown below in Figure 14.8. Except for some areas where there is sparse data there is acceptable agreement between drillhole and block model silver grades.

Figure 14.8 All domains swath plot for silver



Source: AMC Mining Consultants (Canada) Ltd., 2022.

The swath plots show a reasonable correlation between block model grades and composite grades.

14.8.3 Statistical comparison

Table 14.8 shows the statistical comparison on the composites versus the block model grades for silver.

Table 14.8 Statistical comparison of capped assay data and block model for Ag

Domain	1		2		3		4		5 – 131	
Data	**Comps**	**Model**	**Comps**	**Model**	**Comps**	**Model**	**Comps**	**Model**	**Comps**	**Model**
N records	5,366	1,234,369	8,726	788,030	210	50,533	204	35,802	2,238	721,335
Minimum	0.00	0.00	0.00	0.00	0.20	1.33	0.50	2.80	0.00	0.00
Maximum	2,000	1,606	2,000	1,477	2,000	1,244	1,120	645	2,000	1,939
Mean	**109**	**93**	**133**	**120**	**111**	**101**	**74**	**80**	**104**	**105**
SD	217.45	72.05	255.55	92.67	254.01	105.37	110.61	60.04	219.31	118.03
CV	2.00	0.78	1.92	0.77	2.29	1.04	1.50	0.75	2.11	1.13

Notes: SD – Standard Deviation, CV – Coefficient of Variation.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.8.4 Comparison with other interpolation methods

The OK estimates were compared to an ID^2, and ID^3 and a NN estimate, also with acceptable results. Note, domains 5-131 were estimated by ID^2 and the comparison was to ID^3 and NN models.

14.9 Mineral Resource estimate

The Mineral Resources are reported for blocks within a pit shell based on a $22.50/ounce Ag price. This shell includes Mineral Resources reported both within the AMC claim boundary and the MPC.

The cut-off applied for reporting the Mineral Resources is 30 g/t Ag. Assumptions made to derive the COG and build the pit shell included mining costs, processing costs and metallurgical recoveries. These inputs were obtained from benchmarked comparable studies and metallurgical testwork. These parameters are shown in Table 14.9. The model is depleted for historical mining activities. Measured, Indicated, and Inferred blocks were used to define the pit shell.

Table 14.9 Cut-off grade and conceptual pit parameters

Input	Units	Value
Silver price	$/oz Ag	22.5
Silver process recovery	%	91
Payable silver	%	99
Mining recovery factor	%	100
Mining cost	$/t mined	2.6
Process cost	$/t minable material > COG	16
G&A cost	$/t minable material > COG	2
Slope angle	Degrees	44 – 47

Notes:
- Sustaining capital cost has not been included.
- Measured, Indicated, and Inferred Mineral Resources included.
- G&A cost refers to General and Administration costs.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The Mineral Resource estimate is shown in Table 14.10.

Table 14.10 Silver Sand Mineral Resource as of 31 October 2022

Resource category	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
Measured	14.88	131	62.60
Indicated	39.38	110	139.17
Measured & Indicated	**54.26**	**116**	**201.77**
Inferred	4.56	88	12.95

Notes:

- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- The Qualified Person is Dinara Nussipakynova, P.Geo. of AMC Consultants.
- Mineral Resources are constrained by optimized pit shells at a metal price of US$22.50/oz Ag, recovery of 91% Ag and COG of 30 g/t Ag.
- Drilling results up to 25 July 2022.
- The numbers may not compute exactly due to rounding.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The majority of the Mineral Resources lie within the AMC. Table 14.11 shows the split of the 2022 Mineral Resource within the AMC boundary and outside the boundary. Since the 2019 Mineral Resources were reported, a subsequent agreement with COMIBOL permits the reporting of Mineral Resources outside the AMC. Mineral Resources in the MPC will be subject to a royalty of 6% payable to COMIBOL during the production stage according to the agreement reached with COMIBOL.

Table 14.11 Mineral Resources within and outside the AMC

Resource category	Inside AMC boundary			Outside AMC boundary		
	Tonnes (Mt)	Ag (g/t)	Ag (Moz)	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
Measured	14.57	131	61.51	0.31	108	1.08
Indicated	34.38	110	121.38	5.00	111	17.79
Measured & Indicated	**48.95**	**116**	**182.90**	**5.31**	**111**	**18.87**
Inferred	3.17	77	7.88	1.40	113	5.07

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The results of reporting the Measured and Indicated portion of the block model at a range of cut-offs are shown in Table 14.12, with the preferred cut-off shown in bold text. The QP notes the block model is relatively insensitive to COG.

Table 14.12 Model sensitivity to cut-offs

Cut-off grade Ag (g/t)	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
25	55.46	114	202.83
30	**54.26**	**116**	**201.77**
35	52.41	119	199.83
40	50.02	122	196.94
45	47.36	127	193.30

Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.10 Comparison with previous Mineral Resource estimate

A comparison of the 2019 and 2022 Mineral Resource estimates are shown in Table 14.13. Table 14.10 and Table 14.13 list the estimate footnotes for the 2022 and 2019 estimates respectively. The differences between the estimates are most notably in silver price, recovery, and COG. An increased mining cost assumption for the 2022 estimate has resulted in an optimum pit shell that does not go as deep as the 2019 estimate. In addition, the 2022 Mineral Resource includes material within the MPC, which can now be considered available to New Pacific for reporting purposes.

Table 14.13 Mineral Resource comparison with previous 2019 estimate

	Class	Tonnes (Mt)	Ag (g/t)	Ag (Moz)
2019 (cut-off 45 g/t Ag)	Measured	8.40	159	43.05
	Indicated	26.99	130	112.00
	Measured and Indicated	**35.39**	**137**	**155.05**
	Inferred	9.84	112	35.55
2022 (cut-off 30 g/t Ag)	Measured	14.88	131	62.60
	Indicated	39.38	110	139.17
	Measured and Indicated	**54.26**	**116**	**201.77**
	Inferred	4.56	88	12.95
Difference	Measured	6.48	-28	19.55
	Indicated	12.39	-20	27.17
	Measured and Indicated	**18.87**	**-21**	**46.72**
	Inferred	-5.28	-24	-22.60

Notes applicable to both estimates:
- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- The Qualified Person is Dinara Nussipakynova, P.Geo. of AMC Consultants.
- The numbers may not compute exactly due to rounding.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

2022 Mineral Resource notes:
- Mineral Resources are constrained by optimized pit shells at a metal price of US$22.50/oz Ag, recovery of 91% Ag and COG of 30 g/t Ag.
- Drilling results up to 25 July 2022.

2019 Mineral Resource notes:
- Mineral Resources are constrained by an optimized pit shell at a metal price of US$18.70/oz Ag and recovery of 90% Ag.
- COG is 45 g/t Ag.
- Mineral Resources are reported inside the AMC claim boundary.
- Pit optimization allows waste to extend outside the AMC to the NE and SW.
- Drilling results up to 31 December 2020.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

14.11 Recommendations

For future Mineral Resource modelling the following should be considered:

- At the next update of the model include all remaining drill data which missed the closing date.
- Incorporate geometallurgical attributes into the block model.
- Verify mined-out volumes by surveying historical waste dumps.
- Conduct structural analysis of available data and complete initial structural / geotechnical drilling as required.
- Update the 3D geological model to include detailed geology – deposit oxidation domaining and structures.

The Silver Sand deposit, as currently defined, remains open for expansion at depth. While it is understood that engineering work for the pre-feasibility study will be based on the current block model, it is recommended that future drilling on the deposit should consider the following:

- Infill drilling to upgrade areas of high-grade mineralization within the current Inferred resource area.
- Additional drilling around the current Mineral Resources, where the deposit remains open at depth.

The QP also notes that there has been no modern district scale exploration outside of Silver Sand deposit. It is recommended that additional drilling be completed at the other prospects to assess for the potential for Mineral Resources.

15 Mineral Reserve estimates

As this is not an Advanced Property, this section is not addressed.

16 Mining methods

16.1 General description

The Silver Sand project comprises four open pit areas — the Main pit, two small northern satellite pits (NP1 and NP2), and one eastern satellite pit (EP1). Open pit mining entails conventional drilling and blasting, with loading by excavator and haulage by trucks. Mineralized material is hauled to the crusher or to the run-of-mine (ROM) pad. Waste is hauled to external and in-pit waste rock dumps.

16.2 Hydrogeological parameters

AMC Consultants has reviewed the hydrological and hydrogeological work completed for the open pit and adopted the findings of the QP for this Technical Report. The following information was provided by ITASCA Chile SpA (ITASCA) to support the QP's findings and conclusions:

- Itasca (October 2022) INF-682.002.01-Hydrological and Hydrogeological Conceptual Study-R1

The Itasca hydrological and hydrogeological conceptual study was primarily based on the following data, provided by New Pacific:

- Geological map of the study area (Minera Alcira S.A. New Pacific Metals Corp., 2022).
- Meteorological data from nearby weather stations, such as rainfall and evaporation.
- Hydrochemical fieldwork documentation:
  - Database, inventory, and monitoring of water sources (Minera Alcira S.A., 2019).
  - Surface water sampling stations details.
  - Integrated database with the hydrochemical analysis results of the surface water.
  - sampling campaigns made in June, July, August, and September of 2021.
  - Hydrochemistry laboratory reports of the surface water sampling campaigns.
  - Environmental monitoring report N°3 (NPM Minerales S.A., 2022).
  - Fieldwork proposal for surface water quality sampling (Knight Piésold, 2021).
- Well construction report SEV1 (Flores, 2020).
- Hydrogeological exploration report- Well construction Machacamarca with appendices (Flores, 2019).
- Preliminary exploration for precious metals within the Colavi- Machacamarca ore deposit (GEOBOL- PNUD, 1991).

The Silver Sand project area has approximately 8 months of dry season every year. The project straddles the Machacamarca river. Measures must be taken to prevent the up-stream water from flowing into the open pit. Therefore, a water dam will be built up stream in the narrowest part of the river to hold the water in a reservoir that will hold about 2.6 million cubic metres of water, that will be used in the processing plant.

A preliminary water balance was estimated for baseline conditions, incorporating all rainfall and evaporation data collected from nearby weather stations. Results indicate that 9% of rainfall in the catchment would become recharge to the aquifer. Runoff peaks during summer months, when the evaporation is at its lowest and rainfall at its highest. During winter months, most of the rainfall would be lost due to evaporation.

AMC Consultants does not foresee a major impact from water inflows into the proposed pits. None the less, there will be some water accumulations in the mining area, this water will be managed through pit sumps with de-watering pumps as required.

16.3 Geotechnical parameters

AMC Consultants has reviewed the geotechnical work completed for the open pit and adopted the findings of the QP for this Technical Report. The following information was provided by ITASCA to support the QP's findings and conclusions:

- Itasca (September 2022) MEM-682.002.03-Conceptual Open Pit IRA recommendations-Rev0 9.26
- Itasca (September 2022) 682-002-PPT-UGT-Structural Domains-Eng.R1.pdf
- Itasca (October 2021) INF-Site Visit Report-en-R0 (2021-10-18)

16.4 Open pit mining

16.4.1 Resource model for open pit mining

AMC Consultants developed the Mineral Resource block model for the Silver Sand (reference: FIN_MOD_PB_ZN_CU.dm) for evaluation of the open pit mining potential. The block model is a sub celled, rotated model, with parent block dimensions of 5 m in the X (east) direction by 10 m in the Y (north) direction by 5 m in the Z (vertical) direction. The model was developed using Datamine™ software.

16.4.2 Open pit geotechnical considerations

ITASCA developed scoping-level slope design configurations to be used in the PEA, as summarized in a report entitled "ITASCA-MEM-682.002.03-Conceptual Open Pit IRA recommendations-Rev0 9.26.pdf", 2022.

The slope stability assessment was primarily based on conceptual information. Where information was not available, assumptions were made based on past experience in similar conditions. Two types of analyses were carried out to provide recommendations of inter-ramp angles to use in the open pit design:

- A bench scale kinematic analysis to estimate potential planar and wedge mechanisms that may form due to combination between joint fabric and slope orientations.
- A simplified continuous numerical analyses using the FLAC / Slope tool, which will generate an inter-ramp angle versus inter-ramp height curve for each geotechnical unit.

The result of the assessment includes the recommended Inter-Ramp Angle (IRA) of the slopes based on the kinematic (IRAk) and rock mass strength analyses (IRA vs height curve). The design to be used in each sector is the lowest IRA of these two recommendations.

The bench scale kinematic analysis was developed assuming double benching of 10 m high benches with catch berms placed every 20 m, friction angle of 30° and no cohesion on the joints, and the bench face is dry (no pore water pressure). Bench face angles (BFA) of 80° and an IRAk within 53° to 57° were recommended. Although the analyses indicates that BFAs of more than 80° are possible, a BFA of 80° was selected as representative for the whole open pit.

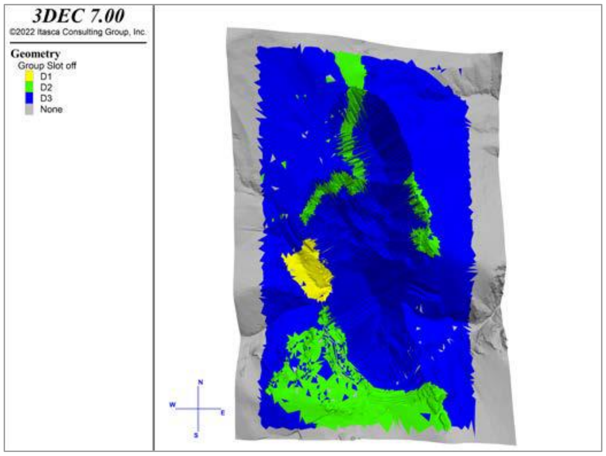
The inter-ramp angle versus inter-ramp height curve was determined to obtain a Factor of Safety (FoS) greater than or equal to the acceptability criteria of each Geotechnical Unit (GU). Assumptions used for this analysis include Hoek-Brown constitutive model, σ_{ci}, mi, and GSI from the GU, Hoek-Brown D factor equal to 0.7, and both a dry case and a water case. The inter-ramp angle versus inter-ramp height curve analysis indicated that all GUs can be excavated at an IRA of 55° for an inter-ramp height of 150 m.

A total of three structural domains were defined for the Silver Sand deposit:

- Domain 1 (D1): 4 joint sets
- Domain 2 (D2): 5 joint sets
- Domain 3 (D3): 3 joint sets

The approximate location of the structural domains is shown in Figure 16.1.

Figure 16.1 Structural domains



Structural Domain	Set	Dip (°)		Dip Direction (°)	
		Average	σ	Average	σ
1	D1_J1	88	9.4	261	8.6
1	D1_J2	90	8.7	233	6.2
1	D1_J3	90	8.5	293	4.4
1	D1_J4	83	5.2	319	3.6
2	D2_J1	88	9.4	253	6.6
2	D2_J2	88	8.2	275	7.2
2	D2_J3	89	9.6	50	5.8
2	D2_J4	85	7.7	308	5.0
2	D2_J5	17	7.5	243	17.3
3	D3_J1	89	11.4	80	10.5
3	D3_J2	88	6.9	113	7.5
3	D3_J3	88	13.6	226	6.7

Source: ITASCA Chile SpA.

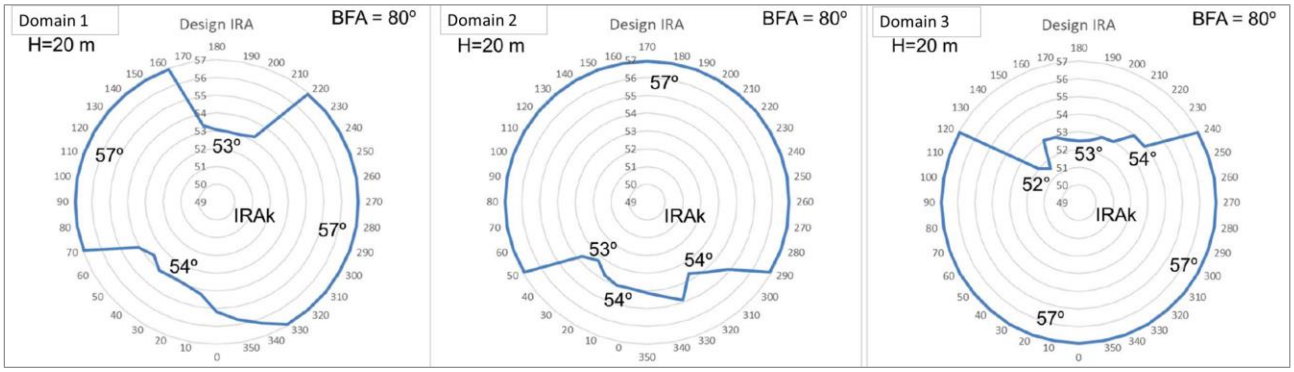
The resulting recommended kinematic Inter-Ramp Angle (IRAk) per domain and wall orientation is shown in Figure 16.2.

The slope design recommendations for the Silver Sand open pit are summarized in Table 16.1.

Table 16.1 Slope design recommendations

Sector	Geotechnical Parameters		
	Domain 1	Domain 2	Domain 3
Double bench height (m)	20	20	20
BFA (deg)	80	80	80
Berm width (m)	10.5 – 11.5	10.5 – 11.0	10.5 – 12.0
IRA (deg)	53 - 55	54 - 55	52 - 55

Figure 16.2 Recommended Inter-Ramp Angle from kinematic analysis



Source: ITASCA Chile SpA.

16.4.3 Open pit mining method

It is proposed to mine the open pits using a conventional truck and excavator mining method. A mining contractor operation is assumed. It is proposed that a 10 m bench height would be adopted. Mining of waste material will occur using 260 t hydraulic shovels (example: Komatsu PC3000). The average productivity of the PC3000 shovels in blasted material is expected to be approximately 1,740 t/op hr. Mining of mineralized material will occur using 200 t hydraulic excavators (example: Komatsu PC2000). The average productivity of the PC2000 excavators in blasted material is expected to be approximately 1,370 t/op hr.

Hauling of mineralized material and waste will be undertaken by 140 t trucks (example: CAT 785). Mineralized material will be hauled to the ROM pad or the process plant. Waste material will be hauled to external and in-pit waste rock dumps. Transportation of dry stack tailings from the process plant will be done by conveyor and stacker.

The majority of the material will require blasting. Proposed drilling parameters for 10 m bench heights are presented in Table 16.2. Down the hole hammer drill rigs would be equipped with blasthole sample equipment to collect samples for grade control. Drilling and explosive supply including loading and blasting, are assumed to be provided by contractors.

Table 16.2 Open pit drilling parameters

Parameter	Unit	Value
Bench height	m	10
Burden	m	5.5
Spacing	m	6.5
Hole size	mm	165
Collar	m	3.7
Subdrill	m	1.0
Powder factor	kg/t	0.20

Source: AMC Mining Consultants (Canada) Ltd.

16.4.4 Open pit optimization

16.4.4.1 Cut-off calculation

Table 16.3 displays the calculation of the open pit COG. Assumptions made to derive a COG included metal price, processing costs and recoveries. These inputs were obtained from New Pacific based on comparable industry situations and benchmarked against the AMC Consultants database. The assumptions used for determining the COG are considered reasonable.

Table 16.3 Open pit cut-off calculation

Input	Units	Value
Silver price	$/oz Ag	22.50
Silver process recovery	%	91
Payable silver	%	99
Selling costs	$/oz Ag	0.50
Mining cost	$/t mined	2.60
Incremental mining cost	$/t mined / 10 m bench	0.04
Process cost	$/t Mineralized material mined	16.00
TSF operating cost	$/t Mineralized material mined	0.7
G&A cost	$/t Mineralized material mined	2.00
Royalty	%	6.00
Cut-off grade	Ag g/t	31[1]

Note: [1]Open pit marginal cut-off excludes mining cost.
Source: AMC Mining Consultants (Canada) Ltd.

16.4.4.2 Dilution and mining recovery factors

The mineralization occurs in steeply dipping, narrow sheeted veins. A mining dilution of 8% and a mining recovery of 92% were assumed. Mining loss and dilution assumptions are based on experience on other projects. The mining dilution and recovery were applied as factors during the pit optimization process and to estimate open pit tonnages for the schedule. The dilution material is assumed to have zero grade.

Dilution method of the block models should be further investigated in the next study stage.

16.4.5 Pit optimization and shell selection

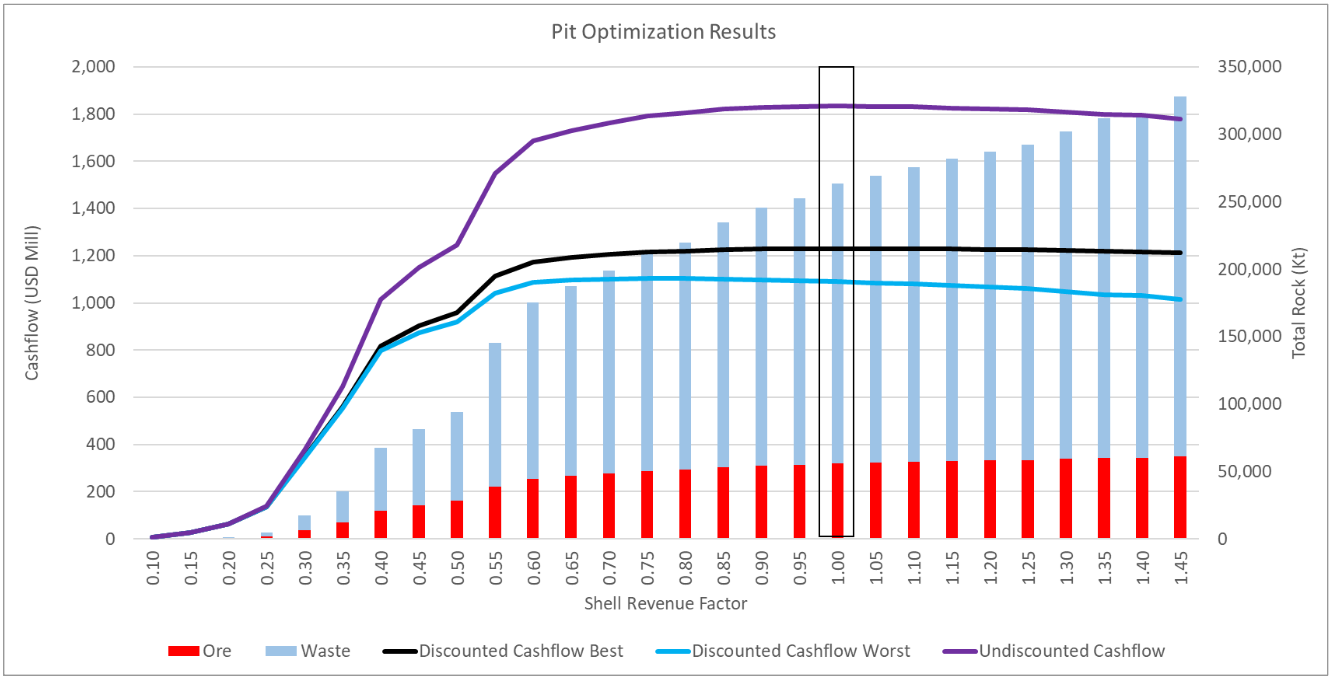
The Lerchs-Grossmann pit optimization algorithm, as implemented in the Whittle software, was used to define the ultimate pit shell for Silver Sand. The selected pit shells were then used to produce pit designs and the mining schedule. Pit optimization was allowed to extend outside the AMC claim boundary into the MPC area to the NE and SW.

The pit optimization results are provided in Table 16.4 and Figure 16.3. The graph in Figure 16.3 shows discounted pit values for “best case” and “worst case”, and undiscounted values. The best case gives the maximum discounted value and requires that each shell be mined sequentially. The worst case assumes that the deposit is mined on a bench-by-bench basis and gives the lowest discounted value. Discounted values are based on a discount rate of 8%.

Table 16.4 Pit optimization results

Pit shell	Revenue factor	Cashflow undiscounted ($M)	Processed tonne (kt)	Waste tonnage (kt)	Total tonnes (kt)	Strip ratio	Grade input Ag (g/t)	Mining cost ($)	Process cost ($)	Incremental mining cost ($/t of ore)	Incremental value ($/t of ore)
1	0.10	5.7	28	47	74	1.7	378.02	0	-1		
2	0.15	28.0	211	323	534	1.5	258.99	1	-4	6.9	122.0
3	0.20	64.3	669	843	1,512	1.3	198.06	4	-13	6.2	79.2
4	0.25	140.2	1,822	2,879	4,701	1.6	168.02	13	-34	7.6	65.8
5	0.30	376.9	6,257	11,295	17,552	1.8	142.02	50	-118	8.3	53.4
6	0.35	645.9	12,340	22,653	34,992	1.8	129.35	100	-232	8.2	44.2
7	0.40	1,013.9	20,881	46,598	67,479	2.2	124.99	192	-393	10.8	43.1
8	0.45	1,149.3	24,815	56,643	81,459	2.3	121.66	234	-467	10.5	34.4
9	0.50	1,246.7	28,136	65,757	93,893	2.3	118.72	271	-529	11.2	29.3
10	0.55	1,547.4	38,747	106,526	145,273	2.7	113.80	425	-728	14.6	28.3
11	0.60	1,686.7	44,512	130,938	175,450	2.9	111.61	520	-837	16.4	24.1
12	0.65	1,729.9	46,595	140,572	187,167	3.0	110.78	556	-876	17.5	20.7
13	0.70	1,762.8	48,518	150,577	199,094	3.1	109.95	593	-912	19.0	17.1
14	0.75	1,793.0	50,523	162,475	212,999	3.2	109.22	638	-950	22.3	15.1
15	0.80	1,804.3	51,465	168,336	219,801	3.3	108.85	660	-968	23.6	12.0
16	0.85	1,821.2	53,125	181,591	234,717	3.4	108.38	707	-999	28.5	10.2
17	0.90	1,829.6	54,445	191,250	245,695	3.5	107.79	742	-1,024	26.4	6.4
18	0.95	1,832.4	55,104	197,213	252,317	3.6	107.60	764	-1,036	33.0	4.2
19	1.00	1,833.5	56,127	207,318	263,446	3.7	107.29	800	-1,055	35.5	1.1
20	1.05	1,832.9	56,652	212,546	269,198	3.8	107.08	818	-1,065	34.9	-1.2
21	1.10	1,830.6	57,220	218,183	275,402	3.8	106.86	839	-1,076	36.8	-4.1
22	1.15	1,826.8	57,794	224,230	282,024	3.9	106.60	861	-1,087	37.7	-6.7
23	1.20	1,823.2	58,188	229,029	287,217	3.9	106.46	878	-1,094	42.4	-9.0
24	1.25	1,819.2	58,534	233,595	292,129	4.0	106.32	893	-1,100	43.3	-11.5
25	1.30	1,809.3	59,282	242,932	302,214	4.1	105.93	923	-1,115	40.7	-13.2
26	1.35	1,798.9	60,005	251,806	311,810	4.2	105.54	953	-1,128	40.8	-14.5
27	1.40	1,794.5	60,246	255,009	315,255	4.2	105.43	964	-1,133	46.5	-18.0
28	1.45	1,777.9	61,001	267,053	328,054	4.4	105.13	1,004	-1,147	53.2	-22.0

Figure 16.3 Pit optimization results



Source: AMC Mining Consultants (Canada) Ltd.

16.4.6 Pit design

Pits were designed based on the selected optimization shell 19, revenue factor 1 (RF), based on New Pacific's goal of increased plant feed tonnes.

Seven pits have been designed, four phases in the main pit (MP1, MP2, MP3, and MP4), two small northern satellite pits (NP1 and NP2), and one eastern satellite pit (EP1).

Four phases were designed in the main pit to provide the best grade to the plant as soon as possible and to allow in-pit backfill of waste. MP1 and MP2 are based on the RF 0.4 shell allowing for the high grade from lower stripping areas to be delivered to the plant first, followed by pushbacks MP3 and MP4 to the final RF 1.0 shell. The creek channel provides a logical location to split the pit into north and south. This split allows for in-pit backfill of waste from MP4 into MP3.

Haulage ramps have been designed at 32 m wide for double lane traffic at a 10% gradient. Single lane ramps of 17 m width were designed for the bottom bench access and the small satellite pits. The final pit designs presented in Figure 16.4. Sections displaying Ag grade (g/t) for the mineralized material are presented in Figure 16.5 to Figure 16.9.

Figure 16.4 Final pit design

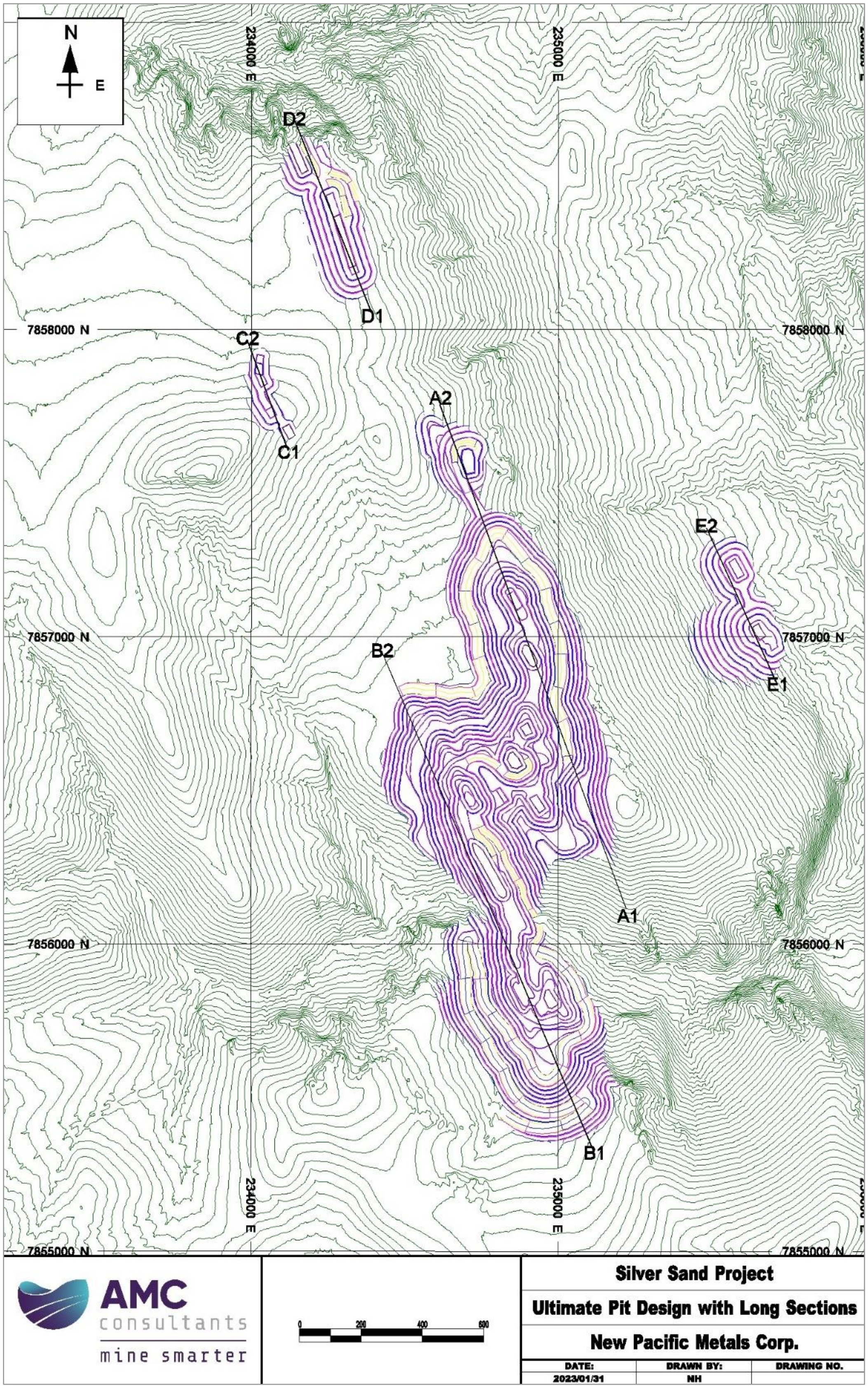
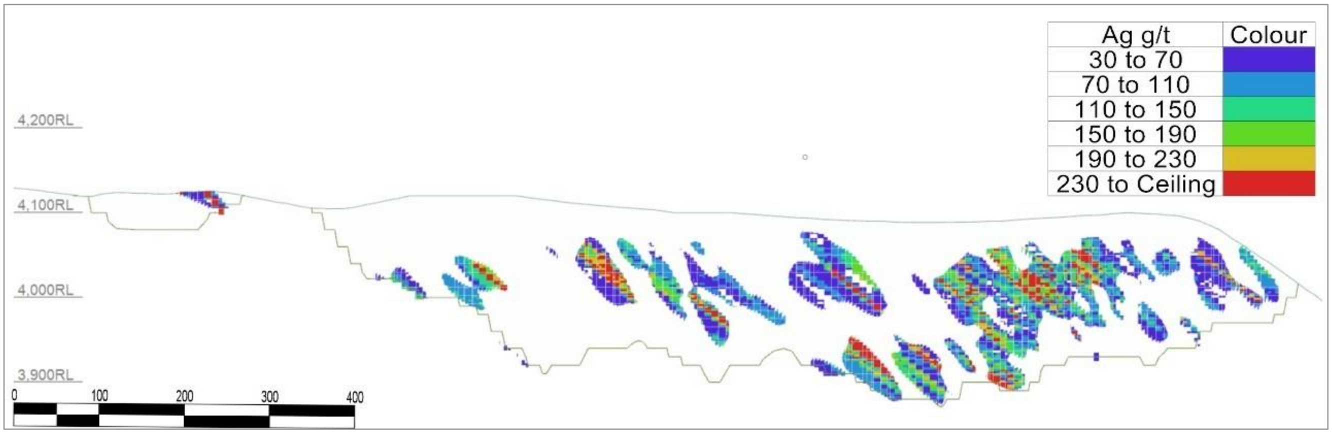
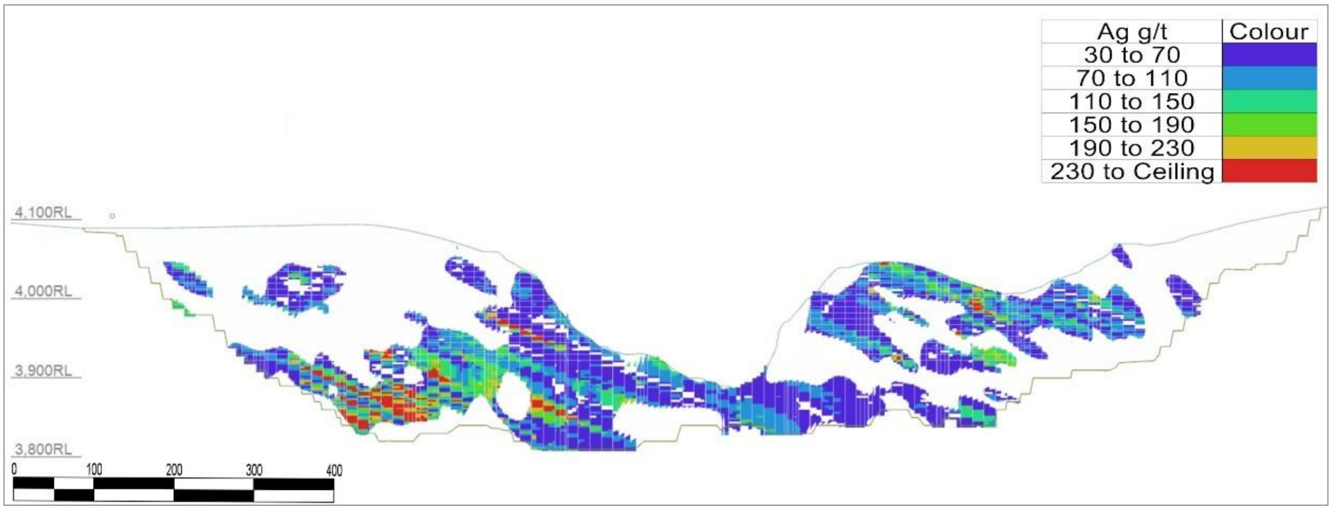


Figure 16.5 Section view A1-A2 with Ag grade values (g/t)



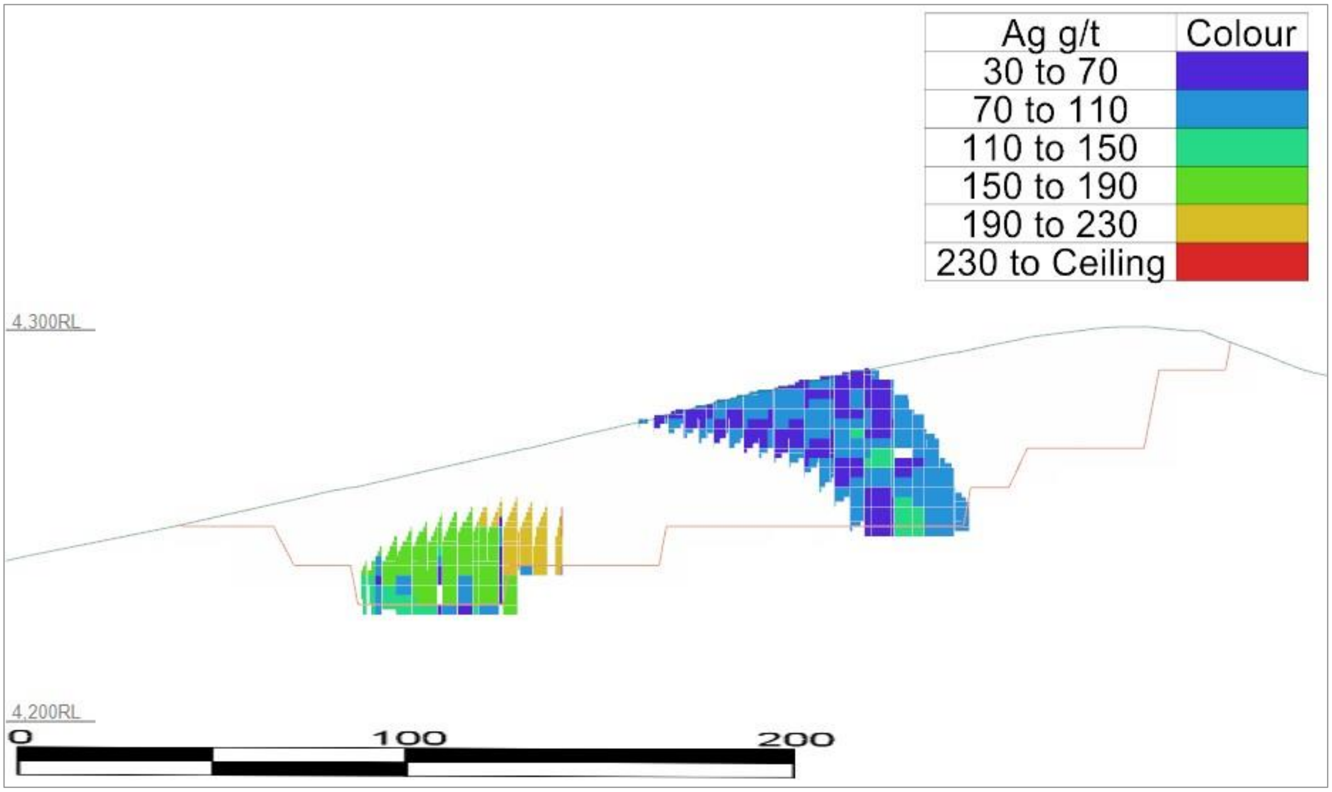
Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 16.6 Section view B1-B2 with Ag grade values (g/t)



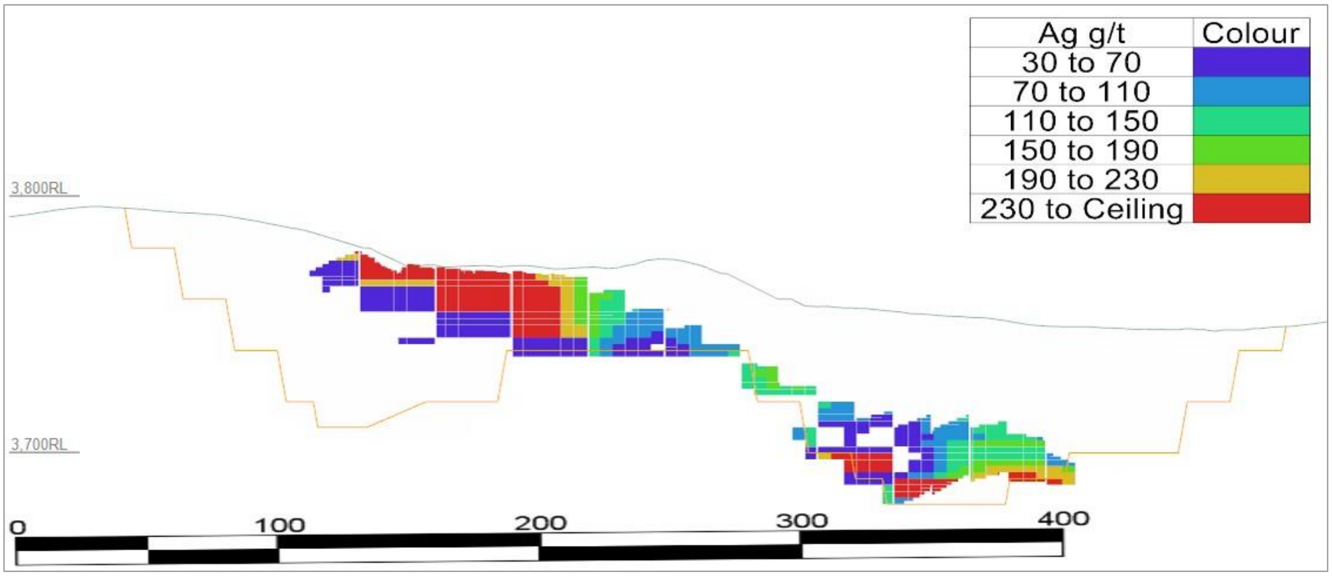
Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 16.7 Section view C1-C2 with Ag grade values (g/t)



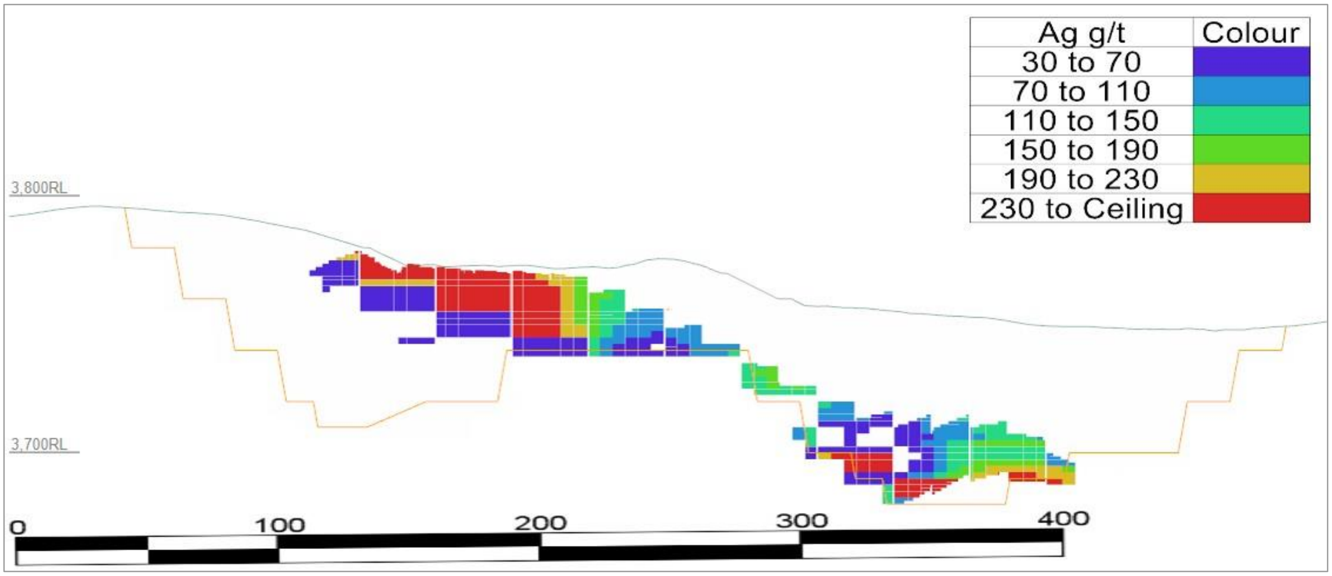
Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 16.8 Section view D1-D2 with Ag grade values (g/t)



Source: AMC Mining Consultants (Canada) Ltd., 2022.

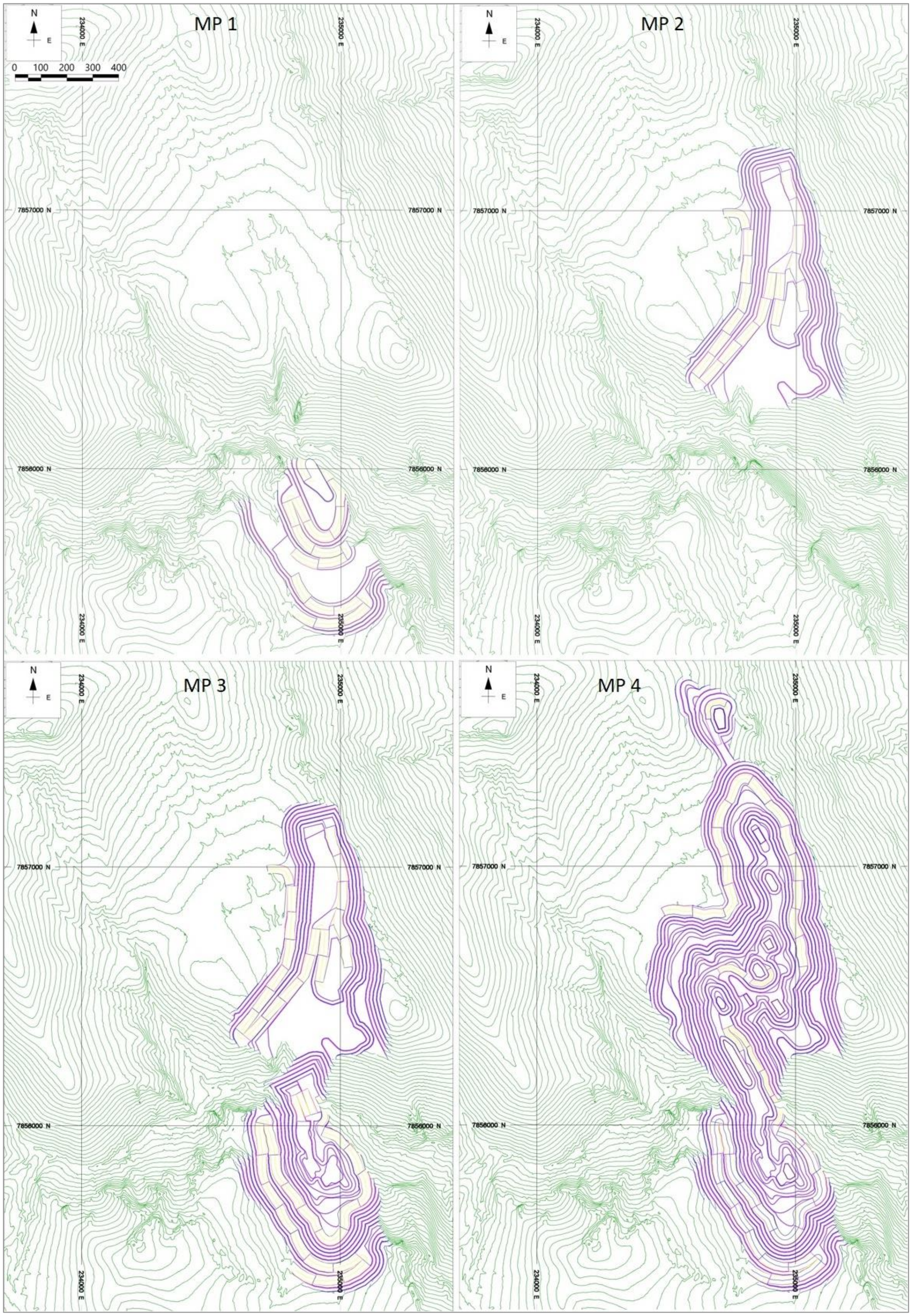
Figure 16.9 Section view E1-E2 with Ag grade values (g/t)



Source: AMC Mining Consultants (Canada) Ltd., 2022.

Figure 16.10 shows the four stages (MP1, MP2, MP3, and MP4) of the Main pit. The Main pit is the largest pit measuring approximately 2,200 m in length, 350 m to 700 m in width, and 280 m at its deepest point.

Figure 16.10 Main pit stages



Note: Scale bar applies to all four drawings.
Source: AMC Mining Consultants (Canada) Ltd.

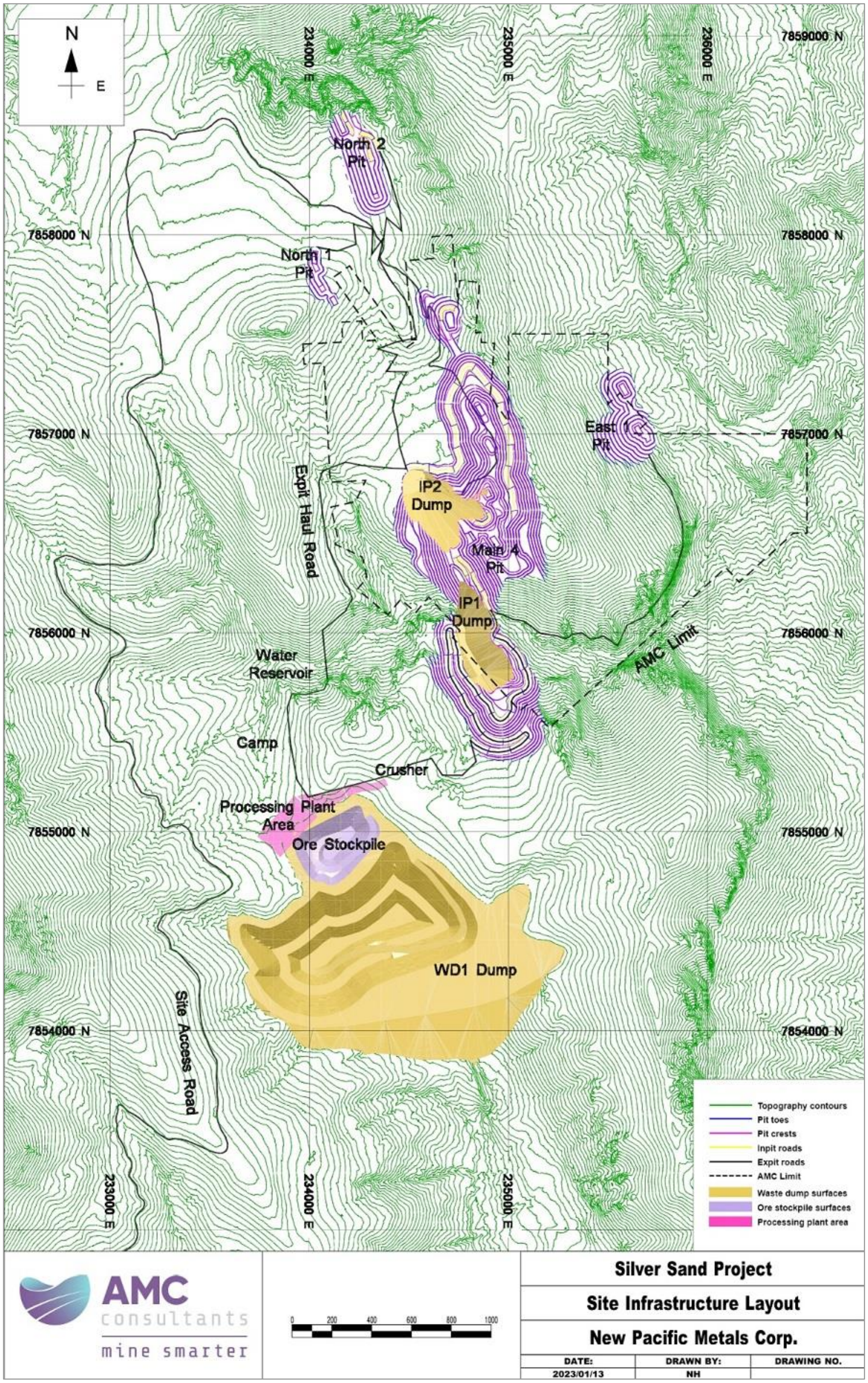
16.4.7 Layout of other mining related facilities

A single out-of-pit waste dump has been designed immediately south-west of the open pits in a natural depression in the topography. The waste dump has been designed to accommodate the totality of the waste mined from the pits. Waste will be placed to create an embankment to contain the filtered tailings from the process plant. The waste dumps have been designed based on a 2:1 overall slope angle. Connecting haul roads are maximum 10% grade.

Two in-pit dumps have been designed in the main pit (MP3 and MP4) pit to reduce hauling costs as the out-of-pit dump grows in size and the mined-out voids can be safely backfilled. The general site layout including waste dumps is presented in Figure 16.11.

The ROM stockpile has been designed to accommodate up to 6 million tonnes of mineralized material.

Figure 16.11 General site layout



16.4.8 Open pit mining equipment

The projected mining schedule (see Section 16.5) was used to derive the equipment requirements. The following assumptions were used to estimate loading, hauling, and drilling equipment:

- Equipment availability of 80%
- Use of availability of 85%
- Operating efficiency of 92%
- Derived utilization of 63%
- 5,255 operating hours per annum

Open pit primary equipment requirement at peak production is summarized in Table 16.5.

Table 16.5 Open pit primary equipment

Equipment type[1]	**Peak No. required**
260 t shovel for waste (Komatsu PC3000)	2
200 t excavator for mineralized material (Komatsu PC2000)	1
Wheel loader (WA600)	1
140 t haul truck (CAT785)	12
Production drill (D65)	4
Dozer (450HP)	3
Grader (CAT 140M)	2
Water truck	2
Total	**30**

Note: [1]Equipment models indicated are for sizing and costing purposes only and are not meant to be recommendations regarding equipment manufacturer for purchasing decisions.

16.4.9 Open pit mining personnel

The total number of personnel required was estimated based on the production throughput of the operation and the equipment numbers. It is assumed that the management and technical staff will be part of the owner's team. Contractor personnel numbers were estimated for mine supervision, mine operations and maintenance.

Total operator numbers were calculated based on the number of machines on site at any given time. Equipment such as trucks, excavators, drills, and dozers are considered to be manned at all times.

Management and technical staff were assumed to work on an 8 on 6 off roster while mining and maintenance labour is assumed to work on a two-weeks on one-week off basis. Two 12-hour shifts per day are proposed.

The open pit mining personnel at peak production rate is shown in Table 16.6.

Table 16.6 Open pit manning

Open pit manning	Peak No. required
Owner – Mining Supervision and Technical Services	
OP Mining Manager	1
Technical Services Manager	1
Mine Safety and Training	4
Maintenance Superintendent	3
Technical Services Superintendent	1
Mine Engineer	3
Geotechnical Engineer	1
Geologist	2
Surveyor	4
Sub total	**20**
Contractor – OP Supervision and Production	
Project Manager & Mine Services	3
Operation Supervisor	3
Dispatcher & ROM Controller	3
Excavator / Shovel operator	9
Truck operator	45
Drill operator	12
Grader / Dozer operator	15
Ancillary equipment operator	28
Sub total	**118**
Contractor – maintenance	
Boilermaker	3
Electrician	3
Planner	3
Clerks	3
Mechanic	33
Laborer / Forklift / Crane Operator	3
Sub total	**48**
Total OP personnel	**186**

16.5 Projected open pit (LOM) production schedule

The open pit mine plan was completed using Minemax Scheduler 7 (Minemax) software. Minemax seeks to maximize the discounted operating cash flows while honoring constraints related to processing and mining inputs.

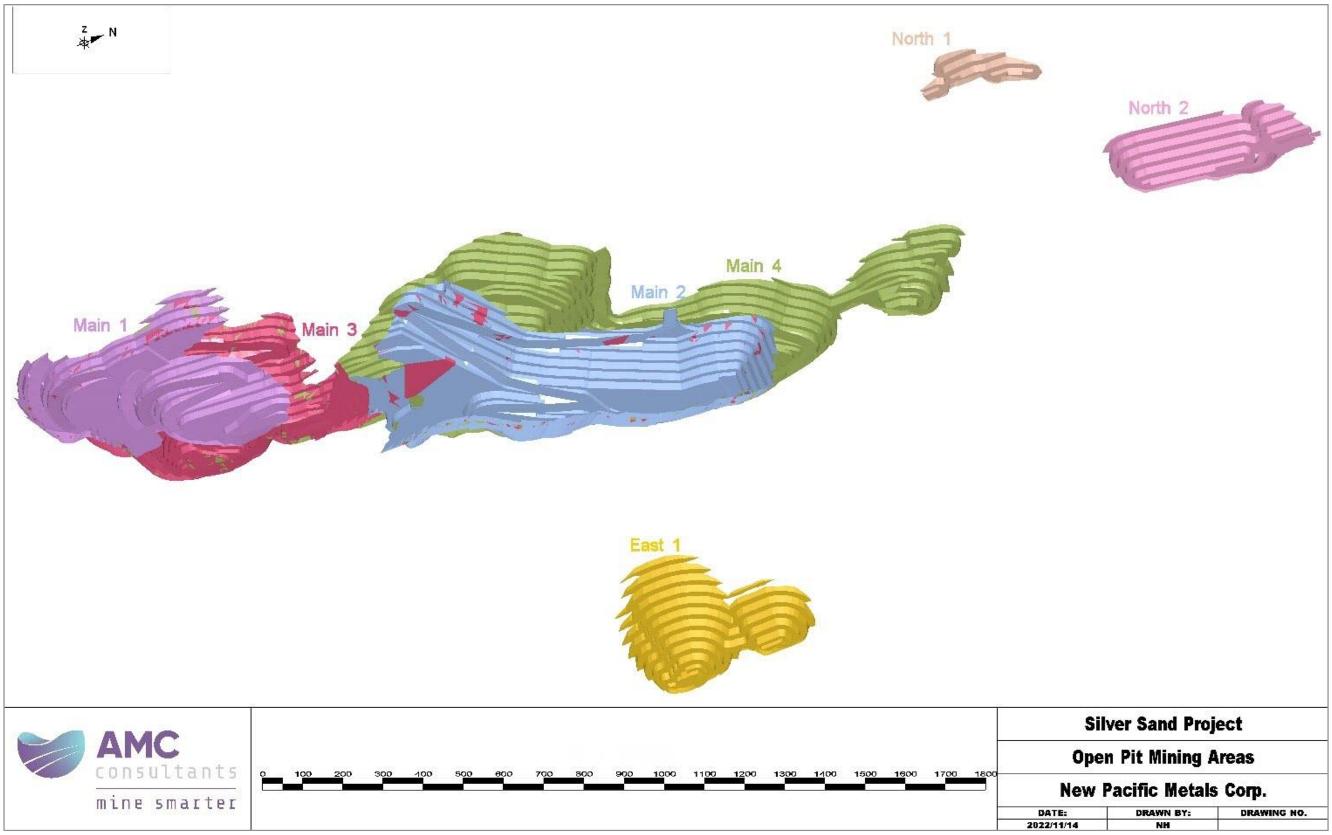
The target of the LOM schedule is to maximize the net present value of the plan while maintaining a 4.0 Mtpa, 12,000 tpd, steady state processing plant throughput. The schedule was developed on a yearly basis using a discount rate of 5% per annum.

A comprehensive haulage network model was developed, using Hexagon Mining's Mineplan Haulage (Haulage) module, for each pit phase using the pit phase design haul ramps and access to the destinations. The model cycle times were then integrated into the Minemax schedule to model equipment capacity for loading and truck hours.

16.5.1 Inventory by mining area

The total inventory includes 255.1 Mt of rock, of which 55.4 Mt are mineralized material with an average Ag grade of 106.6 g/t. This is an overall stripping ratio (waste:mineralized material) of 3.6:1.The mine plan includes seven open pit phases as shown in Figure 16.12.

Figure 16.12 Open pit mining areas



The inventory by mining area and their associated mineralized material and waste quantities is presented in Table 16.7.

Table 16.7 Total inventory

Mining area	Mineralized material tonnes (Mt)	Ag grade (g/t)	Waste tonnes (Mt)	Total rock tonnes (Mt)
Main 1 (MP1)	6.5	108.4	26.7	26.7
Main 2 (MP2)	17.1	117.8	69.9	69.9
Main 3 (MP3)	7.6	87.4	30.1	30.1
Main 4 (MP4)	21.9	103.2	110.1	110.1
North 1 (NP1)	0.2	77.1	1.1	1.1
North 2 (NP2)	1.4	111.0	9.6	9.6
East 1 (EP1)	0.7	136.8	7.5	7.5
Total	**55.4**	**106.6**	**199.7**	**255.1**

Source: AMC Mining Consultants (Canada) Ltd., 2022.

The PEA is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

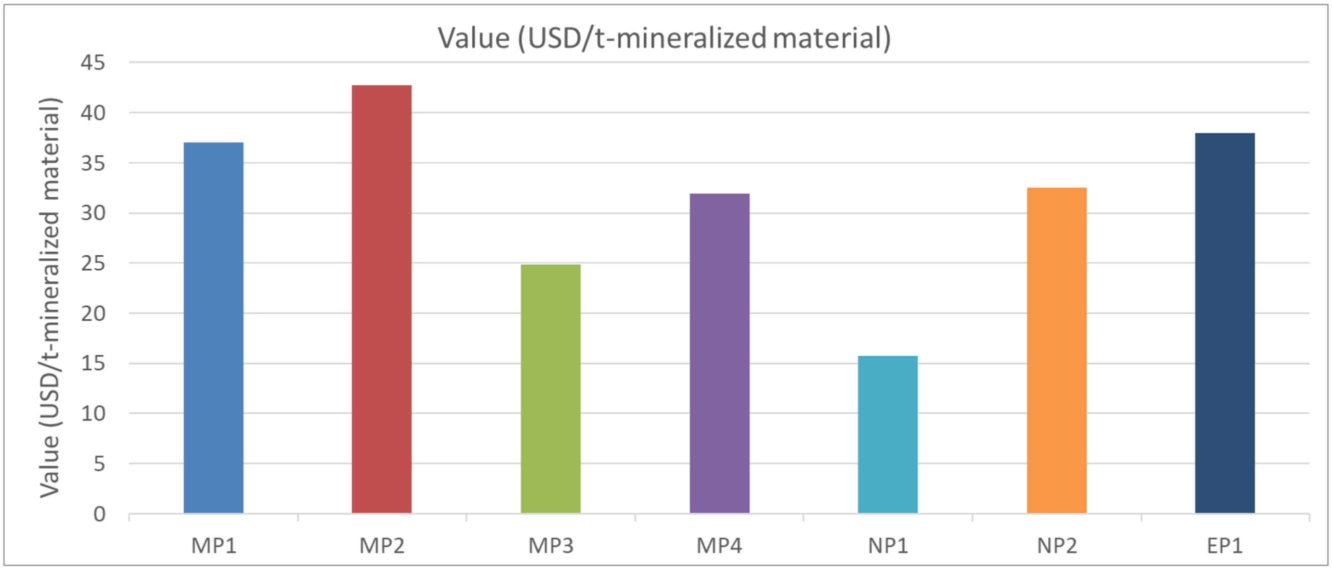
16.5.2 Mine sequence considerations

16.5.2.1 Value of mining areas

In order to optimize the overall value of the project and the sequence of mining, the value for each pit phase was estimated. The value, defined as the indicative undiscounted cashflow per tonne of mineralized material, accounts for preliminary mining costs, G&A, and processing costs.

The projected value from each source and consideration of practical scheduling constraints provided a basis for the order in which the pits are scheduled. The indicative value by mining area is shown in Figure 16.13.

Figure 16.13 Indicative value by mining area



Source: AMC Mining Consultants (Canada) Ltd., 2022.

16.5.2.2 In-pit backfill of waste

In addition to considering the value by mining area when developing the preferred mining sequence, a focus to mine pushbacks MP1 and MP3 allows for in-pit backfill of waste from MP4 into MP3. The storage capacities of the in-pit dumps are presented in Table 16.8. In future studies, it is recommended that further work is done to identify alternative dump locations (i.e., in-pit backfill, gully dump downstream of water reservoir) to make use of shorter hauls.

Table 16.8 Capacity for in-pit backfill

Mining area	**Volume available for waste ($M\ m^3$)**
MP3	4.1
MP4	4.7
Total	**8.8**

16.5.2.3 Tailings disposal area embankment construction

Year -1 is considered to be a pre-strip period and activities include waste stripping, some ore stockpiling, haul road construction and tailings disposal area embankment construction. Waste rock from the pits will be used to construct the embankment at the south end of the valley to allow development of the filtered tailings storage facility (Filtered TSF or TSF). It is proposed that filtered tailings will be disposed of with the waste rock at the same location. The estimated rock volumes required to construct the embankment are presented in Table 16.9.

Table 16.9 Rock volume required for tails south embankment construction

Year	Volume of rock (M m^3)	Volume of rock (cumulative) (M m^3)
Pre-strip (Yr -1)	8.9	8.9
End of Yr 2	14.7	23.6
End of Yr 5	16.1	39.7
End of Yr 8	12.4	52.1
End of Yr 10	5.1	57.2
Total	**57.2**	**57.2**

Source: NewFields, 2022.

16.5.2.4 Open pit constraints and precedences

The following open pit precedences and constraints are used in the LOM schedule:

- 1 year of pre-strip mining.
- MP1 to be mined at least 1 bench ahead of MP3.
- MP2 to be mined at least 1 bench ahead of MP4.
- Maximum of 2 phases to be mined per year.
- Vertical advance rate limit of 12 benches per year.
- No constraints on stockpiling of mineralized material.

16.5.3 Conceptual open pit production schedule

Mining operations extend over 15 years, including the pre-strip period (Yr -1). The total annual ex-pit material mined peaks at 18.5 Mtpa, before dropping to approximately 13 Mtpa at the end of the open pit mine life.

Ex-pit production rates of 18.5 Mtpa are adequate to deliver 4.0 Mtpa ore to the process plant. This included consideration of vertical rate of advance (VRA).

MP2 and MP1 are mined first as the schedule targets high grade and low strip ratio ore. MP1, MP2, and MP3 are all mined by the end of Year 6. MP4 is mined from Years 7 to 13. NP1, NP2, and EP1 are mined at the end of LOM.

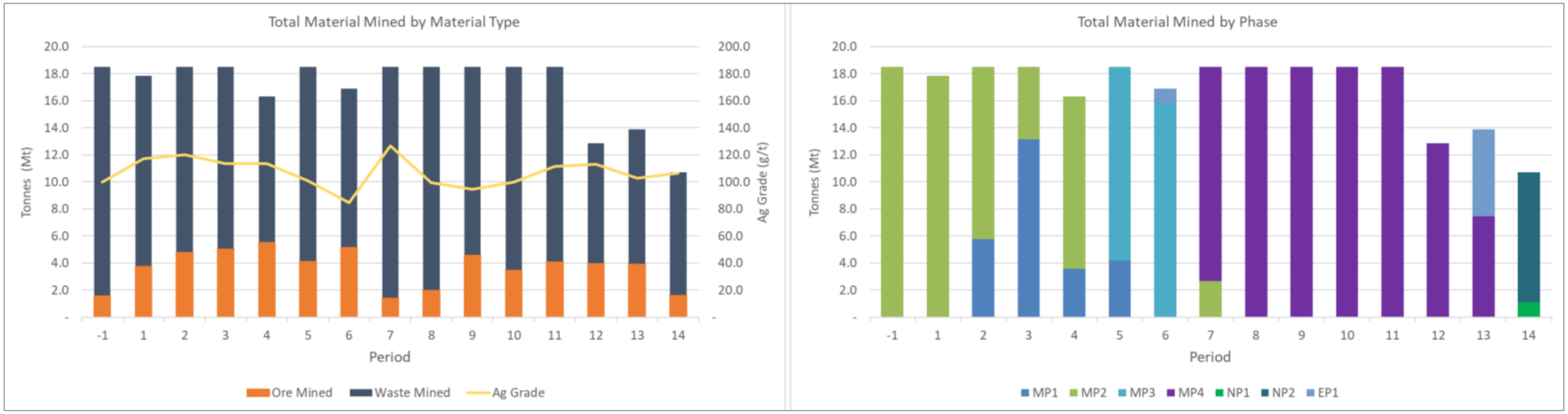
MP4 mining makes use of short hauls to backfill 4.1 M m^3 of waste into MP3. NP1 and NP2 make use of short hauls to backfill waste into MP4.

The projected open pit schedule is summarized in Table 16.10 and Figure 16.14.

Table 16.10 Open pit material mined

	Unit	Total	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14
Mineralized material mined	Mt	55.4	1.6	3.8	4.8	5.1	5.5	4.1	5.2	1.4	2.0	4.6	3.5	4.1	4.0	4.0	1.6
Ag grade	g/t	106.6	99.9	117.1	120.2	113.4	113.6	100.9	84.8	126.8	99.4	94.6	100.0	111.7	113.3	102.8	106.6
Waste mined	Mt	199.7	16.9	14.1	13.7	13.4	10.8	14.4	11.7	17.1	16.5	13.9	15.0	14.4	8.8	9.9	9.1
Total mined	Mt	255.1	18.5	17.9	18.5	18.5	16.3	18.5	16.9	18.5	18.5	18.5	18.5	18.5	12.8	13.9	10.7

Figure 16.14 Life-of-mine production schedule



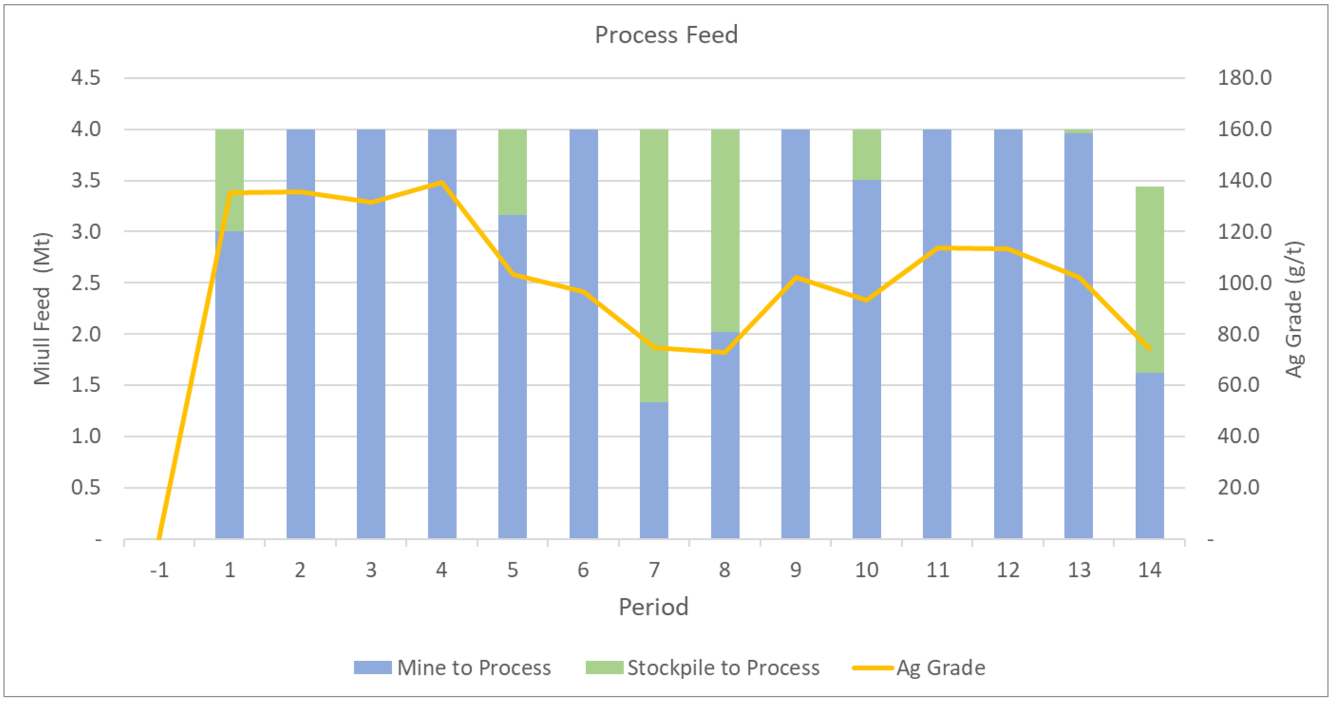
Source: AMC Mining Consultants (Canada) Ltd., 2022.

16.5.4 Projected process plant feed schedule

Projected production from the open pit is stockpiled in Year -1, during the construction of the process plant. It has been assumed that the process plant would be capable of producing 4.0 Mt from Year 1 onwards.

As presented in Figure 16.15, the targeted process feed is achieved on a yearly basis. High grade material stockpiled during Year -1 is reclaimed in Year 1. Waste stripping of MP4 in Years 7 and 8 requires most plant feed to come from stockpiles. Stockpiling and reclaiming plant feed allows the ex-pit mining profile to be smoothed, and revenue to be brought forward by maximizing head grade based on available feed stock.

Figure 16.15 Process feed schedule



Source: AMC Mining Consultants (Canada) Ltd., 2022.

The PEA is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

The conceptual process feed is summarized in Table 16.11.

Table 16.11 LOM process plant feed schedule

	Total	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14
Total process feed (Mt)	55.4	-	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.4
Ag (g/t)	106.6	-	135.3	135.6	131.5	139.1	103.4	96.6	74.8	72.7	102.3	93.3	113.6	113.3	102.3	74.2
Mine to Process (Mt)	46.6	-	3.0	4.0	4.0	4.0	3.2	4.0	1.3	2.0	4.0	3.5	4.0	4.0	4.0	1.6
Ag (g/t)	116.3	-	136.1	135.6	131.5	139.1	117.9	96.6	133.5	99.4	102.3	100.0	113.6	113.3	102.8	106.6
Stockpile to Process (Mt)	8.8	-	1.0	-	-	-	0.8	-	2.7	2.0	-	0.5	-	-	-	1.8
Ag (g/t)	55.6	-	132.7	-	-	-	48.3	-	45.5	45.4	-	45.3	-	-	45.3	45.3
Mine to Stockpile (Mt)	8.8	1.6	0.8	0.8	1.1	1.5	1.0	1.2	0.1	-	0.6	-	0.1	-	-	-
Ag (g/t)	55.6	99.9	45.4	46.0	46.1	47.3	45.5	44.5	42.5	-	45.0	-	45.1	-	-	-

17 Recovery methods

17.1 Summary

The results of metallurgical testwork (described in Section 13) have been used to select a mineral processing flowsheet for the Silver Sand project. Interpretation of the testwork results has enabled the preparation of preliminary process design criteria, equipment selection and flowsheet.

Several processing options were considered, including heap leaching, froth flotation, and agitated tank cyanidation (using carbon or zinc precipitation for silver recovery from solution). After preliminary trade-off studies to compare the capital cost, operating cost and metallurgical efficiency of different options, an agitated tank cyanidation process was selected for the PEA base case. The selected flowsheet represents a very conventional, low-risk approach to silver extraction, and consists of the following unit operations:

- ROM receiving, crushing, and crushed rock storage.
- Stockpile discharge, grinding via SAG milling, and ball milling.
- SAG mill pebble crushing via SAG mill pebble ports, scalping screen, recycle conveyors, and cone crusher.
- Pre-leach thickening and cyanide leaching using stirred, oxygen sparged tanks.
- Liquid / solid separation using counter-current decantation (thickeners).
- Recovery of silver from pregnant leach solution using a zinc precipitation process followed by drying and smelting with fluxes to produce silver doré bars.
- Thickening and filtration of leach residues.
- Conveying of filter cake and long-term storage at the tailing storage area.

The processing rate was selected to match the mine production rate of 12,000 tpd. Simplified block flow diagrams for the full processing plant are given in Figure 17.1 and Figure 17.2.

Figure 17.1 Process flowsheet summary, Sheet 1

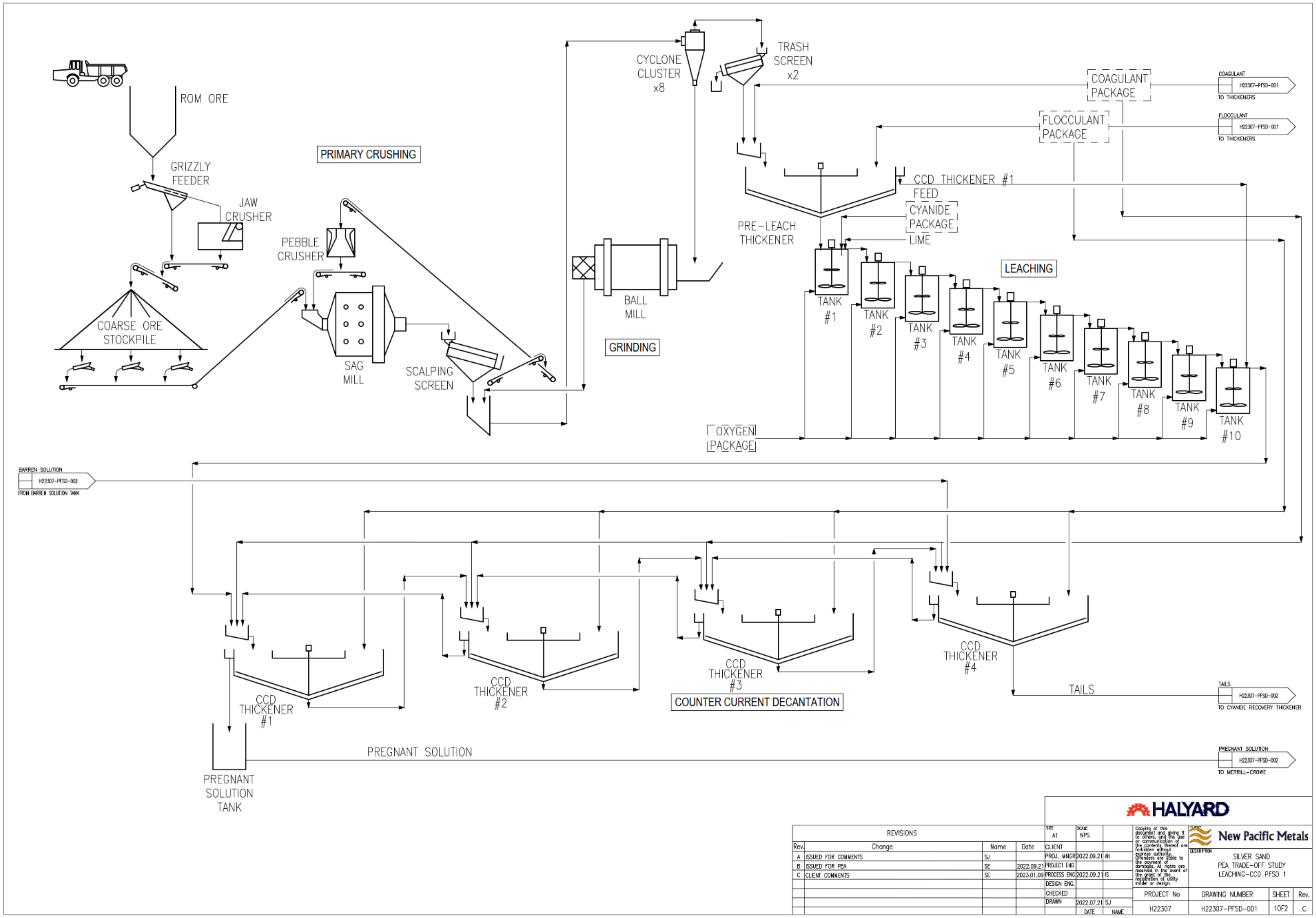
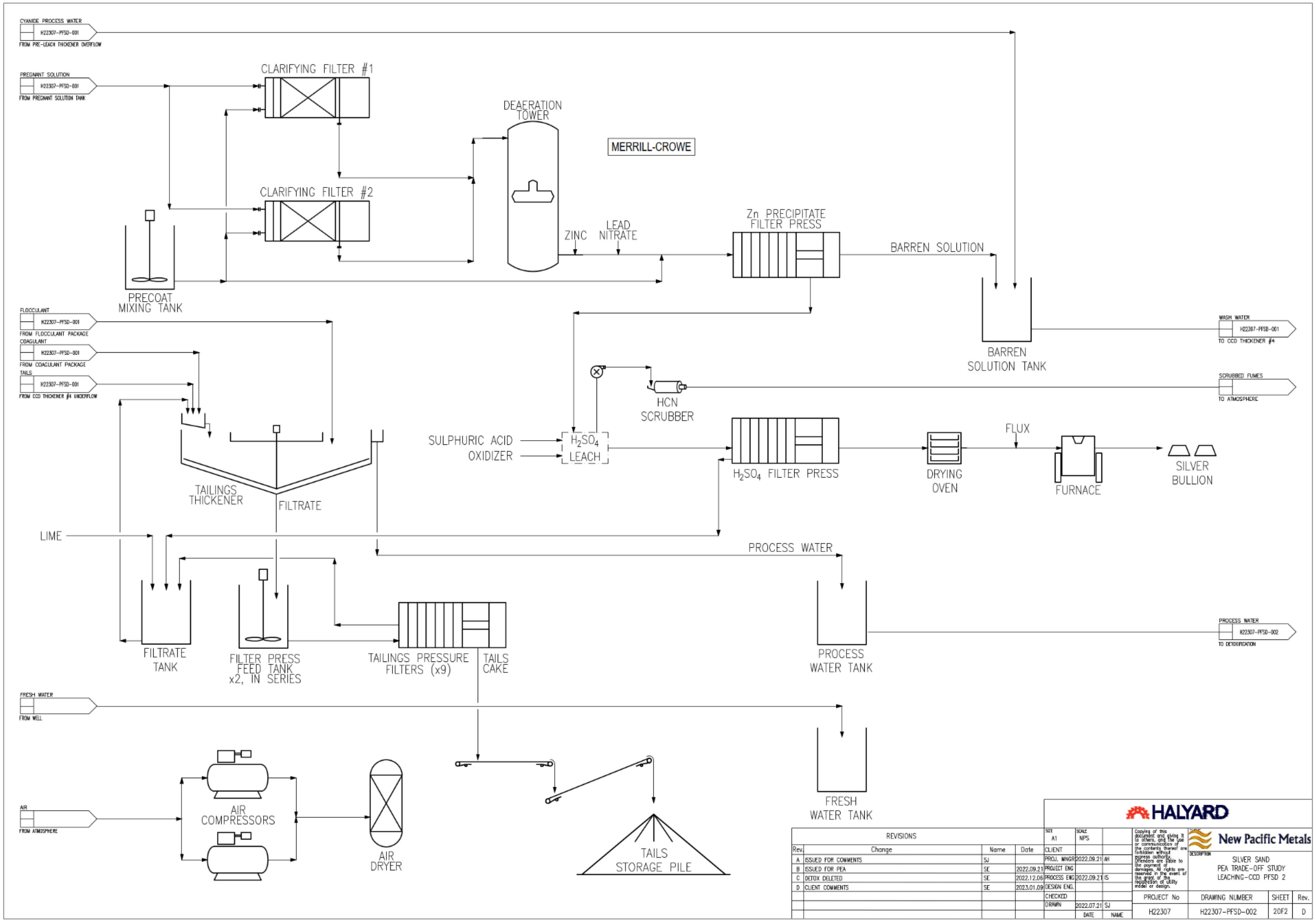


Figure 17.2 Process flowsheet summary, Sheet 2



17.2 Process Design Criteria

The Process Design Criteria (PDC) prepared for this study is summarized in Table 17.1 below.

Table 17.1 Process Design Criteria

Criteria		Unit	Design
Annual Throughput		dmtpa	4,000,000
Crushing Circuit	Availability	%	75
	Hours per annum	h	6,570
	Average hourly feed rate	dmtph	609
Grinding Circuit	Availability	%	91.3
	Hours per annum	h	8,000
	Average hourly feed rate	dmtph	500
ROM Characteristics	Solids density	t/m^3	2.53
	(average blend) Crushing Wi	kWh/t	10.3
	Abrasion Index	g	0.37
	Axb	-	40.6
	Bond Ball Wi	kWh/t	16.0
	Silver grade (average)	g/t	107
	Copper grade	g/t	300
Crushing Circuit	Feed top size	mm	700
	Feed size, F_{80}	mm	450
	Product size, P_{80}	mm	130
	Peak throughput	dmtph	609
Grinding Circuit	Feed top size	mm	220
	Configuration		SABC
	SAG mill feed size, F_{80}	mm	130
	Cyclone overflow size, P_{80}	µm	75
	Applied energy	kWh/t	25.9
	Throughput	dmtph	500
Pre-Leach Thickener	Diameter	m	30
	Unit area	$t/m^2/d$	15.5
	Underflow % solids	%	46
Leaching Circuit	Retention time	h	48
	No of tanks		10
	Each tank volume	m^3	4,000
	pH		10.5 – 11.0
	NaCN concentration	g/L	3.0
	DO_2 levels	ppm	10-12
	Silver dissolution rate	%	92.0

Criteria		Unit	Design
CCD	No of Stages	#	4
	Thickener Diameter	m	33
	Unit Area	$t/m^2/d$	12.8
	Wash water / thickener underflow liquor	w/w	3.0
	Underflow %solids	%	50-55
	Wash Efficiency	%	99.2
	Tailings Thickener Diameter	m	35
	Thickener underflow density	t/m^3	1.57
	Underflow % Solids	% (w/w)	60
	Tailings Filter Capacity	tph	500
	Number of Filters	#	9
	Total Filtration Area	m^2	7,200
Merrill Crowe	Clarifying Filters	#	2
	Filtration area of each filter	m^2	450
	Zinc addition rate	kg Zn/kg Ag	3.0
	Lead nitrate	kg $Pb(NO_3)_2$/kg Ag	0.10
	Precipitation Filters	#	3
	Precipitation cycle time	d	3
Refinery	Precipitate cake handling	tpd	10 (wet)
	Drying Ovens	#	3
	Induction Furnace	kW	800
	Overall Silver Recovery into doré	%	91.0

17.3 Process description

The 4 Mtpa processing plant is described in the following subsections and illustrated in Figure 17.1 and Figure 17.2.

17.3.1 Crushing

Crusher feed material will be delivered in 140 t trucks and dumped via an earth ramp into an inload bin. The maximum feed particle size accepted into the plant will be 700 mm. The inload bin will be discharged by a variable speed vibrating grizzly feeder (VGF) allowing both fines removal and throughput control for the jaw crusher. Approximately 50% of the feed mass will pass through the VGF and only the oversize fraction will report to the crusher. The jaw crusher, a 1,200 mm x 1,600 mm unit, will crush oversize material and will discharge onto a short sacrificial conveyor together with VGF fines.

The sacrificial conveyor will transfer the primary crushed rock onto the stockpile feed conveyor and will also present the material to an over-belt magnet that can remove any tramp steel that may be present. The stockpile feed conveyor will transport the crushed material to the top of an uncovered conical stockpile whose live capacity will provide a 16-hour buffer at nominal throughput rate (500 dry metric tonnes per hour (dmtph)) to the downstream grinding circuit.

The crushing circuit design is based on an instantaneous 609 dmtph throughput rate, with an assumed average utilization of 75%.

17.3.2 Grinding

The crushed rock stockpile will be drawn down using 3 variable speed apron feeders (2 running, 1 on standby). These feeders control the rate at which the stockpile will discharge onto the SAG Mill feed conveyor. A weightometer located on the SAG mill feed conveyor will measure and accumulate tonnage rates, allowing for accurate process control and metallurgical accounting.

Lime will be added to the SAG mill feed conveyor in powdered form, using a control loop that will bring the pre-leach thickener feed slurry pH up to 9.5 - 9.8. The balance of lime will be added as a slurry directly to the leach tanks.

A 26′ diameter x 13′ EGL, 4,500 kW SAG mill will be fed with crushed material via the mill feed conveyor, whereupon it will be mixed with process water and ground to a pulp using 5″ steel balls and other large rocks already part of the mill charge. As the pulp / pebble mixture discharges from the SAG mill via a discharge grate and pan lifters, it will pass over a multi-slope vibrating scalping screen fitted with ½″ aperture panels. This screen will protect the pumps beneath from oversize material, directing it instead into the pebble crushing circuit. The screen undersize stream, a coarsely ground slurry of roughly 60% solids, will gravitate into the common mill discharge pumpbox where it will combine with ball mill discharge slurry.

Scalping screen oversize material which consists mainly of pebbles, will discharge onto a series of recycle conveyors that will be equipped with self-cleaning magnets and a metal detector. The pebble stream will discharge into a storage bin sized to provide a 15 to 20-minute buffer. This storage bin will be discharged using a vibrating pan feeder into the pebble crusher before being conveyed back to the SAG mill as a recycle stream. The pebble crusher will reduce 50-60 mm pebbles to <10 mm.

The SAG mill discharge slurry will be mixed with ball mill discharge slurry and process water in the common mill discharge pumpbox. From here, the mixture will be pumped to a hydrocyclone cluster for size classification. The cyclone underflow slurry (containing the coarse size fractions) will gravitate to the ball mill for further grinding, while the cyclone overflow slurry (containing the finer size fractions) will gravitate to the trash screen and then to the pre-leaching thickener.

The ball mill will be a 20′ x 34′ overflow discharge unit with a 7,500 kW drive arrangement. A trommel screen on the mill discharge will protect pumps and help to remove tramp steel and other "scats" that may exit the mill.

Grinding balls will be added to the SAG and ball mills on a daily basis in 2-tonne lots using a system of magnets, loading kibbles and hoists.

Spillage within the grinding area will be directed into sumps, where vertical sump pumps will collect and pump the spillage back into the process.

The grinding circuit product (cyclone overflow) will have a size specification of 80% passing 75 µm.

17.3.3 Cyanide leaching

Cyclone overflow slurry at 33% solids will gravitate across to the pre-leach thickener area after passing through a two-stage sampling station. The sampling station will collect shift composite samples of leach feed slurry for metallurgical accounting purposes. Slurry will be directed onto a pair of linear trash screens before entering the pre-leach thickener feed launder. Flocculant and coagulant will be added to the thickener feed slurry to accelerate settling rates and to improve thickener overflow clarity.

As the finely ground solids settle within the pre-leach thickener, rotating rakes within the tank will direct material to the centre cone, and into the suction side of the thickener underflow pumps. The thickener underflow pumps will transport the thickened slurry from the thickener cone into the leaching tanks. An inline shear reactor will be fitted to the thickener underflow slurry line and this will allow initial oxygenation of the slurry.

The leaching circuit will consist of a single train of 10 agitated tanks. Each tank will contain roughly 4,000 m^3 of slurry and will be equipped with a 150 kW twin blade agitator. Tanks will be cascaded to allow gravity flow through the train. Lime slurry will be added to the first 2 or 3 leach tanks to ensure that pH is maintained at 10.5 to 11.0 during the cyanidation process. Lead nitrate may be added to the initial leach tanks or to the grinding mills on an as-required basis (testwork showed a significant improvement in extraction kinetics for sulphide mineralization). A cyanide dosing system will be provided to allow dosing to any of the tanks, although cyanide will likely not be added to tank #1 depending on the oxygen demand profile and cyanide consumption (still to be established via testwork). 48 hours of leaching time will be provided by the leaching tank train, assuming a slurry density of 1.38 t/m^3 (i.e. 46 weight % solids). Higher densities may be achievable in practice, and this would increase retention time (and possibly silver extraction rate) accordingly. Oxygen availability is a particularly important aspect of the silver leaching process, and testwork has already demonstrated how initial dissolved oxygen levels of >10 ppm are beneficial to both silver extraction kinetics and cyanide consumption. To aid the efficient transfer of oxygen into the circuit, an on-site oxygen plant and high velocity gas injection spargers will be included in the leach tank design.

Slurry from leach tank #10 will overflow into a two-stage sampling station and then to the feed mixing box of CCD thickener #1. A train of 4 CCD thickeners at wash ratio of 3:1 will provide adequate solids / liquid separation after the leaching process to achieve a wash efficiency around 99.2%. Each CCD thickener will be equipped with flocculant and coagulant dosing facilities, to assist with solids settling rates and overflow clarity.

The CCD circuit will use counter-current washing of solids with barren solution to reduce residue solution silver losses to minimum practical levels. The thickened underflow slurry from each CCD thickener will be pumped downstream (i.e. thickener #1 underflow is pumped to thickener #2 feed), whilst the overflow solution from each thickener will gravitate from thickener #4 to #3 to #2 to #1. Efficient mixing of the upstream slurry and downstream solution prior to entering the thickener is an important aspect of the design, and this will be encouraged through the use of static mixing boxes directly ahead of each CCD thickener.

The overflow solution from CCD thickener #1 will be the pregnant leach solution (PLS) and it is expected that this will contain about 99.2% of the silver dissolved during the leach. Mass and solution balance calculations for the flowsheet give a PLS flowrate of approximately 2,000 m^3/h.

17.3.4 Zinc precipitation and silver doré production

The PLS from CCD thickener #1 will be pumped into a surge / storage tank ahead of the zinc precipitation circuit. The 1,600 m^3 tank will provide almost 1-hour of surge capacity in case the zinc precipitation (Merrill Crowe) plant is shut down temporarily.

From the PLS storage tank, pregnant solution will be pumped to the zinc precipitation plant. This plant will follow the standard Merrill Crowe flowsheet, with PLS solution clarification, vacuum deaeration, zinc dust and lead nitrate addition, zinc precipitate filtration, and precipitate handling.

Zinc precipitate filter cake will be removed from the precipitate filter presses at a rate of roughly 10 tonnes (wet) per 3-day cycle, assuming a 75% silver+copper grade and a 30% ~ 50% moisture content. As the precipitate will very likely contain significant quantities of copper, the flowsheet allows for an oxidative sulphuric acid leaching stage, which will preferentially leach copper into solution but not silver. This is standard operating practice when copper levels become problematic for precious metal doré production. The sulphuric acid leaching area will be very well ventilated due to the risk of HCN generation. Likewise, the acid solution storage / reticulation will be closely monitored and strictly contained within a small area of the refinery.

As copper levels in the sulphuric leach circuit rise, then a bleed will be necessary. When required, the bleed stream will be neutralized with lime and then pumped to the tailings thickener.

Sulphuric acid leached residues will be silver rich, and these will be filtered and dried in ovens prior to transportation to the doré smelting area. Residues will be mixed with fluxes in a flux mixing area, and then added to an induction furnace for smelting. Once smelting is completed, slag is removed and the molten metal is poured from the furnace into moulds and the resultant doré bars are stored within the refinery vault.

Filtrate from the zinc precipitation pressure filter will still contain high-level cyanide, but only traces of silver (i.e. the Merrill Crowe process is expected to be ~99% efficient). This barren solution will be directed to a 1,600 m^3 barren solution surge tank – sized to give almost 1 hour of surge capacity after Merrill Crowe. From the surge tank, pumps will distribute barren solution back into the grinding, leaching and CCD process areas to ensure efficient use of cyanide and retain any residual dissolved silver.

17.3.5 Tailing treatment

As a result of the relatively high cyanide concentrations required for effective silver dissolution, the solution within residue slurry that will exit the CCD circuit will contain a reasonable amount of free cyanide. This residue slurry is pumped as underflow from the final CCD thickener to the tailing thickener, where a high percentage of residue solution is recovered and recycled. The tailing thickener will be a high-compression design and will utilize flocculant and coagulant to give a high % solids underflow product (roughly 66% solids) and a higher rate of solution recycling.

The tailing thickener underflow slurry will be withdrawn from the cone area and pumped at 60% solids to the tailing filtration area for the final stage of dewatering before disposal. Two agitated tailing filter feed tanks provide over 1-hour of surge capacity between the tailing thickener and pressure filter plant.

Thickened slurry from the filter feed tanks will be pumped via distribution manifolds to one of nine tailings pressure filters for further dewatering. Each tailing filter will use high pressure feed pumping, followed by membrane squeezing and air blowing to drive remaining moisture levels down to give a filter cake product (cake) with less than 20% moisture. Each filter will discharge automatically using plate shifters to allow a rapid cycle time and high throughput rates. Cake will drop onto a dedicated belt filter which in turn feeds onto a common cake transfer conveyor.

Cake from the transfer conveyor will discharge onto an overland conveyor which will move the cake over to the tailing storage area, some 1,000 m away. The overland conveyor will discharge onto a radial stacking conveyor which will deposit the cake onto the storage facility. The radial stacking arrangement allows for safe cake removal and distribution using bulldozers.

Filtrate extracted by the pressure filters will be collected and pumped back to the tailing thickener feed box, where it will subsequently be recycled back into the plant via the thickener overflow system.

The combined dewatering of thickening and pressure filtration reduces the concentration of cyanide-bearing solutions within the tailing filter cake to 20% or less. This cake is conveyed to the fully lined tailing storage area for permanent storage. The process plant does not use cyanide detoxification processes to further reduce tailings cyanide content.

17.3.6 Reagents

Offloading, storage, mixing, and dosing facilities will be provided for the following chemicals:

- Hydrated lime
- Sodium Cyanide
- Caustic (NaOH)
- Lead Nitrate
- Flocculant
- Coagulant
- Sulphuric acid
- Hydrogen peroxide
- Antiscalent
- Zinc powder

Where practical, dry reagents (flocculant, lead nitrate, zinc powder, etc.) will be offloaded and stored within the dedicated reagents storage area. Lime will be offloaded into and stored in a lime silo adjacent to the plant. Lime slaking, slurry storage, and distribution will be located inside the building, within the reagents area.

A ventilated storage and mixing area will be provided for sodium cyanide and this will be kept apart from other reagent areas. Fixed HCN (hydrogen cyanide) gas detectors will be located within the building at strategic points, and personnel will wear appropriate personal protective equipment and portable HCN monitors.

Flocculant and Coagulant will be mixed in vendor packaged mixing / dosing systems that will include mixing / hydration tanks and storage tanks.

Acid, caustic, hydrogen peroxide and antiscalent will be delivered in 1,000 L FIBC containers and the reagents will be dosed directly from these as required using reagent dosing pumps.

17.3.7 Services and water

Raw water will be pumped to site (by others) and stored within several storage tanks and earth impoundments, to ensure that sufficient water will always be available for processing. Raw water and process water pumps will distribute water as required throughout the process plant. Process water is recovered from the tailing thickener and recycled within the plant.

A significant volume of pregnant and barren solutions will also add to the volume of water stored and recycled within the process plant.

Instrument grade compressed air will be distributed throughput the plant for actuation of control valves and operation of other instruments.

Oxygen will be generated using vacuum pressure swing technology and piped to spargers on leach tanks at roughly 600 kPa. The spargers allow rapid oxygenation of slurry within the early stages of leaching.

17.4 Major equipment list

The following Table 17.2 lists the major equipment items by process area, together with installed power ratings (where applicable).

Table 17.2 Equipment list summary

Plant area	No. Of	Equipment description	Installed power (kW)	
			Unit	Total
Crushing	1	Vibrating Grizzly Feeder	30	30
	1	Primary Jaw Crusher	200	200
	1	Dust Extraction	11	11
	1	Sacrificial Conveyor	30	30
	1	Magnets / Metal Detectors	5	5
	1	Stockpile Feed Conveyor	75	75
Ore Storage	3	SAG Mill apron feeders	30	90
	1	Dust Extraction	7.5	7.5
	1	SAG Mill Feed Conveyor	45	45
Grinding	1	SAG Mill	4,500	4,500
	1	Ball Mill	7,500	7,500
	1	Scalping Screen	55	55
	2	Cyclone Feed Pumps	600	1,200
	1	Cyclone Pack	-	-
	1	Cyclone Overflow Sampler	11	11
	2	Grinding Area Sump Pumps (2 off)	22	44
	1	Misc. minor Items	100	100
Pebble Crushing	3	Pebble Crusher Conveyors	15	45
	1	Magnets / Metal Detectors	7.5	7.5
	1	Feeder and Pebble Crusher	145	145
Leaching & CCD	2	Trash Screens	15	30
	1	Pre-Leach Thickener	15	15
	2	Pre-Leach Thickener U/F Pump	250	500
	10	Leaching Tanks, 4,000 m^3	-	-
	10	Leaching Tank Agitator	150	1,500
	2	Samplers	11	22
	4	CCD Thickener	11	44
	8	CCD Thickener U/F Pumps	110	880
	2	CCD Area Sump Pump	11	22
Tailings	2	Tailings Thickener Feed Pump	75	150
	1	Tailings Thickener	15	15
	2	Tails Thickener U/F Pump	75	150
	9	Tailings Filter Press	75	675
	5	Cake discharge Feeder	11	55
	1	Filtrate Tank	-	-
	2	Filtrate Pump	45	90
	2	Tailings Filter Press Feed Tank	-	-
	2	Filter Press Feed Tank Agitator	37	74
	2	Tailings Filter O/Land Conveyors	55	110
	3	Tailings Filter Press Feed Pump	75	225
	1	Misc. minor Items	40	40

Plant area	No. Of	Equipment description	Installed power (kW)	
			Unit	Total
Merrill Crowe + Smelting	1	Pregnant Solution Tank	-	-
	2	Pregnant Solution Pump	150	300
	2	Merrill Crowe: Leaf Filters	75	150
	1	Merrill Crowe: Crowe Tower	55	55
	2	Merrill Crowe: Zinc Precipitation	30	60
	1	Precoat / Body Coat System	30	30
	1	Merrill Crowe Smelting / Refining Package	1,250	1,250
	1	Acid leaching and filtration package	55	55
	1	Misc. minor Items	40	40
Reagents	1	Cyanide Mixing & Dosing System	50	50
	1	Lime Vendor Package	120	120
	2	Lime Dosing Pump	45	90
	1	NaOH mixing & dosing package	22	22
	1	Surfactant mixing & dosing package	10	10
	1	Flocculant mixing & dosing package	30	30
	1	Coagulant mixing & dosing package	30	30
	1	Lead Nitrate mixing / dosing package	22	22
	1	Oxygen Plant Package	600	600
	2	Reagent Storage area ventilation fans	15	30
	1	Misc. minor Items	40	40
Services	1	Process Water Tank	-	-
	2	Process Water Pump	250	500
	2	Gland Water Pump	30	60
	2	Fresh Water Pump	90	180
	1	Fire Water System	15	15
	1	Misc. minor Items	40	40
	2	Compressors	300	600

The process plant equipment includes an installed power rating of approximately 23.2 megawatts (MW). Initial estimates of power consumption for this equipment under normal operating conditions gives an applied power of 35.0 kWh/t.

17.5 Process control philosophy

A control philosophy will be implemented for the Project that is typical of those used in similar modern processing operations.

Field instruments will provide analog and digital inputs to a group of Programmable Logic Controllers (PLCs). Process control cubicles will be located within the local Motor Control Centers (MCCs) and will contain the PLC hardware, power supplies and I/O cards for instrument monitoring and loop control.

The PLCs assist the plant operators with process control functions by providing the following services:

- Communicating the status information of all drives, instruments, and vendor packages.
- Allowing remote drive control (stop / start) and process interlocking.
- Providing proportional-integral-derivative (PID) control for various control loops.

The main Human-Machine Interface (HMI) will be in the Main Control Room (MCR) and the Crusher Control Room (CCR), consisting of PC-based terminals with industrial keyboards and mice. The Supervisory Control and Data Acquisition (SCADA) system architecture will be configured to provide outputs to alarms, control the function of process equipment, and provide logging and trending facilities to assist in analysis of plant operations.

The control rooms would typically be purpose-built structures. Much of the plant will be controlled from the MCR, to be located adjacent to the grinding area. Operator control stations are fully redundant so that the failure of one station does not affect the operability of the other station or control of the plant. Control stations are supplied from an Uninterruptible Power Supply unit (UPS) with 20 - 30 minutes standby capability.

Drives that form part of a vendor package are controlled from the vendor's control panel. As a minimum, 'Run' and 'Fault' signals from each vendor control panel are made available to the SCADA system via the PLC.

The general control strategy adopted for the Project will be as follows:

- Integrated control via the Process Control System (PCS) for areas where equipment requires sequencing and process interlocking.
- Hard-wired interlocks for personnel safety.
- Motor controls for starting and stopping of drives at local control stations via the PCS or hard-wired, depending on the drive classification. All drives can always be stopped from the local control station. Local and remote starting is dependent on the drive class and control mode.
- Control loops via the PCS except where exceptional circumstances apply.
- Monitoring of all relevant operating conditions on the PCS and recording selected information for data logging or trending.

  Trip and alarm inputs to the PCS will be failsafe in operation, i.e., the signal reverts to the de-energized state when a fault occurs.

18 Project infrastructure

18.1 Overview

As a comprehensive greenfield project, the Silver Sand project will require the development of supporting infrastructure. This would include the following items:

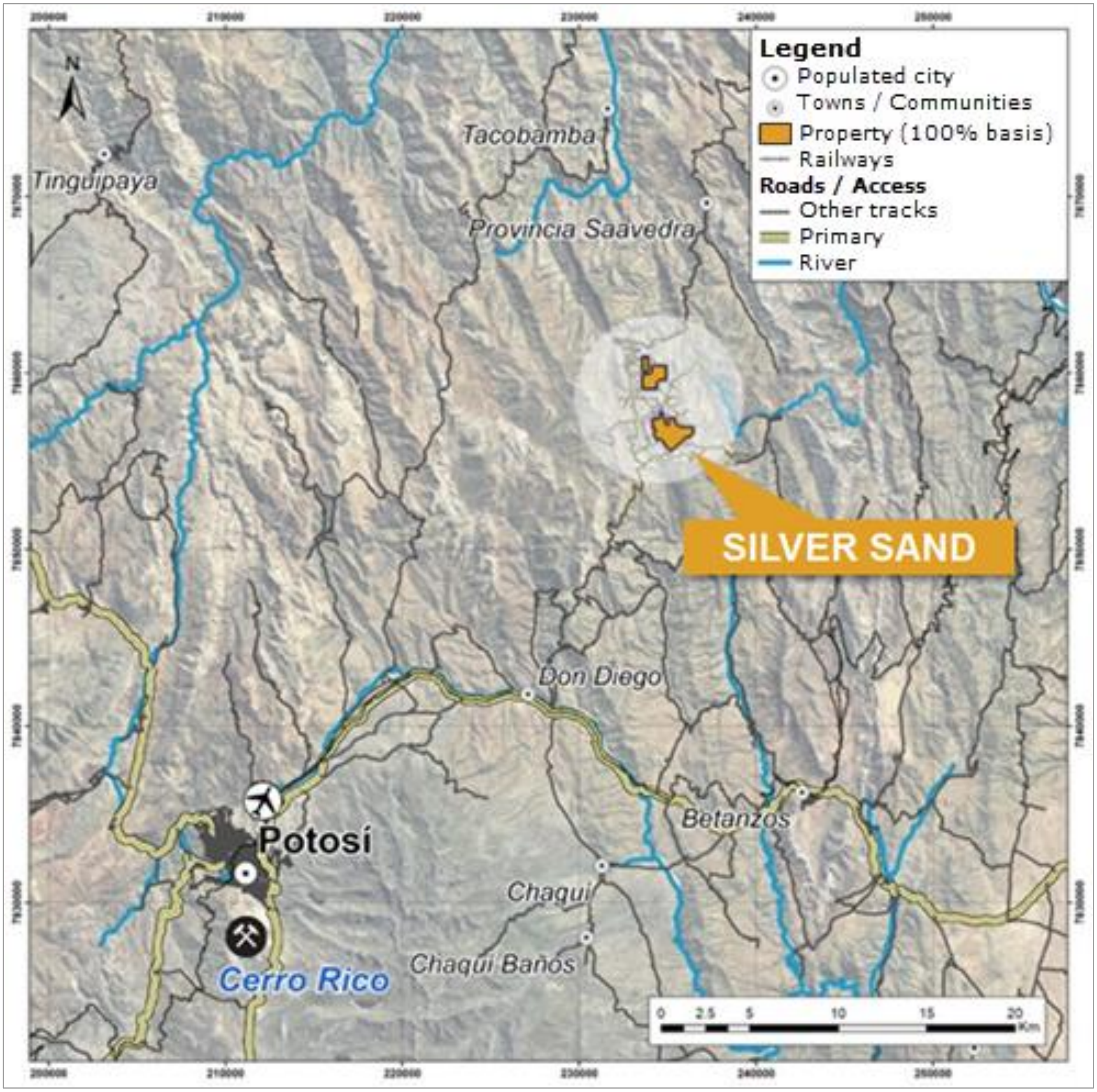
- A process plant that will include crushing, conveying, grinding, leaching, counter current decantation (CCD), leach residue dewatering and disposal, zinc precipitation (Merrill Crowe), and doré smelting.
- An assay lab in close proximity to the process plant.
- A warehouse, maintenance shop, administration offices, and supporting infrastructure.
- Filtered TSF and structural earth dams, initial waste rock piles.
- A network of access and on-site roads.
- Fresh water reservoir and water treatment plant.
- A fresh water supply and distribution system.
- Power supply and distribution, including a power transmission line, a substation at the plant site, and power distribution lines throughout the site.
- Owners mine camp.
- Contractors camp and facilities.

Tentative locations have been identified for the above facilities. The final location of these facilities is dependant on further exploration drilling program to ensure there is no sterilization of Mineral Resources as well as accessibility. All facilities will be located close to the plant site in an elevated and dry area.

18.2 Site location

Figure 18.1 shows the location of the Property in relation to city of Potasi and principal supporting infrastructure. As there is no rail access to the mine / concentrator site, delivery of all supplies and services, and reagents to the site will be by truck.

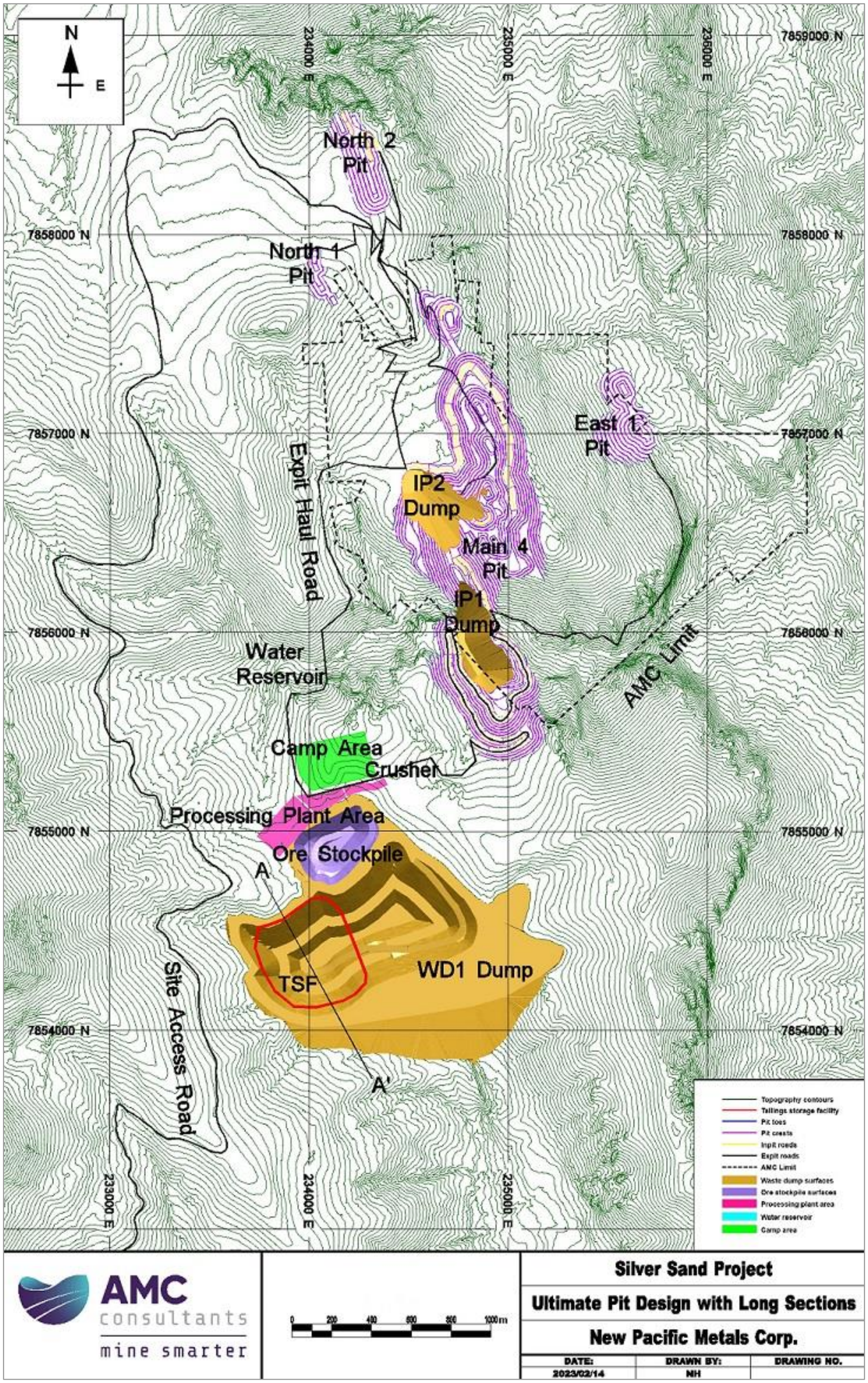
Figure 18.1 Silver Sand site location



Source: Silver Sand, 2022.

Figure 18.2 shows the proposed site layout with open pits, waste dumps, process plant, Filtered TSF, ore stockpile area, crusher, site access road, and haul roads. The section line (A-A'), identified across the WD dump and the TSF, is shown in Figure 18.4.

Figure 18.2 Preliminary site infrastructure layout



18.3 Road access

The Property is situated in the Colavi District of Potosí Department in southwestern Bolivia, 25 km north-east of Potosí city, the department capital. The current access road is shown in the above figure.

The Property is accessible from Potosi via a 54 km long road made up of a 27 km stretch of the paved Bolivia National Highway 5 and an all-season gravel road built for mining in the Colavi District.

Plant roads will be constructed in and around the process plant area to provide access to buildings and equipment for deliveries, operation, and maintenance access. These roads will be two-way unsealed roadways nominally 10.0 m wide to accommodate highway trucks and other site equipment as required.

18.4 Power

The Silver Sand project is estimated to require approximately 25 to 35 MW of power annually.

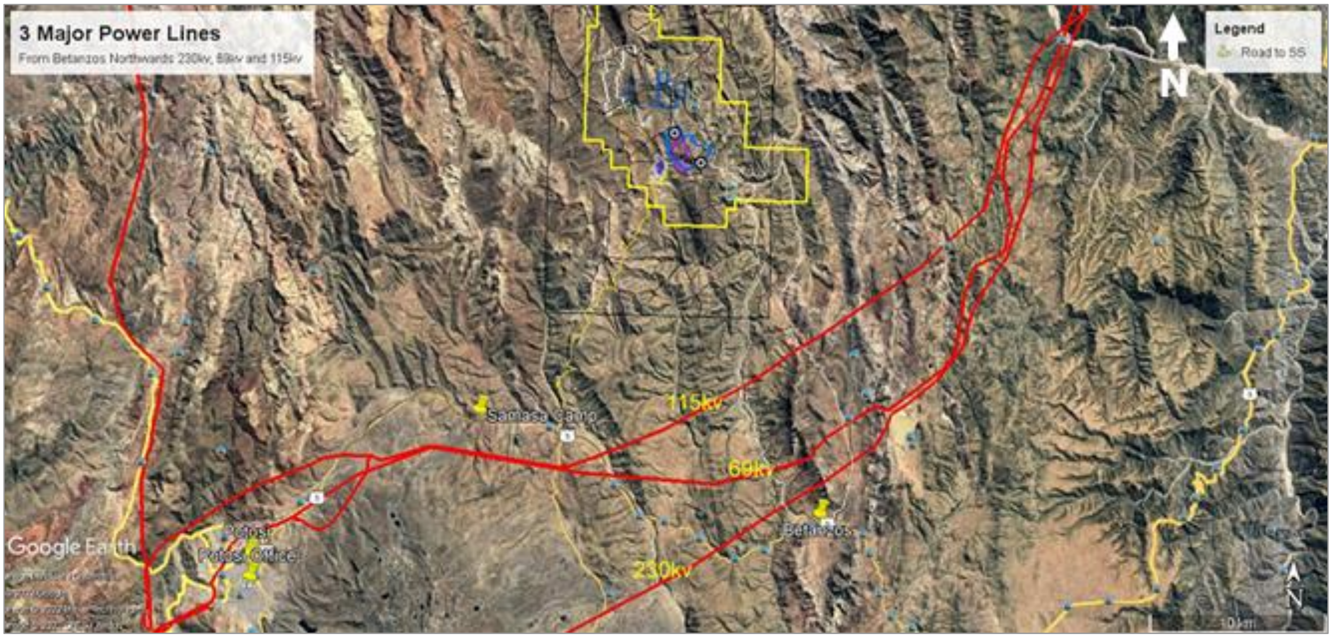
New Pacific has engaged Bolivia's national power supply companies CNDC and ENDE. A preliminary power supply plan for the Silver Sand future operations was discussed and agreed upon. The Company has submitted a power supply application to the Bolivia Ministry of Energy following the formal procedure in the country. The Ministry of Energy issued an official letter to the Company acknowledging the application.

There are three major national power lines going through the area between Betanzos and Silver Sand project. These lines are powered at 230 kilovolts (kV), 115 kV, and 69 kV. The 115 kV power line is the most feasible power line to supply power to Silver Sand according to ENDE. A transmission line connects to the Potosi existing ENDE substation, and a substation on the Silver Sand site needs to be constructed. CNDC and ENDE requested a Silver Sand project technical study to finalize the construction plan. When the Company commits to building the power supply infrastructure, ENDE will be responsible for permitting and constructing the transmission line and the substation at the Silver Sand site. It is estimated that the permitting and construction of the transmission line and the substation will take up to 2 years.

Figure 18.3 shows the location of three major powerlines around the Silver Sand Property.

Bolivia is a country with an abundant quantity of energy. There are many suppliers of power. National grid power supply for the Silver Sand project has been determined to be the most suitable choice for the project. However, the Company is also very active in pursuing green mine concept and is studying the use of solar and windmill energies.

Figure 18.3 Power lines in the vicinity of property



Source: New Pacific, 2022.

18.5 Supply water

Water has not been a concern at the Property. Water for domestic use can be obtained from a small lake, approximately 3.5 km north-west of the Property. Water for drilling can be sourced from nearby drainages.

A hydrological and hydrogeological conceptual study was completed by Itasca Chile in October 2022. 3 piezometers were also installed in the main open pit area to monitor the groundwater flow.

A water dam will be built up stream from the mine in the narrowest part of the creek to hold the water in a reservoir with a capacity of about 2.6 million cubic metres. This will provide water for the mineral processing plant and mining camp and could supply downstream residents for farming and daily life water requirement if required.

The water requirement for the process plant is estimated at about 3,000 to 4,000 m^3 per day, that is equivalent to the maximum water usage per year of the project estimated at 1.5 million m^3. This is below the capacity of the reservoir of 2.6 million m^3. However, Silver Sand project area has about 8 months of dry season every year. In case the reservoir does not contain enough water for the mining operation, an alternative water supply pipeline is planned to take water from downstream of the Siporo river. A few wells could be built at the Siporo river, at the location where the river exits and goes into the steep mountainous area, where there is no farming.

Most of the processing water will be recycled and reused, except the moisture trapped in the dry tailings that is going nowhere but evaporation. No processing water will be discharged without treatment.

18.6 Fuel storage

A small fuel storage facility will be needed to supply fuels to the onsite light vehicles and mill maintenance equipment. Mining will be contracted to third-party companies. They will build their own fuel storage facilities onsite.

18.7 Offices and warehouse

Offices and warehouses are planned to be built onsite, close to the processing plant.

18.8 Equipment maintenance workshop

Heavy equipment maintenance workshop is planned to be built and used by the mining contractor.

18.9 Explosives magazine

Explosive and accessory depots will be built, with all the standards and specifications required by the Ministry of Defense, for the use and handling of explosives.

18.10 Communications

The Silver Sand site has an excellent cell phone signal. Most mobile phones can receive 3G / LTE signal on site. However, a radio communication system is planned to be constructed for everyday operations communication.

18.11 Gate house / security

Security gates and fences are planned to be built around the mine operations area.

18.12 Office building

Office buildings are envisaged to be built close to the processing plant.

18.13 Accommodations

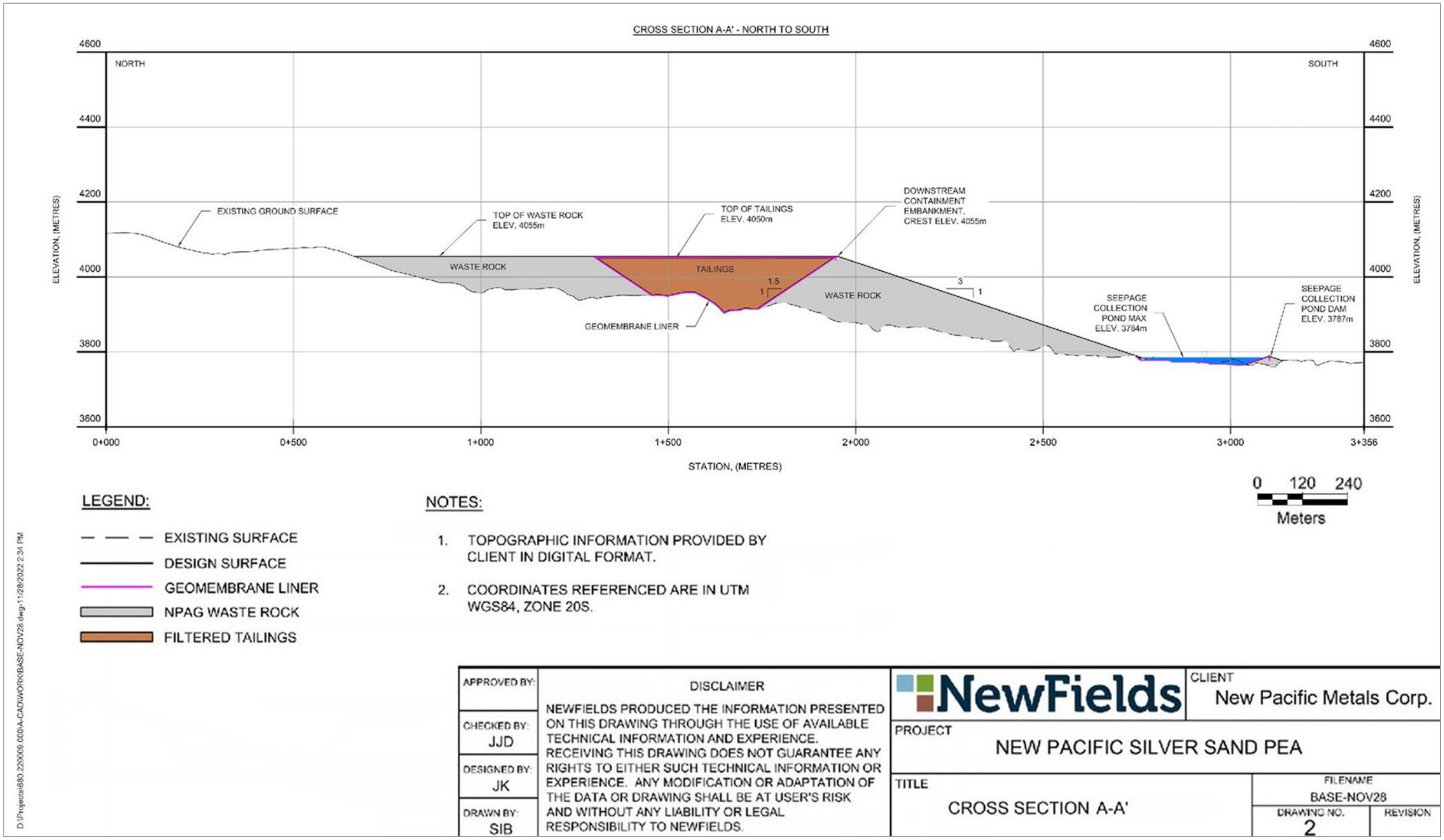
Accommodations are envisaged to be built close to the processing plant.

18.14 Filtered Tailings Storage Facility

The Filtered TSF will be integrated within the waste rock storage area. The TSF will be fully lined to provide protection against release of potentially contaminated water to the local surface and groundwater systems. A leachate collection system will be installed below the liner system to collect any seepage that may occur through small holes in the TSF liner system.

The TSF will be developed at the south end of the waste rock storage facility, as show in Figure 18.2. An initial starter berm of mine waste rock will be constructed on the downstream end of the facility to provide structural support for the tailings and liner system. A starter TSF cell will be developed along the western perimeter of the waste rock storage facility, with sufficient capacity to store tailings from the first three years of operations. The perimeter of the TSF will be raised as waste rock becomes available from mining operations and the liner system extended vertically over the operating life of the mine. A section view of the waste dump and TSF is shown in Figure 18.4. This northwest-southeast section view is identified as section A-A’ in Figure 18.2.

Figure 18.4 TSF sectional view



Filtered tailings will be transported approximately 1,000 m from the process plant to the Filtered TSF via an overland conveyor. The overland conveyor will discharge the tailings onto a radial stacking conveyor which will discharge the tailings into the lined facility. Tailings discharged from the radial stacking conveyor will be spread and nominally compacted using a bulldozer. As containment of the tailings will be provided through the placement of waste rock to the south and east of the TSF, safe operation of the TSF will only require sufficient compaction to provide a safe working surface for the mobile equipment.

As the tailings will be filtered, there will be no excess tailings transport water which will require management throughout operations. The main source of excess water will be runoff from precipitation events during the wet seasons at the site.

To reduce the volume of water that will contact the placed tailings and waste rock during precipitation events, a series of diversion ditches will be excavated around the perimeter of the TSF. The diversion ditches will direct non-contact runoff around the TSF to natural drainage courses downstream of the facility. Contact run-off will be collected in a seepage and runoff collection pond which will be constructed at the south end of the facility. Water collected within the pond, will be pumped back to the process plant for use as process water. It is anticipated that the seepage and runoff collection pond will be dry for at least four months of the year.

A site wide water balance was developed for the project. Based on the available climate and operational data, it is estimated that the operation will require approximately 1,400 m^3/day of freshwater on average over the operating life of the mine. The remainder of the process water requirements will come from recycle from the thickeners and filter plant, as well as seepage and runoff recycled from the seepage and runoff collection pond.

18.15 Process plant

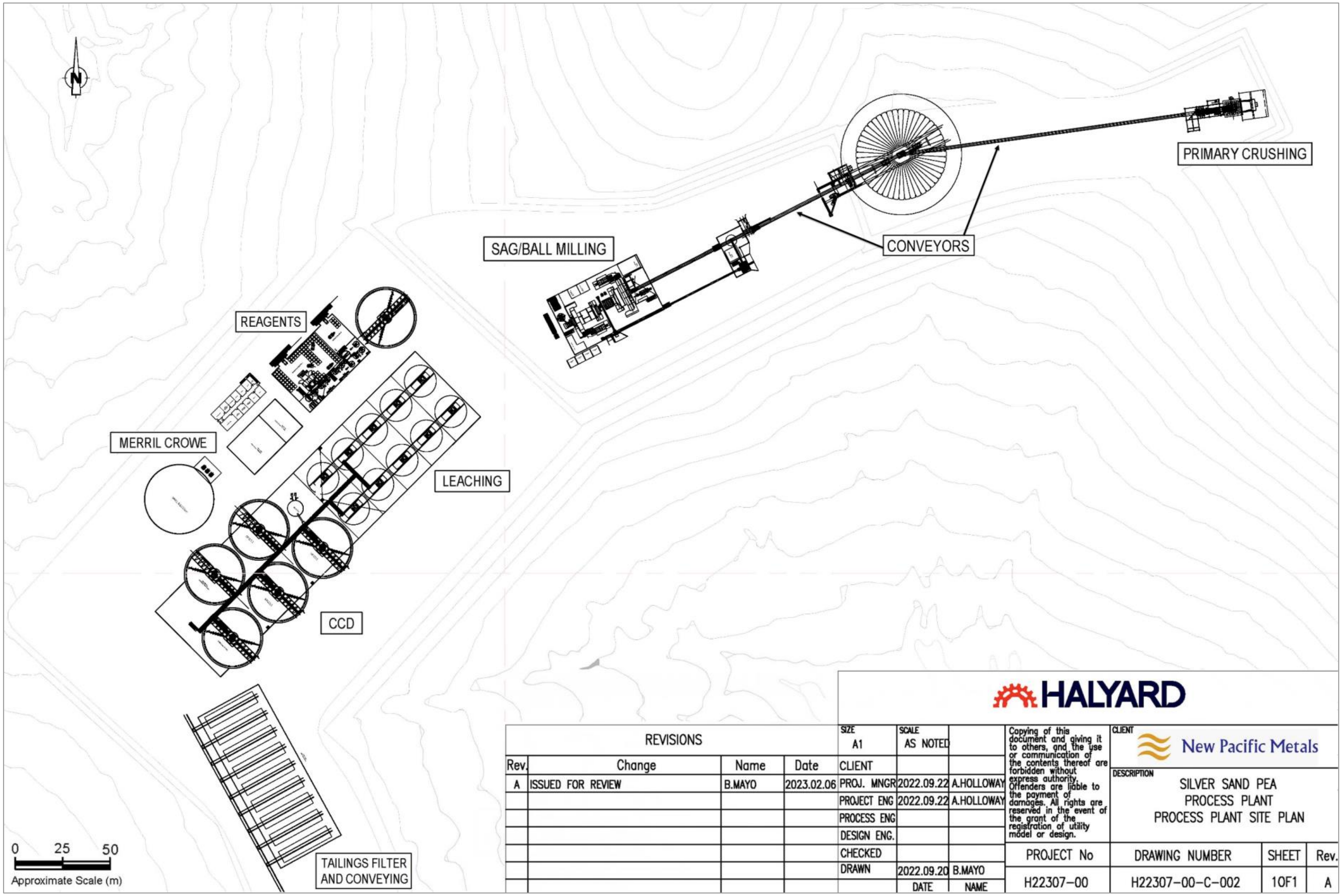
For further detailed description refer to Section 17. The selected flowsheet represents a very conventional, low-risk approach to silver extraction, and consists of the following unit operations:

- ROM receiving, crushing, and crushed rock storage.
- Stockpile discharge, grinding via SAG milling, and ball milling.
- SAG mill pebble crushing via SAG mill pebble ports, scalping screen, recycle conveyors, and cone crusher.
- Pre-leach thickening and cyanide leaching using stirred, oxygen sparged tanks.
- Liquid / solid separation using counter-current decantation (thickeners).
- Recovery of silver from pregnant leach solution using a zinc precipitation process followed by drying and smelting with fluxes to produce silver doré bars.
- Thickening and filtration of leach residues.
- Conveying of filter cake and long-term storage at the tailing storage area.
- Crusher and conveyor locations shown in plant layout below.

There is currently no infrastructure on site.

The plant layout is shown in Figure 18.5.

Figure 18.5 Topography and infrastructure plant layout



19 Market studies and contracts

19.1 Markets

Silver is the sole metal to be marketed from the proposed Silver Sand operation. This will be in the form of doré bars containing approximately 90% silver and, the balance being gold copper and other minor metals. Gold credits are received from the refiner. The doré will be shipped to refiners either domestically or internationally by a secure transportation provider for refining. Responsibility for the gold changes hands at the gold room gate.

As of the effective date, there are no long term contracts in place. An estimate of the refining costs is $0.50 payable ounce of silver.

The costs above are subject to some variation depending on the amount of ounces per shipment, and there may be some losses and penalties would be applied in the refining contract for any impurities.

The market for silver doré is well established. Market predictions and discussions for silver are beyond the scope of this document. The impacts of silver price volatility on the mine plan and process operation are well understood.

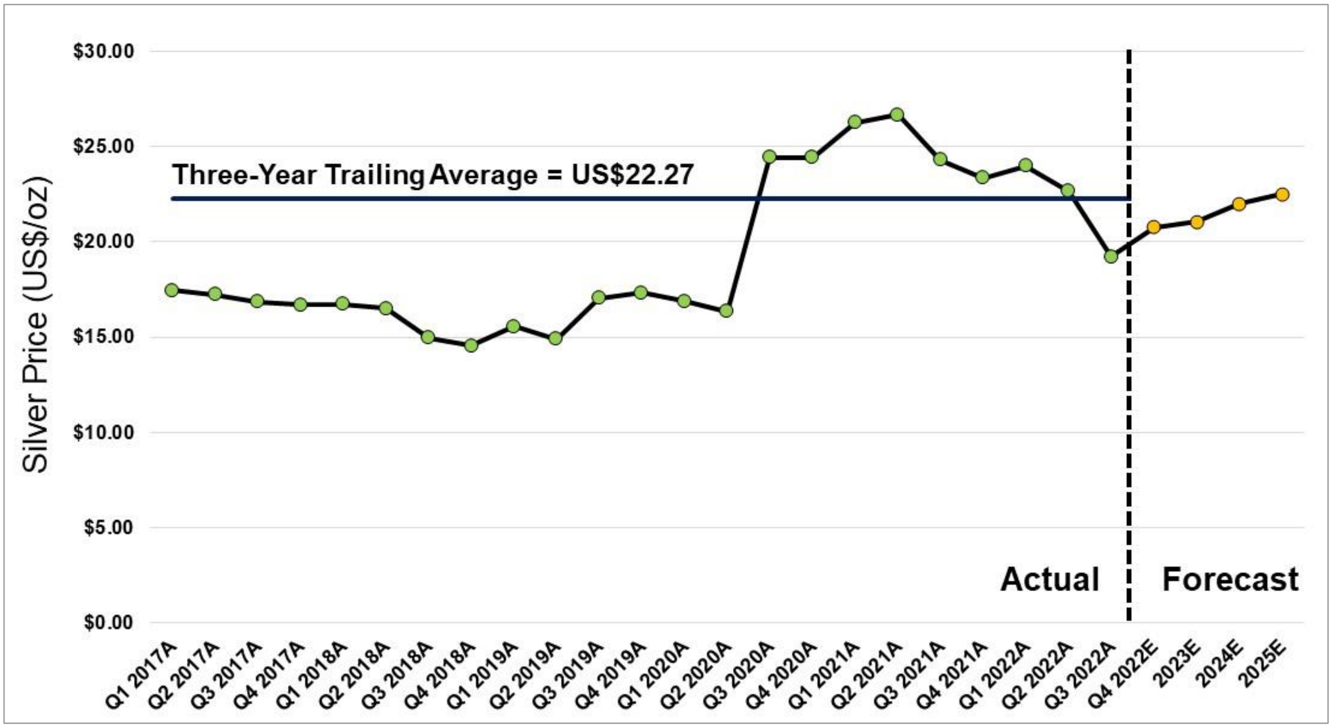
19.2 Commodity price

Silver pricing used for the PEA was agreed upon based on consideration of various metal price sources. These sources included review of consensus price forecasts from banks and financial institutions, three-year trailing average of spot prices, and current spot prices.

A summary of five-year historical silver prices and the forecast prices for 2022 – 2025 is provided in Figure 19.1. Note that the three-year trailing average silver price at the effective date is $22.27/ounce.

Based on a review of forecast and current pricing, the silver pricing for the base case economic model in the PEA is $22.50/troy oz payable.

Figure 19.1 Historical silver price and projections



Source: S&P Capital IQ; sell-side brokerage research.

19.3 Contracts

While there are a number of short-term contracts in relation to exploration and support of those activities, no long term contracts are in place.

20 Environmental studies, permitting and social or community impact

20.1 Introduction

In order to obtain an environmental license for the Silver Sand mining project, New Pacific is preparing different types of studies and activities that will allow it to have a comprehensive Analytical Environmental Impact Assessment Study (EEIA-AI) in accordance with current environmental legislation in Bolivia. This study is prepared by an independent engineering firm registered with the State of Bolivia (www.tierralta.org).

There are currently sources of contamination in the area that come from other activities such as mining developed by local community members and / or mining cooperatives, as well as other agricultural and livestock activities. In addition, there is evidence of abandoned mining operations in the area with environmental liabilities that in some cases are current sources of contamination because they generate Acid Mine Drainage (AMD) and / or Acid Rock Drainage (ARD).

20.2 Environmental legislation and applicable procedures

In accordance with the model of living well, in harmony, balance, care, and protection of Mother Earth, the Project is subject to compliance with Bolivian environmental laws and regulations, it is important to note:

- The purposes and goals of the Political Constitution of the State (CPE, Constitución Política del Estado), decreed on 7 February 2009, are to constitute a just and harmonious society, to guarantee the well-being, to preserve, as historical and human heritage, the plurinational diversity and to promote the responsible and planned use of natural resources preserving the environment for the benefit of current and future generations.
- The purpose of Law 071, the Law on the Rights of Mother Earth, enacted on 21 December 2010, is to recognize the rights of Mother Earth, as well as the obligations and duties of the Plurinational State and the society as a whole, to ensure respect for these rights.
- Law 300, the Framework Law of Mother Earth, and the integral development for Living Well, enacted on 15 October 2012, establishes the vision and foundations of integral development in harmony and balance with Mother Earth for Living Well, within the framework of the complementarity of rights, obligations, and duties of all sectors of the central level of Bolivia and the autonomous territorial entities.
- Law No. 1333 "Environmental Law" promulgated on 27 April 1992, is the fundamental axis of the national environmental policy and marks the formal beginning of the Bolivian environmental regulatory process. The main objective of this law is to protect and conserve the environment without hindering the country's development. This law includes aspects related to renewable and non-renewable natural resources, environmental education, citizen participation, sanctions, and others.
- The Environmental Law Regulations, promulgated by Supreme Decree 24176 of 8 December 1995, issued six regulations related to:
  - General Environmental Management Regulation (Reglamento General de Gestión Ambiental; RGGA).
  - Environmental Prevention and Control Regulation (Reglamento de Prevención y Control Ambiental; RPCA).
  - Regulation on Atmospheric Contamination (Reglamento en materia de Contaminación Atmosférica; RMCA).
  - Water Pollution Regulation (Reglamento en materia de Contaminación Hídrica; RMCH).
  - Regulation for Handling of Hazardous Substances (Reglamento para Manejo de Sustancias Peligrosas; RMSP).

— Regulation for Solid Waste Management (Reglamento de Gestión de Residuos Sólidos; RGRS).

- The Environmental Regulations for Mining Activities, (Reglamento Ambiental para Actividades Mineras; RAAM), enacted by Supreme Decree 24782 in 1997. The RAAM expressly states the need for comprehensive environmental management of mining activities from the beginning, from the exploration phase to the closure and abandonment of mining activities.
- Law No. 535, The Mining and Metallurgy Law, enacted on 28 May 2014, aims to regulate mining-metallurgical activities by establishing principles, guidelines, and procedures for the development and continuity of activities in a responsible, planned, and sustainable manner.

Additionally, related regulations are to be considered for the preparation of the studies, which include Law No. 530 of the Bolivian Archaeological Heritage and its regulations, Ministerial Resolutions, Administrative Resolutions issued by national, departmental, and / or municipal authorities, environmental guidelines, among others.

According to legal procedure the review of the Environmental Categorization Form (Formulario de Categorización Ambiental; FNCA) and the EEIA-AI will be executed by:

- The competent sectoral agency (organismo sectorial competente; OSC): Environment Unit of the Environment and Public Consultation Directorate of the Ministry of Mining and Metallurgy (MMM).
- National Competent Environmental Authority (Autoridad Ambiental Competente Nacional; AACN): General Directorate of Environment and Climate Change, under the Ministry of Environment and Water protection (Ministerio de Medio Ambiente y Agua; MMAYA).

Since the Project is not located within a protected area, the National Protected Areas Service (or Servicio Nacional de Areas Protegidas; SERNAP) does not participate in the review of the studies.

20.3 Baseline conditions

20.3.1 Introduction

The description and socio-environmental characterization of the area include studies of the abiotic, biotic, and socioeconomic environments that could potentially be positively or negatively affected by the mining project.

From the environmental point of view, the preliminary and definitive areas of influence (direct and indirect) have been defined taking into consideration the guidelines established in the Methodology for the Identification of Environmental Impacts published by the Ministry of Environment and Water, a document that is not restrictive and was complemented with contributions from a multidisciplinary team of professionals in environmental sciences, social sciences, and other specialties.

These sections are a summary from the EEIA-AI.

20.3.2 Baseline of surface water, groundwater, water for human consumption

Sampling has been carried out since the 2019 management, prioritizing a monitoring network design, which is constantly updated, that allows the establishment of evaluation sites with a basin approach, prioritizing the collection of monthly data and the collection of data in representative periods of the dry season (September) and the rainy season (March).

Within the study area, and for the purposes of the surface water baseline, 3 basins have been identified, in which 20 evaluation sites have been defined, this evaluation allows establishing, on a monthly basis, the current conditions of the watercourses, specifically water quality and flow.

For water quality, 62 parameters were analyzed monthly, including physical, chemical, and microbiological parameters at 20 evaluation sites. The 20 sites are listed in Table 20.1.

Table 20.1 Surface water evaluation sites

Location	Number of sites
Machacamarca	4
El Fuerte	4
San Andrés de Huayllani	4
Kalimali	3
Villa Trapiche	2
Ancomarca	1
Canutillos	1
Orcko Cocha	1

The monitoring network for the surface water included data collection at the headwaters of the basin, an aspect that makes it possible to identify the environmental conditions of the project in these sectors.

The basins in which sampling was carried out are:

- Jancko Marca microbasin, with a total of 25 sampling points.
- Kalimali micro-watershed, with a total of 8 sampling points.
- Colavi micro-watershed, with a total of 3 sampling points.
- Challviri micro-watershed, with 1 sampling point.

In general, heavy metal and acid contamination was found (ARD and AMD) and the presence of heavy metals was identified especially in sectors of the Aullagas stream (Machacamarca sector), waters below San Andres de Huayllani, as well as in sectors of Canutillos and Ancomarca.

All data obtained have been compared with permissible limits established in the Water Contamination Regulations and with the RAAM as applicable.

In the specific case of groundwater, hydrological and hydrogeological studies have been carried out to determine the hydrogeological units: one alluvial aquifer unit and two fractured aquifers. Preliminary piezometry indicates that groundwater flow follows the topography and the main surface water directions, such as the Machacamarca River.

Hydrochemistry indicates that the surface water samples correspond to fresh water, close to the recharge area of the basin, with the exception of the samples located downstream, which have a different chemical composition, probably due to local mining activities, an aspect that coincides with the information obtained from surface water sampling.

Regarding drinking water quality, water samples have been taken from water supply sources for human consumption in the communities where the project has influence, to determine their quality, origin, storage, accessibility, in addition to other data collected in surveys or local interviews. The collection of water quality data from different water supply sources (public pools, home pools, wells, waterwheels, cisterns, springs, etc.) in the communities that are part of the areas of influence allows to determine the current situation with respect to a basic elementary service. For the purposes of interpreting the results, the normative compendium for drinking water published by the Ministry of the Environment and Water (NB 512, Regulation NB 512, NB 495, NB 496) was used as a reference.

20.3.3 Air quality / environmental risk baseline

With respect to air quality, biannual monitoring has been considered for the 6 most representative parameters defined in the RMCA, prioritizing the collection of data in representative periods of the dry season and rainy season, in 6 evaluation sites that have been established in a monitoring program, prioritizing the location of the homes of communities present in the study area, existing roads and in sectors where infrastructure that will be part of the mining operation will be implemented in the future, in the same 6 evaluation sites environmental noise has been monitored (day and night).

20.3.4 Soil and sediment baseline

With respect to the baseline for soil and sediment, Bolivia does not have environmental regulations that would allow to make comparisons to determine soil and sediment quality; however, the baseline makes comparisons based on environmental soil regulations in other countries as well as other guidelines prepared by institutions such as the Food and Agriculture Organisation (FAO).

Regarding soil / sediment quality, biannual monitoring has been considered for 42 parameters, prioritizing the collection of data in representative periods of dry and rainy seasons, in 10 evaluation sites that have been established in a monitoring program, prioritizing places such as: cultivated soils, uncultivated soils, special sectors, sediments of more representative watercourses or sectors with presence of contamination from other activities in the study area.

20.3.5 Biological baseline

Following the main findings of the biological baseline study in dry season it can be concluded that:

Flora:

- 1543 plant data and 538 physical records (stone, soil, stubble, and feces) have been recorded. Nineteen families, 39 genres and 47 species have been identified.
- Three threatened species have been recorded: Azorella compacta "yareta" and Polylepis tomentella "keñua", both in the Endangered (EN) category, and Trichocereus cf. tarijensis "cardón" in the Vulnerable (VU) category. All of the cacti species are listed in CITES Appendix II.

Large and small mammals:

- In the sites evaluated in the localities Huayllani, Calimali, El Fuerte and Ancomarca, a total of 15 species of mammals were identified during the dry season, these species are distributed in 5 orders, 11 families and 14 genres. The family with the highest number of species was Cricetidae with 4 species, the rest of the families with only one species, respectively.
- The locality with the highest number of records was Calimali with 12 species, followed by Ancomarca with 11, then Huayllani with 9 and finally El Fuerte, with 4 species.
- Of all the mammal species recorded, probably one species, the "Oskollo or titi" (Leopardus cf. jacobita), is threatened in the LRFSVB category of Critically Endangered (CR). And if it is L. geoffroyi or L. jacobita, both are in CITES I. From all the data obtained in the field, we presume that the conservation status of the species considered important / sensitive, such as Leopardus sp., local people indicate that this species still maintains stable populations in the vicinity (highlands) of the communities of Ancomarca and Calimali, so their food supply and habitats are probably also abundant.
- A species of wide global distribution and invasive was identified, Lepus europapaeus (hare).

Herpetology:

- A total of eight species were recorded, five amphibians and three reptiles, whose taxonomic identities require confirmation with scientific collections.
- Due to the presence of certain species and the per. comm. of community members that there are dead amphibians called kaira locally, shows that the fungus chitridium very probably existed or exists in the area, so it is important to conduct a study of chitridium in the area in order to take more precise measures for their conservation.
- The record of amphibian populations of the genus Telmatobius spp. is an important record for the conservation of these species in high threat categories and endemic of Bolivia, showing populations apparently in good condition in the area.
- In the case of reptiles, these have been recorded in areas with queñua groves for Liolaemus sp. nov. and grasslands for L. cf. puna, so it is suggested to take conservation measures that consider a non-extractive use of vegetation, since queñua is used as wood, charcoal, and fuel, and because extensive burned areas of grasslands, which are habitat for these species, were evidenced. In addition, all of the communities in the area have indicated the use of lizards as traditional medicine.

Ornithology:

- One evidence of disturbance identified is primarily due to mining activities, either by discharges into the tributaries and effluents of the various basins within the study area or also in the form of noise pollution, which causes many of the bird species to be discouraged from staying in the area, since they are very sensitive to disturbances in their environment.
- The diversity of birds as counted is low as expected, with a total of 16 Families with 10 Orders and 43 species. This is mainly due to the fact that the count was in the dry season, which regularly has a lower specific richness. In addition, the altitude which exceeds 3,000 masl, influences the diversity of birds.
- No species under the category of national or international extinction have been detected, however, there is a species endemic to Bolivia, the coal finch (Diglossa carbonaria), which is closely associated with Kewiña forests (Polylepis sp.), likewise during the evaluation 7 species were recorded as being reported within Appendix II of CITES, these being the horned owl (Bubo virginianus), Giant hummingbird (Patagona gigas), Variable Harrier (Geranoaetus polyosoma), Mountain Parakeet (Psilopsiagon aurifrons), Black-chested Eagle (Geranoaetus melanoleucus), Puna Hummingbird (Oreotrochilus estella), and Alkamari (Phalcoboenus megalopterus).

Aquatic life / ichthyology

- All of the aquatic systems analyzed present some degree of contamination, mainly from mining. In most of the systems analyzed there are biological communities with very low richness and diversity, with aquatic systems with a total absence of aquatic vegetation (filamentous algae and higher aquatic plants), as well as aquatic fauna (zooplankton, benthos, or aquatic macroinvertebrates), also resulting in the absence of fish communities.
- In the study area there is only one species belonging to the genus Trichomycterus. The species was captured in an aquatic system in the locality of Calimali, presenting an evidently low density.
- All the aquatic systems in the study area show evidence of material input, which increases the presence of dissolved solids that precipitate in the river and stream beds, mainly in the form of sand.

- The main source of contamination and disturbances is local mining activity, which is also associated with other activities related to mineral extraction and transport, and the construction of road and highway infrastructure that affects the aquatic systems, particularly with the construction of ditches that cross the rivers, affecting their structure and flow.

Aquatic life / macroinvertebrates

- The evaluation sites present a higher percentage of aquatic macroinvertebrates tolerant to contamination and this group is composed of abundant taxa. This situation may be due to three types of impacts in the study area, mining, human settlements, and agriculture. These impacts have repercussions on water quality, which was evidenced through the calculation of the BMWP/Bol index, categorizing the 16 evaluation sites in the biological condition of Doubtful, Critical, and Very Critical.
- In terms of The Ecological Integrity Index, which includes biological conditions, riverbank characteristics, fluvial habitat, and anthropogenic impact, resulted in two categories: Very Bad and Bad.

In the dry season baseline studies, it was concluded that the species accumulation curve indicates the probability of finding more species in the evaluation during the wet season.

20.3.6 Social baseline

As stated in the "Methodology for the Identification of Environmental Impacts" document of the Bolivian Ministry of Environment and Water, the baseline describes "the current conditions of the area of influence (direct and indirect) of the activity, work or project (...)" (Bolivian Ministry of Environment and Water, 2018, p. 2).

The scope of the social baseline (LBS, línea base social) covers the surface territory of the communities of Machacamarca, San Andrés de Huayllani, El Fuerte, as part of the direct social influence area; and of Canutillos and Orko Cocha, as part of the indirect influence area. All of these are located in the municipality of Tacobamba. This municipality is in the province of Cornelio Saavedra, in the department of Potosí.

The characterization of the communities was carried out with different secondary sources, using quantitative and qualitative techniques. The following dimensions were addressed:

- **Demographics:** Total population, five-year age groups, population by sex, number of households, dwellings and household members, migration, and emigration.
- **Housing:** Type of tenure, type of ownership, property titles, construction materials, type of water supply, sanitation, lighting, energy sources for domestic use, solid waste management, main roads, and transportation.
- **Culture:** Mother tongue, religion, belonging to indigenous or native peoples.
- **Education:** Educational level, illiteracy rate, student rate, school attendance, school dropout, and school backwardness; access to basic, intermediate, and higher education and main professional careers.
- **Health:** Causes and rates of morbidity and mortality, available health centers, traditional practices, rate of doctors, promoters and beds per population, and average transport time to the health center.
- **Economic activities:** Working age population, economically active and inactive population, and occupation categories.
- **Territory:** Land use and natural resources, characteristics of agricultural production.

The sources of information used are presented below. In addition to these, Alcira requested updated information from the education and health sectors with jurisdiction in the communities of the area of social influence.

- INE: National Population and Housing Census 2012.
- INE: Agricultural Census 2013.
- "Final Report: Socioeconomic Baseline, Risk Analysis and Community Relationship Recommendations for New Pacific Metals Corp - Silver Sands Project in the Department of Potosi-Bolivia, 2018."
- "Territorial Plan for Integral Development 2016-2020" of the Autonomous Municipal Government of Tacobamba.

In general terms, this is a mainly rural environment, with a slightly male-dominated population, which has migrated permanently or intermittently to nearby cities such as Potosí. As a result, the bulk of the population is mainly between the ages of 0 and 24. The houses are their own, although built with precarious materials (adobe walls, dirt floors, and thatched or tin roofs). Access to water, sanitation and lighting is limited. The population's native language is Quechua and they self-identify as Quechua indigenous people. Access to educational services within the communities is limited, with a high illiteracy rate and the highest level of education achieved is mainly at the primary level. Access to health services is through public facilities in Colavi and traditional doctors in their own communities. The main economic activity is agriculture, although mining cooperatives have also been identified in Machacamarca and San Andrés de Huayllani, which extract silver, which is sold to local mills, rescuers, or other informal buyers. However, in San Andrés de Huayllani it was also reported that silver was sold to formal traders. In terms of land use, most of the land is used for community members and other inhabitants housing, as well as for agriculture and cattle ranching, linked to the productive land given to each community member. The land is also used for educational units and local health facilities. Another important land-use activity is mining, with areas being exploited by cooperatives or independent miners. Breeding of large animals, mainly sheep and camelids, as well as small animals was registered.

Regarding Alcira's community relations, it should be noted that the presence of the mining company in the communities dates back to the exploration stage of the Silver Sand project, from 2012 to 2015. Subsequently, in 2017 New Pacific acquired Alcira and began a new administration of the Silver Sand project, in order to initiate the exploitation stage. Since the beginning, Alcira has participated in multiple community assemblies, meetings with authorities and conversations with stakeholders and community members. Recently, New Pacific, through Alcira reached agreements with the five communities, which agreements propose several activities that will benefit the population, such as the construction of social infrastructure, education scholarships, water supply, hiring of community members, transportation services, among others.

Likewise, New Pacific, through Alcira has developed a Community Relations Plan specifically for the exploitation stage, which has three programs: Social Impact Management Program, Local Benefits Generation Program and Stakeholder Involvement Program. It has also made available to community members and authority's, various mechanisms for citizen participation, such as an information office in the city of Potosí, the preparation and delivery of informative material, and the holding of informative meetings. In order to achieve a successful process, Alcira will continue with its community relations strategy, expanding the mechanisms and spaces for dialogue.

20.3.7 Archaeological baseline

An archaeological baseline study was generated in the study area of the future mining project. This research documented 32 historical, and ethnographic entities that group a total of 463 architectural and landscape features, which have been identified, recorded, and evaluated for their archaeological importance, their heritage value and the potential impact that they could suffer from the project activity.

The results of the exploration activity, including drilling have not detected or found archaeological material evidence of the presence of pre-Hispanic settlements within the project area.

Only 10 of the 32 historic complexes recorded had a material history of occupation during the Colonial phase, but most of them were reconstructed and remodeled in later phases, mainly during the Republican Phase, between 1830 and 1920.

The archaeological evaluation of the recorded assemblages indicated that only 11 assemblages show historical interest and of these only 6 show high value, among which are Piquiza, Machacamarca Antiguo, the Camp of the surroundings of the Machacamarca Rescue Bank, and the mills and millers located in Huayllani and the creeks that converge in the town of Machacamarca.

The possibility of a potentially zero impact on 25 entities (78%), slight on 1 entity (3%), moderate on 1 unit (3%), severe on 1 entity (3%), and a potentially critical impact on 4 entities (13%) has been observed. These last 4 entities represent 60% of the architectural structures in the study area (ancient Machacamarca complexes, Machacamarca or San Jorge Rescue Bank, Aullagas and the upper zone of the Alalaypata creek).

The sites are regarded as being historic but not of archaeological significance, and plans will be put in place to preserve all sites. New Pacific will work with government officials to carry out this work.

20.4 Public consultation process

Public Consultation is a mechanism for citizen participation that allows citizens, communities, and Indigenous Peasant Peoples to have a means of access to information on mining projects and undertakings.

Public consultation is mandatory and concludes when the operator submits its report to the competent environmental authority and can justify whether or not it has taken into account the criteria of the population affected by the mining operation.

It is fully established in the State Political Constitution and applies to activities involving the exploitation of natural resources, which may directly affect the affected population, and the use and exploitation of natural resources must be subject to compliance with technical regulations, Therefore, it is possible to implement complements to the methodology of public consultation for the EEIA as part of the application of the environmental impact assessment systems and environmental quality control, without exception and transversally to all activities of production of goods and services that use, transform or affect the natural resources and the environment, since non-compliance with the law will result in the reversion or annulment of the rights of use or exploitation in accordance with the provisions of Article 358 of the Magna Carta.

The participation of the social actors linked to the EEIA is established in current environmental regulations and establishes that during the review phase of the Environmental Category Level Form, the EEIA, or the granting of the Environmental License (DIA), any natural or collective person, through grassroots territorial organizations, may make, in writing, any observations, criticisms and proposals regarding a project, work or activity known before the Competent Environmental Authority, Competent Sectoral Body or Municipal Government, in the area of their jurisdiction, in a technical and legally supported manner.

The regulations establish that in the impact identification phase to be considered in an EEIA, a Public Consultation must be carried out to take into account the observations, suggestions and recommendations of the benefited and / or affected population in the project's area of intervention, for which purpose there must be disclosure documentation complementary to the EEIA documentation that must be made known to the population through procedures established in the regulations.

Once the mining company has completed the preparation of its EEIA, it will promote the execution of the Public Consultation, in which a notarized document must be generated, i.e. a legal document that will contain the points and aspects of conformity and observations of the community on the mining operation in Public Consultation and the socio-environmental impact that it could generate.

20.5 Regarding waste management

Based on mining environmental regulations, the accumulation of solid mining-metallurgical waste must be classified according to its volume and hazardousness. In this sense, according to the size of the facilities that will store solid and / or liquid waste, a large volume waste accumulation project (total projected volume greater than fifty thousand, 50,000 m^3) is contemplated, which must consider technical guidelines established in the environmental regulations for the mining sector.

20.6 Mine Closure Plan

The Closure Plan is an environmental management instrument that establishes guidelines to be followed in a mining operation in order to rehabilitate the intervened and impacted areas.

The Bolivian Mining Law establishes that a mining operator must establish an accounting provision to cover the cost of closing operations.

The Environmental Regulations for Mining Activities require the mining concessionaire or operator to close and rehabilitate the area of its mining activity when it totally or partially terminates its activities in accordance with its environmental license; or when it abandons its mining operations or activities for more than three years.

Closure plans should at least consider: (i) the objectives of closure and rehabilitation of the area; (ii) a program for closure of operations and rehabilitation of the area, (iii) control of contaminant flows and physical and chemical stabilization of tailings accumulations; (iv) rehabilitation of the area, surface drainage and erosion control; (v) post-closure actions, which are the control of the stability of the structure of tailings accumulations and monitoring of the flows of drains, deposit troughs, dams or closed fills and batteries of infiltration monitoring wells.

20.7 Environmental guarantees

The Bolivian mining law establishes that a mining operator must establish an accounting provision to cover the cost of closing operations; however, it does not establish other environmental guarantees as is the case in other countries in the Andean region.

21 Capital and operating costs

All currency is in US dollars ($) and are based on prices obtained during the fourth quarter of 2022 (4Q22).

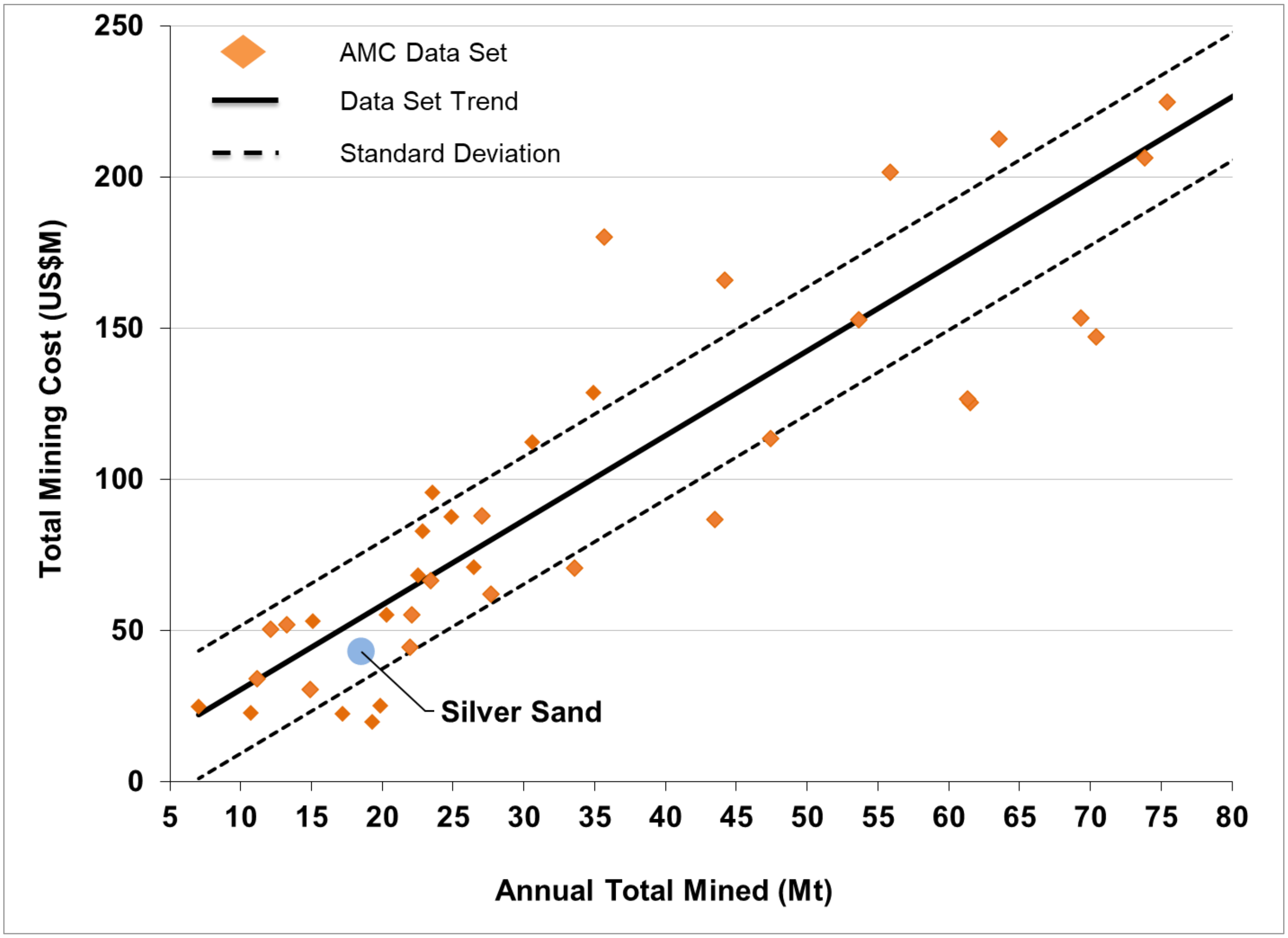
21.1 Operating cost estimate

The operating cost estimate allows for all labour, equipment, supplies, power, consumables, supervision, and technical services.

21.1.1 Open pit

Open pit mining costs were estimated assuming a contractor mining operation. Estimated mining costs were sourced from recent silver projects PEA / PFS studies and benchmarked against knowledge of similar sized, local operations. Comparison to the AMC Consultants database (Figure 21.1) shows the estimated total mining unit costs for Silver Sand are within trend. The LOM average mining cost is approximately $2.24/t mined.

Figure 21.1 Open pit benchmarking costs



Source: AMC Mining Consultants (Canada) Ltd.

A summary of the estimated open pit unit operating cost is provided in Table 21.1.

The open pit contractor operating cost estimate covers the following activities:

- Drill and blast.
- Load and haul to waste dumps, process plant, and stockpiles.
- Grade control.
- ROM re-handle.
- Auxiliary operations such as clearing of the open pits and waste dump footprint area, mine haul road construction, maintenance of benches, road and waste dumps, and dewatering.
- Maintenance of the mine fleet.
- Open pit contractor management and supervision.
- Mining and maintenance personnel.
- Consumables including fuel, parts, explosives, etc.

It is assumed that the management and technical staff will be part of the owner's team. Contractor personnel numbers were estimated for mine supervision, mine operations and maintenance. Management and technical staff were assumed to work on an 8 on 6 off roster while mining and maintenance labour is assumed to work on a two-weeks on one-week off basis. Two 12-hour shifts per day have been assumed.

Table 21.1 Summary of estimated open pit operating cost

Category	**%**	**Silver Sand estimate ($/t mined)**
Loading	7.2	0.16
Hauling	33.3	0.74
Ancillary	16.2	0.36
Drilling	5.4	0.12
Blasting	10.9	0.24
Mine development	6.7	0.15
Owner fixed labour	12.0	0.27
Other	8.4	0.19
Total	**100**	**2.24**

Note: Totals may not add up exactly due to rounding.
Source: AMC Mining Consultants (Canada) Ltd.

Mine closure items comprise the following activities. Closure costs have been estimated by AMC Consultants and New Pacific Metals based on their understanding of the Bolivian mine closure guidelines under the mining and environmental law.

- Re-sloping the waste dumps, in-pit dumps, and ROM pad and placement of topsoil.
- Building and plant removal.
- Water dam deconstruction.
- Pit, stockpile, and road access rehabilitation.
- Revegetation.
- Post closure monitoring.

Mining-related closure costs have been estimated at $10M and are incurred at the end of operations in Year 15.

The estimated mining operating cost, by year, is presented in Table 21.2.

Table 21.2 Summary of open pit operating costs by year

Open pit cost ($M)	Total ($M)	Yr-1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14
Loading (ex-pit)	39.2	2.7	2.7	2.9	2.9	2.6	2.8	2.7	2.7	2.8	2.9	2.8	2.8	2.0	2.2	1.6
Hauling (ex-pit)	179.8	15.7	15.8	14.3	12.1	14.9	12.3	13.5	10.2	8.8	10.1	8.7	13.4	10.3	13.8	5.9
Loading (stockpile reclaim)	1.7	-	0.2	-	-	-	0.2	-	0.5	0.4	-	0.1	-	-	0.0	0.3
Hauling (stockpile reclaim)	10.0	-	1.1	-	-	-	0.9	-	3.0	2.2	-	0.6	-	-	0.0	2.1
Ancillary	92.5	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.5	5.5
Drilling	30.8	2.3	2.2	2.2	2.2	1.9	2.2	2.0	2.3	2.3	2.2	2.2	2.2	1.5	1.7	1.3
Blasting	62.3	4.5	4.4	4.5	4.5	4.0	4.5	4.1	4.5	4.5	4.5	4.5	4.5	3.1	3.4	2.6
Mine development	38.3	2.8	2.7	2.8	2.8	2.4	2.8	2.5	2.8	2.8	2.8	2.8	2.8	1.9	2.1	1.6
Owner fixed labour	68.6	4.7	4.7	4.7	4.7	4.5	4.7	4.5	4.7	4.7	4.7	4.7	4.7	4.2	4.2	4.2
Other	47.7	3.5	3.3	3.5	3.5	3.1	3.5	3.2	3.5	3.5	3.5	3.5	3.5	2.4	2.6	3.3
Total open pit ($M)	**567.6**	**37.9**	**43.4**	**41.1**	**38.9**	**39.7**	**40.2**	**38.8**	**40.5**	**38.1**	**37.0**	**36.1**	**40.2**	**31.7**	**35.5**	**28.4**

Note: Yr -1 period is a pre-strip period. Operating costs in this period will be capitalized.

21.1.2 Processing

This cost estimate was generated by Halyard Inc. for the 4 Mtpa operation described within Section 17. A total operating cost of $56.8M p.a. or $14.20 per tonne has been estimated. The costs cover all plant operations from the ROM receiving and primary crushing through to doré truck loading and residue (tailings) deposition via overland conveyors.

Operating costs were determined using a combination of first principles work-up and vendor quotations. The estimate includes all operating / maintenance labour (including the laboratory), power costs, maintenance consumables, and reagents. Costs have been classified either as fixed or variable.

Table 21.3 Summary of estimated mill operating cost

Category	Total $M per annum	($/t) milled
Fixed costs		
Labour – salaried		0.24
Labour – hourly		0.80
Tools / equipment / safety supplies		0.02
Maintenance supplies		0.14
Assaying & general laboratory		0.03
Subtotal fixed	**4.9**	**1.23**
Variable costs		
Power		1.86
Reagents		7.29
Wear steel (grinding media & liners)		2.12
Maintenance supplies		0.43
Tailings filtration		0.85
Misc contracts and supplies		0.33
Water usage		0.09
Subtotal variable	**51.9**	**12.97**
Total	**56.8**	**14.20**

Source: Halyard Inc., 2022.

To estimate the overall labour cost, a labour complement typical of operations of this size and complexity was prepared, and a range of local labour rates were used to adjust Halyard's cost database to account for local market conditions. Labour assumptions are summarized in Table 21.4.

Table 21.4 Labour details - Processing

	#	Total $M p.a.
Salaried positions		
Mill Superintendent	1	
Admin assistant	1	
Mill trainer	1	
HSE trainer	1	
Maintenance engineer	1	
Electrical supervisor	1	
Instrumentation / PLC supervisor	1	
Mechanical supervisor	1	
Planner	1	
Snr. metallurgist	2	
Metallurgist	2	
Chemist	1	
Total salaried	**14**	**0.97**
Hourly positions		
Shift supervisor	5	
Control room operator	4	
Field operators	25	
Artisans (mechanical / electrical)	9	
Labourers	28	
Laboratory technicians	3	
Sample prep	6	
Total hourly	**80**	**3.19**
Total	**94**	**4.16**

Source: Halyard Inc.

Power consumption for the specified plant was estimated using the mechanical equipment list, and a straight unit rate for power (i.e. no maximum demand tariff) of $53 per MWh was obtained from the local utility company in Bolivia. Power costs are summarized in Table 21.5.

Table 21.5 Power consumption details - Processing

	MWh p.a.	Total $M p.a.
Power consumption:		
Process plant total	140,000	7.42

Source: Halyard Inc.

Vendor quotes were obtained for the reagents and grinding balls, and testwork consumption rates were used to calculate the required quantities of each. The estimate includes site delivery costs.

Table 21.6 Consumable details - Processing

	Tonnes p.a.	Total $M p.a.
Reagents		
Lime	2,200	
Flocculant	240	
Coagulant	120	
Sodium Cyanide	8,000	
Zinc powder	800	
NaOH	20	
H2SO4	40	
H2O2	40	
Fluxes	240	
Lead Nitrate	160	
Anti-scalant	240	
Diatomaceous earth	1,200	
Total reagents	**13,300**	**29.18**
Steel wear parts		
Mill balls & liners	4,132	
Crusher liners and chute liners	198	
Total wear parts		**8.48**
Total		**37.66**

Source: Halyard Inc., 2022.

Maintenance costs were determined using a factored allowance – typical of similar projects and industry standards. The total annual budget for maintenance is $2.28M.

21.1.3 Tailings storage facility (TSF)

The operating cost estimate for the TSF was generated by NewFields.

The operating costs for the Tailings storage is limited to the cost of spreading and nominally compacting the tailings within the tailings containment area of the overall waste storage facility following discharge from a planned conveyor / radial stacker. NewFields' estimate is $2.60M per year ($0.65/t ore).

21.1.4 General and administration (G&A)

G&A costs generally cover site administration, accommodation, fights, and corporate costs. For Silver Sand, G&A costs also cover land use compensation for use of the communities' land for the LOM of the operation, and mine closure costs. An estimate of $1.86/t ore for G&A was estimated by New Pacific. This estimate was based on recent silver projects PEA / PFS studies and benchmarked against knowledge of similar sized, local operations.

21.2 Total operating cost estimate

The total operating cost estimate is summarized in Table 21.7.

Table 21.7 Total operating cost estimate

Description	LOM average cost ($/t ore)	Total LOM cost ($M)
Mining cost	9.55	529.7
Processing cost	14.20	787.3
Tailings storage cost	0.65	36.0
G&A cost	1.86	103.1
Total operating cost	**26.26**	**1,456.1**

Note: Totals may not add up exactly due to rounding. G&A includes mine closure and land use compensation cost.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

21.3 Capital cost estimate

The capital cost estimate is split into project capital over the first two years (Year -2 and Year -1) and sustaining capital (remainder of the mine life). Project capital includes the cost of the process plant, site infrastructure, tailings facility, and pre-production mine development.

21.3.1 Open pit

Open pit mining costs were estimated assuming a contractor mining operation. All mining equipment are assumed to be provided by the open pit contractor. Estimated open pit capital costs total $39.2M, and consist of mine pre-production ($37.9M), and contractor mobilization costs ($1.3M). Pre-production period activities include waste stripping, some ore stockpiling, and haul road construction.

21.3.2 Process plant

The process plant capital cost estimate was generated by Halyard Inc. for the 4 Mtpa processing operation described within Section 17. The process plant capital cost estimate is $185.6M, which includes $118.2M direct capital, and $35.5M of indirect capital. A high level breakdown of plant area capital is given in Table 21.8.

Table 21.8 Mill area capital estimate

Description	Total cost ($M)
Direct capital	118.2
Indirect capital	35.5
Sustaining capital	5.9
Contingency	26.0
Total	**185.6**

Source: Halyard Inc., 2022.

The $118.2M direct capital budget is broken down by plant area in Table 21.9. The direct capital budget includes the estimated cost of civil and earthworks, the supply, delivery to site and installation of mechanical equipment, structural steel, platework, piping, and electrical / instrumentation items. It also includes any buildings and mobile equipment items (plant truck, forklift, skidsteer, etc.).

Table 21.9 Process plant direct capital breakdown by area

Plant area	Total cost ($M)
Crushing	5.0
Coarse ore storage	4.0
Grinding (SAG, ball & pebble crushing)	34.7
Pre-leach thickener	2.4
Leaching	8.9
CCD	9.9
Merrill Crowe	7.0
Refinery	2.9
Tailings (dewatering and overland conveyors)	17.7
Reagents	9.7
Services	1.9
Refinery building & laboratory	7.3
Transportation	6.3
Mobile equipment	0.7
Total	**118.2**

Source: Halyard Inc., 2022.

The same budget is broken down by engineering discipline in Table 21.10.

Table 21.10 Process Plant direct capital breakdown by discipline

Discipline	Total cost ($M)
Civil and Earthworks	24.6
Mechanical Equipment	38.5
Structural Steel	14.8
Platework	9.6
Piping	8.9
Electrical and Instrumentation	16.0
Buildings / Architectural	5.8
Total	**118.2**

Source: Halyard Inc., 2022.

The direct capital cost estimate was developed using a number of data sources, including budget quotations from equipment vendors (Chinese and North American) and database costs from similar recent projects. Vendor quotations were obtained for all major equipment items, including large platework items such as leach tanks and large storage tanks. Budgets for civil construction, steel structures, platework items, pipework and electrical / instrumentation packages were estimated using plant area specific factoring from other similar gold / silver projects. The budgets include transportation to site, which is factored for North American supply and based on quotes for containerized and bulk shipping to site from Shanghai, PRC.

The costs of equipment and materials construction have been adjusted to account for the use of Chinese and local Bolivian contract labour.

The process plant will only be partially enclosed, with areas such as crushing, grinding, leaching and CCD being located outdoors. A building to enclose the high-security areas (Merrill Crowe and the furnace / refinery) has been included in the capital estimate and the cost for this includes the building shell, HVAC, and electrical.

21.3.3 Tailings storage facility (TSF)

The TSF will be developed within the larger Waste Storage Facility which will contain waste rock and all tailings produced from the project. No trade-off studies were carried out at this stage to optimize the TSF.

Project capital expenditures include construction of a downstream buttress to provide support for the TSF including the liner system ($8.8M). The on-going construction of the liner system for the tailings containment ($12.2M) is considered sustaining capital.

The capital cost estimated for the TSF is $21M and is summarized in Table 21.11. This cost estimate was provided by NewFields.

Table 21.11 Tailings storage facility estimate

Year	**Total cost ($M)**
-1	8.8
2	2.4
4	2.4
6	2.4
8	2.5
10	2.5
Total	**21.0**

Note: Totals may not add up exactly due to rounding.
Source: NewFields, 2022.

21.3.4 Surface infrastructure

The project capital cost estimate for the surface infrastructure is based upon preliminary estimate from the Bolivian power authority, factored costs from previous projects, pricing in the public domain, factored published labour productivities, and experience regarding unit rates.

The project capital cost estimate for surface infrastructure, including surface ancillary equipment, is $32.7M, and is summarized in Table 21.12. The major components of this cost estimate are grid power, local electrical distribution, camp construction, water dam and site access roads. Other items include mine office, and light vehicle maintenance workshop. Water for the mine site and processing plant will be supplied from the water dam to be constructed.

Over the life of the mine the use of grid power appears to be advantageous to the value of the project.

Table 21.12 Surface infrastructure project capital cost estimate

Description	Total cost ($M)
Power to site and one mine site substation	12.00
Access roads and upgrading	4.15
Site prep and excavations for foundations	1.00
Water dam construction	2.91
Camp	3.00
Electrical distribution, communications	5.00
Fences, gates, fire alarm system yard lighting	1.00
Warehouse, light vehicle shop, tools, and lube oil	3.40
Fuel storage	0.20
Total	**32.66**

Source: AMC Mining Consultants (Canada) Ltd., 2022.

21.3.5 Sustaining capital

Sustaining capital for the TSF ($12.2M) was estimated by NewFields and is detailed above in Table 21.11.

Additional sustaining capital for the process plant and infrastructure is based on 5% of total project capital expenditure to cover equipment rebuilds / replacement, and repairs to fixed equipment and infrastructure.

Overall sustaining capex is minimal due to contract mining and therefore no mining equipment rebuilds / replacements, a relatively short mine life, and waste stripping of later phases is accounted for in opex.

The sustaining capital over the LOM is estimated to be $19.7M.

21.3.6 Indirect capital

Indirect capital (owner's cost and EPCM) for the tails storage facility and infrastructure is assumed to be 10% of the project capital cost estimate and is estimated to be $4.1M.

Indirect capital for the process plant has been estimated by Halyard Inc. and includes preproduction and site costs, first fill of supplies (grinding media and reagents), strategic spares budgets and contract costs (EPCM and other external pre-production support contracts). Together, these items total $35.5M (Table 21.13).

Table 21.13 Process plant indirect capital budget

Description	Total cost ($M)
Commissioning costs	1.5
Site costs	5.9
Mills first fill	0.7
Reagents & lubricants first fill	3.0
EPCM & other external contracts	14.5
Mechanical spares	1.4
Owners costs	8.5
Total	**35.5**

Source: Halyard Inc., 2022.

Total indirect capital costs are estimated to be $39.6M.

21.3.7 Contingency

Contingency is applied to the project capital only (not sustaining capital) at 20-30% of the capital expenditure. The estimated contingency for the project is $52.4M.

21.3.8 Total capital cost estimate

The total capital cost is estimated to be $327M and is summarized in Table 21.14.

Table 21.14 Total capital cost estimate

Description	**Cost ($M)**
Open pit pre-stripping	47
Contractor mobilization	1
Processing plant	186
Tailings facility	25
Site infrastructure	47
Owner's cost	21
Total capital cost	**327**
Of which:	
Initial capital	308
Sustaining capital	20

Note: Totals include direct, indirect, and contingency costs. Totals may not add up exactly due to rounding.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

22 Economic analysis

The PEA is preliminary in nature. It includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the results of the PEA will be realized.

An economic model was developed to estimate annual cash flows and sensitivities of the Silver Sand project. Pre-tax estimates of project values were prepared for comparative purposes, while after-tax estimates were developed and are likely to approximate the true investment value.

22.1 Assumptions

All currency is in US$ unless otherwise stated. The cost estimate was prepared with a base date of the second half of Year -2 (1 July) and does not include any escalation beyond this date. For net present value (NPV) estimation, all costs and revenues are discounted at 5% from the base date. The economic model shows the Project under construction for 1.5 years (Year -2 and Year -1), which is considered development and then in production for the balance of the projected cash flows, which is considered operating (Years 1 to 14).

A regular Bolivian corporate income tax rate of 25% is applied. As a mining property, the Project is subject to an additional tax of 12.5%, with a 5% reduction for companies that produce pure metal products (as is the case with the Silver Sand project producing silver doré onsite). No tax planning has been applied, all historical tax attributes such as any loss carry forwards, recapture, mineral property, exploration costs or net tax basis of capital assets are ignored. Taxes are paid in the year they are incurred.

The estimates of capital and operating costs have been developed specifically for this project and are summarized in Section 21 of this report. The economic analysis has been run with no inflation (constant dollar basis).

Project revenue is derived from the sale of silver doré. Metal prices were selected after discussion with New Pacific and referencing current markets and forecasts in the public domain. Selling cost for the transport and refinery of silver doré ($0.50/oz) was selected after discussion with New Pacific.

Within the AMC a 6.0% royalty is paid based on gross sales. Most of the Mineral Resources lie within the AMC. Outside the AMC, an additional 6.0% royalty is to be paid to COMIBOL.

A discount rate of 5.0% was deemed appropriate for the project. Discount rates applied to projected cash flows also recognize the time value of money as well the risks and variables associated with the project, such as metal price fluctuation, marketability of the commodity, location of the project, stage of development, and experience of the owner.

It is assumed that silver doré produced each year are considered sold in the same period with no inventories of work-in-process or finished goods.

22.2 Economic analysis

A high-level economic assessment of the proposed open pit operation of the Silver Sand deposit was conducted. The project is projected to generate approximately $1,106M pre-tax NPV and $726M post-tax NPV at 5% discount rate, pre-tax IRR of 52% and post-tax IRR of 39%.

Project capital is estimated at $308M with a payback period of 1.4 years (discounted pre-tax cash flow from base date of 1 July, Year -2). Key assumptions and results of the economics are provided in the Table 22.1. The LOM production schedule, average metal grades, recovered metal, and cash flow forecast is shown in Table 22.2.

Table 22.1 Silver Sand deposit – key economic input assumptions and cost summary

	Unit	Value
Total plant feed	kt	55,441
Total waste production	kt	199,653
Silver grade	g/t	106.6
Silver recovery	%	91
Silver price	$/oz	22.50
Discount rate	%	5
Silver payable	%	99
Payable silver metal	Moz	171.2
Total net revenue	$M	3,510
Total capital costs	$M	327
Total operating costs	$M	1,456
Mine operating costs	$M	530
Process and tails storage operating costs	$M	823
General and administrative costs	$M	103
Operating cash cost	$/oz Ag	8.45
All in sustaining cost	$/oz Ag	10.42
Pre-tax payback period	Yrs	1.4
Post-tax payback period	Yrs	1.9
Pre-tax NPV	$M	1,106
Pre-tax IRR	%	52
Post-tax NPV	$M	726
Post-tax IRR	%	39

Notes:
- G&A costs include mine closure and land use compensation cost.
- Cash costs include all operating costs and transportation charges.
- All-in Sustaining Costs (AISC) include total cash costs, initial capital expenditures and sustaining capital expenditures.

Source: AMC Mining Consultants (Canada) Ltd., 2022.

Table 22.2 Silver Sand production and cash flow forecast

	Unit/yr	Total	Yr -2	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15
Total mined – Mineralized rock	Mt	**55.4**		1.6	3.8	4.8	5.1	5.5	4.1	5.2	1.4	2	4.6	3.5	4.1	4	4	1.6	
Total mined - waste	Mt	**199.7**		16.9	14.1	13.7	13.4	10.8	14.4	11.7	17.1	16.5	13.9	15	14.4	8.8	9.9	9.1	
Total plant feed	Mt	**55.4**			4	4	4	4	4	4	4	4	4	4	4	4	4	3.4	
Silver	g/t	**106.6**			135.3	135.6	131.5	139.1	103.4	96.6	74.8	72.7	102.3	93.3	113.6	113.3	102.3	74.2	
Silver recovery	%	**91%**			91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%	
Silver	Moz	**172.9**			15.8	15.9	15.4	16.3	12.1	11.3	8.8	8.5	12	10.9	13.3	13.3	12	7.5	
Overall silver payable	%	**99%**			99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	
Total net revenue	**$M**	**3,510**			**323.6**	**323.6**	**309.8**	**331.7**	**241.2**	**228.8**	**178.2**	**173.4**	**244.7**	**223**	**271.7**	**271.1**	**243.5**	**145.5**	
Mining	$M	**530**			43.4	41.1	38.9	39.7	40.2	38.8	40.5	38.1	37	36.1	40.2	31.7	35.5	28.4	
Processing	$M	**787**			56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	48.9	
Tailings	$M	**36**			2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.2	
G&A	$M	**103**			6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.9	10
Total operating cost	**$M**	**1,456**			**109.5**	**107.3**	**105**	**105.8**	**106.3**	**104.9**	**106.6**	**104.2**	**103.1**	**102.2**	**106.3**	**97.8**	**101.6**	**85.4**	**10**
Project capital	$M	**308**	130.2	177.4															
Sustaining capital	$M	**20**			0.6	3	0.6	2.9	0.6	3	0.7	3.1	0.6	3	0.6	0.4	0.4	0.4	
Total capital cost	**$M**	**327**	**130.2**	**177.4**	**0.6**	**3**	**0.6**	**2.9**	**0.6**	**3**	**0.7**	**3.1**	**0.6**	**3**	**0.6**	**0.4**	**0.4**	**0.4**	
Undiscounted cash flows (pre-tax)	$M	**1,727**	-130.2	-177.4	213.5	213.3	204.3	223	134.3	121	70.9	66.1	141	117.8	164.8	172.9	141.6	59.7	-10
Undiscounted cash flows (post-tax)	$M	**1,162**	-130.2	-177.4	163.5	162.5	157.2	157.4	98.3	87.7	54.6	50.6	96.1	79.6	112.2	117.7	96.5	45.9	-10
Discounted cash flows (pre-tax)	$M	**1,106**	-127	-164.9	189	179.8	164	170.5	97.8	83.9	46.8	41.6	84.5	67.2	89.6	89.5	69.8	28	-4.5
Discounted cash flows (post-tax)	$M	**726**	-127	-164.9	144.7	137	126.2	120.3	71.6	60.8	36.1	31.8	57.6	45.4	61	60.9	47.6	21.5	-4.5

Note: Totals may not add up exactly due to rounding.
Source: AMC Mining Consultants (Canada) Ltd., 2022.

22.3 Sensitivity analysis

Sensitivity analyses were performed for variations in metal prices, capital costs, and operating costs to determine their relative importance as project value drivers. The sensitivity analysis examined the impact on post tax NPV (at 5% discount rate) of a 20% positive or negative change. The results of the sensitivity analysis are summarized in Table 22.3.

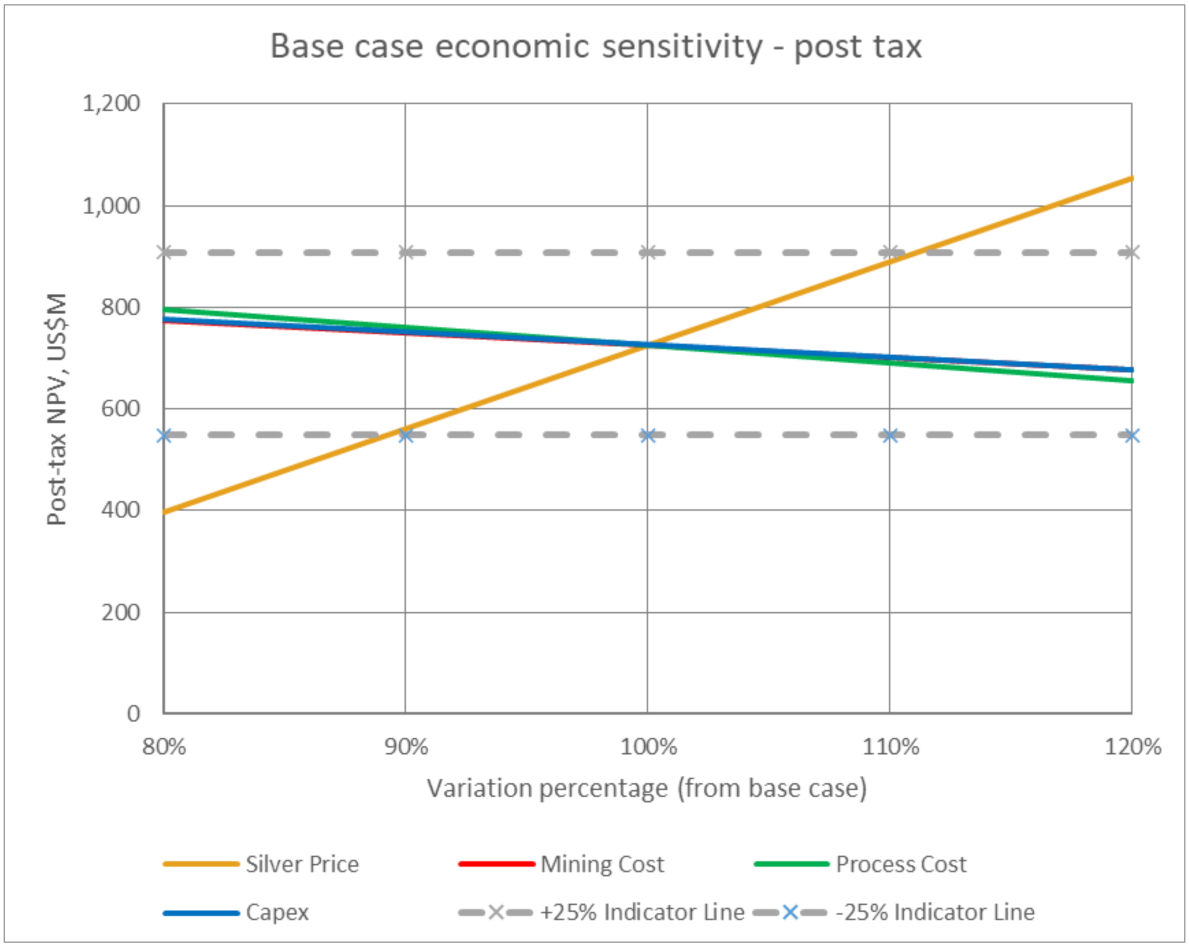
The results show that the post-tax NPV is robust and remains positive for the range of sensitivities evaluated.

Post-tax NPV is most sensitive to changes in the silver price. The NPV is moderately sensitive to changes in total capital cost and changes in operating cost.

Table 22.3 Silver Sand project NPV ($M) / IRR (%) economic sensitivity analysis – post tax

Input	**Input factor**				
	80%	**90%**	**100%**	**110%**	**120%**
Silver price ($/oz)	398 / 26%	562 / 33%	726 / 39%	890 / 45%	1,054 / 50%
Mine operating cost (per tonne mined)	774 / 40%	750 / 40%	726 / 39%	702 / 38%	678 / 37%
Process operating cost (per tonne milled)	796 / 41%	761 / 40%	726 / 39%	691 / 38%	656 / 37%
Capex (LOM)	776 / 47%	751 / 43%	726 / 39%	701 / 36%	676 / 33%

Figure 22.1 Silver Sand project NPV economic sensitivity analysis – post tax



Source: AMC Mining Consultants (Canada) Ltd., 2022.

23 Adjacent properties

COMIBOL, the state-owned Bolivian Mining Corporation, holds the exploration and mining rights of the adjacent areas surrounding the concessions owned by New Pacific. New Pacific acquired the exploration and mining rights of the direct neighbouring 57 km^2 area around its concessions through an MPC (see Section 4.2) with COMIBOL, except for a few operating mines which are subleased to small operators by COMIBOL.

The Colavi mine to the north-west and the Canutillos mine to the west of the Property are two adjacent operating mines.

23.1 Colavi Tin Polymetallic mine

The host rock in the Colavi mine area consists of Ordovician shale and sandstone, and Cretaceous sandstone and dacitic tuffs. Some dacitic intrusive rocks are found in Ordovician and Cretaceous sequences as stocks, sills, or dykes. Six manto-type mineralized horizons with thicknesses ranging from 0.8 to 1 m were concordantly developed in a horizon of calcareous sandstone within the Cretaceous red sandstone and tuffs sequence. The mineralized calcareous sandstone gently dips to the west and occupies an area of 2 km wide and 6 km long. Ore minerals are mainly composed of pyrite, hematite, and cassiterite. Sphalerite and galena are very rare, and quartz is absent. Volcanism and mineralization are closely related. Manto mineralization formed first associated with earlier magmatic intrusions, and dacite sills successively intruded the Cretaceous sedimentary sequence and displaced the manto-type mineralization. Later cassiterite veins occur in dacite (Rivas 1979; Sugaki et al., 1983).

Mining activities for tin at Colavi can be traced back to 1890. In 1912, the recorded production capacity of the mine was 100 tons per day and produced up to 5,000 tons of ore grading more than 3% Sn (Redwood, 2018). Production of the Colavi mine in June 1981 was 5,700 t ore grading 0.7% Sn. Mine workers hand-picked and screened the crude ore to produce 650 to 1,000 t semi-concentrate containing 2 – 3% Sn, per month (Sugaki et al., 1983).

The United Nations Development Program (UNDP) and Servicio Geologico de Bolivia (GEOBOL) jointly carried out a reconnaissance exploration for tin and silver at Colavi in 1989 and 1990 and estimated a potential resource of 3 to 5 million tons grading 0.5 to 0.9% Sn over a 4 km strike length (Redwood, 2018). The QP has been unable to verify the reported resource and the resource is not indicative of the mineralization on the Property that is the subject of the Technical Report.

23.2 Canutillos Tin Polymetallic mine

Limited literature on Canutillos shows that COMIBOL began operation at the mine in 1964 and Empresa Minera Tirex Ltda began to conduct silver heap leach in 2010 (Redwood, 2018). No exploration and production data are available from public sources.

24 Other relevant data and information

The QPs are not aware of any additional information or explanation that is necessary to make the Technical Report understandable and not misleading.

25 Interpretation and conclusions

25.1 General and geology

Indicative financial results indicate that the Project shows attractive potential and should be progressed to the next stage. The results of the economic evaluation estimate approximately $1,106M pre-tax NPV and $726M post-tax NPV at 5% discount rate, pre-tax IRR of 52% and post-tax IRR of 39%.

Silver mineralization at the Property occurs in ten areas: Silver Sand, El Fuerte, Snake Hole, North Plain, San Antonio, Esperanza, Jisas, El Bronce, Mascota, and Aullagas. The mineralization identified in the Property belongs to the Bolivian polymetallic vein-type deposits represented by the giant Cerro Rico de Potosí silver mine in Potosí.

Logging, mapping, sampling, and analyzing procedures of New Pacific's on-going exploration programs follow common industry practice. Results of QA/QC programs are deemed acceptable by the QP.

The Silver Sand deposit is defined by exploration drilling and has a conceptual pit-constrained Mineral Resource using a 30 g/t Ag cut-off of Measured and Indicated Mineral Resources of 54.26 million tonnes grading 116 g/t silver; and an Inferred Mineral Resource of 4.56 million tonnes grading 88 g/t silver. Ms Dinara Nussipakynova, P.Geo. of AMC Consultants takes responsibility for these estimates.

The deposit as currently defined remains open for expansion and there has been no modern district scale exploration. While it is understood that engineering work for the pre-feasibility study will be based on the current block model, there are some recommendations for future exploration. Some drilling pre-production may be required and this may take the form of grade control drilling and that has not been quantified at this stage.

25.2 Metallurgy and processing

Two significant metallurgical testwork programs have provided a source of representative information on which the QP has based a scoping level process plant design. Testwork has been completed at reputable laboratories, and the QP is satisfied that the samples tested are sufficiently representative of the mineralization types found within the deposit. Geometallurgical definitions have been developed and these should continue to be studied as the project is developed. The scope of preliminary testing includes physical and chemical characterization of samples, assessment of preconcentration options (density separation and particle sorting with XRT), mineralogical examination, evaluation of froth flotation and cyanidation characteristics (including heap leaching), cyanide detoxification and environmental characterization of products.

Mineralization samples were found to be amenable to all processing options during the testwork. A high-level trade-off study was conducted as part of the PEA and this compared the economic viability of flotation, heap leaching, and tank cyanidation with carbon and Merrill Crowe variants. Using the trade-off study analysis as guidance, a cyanidation process with zinc precipitation was selected as the PEA base case process flowsheet.

The base case process plant design is based upon a primary crushing and ore storage front-end, a conventional SAG+Ball mill comminution circuit, cyanide leaching in agitated tanks, counter current decantation, zinc precipitation (Merrill Crowe), and a tailing dewatering circuit. Products include a silver doré for sale to international markets and a tailing filter cake material for storage on site in a lined facility.

An average silver recovery of 91% is indicated, assuming 92% dissolution in the leaching circuit and 99% efficiency in the CCD circuit.

The crushing circuit design incorporates a jaw crusher rather than a gyratory unit, which represents a significantly lower installed capital cost. It is important with this type of unit that an inclined static grizzly screen is installed above the feed hopper to prevent large, (+ 30"), rocks from reaching the crusher. A hydraulic rock breaker is installed adjacent to the grizzly screen to break these larger rocks or to manipulate them across and off the screen to a storage / reclaim area.

The grinding circuit is conventional, with one SAG mill, one ball mill and a cone crusher for SAG mill pebble crushing. A product size of 80% -75 µm is considered quite typical for precious metal projects. The mill circuit design takes comminution data for the harder oxide mineralization into consideration and could therefore be considered to be slightly conservative. As the mine plan and the grindability database size increases with additional sampling, the grinding circuit design can likely be optimized.

Cyanidation of silver is estimated to be sufficiently complete after 48 hours of residence time. Conditions within the leach circuit are important, with cyanide and dissolved oxygen concentrations of 3.0 g/L and 10-12 ppm respectively are considered necessary to achieve the predicted level of silver dissolution. A wash water to solids ratio of 3.0 within the CCD circuit helps to ensure good washing efficiency, but also increases the flowrate of pregnant solution to the zinc precipitation circuit. Zinc precipitation is a well-established process for silver recovery and the process plant includes a turnkey design for this area.

Cyanidation residue slurry is dewatered in two stages, using a high compression thickener followed by a group of plate / frame pressure filters. The dewatered residue is conveyed from the process plant to the permanent storage facility as a filter cake with ~18% moisture. The process facility does not include a cyanide detoxification circuit but relies on effective solution recovery and a fully lined, zero discharge TSF.

25.3 Mining and infrastructure

The Silver Sand project comprises four open pit areas — the Main pit, two small northern satellite pits, and one eastern satellite pit. The four pits are subdivided into seven phases.

The open pits are proposed to be mined using a conventional truck and excavator mining method using 140 t payload trucks and 200 t – 260 t excavators. A mining contractor operation is proposed, with ore and waste to be mined on 10 m benches.

Slope angles used for pit designs are steep and reflect the good condition of the surrounding rock but will require appropriate wall control blasting and mining practices to ensure that walls can be maintained at the proposed angle.

A single out-of-pit waste dump is proposed immediately south-west of the open pits in a natural depression in the topography. The waste dump has been designed to accommodate the totality of the waste mined from the pits, as well as the disposal of filtered tailings from the plant. Two in-pit dumps have also been designed in the main pit to provide flexibility and costs savings for waste placement.

The open pits contain approximately 55.4 Mt of mineralized material with a grade of 106.6 g/t Ag, and 199.7 Mt of waste material, with an overall waste to mineralized material strip ratio of 3.60 to 1. The open pit operation includes one year of pre-strip (Year -1) and fourteen-years of production. The production plan is based on delivering 4.0 Mtpa of ore to the processing plant. The total annual ex pit material mined peaks at 18.5 Mtpa, before dropping to approximately 13 Mtpa at the end of the open pit mine life.

There is currently no significant infrastructure on site, however Silver Sand has undertaken discussion with the power authorities in Bolivia to obtain grid power. There are 3 power lines that are in the vicinity of the project site. Water supply can be secured with construction of a small dam to create a reservoir to supply the mill and local community. A Filtered TSF within the waste rock storage area is a suitable choice for this climate. The infrastructure has been costed at a suitable level of accuracy for this type of study. Accommodations are envisaged to be built on site.

Risks and opportunities relating to this project are discussed below.

25.4 Risks

- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is a degree of uncertainty attributable to the estimation of Mineral Resources. Until resources are actually mined and processed, the quantity of mineralization and grades must be considered as estimates only.
- Mining risks include higher than expected dilution and ore loss. Higher than expected dilution can have a severe impact on project economics. The mine must ensure adequate drilling and blasting practices, and ore control processes, are implemented to minimize dilution from wall rock and other low grade mineralized zones.
- Other mining risks and control measures identified included a large number of typical mining risks such as heavy vehicle interaction with light vehicles and personnel, haul ramp failure, pit wall failure, excessive ore dilution, and waste dump failure. Controls to be implemented to mitigate these risks include development of a traffic management plan, targeted geotechnical drilling and investigation, development of a ground control management plan, surface water study, grade control drilling, and design of facilities to the required codes and standards.
- Engineering, geotechnical, and hydrogeological studies done at a sufficient level to convert Mineral Resources to Mineral Reserves are necessary before the impact of these risk and uncertainties to the project's potential economic viability can be reasonably quantified.
- In last three years Bolivia experienced a transition from social turmoil to stability. The government of the current President, elected at the end of 2020 supports and encourages private and foreign investments in the economic sectors of the country. New laws were approved by congress to encourage private investments in mining sector, for example, Law 1391 (Decree 4579) to waive value added tax for import of equipment and vehicles.
- Although the country is generally friendly to private and foreign investments in mining sector, risks associated with instability of government caused by political polarization and visible divisions in the governing party are noteworthy. In addition, local protests and blockages by various social groups may pose unforeseen instability from time to time. Overall, political and social risks are generally currently manageable in Bolivia.
- Should Silver Sand not be able to get access to grid power, diesel power generation must be considered, though this is considered low risk.

25.5 Opportunities

- Longer term there is potential for expansion and upgrading of the Silver Sand deposit through additional drilling.
- Work to identify alternative dump locations with short hauls to provide flexibility and costs savings for waste placement. One potential area identified is the Machacamarca creek gully adjacent the main pit. Opportunities to backfill mined out pits should be considered whenever appropriate.
- Significant exploration potential within an emerging silver district which contains numerous showings and evidence of silver-rich, polymetallic mineralization including historic workings.

26 Recommendations

26.1 Introduction

The main recommendation is to advance the Silver Sand project to a pre-feasibility study level. This will require advancing the definition and engineering level of all of the mining, processing and infrastructural aspects. It is understood that no more drilling will be carried out in the near future and the current block model will form the basis for that study work. There are however some geology and exploration recommendations captured here so as to refer to them when more infill and delineation drilling is carried out. Some of this work may take the form of grade control drilling and that has not been quantified at this stage.

26.2 Quality Assurance / Quality Control

There are a number of recommendations on all facets of QA/QC summarized below. These are expanded on in Section 11.

- Purchase an additional CRM at the average grade (116 g/t Ag) of the deposit which has been certified using similar digestion methodology.
- Investigate performance issues with CRMs CDN-ME-1603 and CDN-ME-1605 if these are to be used in future programs.
- If continue to use ME-MS41 analytical method going forward it is recommended that the OG46 over-limit threshold be dropped from 100 g/t Ag to a level below the anticipated COG.
- Continue to include blanks in every batch of samples submitted at a rate of at least 1 in every 20 samples (5%) and consistently monitor them in real time on a batch-by-batch basis and that remedial action is taken as issues arise.
- Ensure that all blank sample follow up is recorded.
- Implement investigative work to understand geological variance.
- Ensure that all future programs include 4 - 5% duplicate samples including field duplicates, coarse (crush) duplicates, and pulp duplicates to enable the various stages of sub-sampling to be monitored.
- In future programs, submit umpire duplicates, as was done for the October 2017 – 2019 programs.
- Submit pulp samples (rather than coarse reject) so that umpire samples only monitor analytical accuracy and variance.
- Include CRMs at the average grade and higher grades in umpire sample submissions.

26.3 Mineral Resource

For future Mineral Resource modelling the following should be considered:

- At the next update of the model include all remaining drill data which missed the closing date.
- Incorporate geometallurgical attributes into the block model.
- Verify mined-out volumes by surveying historical waste dumps.
- Conduct structural analysis of available data and complete initial structural / geotechnical drilling as required.
- Update the 3D geological model to include detailed geology – deposit oxidation domaining and structures.

The Silver Sand deposit, as currently defined, remains open for expansion at depth. While it is understood that engineering work for the pre-feasibility study will be based on the current block model, it is recommended that future drilling on the deposit should consider the following:

- Infill drilling to upgrade areas of high-grade mineralization within the current Inferred resource area.
- Additional drilling around the current Mineral Resources, where the deposit remains open at depth.

The QP also notes that there has been no modern district scale exploration outside of Silver Sand deposit. It is recommended that additional drilling be completed at the other prospects to assess for the potential for Mineral Resources.

26.4 Metallurgical testwork development

The following metallurgical activities are recommended, and these are expanded in Section 13.4.

- Further development of the current geometallurgical modelling.
- Further mineralization characterization studies, including quantitative mineralogy and comminution studies.
- Development of a particle sorting trade-off.
- Development of cyanidation parameters, on a more widespread sample set.
- Settling and filtration testwork, with more comprehensive study of slurry rheology, reagent selection and dosage.
- Further environmental testing, including a comprehensive set of static and kinetic (humidity cell) tests.

The cost of the advanced metallurgical program as suggested including further sorting tests, comminution tests, mineralogical characterization, and environmental testing, based on larger and more spatially diverse samples, is estimated to cost $200,000.

26.5 Open pit mining

It is recommended that the following aspects are examined in the next study stage:

- It is recommended that a dilution study is conducted in the next stage of study to ascertain the anticipated mining dilution and ore recovery in combination with the most appropriate mining fleet and associated costs.
- The ongoing geotechnical program should be continued to collect additional data for pit wall angle stability analysis.
- It is recommended that quotes from Bolivian mining contractors are collected to firm up the mining costs estimates for the open pit operations.
- Further hydrological and hydrogeological studies should be conducted to better define dewatering requirements for the open pit. Recommendations from ITASCA Chile SpA (ITASCA) include:
  - to implement piezometers for groundwater table monitoring, at least in the future pit location.
  - Itasca recommends that the area where mining activities are developed is characterized in detail, to be used as a water quality baseline before the Silver Sand project starts to operate.
- Further work should be conducted to identify alternative dump locations to reduce haul distance i.e., backfill in-pit dumps, and dump in the creek gully. Further work should be undertaken to develop a detailed waste and tailings disposal plan.

26.6 Infrastructure

- It is recommended that all technical and commercial aspects of site infrastructure are pursued to a higher level of accuracy.
- Location and placement of accommodation camp, waste dump, crusher and process plant be confirmed following drilling.
- Negotiation with Bolivian power authorities to continue to confirm there is capacity in the existing grid and that Silver Sand can get access to that.

26.7 Environmental baseline studies

Complete the environmental baseline study, impact analysis and mitigation plans. Permitting has to be advanced.

26.8 Community and social studies

It is recommended that community and social studies are continued and expanded to levels appropriate for the PFS.

26.9 Pre-feasibility study

The above activities will be managed and collated as a PFS report.

26.10 Costs

The costs for the recommended programs including contingency are tabulated below in Table 26.1.

Table 26.1 Budget for the recommended programs

Account category	**Budget totals ($)**
Geometallurgical addition to block model	30,000
Metallurgical testwork	200,000
Mine engineering	500,000
Process design	200,000
Infrastructural engineering	100,000
Environmental studies and permitting	500,000
Community & Social Studies and Programs	500,000
Completion of PFS reporting	50,000
Contingency – 10%	208,000
Grand total	**2,288,000**

Source: AMC Mining Consultants (Canada) Ltd., 2022, with input from New Pacific.

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28 QP Certificates

CERTIFICATE OF AUTHOR

I, John Morton Shannon, P.Geo., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as General Manager and Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the Technical Report titled "Silver Sand Deposit Preliminary Economic Assessment" with an effective date of 30 November 2022 (the "Technical Report"), prepared for New Pacific Metals Corp. ("the Issuer") in respect of the Issuer's Silver Sand property (the "Property").

3 I am a graduate of Trinity College Dublin in Dublin, Ireland (BA Mod Nat. Sci. in Geology in 1971). I am a member in good standing of the Engineers and Geoscientists British Columbia (Registration #32865) and the Association of Professional Geoscientists of Ontario (Registration #0198). I have practiced my profession continuously since 1971, and have been involved in mineral exploration and mine geology for over 45 years since my graduation from university. This has involved working in Ireland, Zambia, Canada, and Papua New Guinea. My experience is principally in base metals and precious metals, and have been Chief Geologist on two very large mines for major companies, with responsibility for all geological aspects of the operation.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Property.

5 I am responsible for Sections 2 - 6, 20, 23, 24 and parts of 1, 25, and 26 of the Technical Report.

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

7 I have had prior involvement with the Property in that I was a peer reviewer for the previous AMC Technical Report on the Silver Sand Property in 2020 (dated 25 May 2020, amended and restated on 3 June 2020 with an effective date of 16 January 2020).

8 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
Signing Date: 14 February 2023

Original signed and sealed by

John Morton Shannon, P.Geo.
General Manager / Principal Geologist
AMC Mining Consultants (Canada) Ltd.

CERTIFICATE OF AUTHOR

I, Dinara Nussipakynova, P.Geo., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as a Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the Technical Report titled "Silver Sand Deposit Preliminary Economic Assessment" with an effective date of 30 November 2022 (the "Technical Report"), prepared for New Pacific Metals Corp. ("the Issuer") in respect of the Issuer's Silver Sand property (the "Property").

3 I am a graduate of Kazakh National Polytechnic University (Bachelor of Science and Master of Science in Geology in 1987). I am a member in good standing of the Association of Engineers and Geoscientists of British Columbia (Registration #37412) and the Association of Professional Geoscientists of Ontario (Registration #1298). I have practiced my profession continuously since 1987 and have been involved in mineral exploration and mine geology for a total of 35 years since my graduation from university. My experience is principally in Mineral Resource estimation, database management, and geological interpretation.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I visited the Property from 28 - 29 May 2022 for 2 days.

5 I am responsible for Sections 7 - 12, 14 and parts of 1, 25, 26, and 27 of the Technical Report.

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

7 I have had prior involvement with the Property in that I was a qualified person for previous AMC Technical Report on the Silver Sand Property in 2020 (dated 25 May 2020, amended and restated on 3 June 2020 with an effective date of 16 January 2020).

8 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
Signing Date: 14 February 2023

Original signed by

Dinara Nussipakynova, P.Geo.

Principal Geologist

AMC Mining Consultants (Canada) Ltd.

CERTIFICATE OF AUTHOR

I, Andrew Holloway, P.Eng., do hereby certify that:

1 I am currently employed as Process Director with Halyard Inc., with an office at 212 King St. West, Suite 501, Toronto, Ontario M5H 1K5.

2 This certificate applies to the Technical Report titled "Silver Sand Deposit Preliminary Economic Assessment" with an effective date of 30 November 2022 (the "Technical Report"), prepared for New Pacific Metals Corp. ("the Issuer") in respect of the Issuer's Silver Sand property (the "Property").

3 I graduated from the University of Newcastle upon Tyne, England, B.Eng. (Hons) Metallurgy, 1989. I am a registered member in good standing of the Association of Professional Engineers of Ontario (Membership #100082475). I have practiced my profession in the mining industry continuously since graduation.

4 My relevant experience with respect to process plant engineering, precious metals metallurgy and metals marketing includes 33 years' experience in the mining sector, working for operating mining companies, engineering companies and mining consultancies.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

5 I visited the Property from 14 - 16 January 2020.

6 I am responsible for Sections 13, 17, 19 and parts of 1, 21, 25, 26, and 27 of the Technical Report.

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

8 I have had prior involvement with the Property in that I was a qualified person for previous AMC Technical Report on the Silver Sand Property in 2020 (dated 25 May 2020, amended and restated on 3 June 2020 with an effective date of 16 January 2020).

9 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

10 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
Signing Date: 14 February 2023

Original signed by

Andrew Holloway, P.Eng.
Process Director, Halyard Inc.

CERTIFICATE OF AUTHOR

I, Wayne Rogers, P.Eng., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as a Principal Mining Engineer with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the Technical Report titled “Silver Sand Deposit Preliminary Economic Assessment” with an effective date of 30 November 2022 (the “Technical Report”), prepared for New Pacific Metals Corp. (“the Issuer”) in respect of the Issuer's Silver Sand property (the "Property").

3 I am a graduate of the University of Western Australia in Perth, Australia (Bachelor of Mining Engineering in 2005) and the University of Queensland in Brisbane, Australia (Master of Philosophy (MPhil) in Mining Engineering in 2014). I am a member in good standing of the Engineers and Geoscientists British Columbia (Registration #49953). I have worked as a Mining Engineer for a total of 18 years since my graduation from university and have relevant experience in project management, feasibility studies, and technical report preparations for mining projects. My expertise includes strategic and tactical mine planning, mine design, mine optimization, feasibility studies, and drill and blast.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Property.

5 I am responsible for Sections 15, 16, 22 and parts of 1, 21, 25, 26, and 27 of the Technical Report.

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

7 I have not had prior involvement with the Property.

8 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
Signing Date: 14 February 2023

Original signed and sealed by

Wayne Rogers, P.Eng.

Principal Mining Engineer

AMC Mining Consultants (Canada) Ltd.

CERTIFICATE OF AUTHOR

I, Mo Molavi, P.Eng., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as a Director / Mining Services Manager / Principal Mining Engineer with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the Technical Report titled "Silver Sand Deposit Preliminary Economic Assessment" with an effective date of 30 November 2022 (the "Technical Report"), prepared for New Pacific Metals Corp. ("the Issuer") in respect of the Issuer's Silver Sand property (the "Property").

3 I am a graduate from Laurentian University in Sudbury, Canada (Bachelor of Engineering in 1979) and McGill University of Montreal, Canada (Master of Engineering in Rock Mechanics and Mining Methods in 1987). I am a registered member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan (License #5646), the Engineers and Geoscientists British Columbia (Registration #37594), and a Member of the Canadian Institute of Mining, Metallurgy and Petroleum. I have worked as a Mining Engineer for a total of 43 years since my graduation from university and have relevant experience in project management, feasibility studies, and technical report preparations for mining projects.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Property.

5 I am responsible for parts of Sections 1, 18, 25, and 26 of the Technical Report.

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

7 I have not had prior involvement with the Property.

8 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
Signing Date: 14 February 2023

Original signed and sealed by

Mo Molavi, P.Eng.

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CERTIFICATE OF AUTHOR

I, Leon Botham, P.Eng., of Saskatoon, Saskatchewan, do hereby certify that:

1 I am currently employed as a Principal Engineer with NewFields Canada Mining & Environment ULC, with an office at 640 Broadway Avenue, Suite 204, Saskatoon, Saskatchewan S7N 1A9.

2 This certificate applies to the Technical Report titled "Silver Sand Deposit Preliminary Economic Assessment" with an effective date of 30 November 2022 (the "Technical Report"), prepared for New Pacific Metals Corp. ("the Issuer") in respect of the Issuer's Silver Sand property (the "Property").

3 I am a graduate of the University of Saskatchewan in Saskatoon, Canada (B.E. Civil Engineering in 1988) and Purdue University in Indiana, United States (MSCE Civil/Geotechnical Engineering in 1991). I am a registered member in good standing of the Association of Professional Engineers and Geoscientists of Saskatchewan (License #06604), the Engineers and Geoscientists British Columbia (License #35852), the Professional Engineers of Ontario (License #90325408), the Engineers Yukon (License #1482), the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (License #L1194) and a Member of the Canadian Institute of Mining, Metallurgy and Petroleum. I have worked in the field of Mine Waste Management, Mine Water Management and Geotechnical Engineering for a total of 33 years since my graduation from University. I have relevant experience in tailings facility design, construction, feasibility studies and technical report preparation for projects in Canada and internationally.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Property.

5 I am responsible for parts of Sections 1, 18, 21, 25, and 26 of the Technical Report.

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

7 I have not had prior involvement with the Property.

8 I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

9 As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 30 November 2022
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