Puquios Project
NI 43-101 Technical Report and Pre-feasibility Study

La Higuera, Coquimbo Region, Chile

Effective Date: January 24, 2025

Prepared for:

Camino Minerals Corporation
555 Hastings Street
Vancouver, British Columbia, Canada, BC V6B 4N4

Prepared by:

Ausenco Chile Limitada
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List of Qualified Persons:

Scott C. Elfen, P.E., Ausenco Engineering Canada ULC.
James Millard, P.Geo., Ausenco Sustainability ULC.
Tommaso Roberto Raponi, P. Eng., Ausenco Engineering Canada ULC.
Jesse Aarsen, P.Eng., Moose Mountain Technical Services
Cristian A. Quiñones, RM CMC, AsGeoMin SpA.

CERTIFICATE OF QUALIFIED PERSON
Scott C. Elfen, P.E.

I, Scott C. Elfen, P.E., certify that:

1. I am employed as the Global Lead of Geotechnical and Civil Services at Ausenco Engineering Canada ULC. (“Ausenco”), with an office address of 1050 West Pender Street, Suite 1200, Vancouver, BC V6E 3S7, Canada.
2. This certificate applies to the technical report titled “Puquios Project NI 43-101 Technical Report and Pre-feasibility Study, La Higuera, Coquimbo Region, Chile” (the “Technical Report”), prepared for Camino Minerals Corp. (the “Company”), with an effective date of January 24, 2025.
3. I graduated from the University of California, Davis, in 1991 with a Bachelor of Science degree in Civil Engineering (emphasis on soil mechanics).
4. I am a Registered Civil Engineer in the State of California (license No. C56527) since 1996 and in the State of Idaho (license No. 3961670).
5. I have continuously practiced my profession for 30 years, gaining experience in the development, design, construction, and operations of mine waste storage facilities, including waste rock storage facilities and tailings storage facilities, along with the design of heap leach facilities worldwide. Additionally, I have established geotechnical and civil design parameters for plant foundations and other supporting infrastructure. Examples of heap leach facility projects I have worked on the following projects: Filo Corporation’s Filo de Sol PFS in Argentina, Barrick’s Pierina Mine PEA through closure in Peru, Borro’s Lagunas Norte Mine PEA through various expansions in Peru, and Arizona Sonoran Copper’s Cactus Mine PEA in the United States.
6. I have read the definition of “Qualified Person” out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for those sections of the Technical Report that I am responsible for preparing.
7. I have not visited the Puquios Project.
8. I am responsible for Sections 1.16.4, 1.16.8, 1.22, 18.6, 18.13, 25.16.1.4, 26.4 and 27 of the Technical Report.
9. I am independent of Camino Minerals Corporation, Nittetsu Mining Co., Ltd, Santiago Metals Investment Holdings II SL, Santiago Metals Investment Holdings II-A LLC, Denham Capital Management and Cuprum Resources Chile SpA as independence is defined in Section 1.5 of NI 43-101.
10. I previously participated in the preparation of the Puquios Project 2022 Feasibility Study Technical Report.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. 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 required to make those sections of the Technical Report not misleading.

Dated: January 24, 2025.

“Signed and sealed”

Scott C. Elfen, P.E.

CERTIFICATE OF QUALIFIED PERSON
James Millard, P.Geo.

I, James Millard, P. Geo., certify that:

1. I am employed as a Director, Strategic Projects with Ausenco Sustainability ULC. ("Ausenco"), with an office address of Suite 100, 2 Ralston Avenue, Dartmouth, NS, B3B 1H7, Canada.
2. This certificate applies to the technical report titled "Puquios Project NI 43-101 Technical Report and Pre-feasibility Study, La Higuera, Coquimbo Region, Chile" the (the "Technical Report") prepared for Camino Minerals Corp. (the "Company"), with an effective date of January 24, 2025.
3. I graduated from Brock University in St. Catharines, Ontario in 1986 with a Bachelor of Science in Geological Sciences, and from Queen's University in Kingston, Ontario in 1995 with a Master of Science in Environmental Engineering.
4. I am a professional geologist (P. Geo.) and member in good standing of the Association of Professional Geoscientists of Nova Scotia, Membership No. 021.
5. I have practiced my profession continuously for 25 years. I have worked for mid- and large-size mining companies where I have acted in senior technical and management roles, in senior environmental consulting roles, and provided advise and/or expertise in a number of key subject areas. These key areas included: feasibility-level study reviews; NI 43-101 report writing and review; due diligence review of environmental, social, and governance areas for proposed mining operations and acquisitions, and directing environmental impact assessments and permitting applications to support construction, operations, and closure of mining Projects. In addition to the above, I have been responsible for conducting baseline data assessments, surface and groundwater quantity and quality studies, mine rock geochemistry and water quality predictions, mine reclamation and closure plan development, and community stakeholder and Indigenous peoples' engagement initiatives. Recently, I acted in the following Project roles: Qualified Person for the environmental/sustainability aspects for "Puquios Project, Feasibility Study Report, La Higuera, Coquimbo Region, Chile," "Volcan Project, NI 43-101 Technical Report on Preliminary Economic Assessment, Tierra Amarilla, Atacama Region, Chile," and "Colomac Gold Project, NI 43-101 Technical Report and Preliminary Economic Assessment, Northwest Territories, Canada"; and principal author for the environmental/sustainability sections for the "Kwanika-Stardust Project, NI 43-101 Technical Report and, Preliminary Economic Assessment, British Columbia, Canada."
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
7. I have not visited the Puquios Project.
8. I am responsible for Sections 1.18, 1.22, 20, 25.11, 25.16.1.6, 26.5 and 27 of the Technical Report.
9. I am independent of Camino Minerals Corporation, Nittetsu Mining Co., Ltd, Santiago Metals Investment Holdings II SL, Santiago Metals Investment Holdings II-A LLC, Denham Capital Management and Cuprum Resources Chile SpA as independence is defined in Section 1.5 of NI 43-101.
10. I have previous involvement with the Puquios Project, participating in the preparation of the 2022 Feasibility Study Technical Report.

11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. 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 those sections of the Technical Report not misleading.

Dated: January 24, 2025.

"Signed and sealed"

James Millard, P. Geo.

CERTIFICATE OF QUALIFIED PERSON
Tommaso Roberto Raponi, P. Eng.

I, Tommaso Roberto Raponi, P. Eng., certify that:

1. I am employed as a Principal Metallurgist with Ausenco Engineering Canada ULC, ("Ausenco"), with an office address of Suite 1550 - 11 King St West, Toronto, ON M5H 4C7.
2. This certificate applies to the technical report titled "Puquios Project NI 43-101 Technical Report and Pre-feasibility Study, La Higuera, Coquimbo Region, Chile" (the "Technical Report") prepared for Camino Minerals Corp. (the "Company"), with an effective date of January 24, 2025.
3. I graduated from the University of Toronto with a Bachelor of Applied Science degree in Geological Engineering with specialization in Mineral Processing in 1984.
4. I am a Professional Engineer registered with the Professional Engineers Ontario (No. 90225970), Engineers and Geoscientists British Columbia (No. 23536) and NWT and Nunavut Association of Professional Engineers and Geoscientists (No. L4508).
5. I have practiced my profession continuously for over 40 years with experience in the development, design, operation and commissioning of mineral processing plants, focusing on gold projects, both domestic and internationally. My project design and development experience include the generation of capital and operating costs for mineral processing plants and associated infrastructure and financial modeling of project economics.
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
7. I have not visited the Puquios Project.
8. I am responsible for sections 1.1 to 1.4, 1.11, 1.15, 1.16.1, 1.16.5 to 1.16.7, 1.17, 1.19 to 1.22, 2 to 5, 13, 17, 18.1 to 18.3, 18.7 to 18.12, 19, 21.1.1, 21.1.3 to 21.1.7, 21.2.1, 21.2.2, 21.2.4, 21.2.5, 21.3, 22, 24, 25.1, 25.2, 25.5, 25.9, 25.10, 25.12 to 25.15, 25.16.1.3, 25.16.1.5, 25.16.2.4, 26.3 and 27 of the Technical Report.
9. I am independent of Camino Minerals Corporation, Nittetsu Mining Co., Ltd, Santiago Metals Investment Holdings II SL, Santiago Metals Investment Holdings II-A LLC, Denham Capital Management and Cuprum Resources Chile SpA as independence is defined in Section 1.5 of NI 43-101.
10. I have previous involvement with the Puquios Project, participating in the preparation of the 2022 Feasibility Study Technical Report.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. 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 those sections of the Technical Report not misleading.

Dated: January 24, 2025.

"Signed and sealed"

Tommaso Roberto Raponi, P. Eng.

CERTIFICATE OF QUALIFIED PERSON
Jesse J. Aarsen, P. Eng.

I, Jesse J. Aarsen, P.Eng., certify that:

1. I am the President and a Principal – Mining Engineer with Moose Mountain Technical Services ("MMTS"), an independent consulting firm, whose address is 1975-1st Avenue South, Cranbrook, BC, Canada, V1C 6Y3.
2. This certificate applies to the technical report titled "Puquios Project NI 43-101 Technical Report and Pre-feasibility Study, La Higuera, Coquimbo Region, Chile" (the "Technical Report") prepared for Camino Minerals Corp. (the "Company"), with an effective date of January 24, 2025.
3. I graduated from the University of Alberta with a B.Sc. in Mining Engineering Co-op Program (2002).
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#38709) and my qualifications include experience applicable to the subject matter of the Technical Report.
5. I have practiced my profession continuously for 21 years as a Mining Engineer in mining operations and consulting. My operations experience has been in northern Canada (Ekati), western Canada (Obed and Gibraltar), and western Canada in the Elk Valley Operations (Fording Coal/Elk Valley Coal). I have worked on open pit projects in various commodities including precious & base metals, coal, and rare earth minerals. I have worked in the preparation of mining Reserves, schedules and costs as well as optimization and trade-off studies. I have operated as the overall Qualified Person for PEA studies and the Mining QP for FS, PFS and PEA studies.
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
7. I visited the site on February 9, 2022. During the site visit I reviewed the road access to the site as well as the existing roads in the project area. I also reviewed the pit and waste dump areas.
8. I am responsible for Sections 1.13, 1.14, 1.16.2, 1.16.3, 1.19, 1.22, 15, 16, 18.4, 18.5, 21.1.2, 21.2.3, 25.7, 25.8, 25.13, 25.14, 25.16.1.2, 25.16.2.3, 26.2 and 27of the Technical Report.
9. I am independent of Camino Minerals Corporation, Nittetsu Mining Co., Ltd, Santiago Metals Investment Holdings II SL, Santiago Metals Investment Holdings II-A LLC, Denham Capital Management and Cuprum Resources Chile SpA as independence is defined in Section 1.5 of NI 43-101.
10. I have previous involvement with the Puquios Project, participating in the preparation of the 2022 Feasibility Study Technical Report.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. 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 those sections of the Technical Report not misleading.

Dated: January 24, 2025.

"Signed and sealed"

Jesse J. Aarsen, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Cristian Andres Quiñones Constanzo, RM CMC

I, Cristian Andres Quiñones Constanzo, RM CMC, certify that:

1. I am employed as a geologist with AsGeoMin SpA ("AsGeoMin"), an independent consulting firm, located at Carabobo 5988, Vitacura, Santiago, Chile, C.P. 764 0588.
2. This certificate applies to the technical report titled "Puquios Project NI 43-101 Technical Report and Pre-feasibility Study, La Higuera, Coquimbo Region, Chile" (the "Technical Report") prepared for Camino Minerals Corp. (the "Company"), with an effective date of January 24, 2025.
3. I graduated from Universidad de Concepción, Chile, in 2000 with a degree in Geology, and earned a master's degree in Geostatistics from the School of Mines in Paris, France in 2008.
4. I am a Registered Member of the Chilean Mining Commission (RM CMC #149) and a Member of the Australasian Institute of Mining & Metallurgy (MAusIMM #315413).
5. I have practiced my profession continuously for 24 years and have experience with different metals, including Cu, Mo, Fe, U, Ag and Au, for projects in North and South America, Europe, Africa and Asia, for both consulting and operations. I have more than 15 years of experience in Mineral Resource estimating for said elements, particularly for porphyry, iron oxide copper gold (IOCG), unconformity-type, epithermal deposits. In the last 12 years I have actively participated in the evaluation of Exploration Results and/or Mineral Resources on more than 45 projects and/or mines in South America.
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
7. I visited the Puquios Project site on December 2–3, 2019. During the site visit, I reviewed core logging and sampling and examined the consistency of geological logging between reverse circulation and core drilling. I also verified selected drill hole collar coordinates and inspected surface geological features.
8. I am responsible for Sections 1.5 to 1.10, 1.12, 1.22, 6 to 12, 14, 23, 25.3, 25.4, 25.6, 25.16.1.1, 25.16.2.1, 25.16.2.2, 26.1 and 27 of the Technical Report.
9. I am independent of Camino Minerals Corporation, Nittetsu Mining Co., Ltd, Santiago Metals Investment Holdings II SL, Santiago Metals Investment Holdings II-A LLC, Denham Capital Management and Cuprum Resources Chile SpA as independence is defined in Section 1.5 of NI 43-101.
10. I have been previously involved with the Puquios Project, participating in the preparation of the 2022 Feasibility Study Technical Report.
11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. 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 those sections of the Technical Report not misleading.

Dated: January 24, 2025.

"Signed and sealed"

Cristian Quiñones Constanzo, RM CMC

Important Notice

This report was prepared as National Instrument 43-101 Technical Report for Camino Minerals Corporation (Camino) by Ausenco Chile Limitada, Ausenco Engineering Canada ULC., Ausenco Sustainability ULC. (Ausenco), Moose Mountain Technical Services, and AsGeoMin SpA., collectively the Report Authors. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in the Report Authors' services, based on i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report can be filed as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101. Except for the purposes legislated under Canadian provincial and securities law and TSX Venture Exchange Policies, any other uses of this report by any third party are at the party's sole risk.

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1 SUMMARY

1.1 Introduction

Camino Minerals Corp. (Camino) commissioned Ausenco Chile Ltda. (Ausenco) to compile a pre-feasibility study (PFS) of the Puquios project. The PFS was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

The responsibilities of the engineering companies who were contracted by Camino to prepare this report are as follows:

- AsGeoMin SpA (AsGeoMin) completed work related to the geological setting, deposit type, exploration work, drilling, sample preparation and analysis, data verification, and developed the mineral resource.
- Moose Mountain Technical Services (MMTS) designed the open pit mine, ore stockpiles, waste rock stockpiles, mine production schedule, mineral reserve estimate and mine capital and operating costs.
- Ausenco managed and coordinated the work related to the report and developed PFS-level design and cost estimate for the process plant, heap leach design, general site infrastructure, environmental, permitting and economic analysis.

1.2 Terms of Reference

The purpose of this report is to present the results of the PFS and to support Camino's disclosure in connection with Camino's proposed acquisition of the Puquios Project.

Mineral Resources and Mineral Reserves are estimated in accordance with using the 2019 edition of the Canadian Institute of Mining, Metallurgy and Exploration (CIM) Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards).

All units of measurement used in this Report are metric unless otherwise noted. Currency is expressed in United States dollars (USD or US$).

Mineral Resources and Mineral Reserves are estimated in accordance with the 2019 edition of the Canadian Institute of Mining, Metallurgy and Exploration (CIM) Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards).

1.3 Property Description and Location

The Puquios Project is located in the Coquimbo Region, Chile, approximately 130 km northeast of La Serena, at latitude 29°26′38″ S and longitude 70°42′46″ W.

Camino announced that it entered into a definitive share purchase agreement dated October 4, 2024 (as amended on February 4, 2025) with Nittetsu Mining Co., Ltd. (Nittetsu) and Santiago Metals Investment Holdings II SL and Santiago Metals Investment Holdings II-A LLC, pursuant to which Camino and Nittetsu will jointly acquire (through a Chilean entity co-owned 50/50 by Camino and Nittetsu) all of the issued and outstanding shares of Cuprum Resources Chile SpA (Cuprum), a Chilean incorporated company and the owner of the Puquios Project. The Vendors are companies owned by a fund advised by Denham Capital Management LP (Denham). Camino and Nittetsu have agreed terms to enter into a shareholder agreement with respect to their 50/50 investment in the Project which will become effective upon the close of the transaction.

Closing is conditional upon obtaining (i) disinterested Camino shareholder approval in respect of the Transaction and (ii) Exchange approval of the Transaction.

The Puquios mining project consists of a group of 64 mining concessions, as listed in section I below, of which: 40 are mining exploration concessions already granted and 24 are mining exploitation concessions already granted. The total area covered by the Puquios Properties considers approximately 11,385 ha.

Based on ownership certificates issued by the La Serena Water Rights Registry, Cuprum holds four water rights, for a collective 65 L/s extraction rate, which are in La Higuera borough, Coquimbo Region. The water rights are not subject to any mortgages, liens, encumbrances, or litigation, based on certificates issued by the La Serena Water Rights Registry in May 2017 and April 2018. The Water Rights are registered in the Public Water Registry (DGA, Dirección General de Aguas).

A mining tax is payable to the Chilean government based on the production rate. Article 64 of the Income Tax Act applies a specific tax to mining operations. Rates are sliding scale and based on sales amounts. These range from 0.5 – 5% of operating taxable income for taxpayers having annual sales over 12,000 t of refined copper or its equivalent (Law 20026). The Project has an annual cathode production rate estimate of 9,000 t; hence, the Project will not be affected by the Chilean mining tax.

Cuprum entered into an option agreement with SLM Las Pascualas Uno de Estancia de Chingoles (Las Pascualas) to purchase mining concessions. In 2013, Cuprum exercised this option and agreed to pay Las Pascualas a 2% Net Smelter Return (NSR) royalty on minerals extracted from these concessions.

Cuprum will pay Santiago Metals II Upper Holdco LLC a 1.25% Net Smelter Return (NSR) royalty quarterly on all sales of products derived from minerals extracted from Cuprum's concessions, regardless of processing location. This royalty is not limited by time, commodity, production amount, or royalty paid, and it can be freely transferred or sold by the vendors. Under the agreement, any withholding taxes applicable to Royalty payments made to Santiago Metals II Upper Holdco LLC will be borne by the recipient.

1.4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Project is located 130 km northeast of La Serena. Access from La Serena is via Route 5 for a distance of 90 km, to the junction with highway D-115, at Punta Colorada. The D-115 highway is followed for 40 km until a sideroad up the Puquios ravine is reached. The ravine road is traversed for a kilometer to reach the Project area. The drive time is approximately two hours. Access within the Project area is by Route D-115. The closest airport to the Project is at La

Serena, which has daily flights from Santiago. A railway is situated 25 km west of the Project. The closest port is Coquimbo, located 142 km to the southwest of the Project.

The Project is located in a semi-arid zone, south of the Atacama Desert. The local climate is influenced by the presence of the Cordillera de la Costa and Los Andes, as well as by transverse, east–west-oriented river valleys. The average annual rainfall is 46.9 mm; however, rare intense rainfall events can occur over short periods of time. It is expected that any future mining operations will be conducted on a year-round basis.

Assets and services can be obtained in La Serena to support mining operations. This city supports numerous mining operations in its hinterland and can provide skilled mining labour and contractors. The La Serena–Vallenar High Tension Line passes about 40 km west of the Project.

There is limited availability of flat land within the Puquios Project area on which to construct infrastructure. As a result, any future project will require excavation and construction of platforms on which to locate the major infrastructure.

The altitude within the Project area ranges from 1,400–1,600 masl. The general topography is rugged, characterized by deep ravines and high hills. The Project is located between two ravines, the Coloradito Ravine and Puquios Ravine. These watercourses were studied to determine the regular and maximum flow rates.

There are no National System of Wild Protected Areas of the State or Wetlands of Importance within the Project area, or protected areas that would be affected by the development envisaged in this Report.

Three protected species will require conservation management, and a protected area has been set aside for replanting these species that will be disturbed by mining-related activities. A fauna survey, completed in support of the EIDs, identified 47 vertebrate species, of which five (two amphibians, and three reptile species) have conservation status.

1.5 History

Geological mapping and geochemical sampling were conducted in 1979 at 1:2,000 scale and delineated a copper–molybdenum geochemical anomaly. A joint venture between Placer Dome and Elecmetal S.A. conducted additional geochemical sampling in 1980, which confirmed the 1979 anomaly.

In 1988, Placer Dome carried out a reverse circulation (RC) drilling campaign, consisting of seven drill holes, which reached a maximum depth of 150 m. Drilling was conducted on a 200 x 200 m grid, covering an area of about 400 x 200 m.

During 1990 and 1991, Gerardo Findel, a previous property owner through the Sociedad Legal Minera Las Pascualas Uno Estancia de Chingoles, excavated two subparallel exploration tunnels, 600 m apart, to investigate higher-grade copper values intersected in Placer Dome’s RC drill holes 3 and 5.

In 1993, Compañía Minera Aurex – Chile Ltda. (Aurex), a subsidiary of Freeport, secured an option on the project area and built a 200-m-long tunnel that crosses Findel Tunnel 2. This tunnel, oriented from east to west, was designed to join the tunnels excavated by Findel. The existing tunnels were geologically mapped and sampled, adding to information previously obtained by Empresa Nacional de Minería (ENAMI), the Chilean state-owned mining company.

In August 2005, Minera Cielo Azul carried out a 50 x 50 m geochemical sampling grid, that covered an area of 1,200 m (east–west) x 400 m (north–south). A total of 214 rock chip samples were collected, averaging 3 kg each. Samples were analyzed for copper and molybdenum at Geolab & Associates Cía. Tommy S.A. (Tommy) interpreted the assay results using isograde contours for copper and molybdenum.

In 2005, Tarquin Resources (Tarquin) acquired a 51% interest in the Project. Investika Limited (later renamed Natasa Mining Ltd or Natasa) obtained ownership of Tarquin in 2007. The in-country Tarquin/Natasa subsidiary, Tommy completed 18 core holes (2,536 m) and 251 RC holes (24,946 m) in the period 2006–2008. During 2007, Tarquin renamed the deposit from Las Pascualas to Puquios to avoid potential confusion with Barrick's similarly named Pascua-Lama deposit. A resource estimate under the Australasian Joint Ore Reserves Committee (JORC) Code was performed by SRK Consulting in 2007. This estimate was used as the basis for a pre-feasibility study that showed positive project economics assuming open-pit mining and production of copper cathodes. A FS commenced in late 2007; however, when a resource estimate update was completed during 2008 to incorporate the results of 50 x 50 m infill drilling, the new tonnage estimate was not considered to be sufficient to support the assumed production rate. Additionally, completed metallurgical test work indicated that the proportion of insoluble copper minerals in the mineralized zone was higher than previously projected, leading to a 4% fall in metallurgical recovery assumptions. In 2008, Tarquin decided not to proceed with the Project.

In 2012, the Project was acquired by B&A Mineração (B&A). During 2012–2013, B&A, through its Chilean subsidiary Cuprum Resources Chile Ltda., completed a drilling program of five core holes (2,653 m) and 26 RC drill holes (3,640 m). In 2014, Cuprum Resources Chile Ltda. drilled a total of 23 RC drill holes.

Cuprum Resources Chile Ltda. was acquired from B&A by Denham Capital Management in early 2018, through its Chilean subsidiary Santiago Metals Ltda. (SML). Prior to the acquisition, Cuprum Resources Chile SpA underwent a name change from Cuprum Ltda. to Cuprum SpA. Cuprum completed additional studies to support updated Mineral Resource estimates.

There has been no commercial production from the Puquios Project area.

1.6 Geological Setting and Mineralization

The Puquios deposit is an example of a copper–molybdenum porphyry system that has been weathered and consists of an enrichment zone underneath outcropping copper oxide.

The regional geology of the Puquios deposit is characterized by Lower Cretaceous to Lower Tertiary andesitic volcanic sequences with marine sedimentary intercalations and volcanoclastic rocks. These units are intruded by Upper Cretaceous to Lower Tertiary batholitic plutonic rocks. These units are overlain by Quaternary alluvial terrace deposits that consist of gravels and unconsolidated sands.

Hydrothermal alteration zones crop out in the area of the Puquios deposit. The gangue mineralogy defines these alteration types as advanced argillic, quartz–sericite and supergene argillic. The alteration type distribution is closely related to the contact zones between the Mesozoic sequences and the Lower Tertiary granodioritic intrusive rocks.

Primary copper–iron and molybdenum sulphide mineralization occur as veins and disseminations that were subsequently weathered and leached. Three mineralized zones were geologically outlined: the leached and oxide zone, the secondary enrichment zone, and the primary sulphide zone. The leached and oxide zone ranges in thickness from 0–80 m and contains black (e.g., neotocite, copper wad) and green (e.g., chrysocolla, copper-pitch, pseudo-malachite, atacamite) copper oxides. The copper oxide occurrences are mainly located in fractures and veins that are oriented approximately north–south and have a subvertical dip. The secondary enrichment zone typically is about 40 m in thickness, underlies the leached and oxide zone, and is associated with a strongly-developed quartz–sericite alteration. Chalcopyrite mineralization is replaced by secondary chalcocite. Chalcopyrite can also be partially enriched by chalcocite. The lowermost mineralized zone is the primary sulphide zone, consisting of pyrite, chalcopyrite and molybdenite. Chalcopyrite is more dominant in the zone centre than on the periphery. The primary sulphide zone is associated with poorly-developed quartz–sericite alteration. Potassic feldspar and potassic biotite alteration may be present.

1.7 Deposit Types

The Puquios deposit is an example of a weathered copper–molybdenum porphyry system. Copper oxides crop out on surface and are underlain by a supergene copper enrichment zone.

Porphyry copper systems commonly form linear belts, some many hundreds of kilometers long. The systems are closely related to the composite plutons supplying the magmas and fluids that formed vertically elongated (>3 km) reservoirs or dike swarms and associated mineralization.

Various discrete stocks are typically emplaced in and above the zones, resulting in groups or structurally controlled alignments of porphyry copper systems. Individual systems have lifetimes of approximately 100,000 years to several million years, while groups or alignments of deposits, as well as entire belts, can remain active for 10 million years or more.

Copper mineral assemblages are a function of the chemical composition of the fluid phase and the pressure and temperature conditions affecting the fluid. In primary, non-oxidized or non-supergene-enriched minerals, the most common mineral-sulphide assemblage is chalcopyrite ± bornite, with pyrite and lesser amounts of molybdenite. In supergene-enriched minerals, a typical assemblage might comprise chalcocite + covellite ± bornite, while in oxide minerals, a typical assemblage might include malachite + azurite + cuprite + chrysocolla, with lesser amounts of minerals such as carbonates, sulphates, phosphates, and silicates. Fractures and veins control the copper grades, and the amount of total copper (CuT), acid-soluble copper (CuS) and cyanide-soluble copper (CuCN) that may be present. The major copper sulphides generally consist of millimeter-scale grains but can be 1–2 cm in diameter, and rarely pegmatitic (> 2 cm).

1.8 Exploration

The current topographic survey was carried out in 2018 by STG Ltda. The work consisted of geodesic mooring to the Instituto Geográfico Militar (IGM) La Silla vertices in WGS 84 and IGM Chañar in PSAD 56. This work configured the topographic base that was used for drill hole, tunnel, and surface sample locations.

Between 2006 and 2008, Tommy completed core and RC logging, and tunnel and surface geological mapping.

Between 2012 and 2013, B&A geology staff conducted core and chip logging at 1:200 scale, recording lithology, hydrothermal alteration, mineralization, and structural features. A 1:4,000 scale surface geological mapping program was carried out that recorded lithology, hydrothermal alteration, mineralization, and structural data.

In 2014, B&A performed a RC drilling campaign that collected information on lithology, hydrothermal alteration, mineralization, and structures from the RC chips.

In 2018, SML carried out core and chip logging consisting of lithology, hydrothermal alteration, mineralization, and structural descriptions. Additionally, all the legacy drill core and a portion of the RC chip samples were re-logged. From November 2018 to February 2019, a 1:2,000-scale geological mapping program was completed, which documented lithological, hydrothermal alteration, mineralization, and structural features.

Between January and February 2020, SML carried out an RC chip relogging program, recording lithology, hydrothermal alteration, and mineralization features.

SML performed an exploration campaign to evaluate a deep target of the deposit involving the primary sulphide mineralization. This exploration campaign was carried out through two extensions of historical drill holes. Those extensions were realized from PUQ-DDH-03-18 and PUQ-DDH-7-21 drill holes, totalizing 361 m.

Ground geophysical surveys consisting of a dipole-dipole induced polarization (IP)/resistivity and a ground magnetic survey were completed in 2012, with the following data acquisition:

- IP/resistivity survey on nine survey lines with a line separation of 200 m, for a nominal total of 20.6-line km;
- Ground magnetics along 27 survey lines of 3.0 km length at 100 m separation, for a nominal total of 81.0-line km.

The magnetic images, despite apparent remnant magnetization effects, appear to define a coherent intrusive body of increased magnetite content with dimensions of approximately 1,600 x 1,000 m, elongated to the east–west. Elevated chargeability responses and lower resistivities around the northern and western margins may indicate that the most sulphide-rich zones could be located around these edges of this intrusive centre. However, a more subdued chargeability response, coincident with the central elevated magnetic response, may suggest a zonation of sulphide mineralization (to more copper-rich sulphides, for example) and a mineralogical association with increased magnetite content.

SML during 2021, performed some geotechnical in pit drills (for pit stability analysis) and some drill extensions targeting the under pit primary sulphide mineralized material. The Puquios deposit remains open at depth. An independent study (AsGeoMin, 2021) indicated the presence of a primary mineralization potential as an exploration target. The genetic model, similar to other porphyry deposits, suggests there is potential to continue to expand the deposit at depth, in this case, up to 200 to 300 m deep. Chalcopyrite orebodies interpretation have been also supported by approximately 8,170 m of drill holes, which include the extension of 361 m drilled in 2021. This primary sulphide target is interesting in terms of volume although with relatively low Cu and Mo grades.

Between May and July 2019, an independent consultant (Arévalo C., 2019) carried out a surface structural-geological study to define exploration targets. This study considered an area of 60 km^2 (10 km east—west and 6 km north—south) around the Puquios project, defining eight priority targets, mainly located in the western structural domain.

1.9 Drilling

From 1988 to 2021, four companies conducted exploration, infill drilling, geotechnical and metallurgical drilling programs in the Project area. A total of 58 core (11,371 m) and 332 RC (36,489 m) holes were drilled from the surface. HQ core (63.5 mm core diameter) was typically drilled to a depth of approximately 300 m, below which NQ core (47.6 mm diameter) was drilled.

All geological data were digitally entered into summary logs using GVMapper. A total of 86 historical RC (8,506 m) and 23 core (5,189 m) drill holes were re-logged using the 2018 geological coding.

During the most recent geological model update, performed in 2020, SML reviewed and re-logged additional intervals, particularly lithology and alteration variables, completing more than 15,000 m of relogging. The eight core holes from the 2021 campaign were not included in the geological model update nor in the Mineral Resources model.

The 35 core holes from the 2018-2021 campaigns were surveyed using a Televiewer Acoustic borehole scanner.

Geotechnical logs were completed on core drill holes. Geotechnical data recorded included recovery, rock quality designation (RQD), fracture frequency and bulk density. Cut core samples with a length of 15 cm or 20 cm were also collected and stored for subsequent triaxial and point load tests.

GeoEkun (2020) completed a structural study including a rosette map of fractures and veins for the centre of the deposit. Veins had strikes that ranged from 340–20° (approximately north–south).

There is no information available on recovery for the pre-2018 drilling campaigns. The average recovery for the 2018 drilling program was 89% and 97% for RC and core drill holes, respectively.

The preliminary location of legacy drilling collars was completed using a Garmin GPSmap 62s device. During 2018–2019, a total of 220 historical drill hole collars were reconciled to WGS84. A total of 87 drill holes were validated by their original topographic certificates, where coordinates were transformed from PSAD56 to WGS84 using GIS MapInfo software supported by the IGM datum transformer to check the resulting locations.

The topographic campaigns carried out in 2006–2008 and 2012–2014 were georeferenced under the 1924 International Ellipsoid, 1956 La Canoa Datum, zone 19. However, that datum is only used for mining tenement outlines.

Topographical surveying of all 2018-2021 drill holes was carried out using WGS84. The result was a consolidated header database of 390 drill holes in WGS84.

Downhole surveying was conducted by Comprobe Ltda. (Comprobe) in 2018 and 2019, using a combination of gyroscope, televiewer, and accelerometer instruments, with measurements taken every 10 m downhole. Comprobe was able to re-enter and downhole survey 91 historical drill holes from the Tommy (2006–2008) and B&A (2012–2013) drilling campaigns, equivalent to 28% of the total historical drill holes. Comprobe surveyed 52 drill holes from the 2018 SML campaign. A total of 151 drill holes has downhole surveying data of the 390 (39%) holes drilled Histogram evaluation of the actual versus theoretical drill hole locations at 100 m depth was conducted, showing that the deviation is not significant, and the theoretical ends of hole sufficiently correspond to the drill hole ends of hole recorded in downhole surveying. Thus, the drill holes that have no downhole survey records can be used to support Mineral Resource estimates.

For 2021 drill holes, downhole surveying was conducted by SG Drill Company, using a combination of gyroscope, televiewer, and accelerometer instruments, with measurements taken every 5 m downhole.

The drill spacing is variable. The deposit was generally drilled along sections located 50 m apart. Most of the drill holes have a north–northeast or south–southwest azimuth, which is consistent with the general west–northwest–east–southeasterly orientation of the main copper mineralization. Drill holes orthogonally cross the main mineralization. The average dip for the drill holes is -67°, with dips ranging from 50–90°. This pattern generated complete coverage of the main mineralization directions and avoided biased sampling.

For the core drill holes until 2018, the average sample length was 2.26 m from 2,237 samples. For RC drill holes, the sample length is 1 m for a total of 4,124 samples. For the 2021 core drill holes, the average sample length was 1 m for a total 1,095 samples.

No RC/core twin holes were completed. However, in 2020, a comparison was performed of the data between the RC and core samples within a ±10 m separation. The results were considered acceptable.

1.10 Sample Preparation, Analyses and Security

Core drilling was sampled at either 1 m (89%) or 2 m (11%) intervals. All core was oriented before splitting and cut in half longitudinally.

RC drilling generated samples with a weight typically averaging 37–39 kg. After drilling, samples were split at the drill platform using a riffle splitter to obtain an approximate 9 kg subsample that was then sent to the laboratory for preparation and assaying. Sample reject material was stored.

For the 2012–2013 RC campaign, a ½ inch sample was homogenized and divided using a riffle splitter.

SML defined three geometallurgical units: oxides (PUQOX); secondary sulphides (PUQSEC); and primary sulphides (PUQPRI)., each of which displayed specific lithological and alteration features. These units were used for the design and execution of metallurgical sampling programs. During 2021, SML added another geometallurgical unit (low-grade) that was used in metallurgical sampling.

During 2007, 2013, and 2019, a total of 342 density measurements were taken by the water displacement method using a core sample covered by paraffin wax. During 2020, SML recovered additional historical density values, of which 28 were considered by the QP to be acceptable. The density database used to support Mineral Resource estimation consists of 370 measurements.

From 1988 to 2021, there were 11 separate analytical campaigns. The laboratory used by Placer Dome is not known. All other analytical campaigns used Activation Laboratories (Actlabs), Andes Analytical Assay (AAA), or ALS Chemex. These three laboratories are and were independent and had accreditations for selected analytical techniques at the time the laboratory was used.

For the 2006–2007 RC campaign, samples were reduced using a jaw crusher and then pulverized to 95% passing -#150 Tyler mesh. Samples were assayed for total copper (CuT) using total digestion and measurement via atomic absorption (AA). Sequential and residual copper analyses were conducted on the samples. Assays were performed by Actlabs and AAA. During 2007, 18 core drill holes were completed for metallurgical and geotechnical purposes. There is no information about laboratory, preparation, or assay procedures for these drill holes.

For the 2012–2013 campaign, the 26 RC and five core holes were assayed by ALS Chemex. The 2018 drill campaign of 25 RC and 25 core holes were prepared at ALS Chemex by crushing to 85% passing 2 mm and then pulverizing to 95% passing 75 µm. Assays were performed by ALS Chemex. Each sample was digested in aqua regia followed by inductively coupled plasma atomic emission spectroscopy (ICP-AES) analysis to obtain assays for 35 different elements. A CuT assay by four-acid digestion and atomic absorption spectroscopy (AAS) was conducted, followed by a three-step sequential analysis to determine sulphuric acid-soluble copper (CuS), cyanide-soluble copper (CuCN), and residual copper (CuR).

Quality assurance and quality control (QA/QC) procedures were modified following recommendations from audits performed by independent third-party consultants.

Except for the 1998 drilling campaign, QA/QC reports completed for the different campaigns evaluated the analytical accuracy and precision. No significant QA/QC issues were noted.

No twin hole drilling was conducted. In 2020, a comparison was performed of the CuT grades from RC and core samples where the sample locations were within ≤10 m. The results are acceptable, except for the Tommy core campaign (18 drill holes). These drill holes were excluded from the grade estimation database.

The digital database is hosted on a secured and centralized server on Santiago. Backups are maintained in SML's office. A physical database backup is on-site (paper files organized by year/drill hole number) and includes density test results, geological and geotechnical logs, analytical certificates, downhole survey readings, sample reports and procedures.

Drill core and RC rejects are stored at a core shack on-site. Wooden boxes over pallets are organized by sectors and drill hole number. Pulps and rejects are stored in boxes and barrels over pallets, in a covered warehouse.

SML has formal documentation that describes the sample security procedures. The procedures as set out in the documents meet industry-accepted protocols.

1.11 Mineral Processing and Metallurgical Testing

Initial metallurgical testwork focused on bacterial leaching of copper mineralization. A combination of the long leaching cycles required and the rugged topography that limited infrastructure areas, made this option unattractive.

In 2018, the testwork focus switched to an evaluation of chloride leaching. A series of bottle roll and leach column tests were performed to determine the CuT recovery and define scaling factors. The column testwork undertaken was on 0.3-m, 1-m, and 5-m columns. No pilot scale heap leach has been carried out.

The program aims were firstly, to demonstrate the feasibility of processing the mineralization, secondly, to evaluate the mineralization's behaviour under several operational conditions such as acid and sodium chloride dosage, particle size, resting time, and irrigation rate in order to maximize the copper extraction and optimize reagent consumption. The testwork programs provided information on different solubility and run-of-mine (ROM) leaching factors. The testwork was used to determine the scaling factor, which was applied to the recovery models, and used to estimate acid consumption.

Representative samples were selected using historical and current database information, based primarily on the mineralization, secondly on the lithology and alteration styles, and thirdly on the range of average grades that would be contained within an open pit. Samples consisted of drill core, RC chips and bulk samples taken from the surface and tunnels.

All variability samples were analyzed for CuT, CuS, CuCN and CuR.

To estimate metallurgical recovery, a leaching test program was designed using sulphuric acid and sodium chloride as leaching agents in 0.3-m-high and 0.1-m-diameter columns. Several scenarios were developed; the base case used for this scenario was 20 kg/t of sulphuric acid, water, and 20 kg/t of sodium chloride and an irrigation rate of 10 L/hm2. Once the column was loaded, it was left to rest for eight days, was continuously irrigated for five days, and then intermittent irrigation was used. Additional tests were carried out on low-grade mineralization to obtain a regression model for copper recovery to be used when CuT was <0.154%.

Total copper recovery as a function of the mineralized zone was obtained for variability tests. The median recovery was 83.3% in the secondary sulphides zone, 69.5% in the oxide zone, 16.9% in the primary sulphides zone, and 53.9% in the lower-grade metallurgical domain. A multiple regression model was defined for each zone to generate copper recovery predictions Wood (2020, 2021) reviewed and validate these results.

In 2020, Geomet conducted a chemical characterization on several pregnant leach solution (PLS) samples, followed by a second chemical characterization performed by Solvay in 2021. PLS characterization studies confirmed the absence of deleterious elements in the solutions generated during the different stages of the heap leaching process. Consequently, there are no issues for the subsequent solvent extraction-electrowinning (SX-EW) stages.

1.12 Mineral Resource Estimates

The assay database used for the estimation model consisted of 364 drill holes. Eighteen drill holes from the Tommy campaign were excluded from estimation support.

The majority (88%) of the assay intervals were sampled at 1-m intervals. Most of the drill holes dip at 60–70° and adequately test the main mineralized unit (secondary sulphides zone). Hole lengths vary widely but are typically in the range of 80–200 m.

In 2020, the current mineral resource estimate was completed based on an exploratory data analysis based on geological information and copper grades (CuT, CuS and CuCN). Three-dimensional (3D) wireframes for nine mineralized zones (minzones), four alteration, and three lithology domains were constructed. These geological units were interpreted using the implicit modelling method. The main unit is the secondary sulphide (SSF) with approximately 56% of the contained metal. This unit covers practically the entire deposit, extending for 500 m north–south and 1,500 m in the west–northwest–south–southeast direction. The unit varies from 20–100 m in thickness.

Isolated bodies of green and/or black oxides that lie above the supergene enrichment zone were also modelled.

In 2021, the QP completed a grade estimation update. Assay intervals were composited in downhole intervals of 2.5 m. Composites for each zone or lithological feature were assigned unique numeric codes to differentiate them from the surrounding material.

The block size used was 5 m east–west, 5 m north–south and 5 m high. The model dimensions are 1,500 m east–west, 900 m north–south and 680 m high.

Grades for CuT (35,430 samples), CuS (20,024 samples), and CuCN (20,070 samples) were interpolated into each block using ordinary kriging (OK). Block estimates for each estimation unit (EU) were constrained to use only composites from that EU.

The density database contains 370 samples that were validated for estimation in the block model. Three density EU were defined by a grouping of mineral zones.

A drill hole spacing study was used to assign a preliminary confidence classification. The nominal drill spacing was determined to be 47 x 47 m for Measured, 67 m x 67 m for Indicated, and >67 x 67 m for Inferred.

Post processing was completed to ensure that there were no isolated blocks of one confidence category within areas that had been assigned a different category.

To fulfill the requirement of “reasonable prospects for eventual economic extraction,” an open-pit shell to constrain the block model for resource reporting purposes. Whittle software was used to define waste and mineralization, using a cut-off grade of 0.15% CuT. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Mineral Resource statement presented in Table 1-1.

Table 1-1: Mineral Resource Statement

Classification	Tonnes (kt)	Grade			Contained Metal (kt)
		CuT%	CuS%	CuCN%	
Measured	26,496	0.475	0.117	0.232	126
Indicated	5,664	0.399	0.111	0.167	23
Measured + Indicated	32,160	0.462	0.116	0.220	149
Inferred	660	0.295	0.133	0.059	2

Notes to accompany Mineral Resource table:

1. Mineral Resources are classified using the 2014 CIM Definition Standards.
2. The Qualified Person for the estimates is Mr. Cristian Quiñones, RM CMC, AsGeoMin SpA.
3. Mineral Resources have an effective date of 8 March 2021.
4. Mineral Resources are reported using a cut-off grade of 0.15% total copper (CuT).
5. Mineral Resources are constrained by preliminary pit shells derived using a Lerchs–Grossmann algorithm and the following assumptions: six geotechnical domains (52.3° to 59.8°); mining cost of US$2.10/t mined, processing cost of US$5.69/t processed, including general and administrative (G&A) costs; variable processing recoveries derived from four regression models; and a metal price of US$3.45/lb Cu.
6. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade, and contained metal content. Metal content based on CuT.
7. Tonnage measurements are in metric units. Copper is reported as percentages.

1.13 Mineral Reserve Estimates

Heap leach tonnages were estimated by applying the appropriate modifying factors and are supported by an economic mining plan based on open pit mine designs.

Loss and dilution mining occurs when small, isolated blocks of waste material are surrounded by mill feed. Attempts to mine these waste blocks separately from the surrounding mill feed will increase unit mining costs. Therefore, these isolated waste blocks are mined along with the surrounding mill feed and sent to the crusher or stockpile.

Mining losses occur when isolated small blocks of potential mineral material are surrounded by tailings. Attempts to mine these blocks separately as mill feed will increase the unit mining cost and decrease the economics of the material, effectively turning them into waste. Therefore, these isolated blocks are mined with the surrounding waste and sent to the North Rock Storage Facility (NRSF) or heap leach pad.

The Hexagon mine planning software program was used to examine potential mill feed blocks in the model and calculate the number of tailing contact edges (between zero and four) for each mill feed block. An NSR cut-off grade of $5.59/t (incremental breakeven cut-off grade) was used to encode the number of mill feed blocks surrounding each waste block. Waste blocks with three or four surrounding mill feed blocks were re-coded as mill feed blocks as the cost of mining them separately from the surrounding mill feed blocks will be excessive. "High-grade" waste blocks ($5.40<=NSR<=$5.59) with two mill feed contact edges are also re-coded as mill feed blocks as they will be mined from surrounding mill feed blocks and will be sent to the crusher.

Mine planning software is also used to examine potential mill feed blocks and estimate the number of surrounding waste blocks. Prospective mill feed blocks that are surrounded by three or four waste blocks will incur high extraction costs per unit. These mills feed blocks would also suffer from high dilution due to the large number of contact edges with the tailings. Therefore, these blocks are considered scrap even though the in-situ grade is above the incremental equilibrium cut-off grade.

Mineral Reserves are reported in Table 1-2.

Table 1-2: Heap Leach Tonnages

Reserves	Ore (kT)	CuT (%)	NSR ($/t)
Proven	21,805	0.506	24.64
Probable	4,168	0.430	20.19
Total	**25,973**	**0.494**	23.92

Notes:

1. The Mineral Reserves estimates were prepared by Jesse Aarsen, P.Eng. (who is also an Independent Qualified Person), reported using the 2014 CIM Definition Standards, and have an effective date of September 21, 2021.
2. The cut-off grade used for ore/waste determination is NSR >= US$5.59/t. Cut-off grade assumes US$3.19 /lb Cu, block recoveries from the block model, US$75/t cathode premium, 2% vendor royalty and US$0.30/lb SX/EW costs.
3. The average associated metallurgical recovery for copper is 79%.
4. Mineral Reserves are converted from Measured and Indicated Mineral Resources through the process of pit optimization, pit design, production schedule and are supported by a positive cash flow model.
5. The Mineral Reserves reported are the tonnages delivered to the crusher, pre-delivery to the heap leach pad.
6. Mineral Reserves are a sub-set of the Mineral Resources
7. Rounding as required by reporting guidelines may result in summation differences.
8. Factors that may affect the Mineral Reserve estimate include metal prices, changes in the interpretations of mineralization, geometry and continuity of mineralization zones, geotechnical and hydrogeological assumptions, ability of the mining operation to meet the annual production rate, process plant and mining recoveries, the ability to meet and maintain permitting and environmental license conditions, and the ability to maintain the social license to operate.

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1.14 Mining Methods

Mining will be completed using conventional open-pit mining approach using 4.4 m^3 excavators matched with 40-ton haul trucks.

Drilling and blasting will be conducted on 10-m benches while excavation will be undertaken on 5-m split benches. The maximum vertical advance rate will be limited to 10 m per month, or 120 m per year. This equates to one drilling and blasting bench per month, or two split-bench truck/loader benches per month.

Mill feed will be hauled to either the heap leach pad or to stockpiles near the pit. Waste is hauled to the NRSF.

The mining schedule attempts to maximize either the crusher throughput (maximum of 2.1 Mt/a) or the cathode production (maximum of 9,000 t/a). Only Proven and Probable Mineral Reserves are used in the mine schedule. A total of 14.1 years of heap leach feed is planned.

1.15 Recovery Methods

Based on metallurgical testing and Ausenco's design expertise, the planned flowsheet, which is designed for the treatment of several mill feed types, is flexible and robust. The flowsheet is based on well-proven unit operations in the industry and there are no unique or novel processing methods required for copper extraction.

The key project design criteria for the proposed plant are:

- The process is divided into three major areas. The first area is the dry area, which includes the crushing circuit, agglomerator and stacker. It is followed by a wet area, which includes solvent extraction and electrowinning. A third area was considered which encompasses several ponds that will be used in the process.
- The process plant consists of the unitary operations needed to achieve a production of 9,000 t of fine copper cathodes per year.
- A dry area availability of 65%, which includes an open crushing circuit, agglomerator, stacker and hopper trucks feeding the heap leach pad.
- A solvent extraction plant and leaching solution management with an availability of 97% and an electrowinning availability of 98%, to support the planned production of 9,000 t of fine copper cathodes per year.
- The key parameters used for the plant design are based on Year 8 of the mine plan as it represents the highest fine copper cathode production year. Design assumptions included:
  - Crusher work index (CWi) of 11.8 kWh/t and abrasion index (Ai) of 0.19;
  - Copper head grade of 0.542%; and
  - Copper recovery of 78.98%.

The process flowsheet envisages processing of mill feed through a closed-circuit crushing plant which will consist of a 147-kW primary crusher, a 326-kW secondary crusher and a 326-kW tertiary crusher. The final product size distribution of 80% passing 12.7 mm and 100 passing 19 mm.

The final product from the crushing stage will be transported to the agglomeration stage, where it will be conditioned (cured) in an agglomeration drum, with previously conditioned solid sodium chloride and raffinate solution. The agglomerated mill feed will leave the agglomerator drum with a moisture content of around 10% and will be transported by 30-t hopper trucks to the heap leaching area.

The trucks coming from the agglomeration stage will unload the leach feed onto a stacker, which will place the agglomerated ore on a permanent heap with a maximum height of 5 m per lift. Stacked ore will be irrigated with acid-chloride solutions. The copper recovery will be achieved in two leaching cycles. The first cycle will be 33 days long, during which the heaps will be irrigated with an Intermediate Leaching Solution (ILS), to obtain the Pregnant Leach Solution (PLS), which will be sent to the Solvent Extraction stage (SX). The second cycle will be 57 days long, and the heaps will be irrigated with a raffinate solution, obtained from the SX stage, to obtain an ILS solution that will be sent to the irrigation of the first leaching cycle. The PLS solution produced in the first leach cycle will be sent to the PLS pond, from where it will be sent to the SX-EW plant to produce 9,000 t/a of fine copper cathodes. The ILS solution produced in the second leach cycle and the refining solution produced at the SX plant will be sent respectively to the ILS and refining ponds.

The PLS solution collected in the PLS pond will be fed to a solvent extraction process that will consist of two extraction stages in a serial configuration, one stripping stage and two scrubbing stages. The SX plant will be designed to process a nominal PLS flow rate of 188 m^3/h.

The PLS produced in the SX stage will be sent to the electrowinning stage, which will have 30 permanent stainless-steel cathodes and 31 anodes. The EW plant will include a washing station and a cathode stripping machine.

1.16 Project Infrastructure

The main facilities associated with the Project include water management systems, heap leach pad facilities, waste rock storage facilities (WRSF), stockpiles, and various on-site and off-site process-related facilities.

The major infrastructure items considered are listed in Section 18.

1.16.1 Access

The Project is located 130 km northeast of La Serena and there are two main access routes to the Project area. The first is Route 5, which connects the Project with other regions in the north and south of the country. In addition, this road can be used to access the port of Coquimbo. The second route is the D-115 road that connects Route 5 to the Project, via the town of Punta Colorada.

1.16.2 Waste Rock Storage Facility (WRSF)

Mine waste will be used to build the heap leach base pad and stockpile pad base in the run-up to stripping. Excess waste rock will be stored on the north side of the pit in the North Waste Rock Storage Facility (NRSF). The NRSF facility will be built from top to bottom, in sections, each section having a maximum laying height of 36 m and a berm width of 26 m.

1.16.3 Stockpile

Two storage locations will be used; one at the top end of the heap leach pad, and the second, larger stockpile will be situated at the base of the NRSF. The bases of the two stockpiles will be built using waste rock. Once the base piles are built, the stacked mineral material can be placed on top. Stockpiles will be built in lifts, using the "top-down" method.

1.16.4 Heap Leach Pad

The proposed heap leach facility will accommodate up to 27 million tonnes of ore and is situated along Coloradito Creek, approximately 1.0 km upstream from the intersection of Coloradito and Puquios creeks. This basin has an approximate area of 32 hectares. The facility will feature a retaining wall at the northern end, and at the southern, downstream end. The leach pad will be constructed on top of a waste rock platform. The proposed heap leach facility, at full buildout, will reach a height of 110 meters, consisting of 22.5-meter lifts. Its operational life is projected to be 14 years and 2 months, with an average production rate of 152,780 tonnes per month.

The leach pad comprises several elements: a lined pad area for the mill feed to be leached, an inter-lift liner system, a conveyor stacking system, a solution collection system, a pregnant leach solution (PLS) pond, an intermediate leach solution (ILS) pond, an emergency pond, and non-contact water diversion channels.

The heap is irrigated with an acid-chloride barren solution delivered from the process plant through a pipeline and drip emitters integrated into the heap leach pad (HLP). The barren solution percolates through the ore and is collected as pregnant solution in a collection system that transports it to a complex of processing ponds located at the toe of the facility.

1.16.5 On-Site Facilities

Major infrastructure will include the mine area and truck shop, a process dry area (mineralization crushing, agglomeration, and salt addition), process wet area (solvent extraction process, electrowinning and tank farm), ponds (process water, PLS, and ILS ponds), and administrative area (administration and offices).

1.16.6 Off-Site Facilities

Key off-site infrastructure facilities are the process water well and the Punta Colorada electrical substation, which will supply electricity to the plant.

1.16.7 Power and Fuel

The electrical system will begin at a tie-in point with a 23-kV line coming from the Punta Colorada substation. The overhead line will have an approximate length of 45 km. A voltage regulator was included in the system design to ensure proper voltage level in the plant. The electrical system will be 7.5 MVA.

Diesel fuel requirements for the mining equipment, process and ancillary facilities will be supplied by two diesel fuel storage tanks. Diesel fuel will be transported by trucks.

1.16.8 Seismicity

The Project area is in Seismic Zone 3 of the Chilean seismic code, which can have earthquakes with a maximum effective acceleration of 0.40 g.

Project structures were classified as required to meet Category C1. All structures will be designed to resist horizontal and/or vertical seismic load, in accordance with the requirements of the standards.

1.17 Market Studies and Contracts

The Puquios Project will produce and commercialize copper cathodes for export. Accordingly, for the purposes of the PFS, it is appropriate to assume that the products can be sold freely at standard market rates.

The PFS assumed a fixed copper price of US$4.25/lb for the entire lifetime based on the Analyst Consensus Price Forecast from December 2024. The exchange rates and the metal price used for the financial analysis of this Report are provided in Table 1-3.

Table 1-3: Exchange Rates and Metal Price used in Financial Analysis

Parameter	Value
Exchange rate (CLP/USD)	977.00
Copper price long term (US$/lb Cu)	4.25
Cathodes premium (US$/t Cu)	75.00

1.18 Environmental, Permitting and Social Considerations

The Puquios Project was submitted to the Environmental Impact Assessment System (SEIA), in 2008, by means of an Environmental Impact Study (EIS) and application for the necessary Environmental License (RCA) to allow for the construction and operation of the Project. The EIS was granted through RCA N°30/2011. The Project was later modified by means of an Environmental Impact Declaration (EID), submitted in 2013 and approved through RCA N°76/2014, and six Pertinence Letters (Consulta de Pertinencia) that approved the addition, elimination, and/or modification of Project infrastructure and facilities. These changes included the location of process plants and ponds, the location of workshop and operational facilities, a modification of the bacterial leaching process and changes to the heap leach mineral transport and stockpiling methods.

Infrastructure for the Puquios Project Feasibility Study as envisaged in this Report will be contained almost entirely within the area that was the subject of the EIS and EID approvals (2008 and 2013, respectively) and subsequently received environmental licences.

In 2022, two Environmental Impact Declarations were submitted to the evaluation system, which were withdrawn due to lack of technical content in accordance with Article III of the SEIA regulations. The latest Pertinence Letter submitted in 2023 covered the proposed amendments of the EIDs presented in 2022, the SEIA decided that the submitted modifications did not require the submission of a new EIS or EID.

1.18.1 Environmental Considerations

In accordance with Article 18, letter e) of the of the Environmental Impact Assessment System Regulation (D.S. N°40/2012, RSEIA), an EIS must present a baseline, which describes in detail the environmental characteristics of the area affected by the Project, in order to subsequently assess the impacts on environmental components. Baseline studies in the original EIS (2008) included: climate and meteorology, air quality, noise, geology, geomorphology and natural risks, hydrography, hydrology, hydrogeology, water quality, edaphology, flora, terrestrial fauna, archaeology, landscape and human environment. From these studies, the EIS found that environmental impacts would be significant for the soil, landscape, and terrestrial fauna and flora disciplines. These impacts will be addressed through such measures as mitigation, reparation and/or compensation measures, such as the creation of an Environmental Protection Zone for the rescue and relocation of protected species of flora and low mobility fauna, and the imposition of speed limit restrictions and signage along the access road. Monitoring measures will be in place to verify the correct application of these measures and compliance with the expected results.

In 2013, an EID for the optimization of the Puquios Project was presented for environmental approval. As part of this presentation, additional baseline studies for flora and fauna were carried out to update and complement the 2008 studies. Currently, additional baseline studies are underway.

A portion of the waste rock generated from the open pit will be used to build the leach pad platform and the remaining volume of waste rock will be placed in the WRSF near the open pit. Water management measures and infrastructure, such as contour and discharge channels, will be constructed to minimize surface runoff and reduce infiltration, maintain physical stability and to reduce the potential for acid mine drainage (AMD). Initial geochemical testing from seven locations indicated that the AMD potential varies from low to high and ongoing assessment and monitoring is planned to minimize potential risk of AMD exposure to groundwater and surface water.

1.18.2 Closure and Reclamation Considerations

The Puquios Project has a current Mine Closure Plan, approved by Exempt Resolution N°1991/2020. As per current law, the costs associated with the Mine Closure Plan are to be executed under a warranty insurance policy, with the total cost amounts for closure being issued by an authorized insurance company. The policy payments are included on the economic evaluation.

1.18.3 Permitting Considerations

The Puquios Project is well advanced in permitting. The most recent changes to the proposed Project as outlined in this report were approved by means of a pertinence letter submitted in 2023, where the environmental authorities (the SEIA) decided that the submitted modifications did not require the submission of a new EIS or EID. The key permits required by mining projects in Chile are the Environmental Licence (RCA), the Sectoral Environmental Permits (PAS) (which need to be submitted along with the Environmental Impact Study or Declaration) and the Sectoral Permits (PS). The PAS for the Project have been granted with the environmental licences, RCA N°030/2011 and RCA N°0076/2014. Many of the PS required have already been obtained by Cuprum.

1.18.4 Social Considerations

The main populated areas in the vicinity of the Project are Tres Cruces (22 km), Punta Colorada (30 km) and El Trapiche (40 km). Punta Colorada is the largest settlement with approximately 320 residents. Smaller settlements exist in the Project vicinity, such as La Tórtola (1.5 km) and Los Morros (12 km) and consist of individual dwellings. Occupants are either engaged in sporadic artisanal mining or subsistence livestock and agriculture. In general, most of the surrounding settlements are not occupied year-round.

The Project is not located on indigenous lands or in areas of Indigenous development. There are no registered indigenous, groups, associations or communities that conduct any traditional activities within the La Higuera municipality that could be affected by the Puquios Project.

During the 2008 EIS process, a Community Consultation Process (PAC) was carried out. The issues raised by the local community included effects on protected fauna, the possibility of groundwater contamination caused by AMD or other chemical releases, and the increased atmospheric emissions. The critical community concern was in relation to Project water usage and how it would affect the availability of the resource for the local community. The environmental authority considered that the mitigation measures considered for the Project were sufficient to address the environmental impacts identified by the communities and did not request additional measures to be implemented. The environmental authority pointed out that that water extraction rights for the Los Choros basin (where the extraction well for the Puquios Project is located) had already been restricted, therefore, it was not possible for the Puquios Project to extract more than the 22 L/s already approved, which is more than adequate for the estimated 14 L/s required for the Project.

1.19 Capital and Operating Costs

The costs are expressed in Q1 2025, US dollars (US$) and include all mining, process plant, infrastructure, project indirect (including Owner costs), project delivery, Owner costs, and contingency.

The estimate conforms to the Association for the Advancement of Cost Engineering International (AACE) Class 4 guidelines for a pre-feasibility estimate with an expected accuracy range of -15% to -30% on the low side of the range and +20% to +50% on the high side of the range.

1.19.1 Capital Costs

The capital cost estimates include mine initial capital, process plant initial capital and sustaining capital costs.

The mine initial capital included provision for mining equipment, capitalized mining pre-production costs, fleet lease payments, and other mine capital costs. Mine cost data were provided by Camino through its subsidiary Cuprum. Cost input data included information on equipment capital and operating costs, and labor rates. An internal database maintained by Moose Mountain Technical Services (MMTS) was used for operator efficiency, availability, and equipment utilization rates. MMTS input the extraction schedule results (tonnes, grades, and hours of operation per year) to calculate extraction costs per schedule period. Some components of the mining capital cost were based on MMTS' experience with other projects.

Process plant initial capital included direct equipment costs, earthwork quantities, equipment supply prices, and installation costs. Indirect costs were considered to be costs incurred during the Project delivery period to enable and support the construction activities.

Owner's costs were provided by Camino. Contingency was estimated using a deterministic model that evaluated the uncertainty in relation to price and quantity for each package of the estimate.

The initial capital costs total US$141.9M.

Sustaining capital costs include items such as purchase of new equipment, replacement of old equipment, lease payments, and clearing and grubbing. Sustaining capital costs total US$20.67M.

Table 1-4 provides a summary of the overall initial and sustaining capital cost estimate.

Table 1-4: Summary of Capital Costs

WBS Level 1	Initial Capital (US$M)	Sustaining Capital (US$M)
Mining	22.95	20.67
Processing	54.91	-
On-site Infrastructure	14.73	-
Off-site Infrastructure	3.18	-
Project Indirect Costs	12.14	-
Project Delivery	11.73	-
Owner's Costs	4.69	-
Contingency	17.59	-
Total Initial Capital	**141.92**	**20.67**

1.19.2 Operating Costs

This operating cost estimate has an accuracy range of -10% to +15% which corresponds to an AACE class 4 estimate. Costs are presented in US dollars (US$) for Q1 2025. The total annual cost of US$27.76M includes mining, processing, and general & administrative expenses.

Mining costs were derived from first principles using labor rates provided by Camino, fuel costs, equipment productivity and maintenance requirements. Mining operating costs account for the different productivities of the trucks per period, based on the detailed mine schedule. Operating costs also include costs for Owner supervision and technical services.

Operating costs for the process plant were derived from first principles using labor rates provided by Camino, fuel costs, equipment power consumption rates, consumables and reagents, maintenance requirements and other services that will be provided to the operation.

G&A costs include labor for health, safety, environment and community (HSEC) and administration, office supply materials, services such as catering and security, permitting and environmental costs, closure costs, occupational health and safety (H&S), and other community expenses.

Operating costs are summarized in Table 1-5.

Table 1-5: Life of Mine Operating Costs

Area	US$/t Processed	US$M/a
Mining Costs	4.95	9.08
Processing Cost	8.94	16.40
G&A Cost	1.24	2.28
Total Operating Costs	**15.1**	**27.76**

1.20 Economic Analysis

An engineering economic model was developed to estimate annual pre-tax and post-tax cash flows and sensitivities of the Project based on an 8% discount rate. It must be noted, however, that tax estimates involve many complex variables that can only be accurately calculated during operations and, as such, the after-tax results are only approximations. Sensitivity analyses were performed to assess the impact of variations in copper prices, head grades, operating costs and capital costs.

1.20.1 Financial Model Parameters

The economic analysis was performed using the following assumptions:

- construction starts on January 1, 2026. All cash flows discounted to beginning of construction;
- ramp-up production start-up in Q1 2028;
- cost estimates are constant in Q1 2025;
- Mine life of 14.2 years;
- no price inflation or escalation factors were considered;
- results are based on 100% ownership;
- capital costs funded with 100% equity (i.e., unlevered with no project debt or associated financing costs assumed);
- all copper cathodes are assumed sold in the same period they are produced;
- project revenue is derived from the sale of copper cathodes;
- no contractual arrangements currently in place;
- the copper price is based on the consensus copper price and assuming a constant price of US$4.25/lb Cu for the long term;
- a cathode premium of US$75/t Cu is assumed; and
- no contractual arrangements currently in place.

1.20.2 Financial Model Results

The pre-tax net present value (NPV) discounted at 8% (NPV8%) is US$161M, the internal rate of return (IRR) is 26.7%, and payback is 3.1 years. On an after-tax basis, the NPV8% is US$118M, the IRR is 23.4%, and the payback period remains 3.1 years. The economic results of the project are summarized in Table 1-6.

Table 1-6: Summary Economics

General	LOM Total / Avg.
Copper Realization Price (US$/lb)	4.28
Mine Life (year)	14.2
Production	**LOM Total / Avg.**
Total Mill Feed Tonnes (kt)	25,973
Mill Head Grade Cu (%)	0.49%
Mill Recovery Rate (%)	78.8%
Total Copper Recovered (M lb)	223
Operating Costs	**LOM Total / Avg.**
Mining Cost (US$/t Mined)	$2.27
Processing Cost (US$/t Milled)	$8.94
G&A Cost (US$/t Milled)	$1.24
Total Operating Costs (US$/t Milled)	$15.14
Cash Costs* (US$/lb Cu)	$1.95
AISC** (US$/lb Cu)	$2.00
Capital Costs	**LOM Total / Avg.**
Initial Capital (US$M)	$141.9
Sustaining Capital (US$M)	$20.7
Closure Costs (US$M)	$7.9
Salvage Value (US$M)	$16.8
Financials – Pre-Tax	**LOM Total / Avg.**
NPV (8%) (US$M)	$161
IRR (%)	26.7%
Payback (year)	3.1
Financials – Post-Tax	**LOM Total / Avg.**
NPV (8%) (US$M)	$118
IRR (%)	23.4%
Payback (year)	3.1

* Cash costs consist of mining costs, processing costs, mine-level G&A, sales & marketing charges and royalties.

** All-in Sustaining Cost (AISC) includes cash costs plus sustaining capital, closure cost and salvage value.

1.20.3 Sensitivity Analysis

Sensitivity analyses were performed to assess the impact of variations in copper prices, operating costs, capital costs and mill recovery. Analysis revealed that the Project is most sensitive to changes in metal price, copper recovery, then, to a lesser extent, to operating costs and initial capital costs.

1.21 Interpretation and Conclusions

Based on the assumptions and parameters presented in this report, the pre-feasibility study shows positive economics (i.e., US$118M post-tax NPV8% and 23.4% post-tax IRR). The pre-feasibility study supports a decision to carry out additional detailed studies.

1.22 Recommendations

The results presented in this technical report demonstrate that the Puquios project is technically and economically viable. It is recommended to continue developing the project through additional studies prior to a decision to progress to construction. The recommendations and budget estimates are summarized in Table 1-7, and divided into a two-phase approach.

The Phase 2 budget described in Table 1-7 is contingent on the successful completion of Phase 1 and the availability of funding for a decision to proceed to construction of the Puquios Project, as well as any other matters which may cause the objectives to be altered in the normal course of business activities.

Table 1-7: Summary of Recommendations and Costs

Description	Cost (US$ '000)
Phase 1: Initial Expenditures	
Mining Studies	85
Mineral processing and metallurgical testwork	105
Update of Mineral Resources statement	30
Subtotal Phase 1:	**220**
Phase 2: Expenditures Prior to Constructions	
Environmental Studies	220
Geotechnical field and laboratory, seismic hazard and updated design of HLP	450
Subtotal Phase 2:	**670**
Total Phase 1 and Phase 2:	**890**

2 INTRODUCTION

2.1 Introduction

Camino Minerals Corp. (Camino) commissioned Ausenco Chile Ltda. (Ausenco) to compile a pre-feasibility study (PFS) of the Puquios Project. The PFS was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

The responsibilities of the engineering companies who were contracted by Camino to prepare this report are as follows:

- AsGeoMin SpA (AsGeoMin) completed work related to the geological setting, deposit type, exploration work, drilling, sample preparation and analysis, data verification, and developed the Mineral Resource.
- Moose Mountain Technical Services (MMTS) designed the open pit mine, ore stockpiles, waste rock stockpiles, mine production schedule, Mineral Reserve estimate and mine capital and operating costs.
- Ausenco managed and coordinated the work related to the report and developed PFS-level design and cost estimate for the process plant, heap leach design, general site infrastructure, environmental, permitting and economic analysis.

2.2 Terms of Reference

The purpose of this report is to present the results of the PFS, and to support Camino’s disclosure in connection with Camino's proposed acquisition of the Puquios Project.

Mineral Resources and Mineral Reserves are estimated in accordance with the 2019 edition of the Canadian Institute of Mining, Metallurgy and Exploration (CIM) Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (2019 CIM Best Practice Guidelines) and are reported using the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves (2014 CIM Definition Standards).

All units of measurement used in this Report are metric unless otherwise noted. Currency is expressed in United States dollars (USD).

2.3 Qualified Persons

The qualified persons (QPs) for this Technical Report are listed in Table 2-1. By virtue of their education, experience, professional association, and independence from Camino, the individuals presented are each considered to be a “qualified person” (QP) as defined by NI 43-101. Report sections for which each QP is responsible are also listed in Table 2-1.

Table 2-1: Report Contributors

Qualified Person	Professional Designation	Position	Employer	Independent of Camino Minerals Corp.	Report Sections
Scott C. Elfen	P.E.	Global Lead Geotechnical and Civil Services	Ausenco Engineering Canada ULC.	Yes	1.16.4, 1.16.8, 1.22, 18.6, 18.13, 25.16.1.4, 26.4 and 27
James Millard	P.Geo.	Director, Strategic Projects	Ausenco Sustainability UCL.	Yes	1.18, 1.22, 20, 25.11, 25.16.1.6, 26.5 and 27
Tommaso Roberto Raponi	P. Eng.	Principal Process Engineer	Ausenco Engineering Canada ULC.	Yes	1.1 to 1.4, 1.11, 1.15, 1.16.1, 1.16.5 to 1.16.7, 1.17, 1.19 to 1.22, 2 to 5, 13, 17, 18.1 to 18.3, 18.7 to 18.12, 19, 21.1.1, 21.1.3 to 21.1.7, 21.2.1, 21.2.2, 21.2.4, 21.2.5, 21.3, 22, 24, 25.1, 25.2, 25.5, 25.9, 25.10, 25.12 to 25.15, 25.16.1.3, 25.16.1.5, 25.16.2.4, 26.3 and 27
Jesse J. Aarsen	P. Eng.	President & Principal	Moose Mountain Technical Services	Yes	1.13, 1.14, 1.16.2, 1.16.3, 1.19, 1.22, 15, 16, 18.4, 18.5, 21.1.2, 21.2.3, 25.7, 25.8, 25.13, 25.14, 25.16.1.2, 25.16.2.3, 26.2 and 27
Cristian Andres Quiñones Constanzo	RM CMC	Senior Resource Consultant	AsGeoMin SpA	Yes	1.5 to 1.10, 1.12, 1.22, 6 to 12, 14, 23, 25.3, 25.4, 25.6, 25.16.1.1, 25.16.2.1, 25.16.2.2, 26.1 and 27

2.4 Site Visits and Scope of Personal Inspection

Mr. Quiñones visited the site on December 2 and 3, 2019. During the site visit, he reviewed core logging and sampling and examined the consistency of geological logging between reverse circulation (RC) and core drilling. Mr. Quiñones also verified selected drill hole collar coordinates and inspected surface geological features.

Mr. Aarsen visited the site on February 9, 2022. During the site visit he reviewed the road access to the site as well as the existing roads in the project area. He also reviewed the pit and waste dump areas.

Mr. Quiñones and Mr. Aarsen have reviewed drone footage conducted by Camino in 2023, which was posted on their website. Additionally, they have examined satellite images from 2020, 2021, 2022, 2023, and 2024 via Google Earth. This independent verification confirms that no material work has been conducted on the project since the last site inspection by the QPs.

2.5 Effective Dates

The Technical Report includes several key dates:

- Puquios Mineral Resources Estimate: March 8, 2021.
- Puquios Mineral Reserves Estimate: September 21, 2021.
- Financial Analysis: January 24, 2025.

The overall effective date of this Report is based on the date of the financial analysis, which is January 24, 2025.

2.6 Information Sources and References

All references are listed in Section 27 of the present Report.

2.7 Units and Abbreviations

Table 2-2: Abbreviations and Acronyms

Abbreviation	Description
AA	atomic absorption
AAA	Andes Analytical Assay
AACE	Association for the Advancement of Cost Engineering International
AAS	atomic absorption spectroscopy
ABA	Acid base accounting (test)
Ai	bond abrasion
AISC	All-in Sustaining Cost
ALS	ALS Chemex Laboratories
ALTE	alteration Code
AMD	acid mine drainage
ASCE	American Society of Civil Engineers
ASG	Environmental, Social, and Governance
B&A	B&A Mineração
CI	Confidence interval
CIF	cost, insurance and freight
CLASS	classification
CoG	cut-off grade
CPI	Consumer price index
CPU	Central processing unit
CRM	Certified reference materials
CRP	Community Relations Plan
CuCN	cyanide-soluble copper
CuR	residual copper
CuS	acid-soluble copper
CuT	total copper
CWi	crushing work index
D&B	drilling and blasting
DCS	distributed control system technology
DENS	density

Abbreviation	Description
DDH	diamond drill hole
DFS	Definitive Feasibility Study
DGA	General Directorate of Water Resources (Dirección General de Aguas)
DIA	Environmental Impact Declaration
DTH	down-the-hole
EDA	exploratory data analysis
EIA	Environmental Impact Assessment
EID	Environmental Impact Statement/Declaration (*Declaración de Impacto Ambiental*, DIA)
EIS	Environmental Impact Study (*Estudio de Impacto Ambiental*, EIA)
EMP	Environmental Management Plans
EPCM	Engineering Procurement & Construction Management
ESG	Environmental, Social, and Governance
EU	estimation unit (indistinctly also named as UE in some original figures)
EW	electrowinning
FF	FF Geomechanics Laboratory
FOB	free on board
FOS	Factors of Safety
FRP	fiber reinforced polymer
G&A	general and administrative
GME	General Mine Expenses
GMU	geometallurgical unit
H&S	Health and Safety
HDPE	High-Density Polyethylene
HLP	Heap leach pad
HSEC	Health, Safety, Environment and Community
ICP	inductively coupled plasma
IGM	Instituto Geográfico Militar (Military Geographic Institute)
ILS	intermediate leaching solution
INDPT	resource pit indicator
IOCG	Iron oxide copper gold
IP	induced polarization
IPC	consumer price index in Chile
IRR	internal rate of return
JORC	Australasian Joint Ore Reserves Committee
LG	Lerchs-Grossmann
LITO	lithology code
LOM	life of mine
MAL	average hole spacing
MMTS	Moose Mountain Technical Services
MTO	Material Take-Off
MTOPO	percent of the block inside topo
MZONE	mineral zone code
N319	NSR value
NCh	Chilean Standard (Norma Chilena)

Abbreviation	Description
NGO	non-governmental organizations
NN	nearest-neighbour
NOH	Net Operating Hours
NPV	net present value
NRSF	North Waste Rock Storage Facility
NSP	net smelter price
NSR	net smelter return
OK	ordinary kriging
OPEX	operating cost
PAC	Process, a Community Consultation
PAS	Sectoral Environment Permits (*Permisos Ambiental Sectoriales*)
PASS	number of passes
PFS	Pre-feasibility Study
PLC	programmable logic controller technology
PLS	pregnant leach solution
PS	Sectoral Permits
QA/QC	Quality Assurance/Quality Control
QP	Qualified Person
RC	reverse circulation
RCA	Environmental License (*Resolución de Calificación Ambiental*)
RECG	Global Copper Recovery
RO	Reverse osmosis
ROM	Run-of-Mine
RPEE	Reason Prospects of Eventual Economic Extraction
RQD	rock quality designation
RSEIA	Regulations for the System of Environmental Impact Assessment
SCHED	Mill feed/waste block descriptor
SEA	Environmental Impact Assessment Department (*Servicio de Evaluación Ambiental*)
SEIA	Environmental Impact Assessment System (*Sistema de Evaluación de Impacto Ambiental*)
SME	Society for Mining, Metallurgy & Exploration
SML	Santiago Minerals Ltda.
SSD	low secondary sulphide enrichment (weak)
SSF	secondary enrichment sulphides
SX	solvent extraction
TPC	Terminal Puerto Coquimbo
UTM	monthly tax unit (*Unidad Tributaria Mensual*)
VAR Er	variance of the error
VAT	value added tax
WRSF	waste rock storage facility
WWTP	waste water treatment plant
ZGEO	geotechnical zone identifier
ZMIN	mineral zone variable

Table 2-3: Units of Measure

Unit	Description
%	percent
% solids	percent solids by weight
A	ampere
A/m^2	amperes per square metre
CAD/C$	Canadian dollar (currency)/ Canadian dollar (symbol)
C$	Canadian dollar (as symbol)
¢	Cents (in US dollars)
$/t	dollars per metric ton
°	angular degree
°C	degree Celsius
µm	micron (micrometre)
CLP/CLP$	Chilean peso (currency)/ Chilean peso (as a symbol)
CLF	Chilean *Unidades de Fomento*
cm	centimetre
cm^3	cubic centimetre
ft	foot (12 inches)
g	gram
g/cm^3	grams per cubic centimetre
g/L	grams per litre
g/L H^+	grams of hydrogen ions per litre (measure of acidity)
g/t	grams per metric ton (tonne)
H:V	slope ratio (horizontal: vertical)
h	hour (60 minutes)
ha	hectare
in	inch
kg	kilogram
Kg/t	kilograms per tonne
kgH^+/t	Kilograms of hydrogen ions per tonne (measure of acidity)
km	kilometre
Km^2	square kilometre
km/h	kilometres per hour
kN/m^3	kilonewtons per cubic metre (unit of density)
kPa	Kilopascal (unit of pressure)
kt	kilotonne
kt/d	kilotonne per day
ktmf	kilotonne of metal content
kV	kilovolt
kW	kilowatt
kWh/t	Kilowatt-hour per tonne
L	litre
L/hm^2	litres per hectare-square metre (unit of volume)
L/s	litres per second

Unit	Description
lb	pound
M	million
m, m^2, m^3	metre, square metre, cubic metre
m/h	metre per hour
m/t	metre per tonne
m^2/t	square metre per tonne
m^3/t	cubic metre per tonne
Ma	million years (annum)
masl	metres above sea level
min	minute
mm	millimetre
Moz	million (troy) ounces
Mt	million tonnes
Mt/a	million tonnes per annum (year)
MVA	mega volt-amps
MW	megawatt
oz	troy ounce
oz/t	troy ounce per tonne
oz/ton	troy ounce per short ton (2,000 lbs)
P_{XX}	Particle size at which XX% of the sample's total mass consists of finer particles (where XX is a numerical value)
ppb	parts per billion
ppm	parts per million
s	second
t	metric tonne
ton	short ton (2,000 lbs)
t/d	tonnes per day
t/a	tonnes per year (annum)
USD/US$	United States dollar (currency)/ United States dollar (as symbol)

3 RELIANCE ON OTHER EXPERTS

3.1 Introduction

The QPs have relied upon the following other expert reports or statements, which provided information regarding mineral rights, surface rights, property agreements, environmental, permitting, social licence and taxation for sections of this Report.

3.2 Property Agreements, Mineral Tenure, Surface Rights and Royalties

The QPs have not independently reviewed ownership of the Project area and any underlying property agreements, mineral tenure, surface rights, or royalties. The QPs have fully relied upon information derived from Camino and legal experts retained on behalf of Camino for this information through the following document:

- Barros & Errazuriz Abogados. (2025). "Project Puquios - Title Opinion over mining properties"; report prepared for Camino Minerals Corp. January 2025.
- Camino 2025. "Camino, Nittetsu and Denham Capital Sign Definitive Agreement for Acquisition of the Puquios Copper Project in Chile; news release prepared by Camino. October 2024.

This information is used in Sections 1.2, 1.3, 4 of the Report. It is also used to support of Sections 14, 15, 20 and 22.

3.3 Taxation

The QPs have fully relied upon, and disclaim responsibility for, information supplied by Camino for information related to taxation as applied to the financial model. The Economic Model was compiled by Ausenco and reviewed and approved by Camino's specialist through the following document:

- Puquios Financial Model Review (D. Baker, personal communication, January 23, 2025).

This information is used in Sections 1.20 and 22 of the Report.

3.4 Markets

The QPs have fully relied upon, and disclaim responsibility for information derived from Camino and experts retained by Camino for information on markets, including the following:

- CIBC. (2024). Analyst Consensus Price Forecast. December 2024.

This information is used in support of Sections 1.17, 19 and 22 of this Report.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Introduction

The Puquios Project is located in the Coquimbo Region, Chile, approximately 130 km northeast of La Serena, at latitude 29°26'38" S and longitude 70°42'46" W.

4.2 Property and Title in Chile

Information in this subsection is based on data in the public domain and Chilean law (Chilean Civil Code, Chilean Mining Code, Chilean Tax Law), and has not been independently verified by the QPs.

The following laws regulate the mining industry:

- Constitution of the Republic of Chile
- Constitutional Organic Law of Mining
- Code and Regulations governing mining
- Code and Regulations governing water rights
- Laws and Regulations governing environmental protection as related to mining.

4.2.1 Mineral Tenure

The concessions are subject to rights and obligations as defined by the Organic Constitutional Law, enacted in 1982. Concessions can be mortgaged or transferred, the holder has full ownership rights, and the holder is entitled to obtain rights of way for exploration (pedimentos) and exploitation (mensuras).

The types of mining rights in Chile are as outlined in Table 4-1.

Table 4-1: Type of Mineral Titles

Type of Mineral Title	Size	Validity Period	Notes
Pedimento (exploration concession)	The minimum is 100 ha, and the maximum is 5,000 ha with a maximum length-to-width ratio of 5:1	The maximum period is two years. The claim may be reduced in size by at least 50% at the end of the two-year period and renewed for an additional two years.	Defined by UTM coordinates. New pedimentos can overlap with pre-existing ones. However, the underlying (previously staked) claim always takes precedent, providing the underlying claim holder does not let the claim lapse due to not making required payments.

Type of Mineral Title	Size	Validity Period	Notes
Manifestación			Before a pedimento expires, or at any stage during its two-year life, it may be converted to a manifestación. A manifestation may also be filed on any open ground without going through the pedimento filing process. Within 220 days of filing, the applicant must file a "Request for Survey" (*Solicitud de Mensura*) with the applicable court of jurisdiction, including official publication to advise surrounding claim holders of the claim folder. These holders may raise objections if they believe their pre-established rights are being encroached upon. The holder is entitled to explore and to remove materials for study only (i.e., the sale of the extracted material is forbidden). If an owner sells material from a manifestation or exploration concession, the concession will be terminated.
Mensura (exploitation concession)		Indefinite	Within nine months of the court approval of the "Request for Survey", the claim must be surveyed by a government-licensed surveyor. Surrounding claim owners have the right to be present during the survey. Once surveyed, presented to the court, and reviewed by the National Geology and Mining Service (SERNAGEOMIN), the court adjudicates the application as a permanent property right (a mensura), which is equivalent to a "patented claim" or exploitation right subject to the payment of annual fees. Once an exploitation concession has been granted, the holder can remove materials for sale.

4.2.2 Mining Tax

A mining tax is calculated as a percentage of the Unidad Tributaria Mensual (UTM) or monthly tax unit and applies to each hectare of land included in the mining exploration or mining exploitation concession. This tax is paid annually in a single payment before March 31 of each year. For mining exploitation concessions, the current tax rate is 40% of one UTM per hectare; for mining exploration concessions, the current tax rate is 6% of one UTM per hectare. The value of the UTM is adjusted every month, using the consumer price index (CPI) in Chile.

A mining tax is payable to the Chilean government depending on the production rate. Article 64 of the Income Tax Act applies a specific tax to mining operations. Rates are sliding scale and based on sales amounts. These range from 0.5–5% of operating taxable income for taxpayers having annual sales over 12,000 t of refined copper or its equivalent (Law 20026). The Project has an annual cathode production rate estimate of 9,000 t; hence, the Project will not be affected by the Chilean mining tax.

4.2.3 Surface Rights

Ownership rights to the subsoil are governed separately from surface ownership rights. Articles 120 to 125 of the Mining Code regulate mining easements. The Mining Code grants full rights to use the surface land to any owner of the mining exploitation or exploration concession provided that reasonable compensation is paid to the owner of the surface land.

4.2.4 Rights-of-Way

The Mining Code also grants general rights to an exploitation concession holder to establish a right-of-way, again subject to payment of reasonable compensation to the surface landowner. Rights-of-way are granted through a private agreement or legal decision that indemnifies the surface landowner. A right-of-way must be established for a particular purpose and expires after the cessation of the activities for which the right-of-way was obtained. Exploitation easement owners must provide third parties with the use of the granted right-of-way, providing that this would not affect the mining easement owner's usage.

4.2.5 Water Rights

Article 110 of the Chilean Mining Code establishes that the mining concession holder is entitled to use water within the concession limits, as required for exploration, exploitation, and processing, depending on the type of concession. These rights are inseparable from the mining concession.

Water is considered part of the public domain and is independent of land ownership. Individuals can obtain the right to use public water following the Water Code. Under the Code (updated in 1981), water rights are expressed in litres per second (L/s), and usage rights are granted based on total water reserves.

4.2.6 Environmental Regulations

Environmental impact statements are required for mining projects, and all projects must be approved by the national and/or regional environmental commissions.

Regulations were promulgated in 2013 under the Regulations for the System of Environmental Impact Assessment (RSEIA). The RSEIA defines what information must be included in an Environmental Impact Assessment (EIA) or an Environmental Impact Declaration (DIA). There is a requirement for public consultation as part of the environmental assessment process.

4.2.7 Land Use

Zoning and urban planning are governed by the General Law of Urban Planning and Construction that contains several administrative provisions that apply to different geographical and hierarchical levels and sets specific standards for both urban and non-urban areas.

Projects must also comply with any urban legislation governing land usage.

4.2.8 Closure Considerations

Closure plans must be submitted to Chile's National Geology and Mining Service (SERNAGEOMIN) before mining operations can commence. Closure plan content requirements depend upon the mine capacity and are simplified if the production rate is under 10,000 t per month.

Larger operations must provide a monetary guarantee with the closure plan or insurance policy, which must cover closure and post-closure costs. SERNAGEOMIN is required to review the plan, associated costs, and the adequacy of the bond every five years.

4.2.9 Fraser Institute Survey

The 2020 Fraser Institute Annual Survey of Mining Companies report (the Fraser Institute survey, 2020) was used as a credible source for the assessment of the overall political risk facing an exploration or mining project in Chile. Each year, the Fraser Institute sends a questionnaire to selected mining and exploration companies globally. The Fraser Institute survey is an attempt to assess how mineral endowments and public policy factors such as taxation and regulatory uncertainty affect exploration investment.

In the 2020 Fraser Institute survey, Chile had a Policy Perception Index rank of 30 out of the 77 jurisdictions. Chile's Investment Attractiveness Index rating is 23 out of the 77 jurisdictions and it is ranked 34 of 77 on the Best Practices Mineral Potential Index.

4.3 Project Ownership

Camino Minerals Corporation (Camino) announced that entered into a definitive share purchase agreement dated October 4, 2024 with Nittetsu Mining Co., Ltd. (Nittetsu) and Santiago Metals Investment Holdings II SL and Santiago Metals Investment Holdings II-A LLC, pursuant to which Camino and Nittetsu will jointly acquire (through a Chilean entity co-owned 50/50 by Camino and Nittetsu) all of the issued and outstanding shares of Cuprum Resources Chile SpA (Cuprum), a Chilean incorporated company and the owner of the Puquios Project. The Vendors are companies owned by a fund advised by Denham Capital Management LP (Denham). Camino and Nittetsu have agreed terms to enter into a shareholder's agreement with respect to their 50/50 investment in the Project, to be effective upon closing of the transaction.

Closing is conditional upon obtaining (i) disinterested Camino shareholder approval in respect of the Transaction and (ii) Exchange approval of the Transaction.

4.4 Mineral Tenure

The Puquios mining project consists of a group of 64 mining concessions, of which 40 are mining exploration concessions already granted and 24 are mining exploitation concessions already granted. The total area covered by the Puquios Project consists of approximately 11,385 ha.

The concessions are summarized in Table 4-2 (exploration) and Table 4-3 (exploitation), below. The concession locations are shown in Figure 4-1, below. Figure 4-2 shows the deposit location superimposed on a topographic backdrop, and Figure 4-3 shows the deposit outline projected to surface in relation to the concession boundaries.

Table 4-2: Granted Concessions

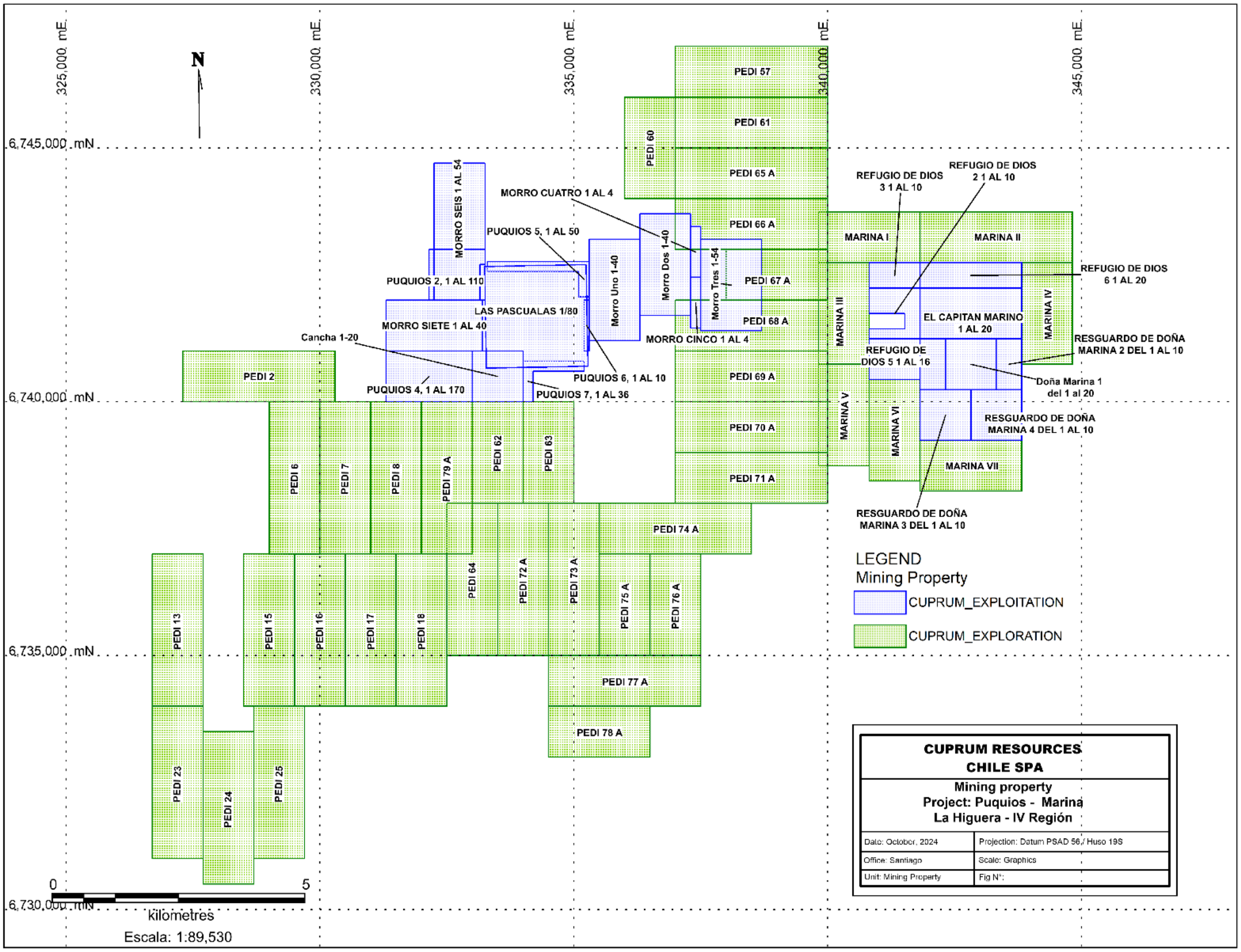
No.	Name	Type	RoI
1	Marina I	Exploration	04102-4462-4
2	Marina II	Exploration	04102-4456-k
3	Marina III	Exploration	04102-4484-5
4	Marina IV	Exploration	04102-4463-2
5	Marina V	Exploration	04102-4457-8
6	Marina VI	Exploration	04102-4485-3
7	Marina VII	Exploration	04102-4458-6
8	Pedi 64	Exploration	04102-4466-7
9	Pedi 63	Exploration	04102-4483-7
10	Pedi 62	Exploration	04102-4455-1
11	Pedi 61	Exploration	04102-4454-3
12	Pedi 60	Exploration	04102-4482-9
13	Pedi 57	Exploration	04102-4453-5
14	Pedi 25	Exploration	0410-24497-7
15	Pedi 24	Exploration	04102-4481-0
16	Pedi 23	Exploration	04102-4452-7
17	Pedi 18	Exploration	04102-4465-9
18	Pedi 17	Exploration	04102-4480-2
19	Pedi 16	Exploration	04102-4451-9
20	Pedi 15	Exploration	04102-4464-0
21	Pedi 13	Exploration	04102-4479-9
22	Pedi 8	Exploration	04102-4450-0
23	Pedi 7	Exploration	04102-4449-7
24	Pedi 6	Exploration	04102-4478-0
25	Pedi 2	Exploration	04102-4448-9
26	Pedi 65 A	Exploration	04102-4566-3
27	Pedi 78 A	Exploration	04102-4555-8
28	Pedi 72 A	Exploration	04102-4560-4
29	Pedi 69 A	Exploration	04102-4559-0
30	Pedi 66 A	Exploration	04102-4558-2
31	Pedi 77 A	Exploration	04102-4563-9
32	Pedi 75 A	Exploration	04102-4593-0
33	Pedi 79 A	Exploration	04102-4594-9
34	Pedi 67 A	Exploitation	04102-4568-k
35	Pedi 70 A	Exploitation	04102-4569-8
36	Pedi 73 A	Exploitation	04102-4561-2
37	Pedi 76 A	Exploitation	04102-4562-0
38	Pedi 74 A	Exploitation	04102-4565-5
39	Pedi 71 A	Exploitation	04101-2403-3
40	Pedi 68 A	Exploitation	04102-4592-2

Table 4-3: Granted Exploitation Mining Concessions

No.	Name	Type	Rol
1	Doña Marina 1 1/20	Exploitation	04102-2895-5
2	Resguardo De Doña Marina 1 1/10	Exploitation	04102-3140-9
3	Resguardo De Doña Marina 2 1/10	Exploitation	04102-3141-7
4	Resguardo De Doña Marina 3 1/10	Exploitation	04102-3142-5
5	Resguardo De Doña Marina 4 1/10	Exploitation	04102-3143-3
6	El Capitan Marino 1/20	Exploitation	04102-3144-1
7	Refugio de Dios 2 1/10	Exploitation	04102-3360-6
8	Refugio de Dios 3 1/10	Exploitation	04102-3361-4
9	Refugio de Dios 5 1/16	Exploitation	04102-3362-2
10	Refugio de Dios 6 1/20	Exploitation	04102-3363-0
11	Cancha 1/20	Exploitation	04102-2025-3
12	Las Pascualas 1/80	Exploitation	04102-1243-9
13	Morro 1 1/40	Exploitation	04102-2058-K
14	Morro 2 1/40	Exploitation	04102-2059-8
15	Morro 3 1/54	Exploitation	04102-2060-1
16	Morro 4 1/4	Exploitation	04102-2197-7
17	Morro 5 1/4	Exploitation	04102-2209-4
18	Morro 6 1/54	Exploitation	04102-2210-8
19	Morro 7 1/40	Exploitation	04102-2211-6
20	PuquioS 2 1/110	Exploitation	04102-3492-0
21	Puquios 4 1/170	Exploitation	04102-3439-9
22	Puquios 5 1/50	Exploitation	04102-3494-7
23	Puquios 6 1/10	Exploitation	04102-3496-3
24	Puquios 7 1/36	Exploitation	04102-3497-1

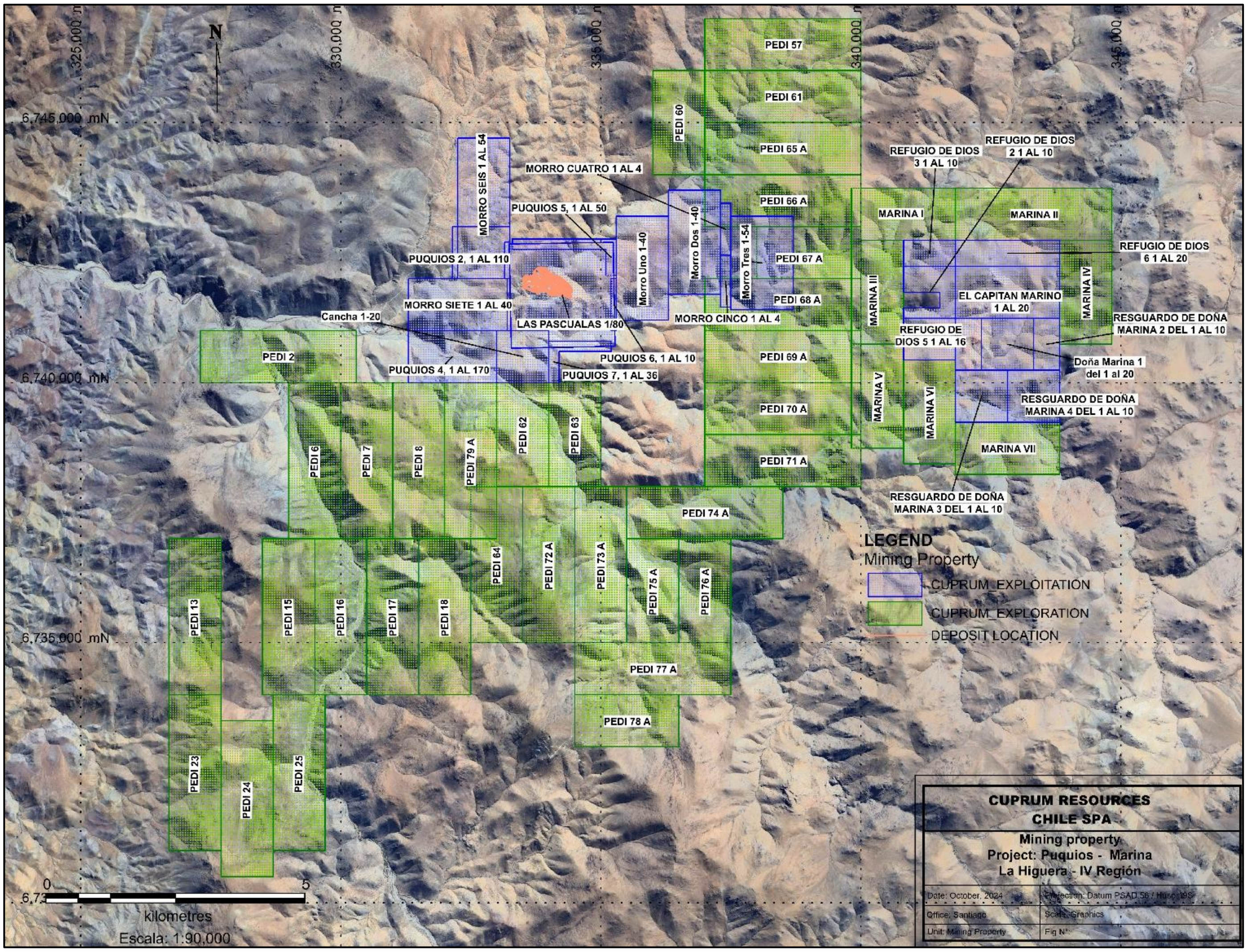
According to the titles reviewed as of January 16, 2025, the Puquios Properties were legally registered under the name of Cuprum and in good standing in such date, free of royalties, mortgages, encumbrances, prohibitions, injunctions and/or litigation other than the ones identified in the Section 4.7.2 of this Report.

Figure 4-1: Concession Locations



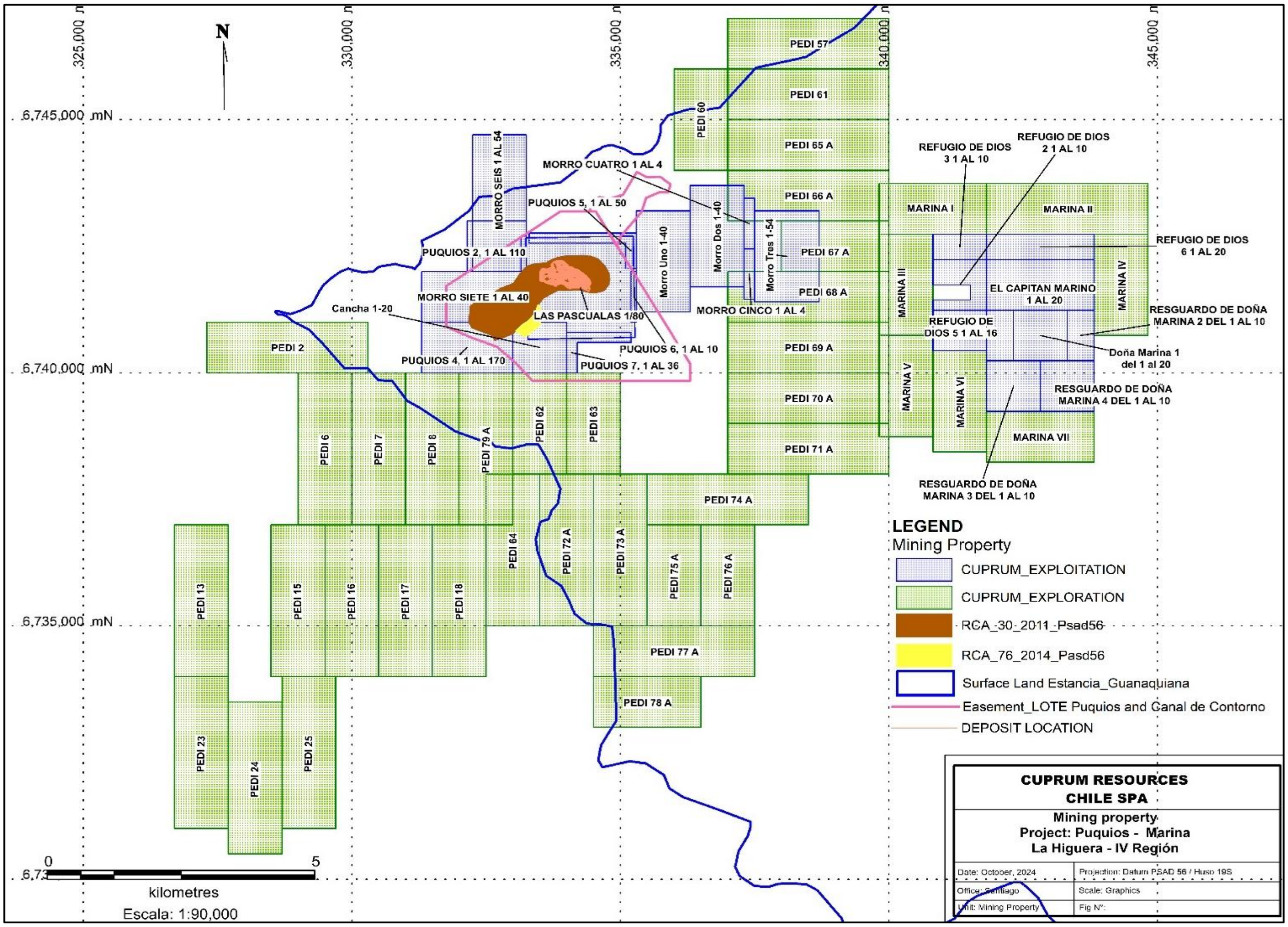
Note: Figure courtesy of Cuprum, October 2024.

Figure 4-2: Deposit Location



Note: Figure courtesy of Cuprum, October 2024.

Figure 4-3: Deposit Location in Relation to Mineral Concessions



Note: Figure courtesy of Cuprum, October 2024.

Exploitation concessions do not have an expiration date.

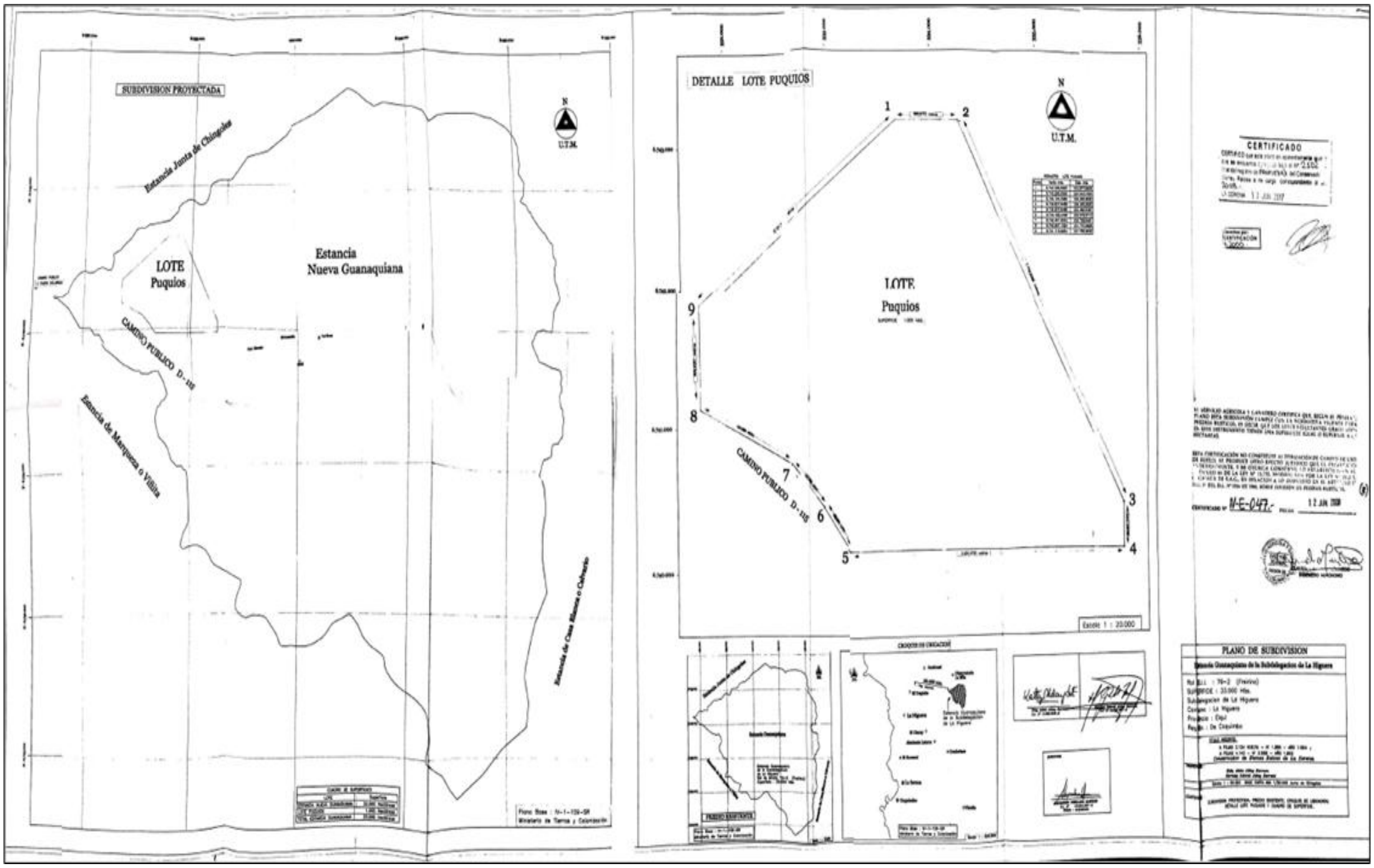
The exploration concessions are set to expire between June 2027 and March of 2028.

All required obligations have been fulfilled to maintain the concessions under Chilean law.

4.5 Surface Rights

Cuprum holds the surface rights to a 1,000-ha plot of land, termed “Plot Puquios” which is part of a subdivision of the Guanaquiana farm, located in La Higuera. The subdivision plan is shown in Figure 4-4. The plot was subdivided in 2008, under record No. 2102. Ownership registration was recorded on Folio 3732 No. 2911 in the Property Registry of La Serena CBR in 2011.

Figure 4-4: Puquios Map (Surface Land)



Note: Figure courtesy of SML, 2020.

The certificate of Mortgages and Encumbrances, Prohibitions and Litigation issued by La Serena CBR on November 29, 2017, noted the following:

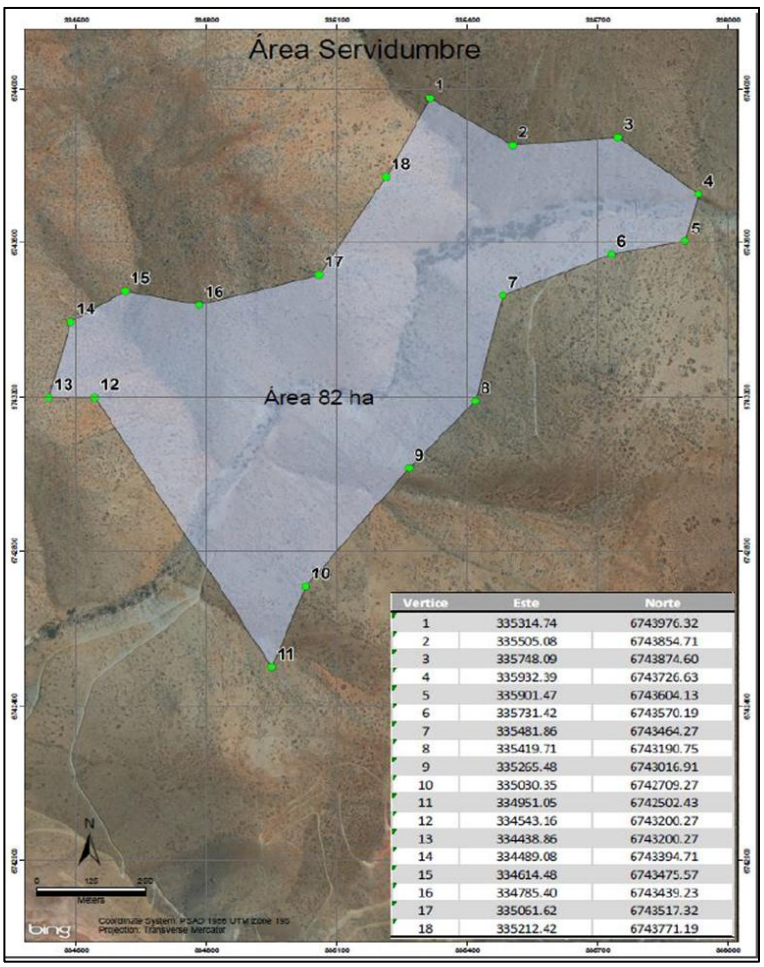
- (i) Prohibition on changing land use listed as Folio 2565 No. 1928 in the prohibition Registry of La Serena CBR dated 2011. This prohibition can be removed by requesting an administrative authorization called an "Informe Favorable de Construcción," (Favourable Construction Report) which will allow non-agricultural activities to take place on this land.
- (ii) An easement listed as Folio 1811 No. 1364 in the Mortgages Registry of La Serena CBR in 1996 in favour of Compañía Minera Nevada Limitada, based on a plan filed with the Property Registry in 2008, under record No. 111. An occupation easement was granted to Compañía Minera Nevada Limitada so that the company could build and maintain roads and a power line. The easement location is shown on a plan filed with the La Serena CBR under record No. 32 of the Mortgages Registry, dated 1996.
- (iii) An easement listed as Folio 4568 No. 3223 in the Mortgages Registry of La Serena CBR dated 2008 in favour of Compañía Minera Nevada Limitada, based on a plan filed with the Property Registry in 2008, under record No. 111.

An occupation easement was granted to Compañía Minera Nevada Limitada, to allow the company to build and maintain the "Punta Colorada-Pascua-Lama" power line. The easement is 40 m wide and 20,700 m long and runs through Plot Puquios.

- (iv) An easement listed as Folio 5316 No. 3801 in the Mortgages Registry of La Serena CBR dated 2008 in favour of Compañía Minera Nevada Limitada, based on a plan filed with the Property Registry in 1996, under record No. 32. An occupation easement was granted to Compañía Minera Nevada Limitada over mining concessions, "Los Amarillos 1 to 3000" and "Conay 1 to 181" so that the company could build and maintain the Punta Colorada-Pascua-Lama power line. Each easement is 30 m wide and 20,700 m long.

There is a mining easement agreement listed as Folio 536 No. 288 in the Mortgages Registry of La Serena CBR dated 2014 in favour of Cuprum (B&A) to allow the company to install water diversion structures. The easement area is shown in Figure 4-5. Camino, through its subsidiary, is responsible for any environmental obligations resulting from this easement, even if the easement expires.

Figure 4-5: Puquios Water Diversion Channel Easement



Vertice	Este	Norte
1	335314.74	6743976.32
2	335505.08	6743854.71
3	335748.09	6743874.60
4	335932.39	6743726.63
5	335901.47	6743604.13
6	335731.42	6743570.19
7	335481.86	6743464.27
8	335419.71	6743190.75
9	335265.48	6743016.91
10	335030.35	6742709.27
11	334951.05	6742502.43
12	334543.16	6743200.27
13	334438.86	6743200.27
14	334489.08	6743394.71
15	334614.48	6743475.57
16	334785.40	6743439.23
17	335061.62	6743517.32
18	335212.42	6743771.19

Note: Figure courtesy of SML, 2020.

4.5.1 Punta Colorada

Camino, through its subsidiary Cuprum, has surface rights over a land of approximately 43,9677 ha, called "Lote B-2", which is part of a subdivision of the property called “Lote B” located in Punta Colorada, La Higuera. The subdivision plan is shown in Figure 4.6. The parcel was subdivided in 2014, under registration No. 1392-2014. The property registration was carried out in Folio 6093 No. 4054 in the Property Registry of La Serena, Conservador de Bienes Rainces in Spanish (CBR) in 2014.

Easement S3: water use rights and establishment of easements and usufructs, over a total area of 3,192 square meters located in lot number two, which is part of the subdivision of the property called "Resto de la Estancia Los Pozos y Jarilla", La Higuera. Its registration was at Fjs 2621, No. 1496, in the CBR of La Serena, corresponding to the year 2018.

Easement S4: water use rights and establishment of easements and usufructs, over a total area of 1,000 square meters located in lot number two, which is part of the subdivision of the property called "Resto de la Estancia Los Pozos y Jarilla", La Higuera. Its registration was at Fjs 2623, No. 1497, in the CBR OF La Serena, corresponding to the year 2018.

4.6 Water Rights

Based on ownership certificates issued by the La Serena Water Rights Registry, Cuprum owns four underground water rights for 33 L/s, 17 L/s, 10 L/s, and 5 L/s. These water rights are in the La Higuera borough, Coquimbo Region (Table 4-4 and Figure 4-6).

Table 4-4: Water Rights Registry

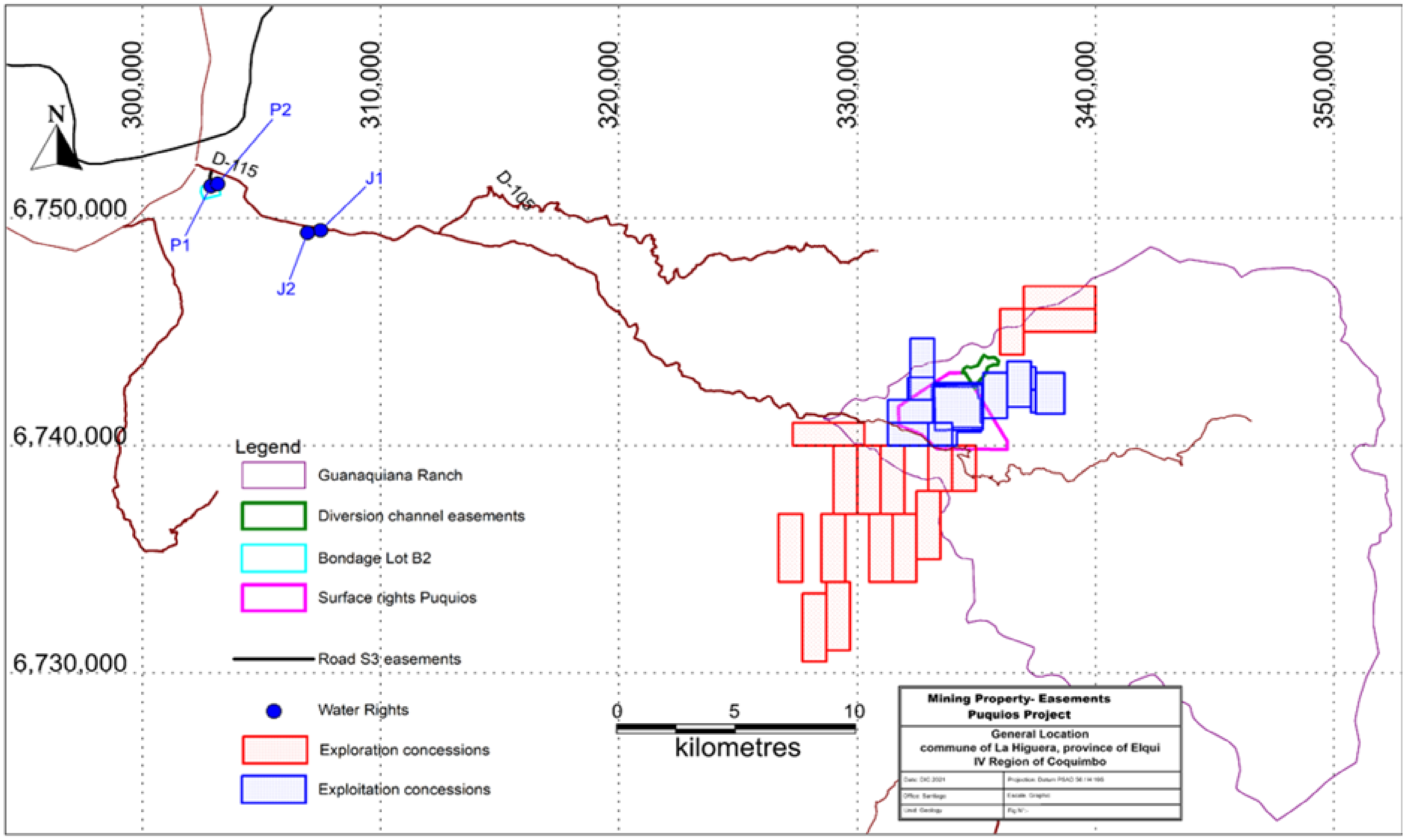
ID	Well	Water Right (L/s)	Water Right Type	UTM Coordinates		Registration in the La Serena Water Property Registry		
				East	North	File	No.	Year
1	P1	33	Consumption	302900	6751500	175	148	2014
2	P2	17	Consumption	303224	6751552	176	149	2014
3	J1	10	Consumption	306959	6749339	51	39	2018
4	J2	5	Consumption	306959	6749339	50	38	2018

According to certificates issued by the La Serena Water Rights Registry in July 2023, the water rights have no encumbrances.

The water rights are also registered in the ‘Dirección General de Aguas’ (DGA) Public Water Public Registry. These registrations entitle Camino, through Cuprum, to request administrative authorizations (for example, request modifications to the intake points), if all legal requirements are fulfilled.

The Puquios Project is likely to require a water consumption of 14 L/s based on the water mass balance updated in April 2020. There is no water supply pipeline planned. The process water will be obtained from the current water wells SML has on their Punta Colorada facility by water trucks and using the current water rights, at an elevation of 396 masl and will travel for 38 km upstream through the Los Choros ravine, to the future process water pond at the plant site at an elevation of 1384 masl. There is an additional water well available in the project area with 3 L/s.

Figure 4-6: Water Rights Layout Plan



Note: Figure courtesy of SML, 2020.

4.7 Royalties and Encumbrances

4.7.1 Mining Tax

A mining tax is payable to the Chilean government depending on the production rate (refer to Section 4.2.2).

Article 64 bis of the Income Tax Act applies a specific tax on mining operations. Rates are progressive and based on sales amounts, ranging from 0.5–5% of operating taxable income for taxpayers having annual sales over 12,000 t of refined copper or its equivalent (Law 20026). The forecast production rate from the Project will be 9,000 t; hence, no mining tax is anticipated to be payable.

4.7.2 Royalty

4.7.2.1 Royalty in Favour of SLM Las Pascualas Uno de Estancia de Chingoles

By means of a public deed dated as of December 10, 2010, granted in the Notary Public of Santiago of Ms. Antonieta Mendoza Escalas, SLM Las Pascualas Uno de Estancia de Chingoles (Las Pascualas) and Cuprum executed an option agreement for the purchase of the mining concessions owned by Las Pascualas presented in table Table 4-5.

Table 4-5: Las Pascualas Royalty

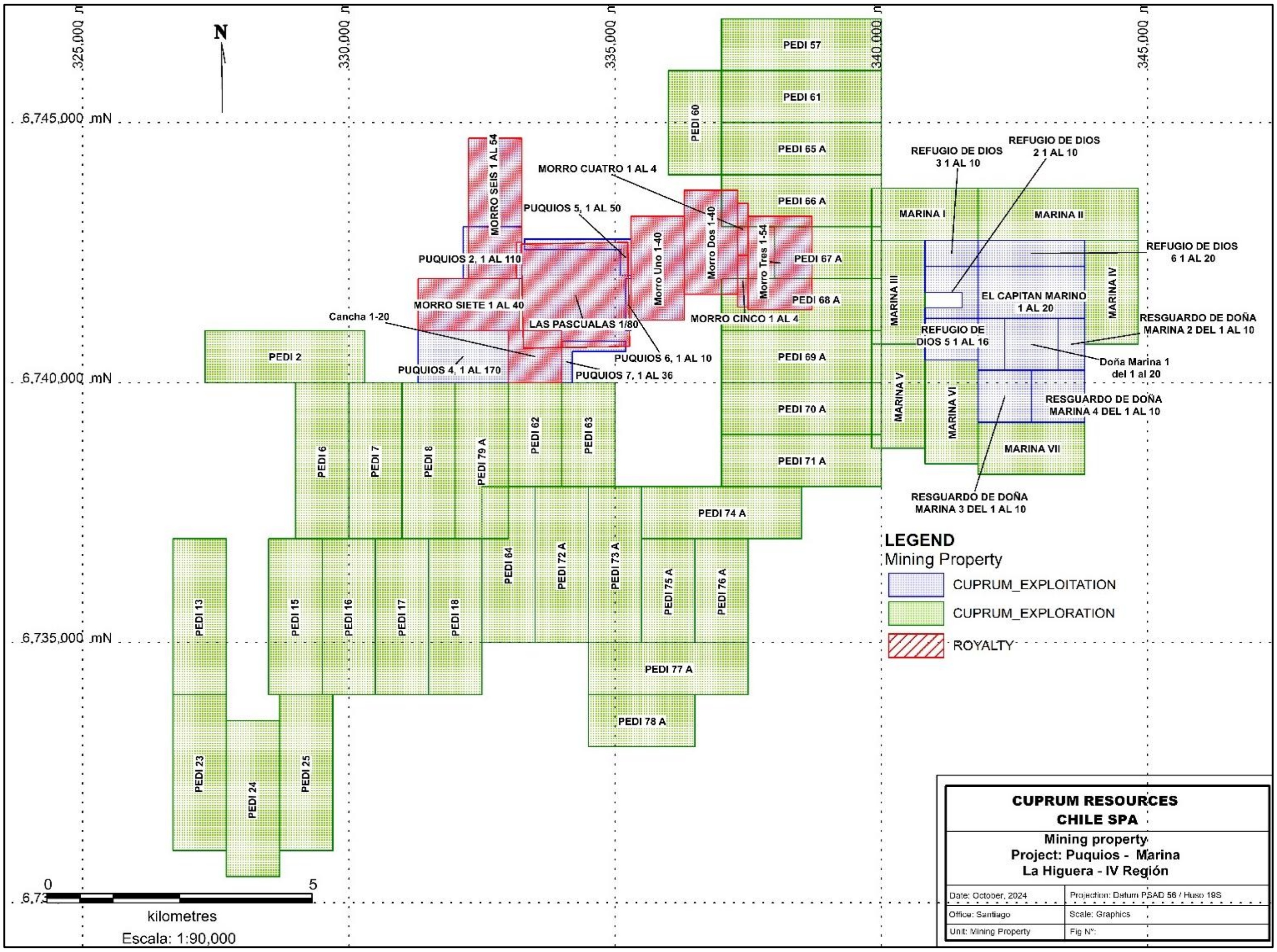
N°	Name	Type	Rol
1	Cancha 1/20	Exploitation	04102-2025-3
2	Las Pascualas 1/80	Exploitation	04102-1243-9
3	Morro 1 1/40	Exploitation	04102-2058-K
4	Morro 2 1/40	Exploitation	04102-2059-8
5	Morro 3 1/54	Exploitation	04102-2060-1
6	Morro 4 1/4	Exploitation	04102-2197-7
7	Morro 5 1/4	Exploitation	04102-2209-4
8	Morro 6 1/54	Exploitation	04102-2210-8
9	Morro 7 1/40	Exploitation	04102-2211-6

By means of a public deed dated as of May 29, 2013, granted in the Notary Public of Santiago of Ms. Antonieta Mendoza Escalas, Cuprum exercised the Las Pascualas Option and acquired the Optioned Concessions.

Pursuant to article Sixth of the Las Pascualas Option, Cuprum agreed to pay Las Pascualas, as consideration for the purchase of the mining concessions object of said agreement, a NSR royalty equivalent to 2% of the net smelter returns that Cuprum receives from the sale of minerals extracted from the Optioned Concessions. Said NSR royalty was referred to as in the relevant ownership registrations of each of the Optioned Concessions.

Figure 4-7 shows the properties affected by this royalty.

Figure 4-7: Royalty in Favor of SLM Las Pascualas Uno de Estancia de Chingoles

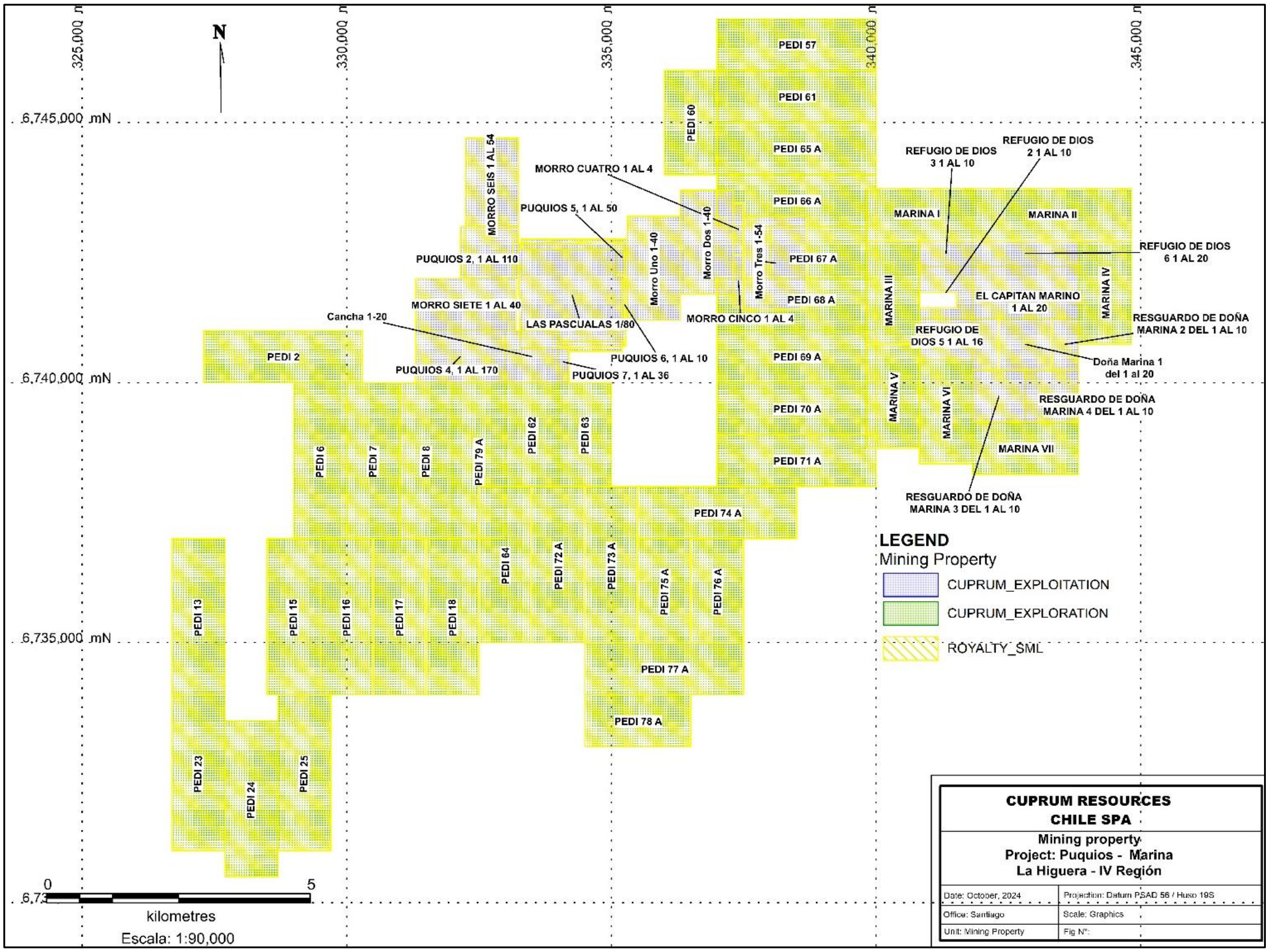


Note: Figure courtesy of SML, 2020.

4.7.2.2 Royalty in favor to Santiago Metals

NSR royalty payable to Santiago Metals II Upper Holdco LLC quarterly on all sales of products derived from minerals extracted from all concessions currently held by Cuprum, regardless of where the minerals are processed. The NSR royalty: (i) will not be capped by time, commodity, production amount or royalty paid; and (ii) will be freely transferable/saleable by the vendors. The NSR royalty will be 1.25% on all sales, less allowable deductions and any withholding taxes applicable will be borne by the recipient. Figure 4-8 show properties affected to this royalty.

Figure 4-8: Royalty in Favor of Santiago Metals



Note: Figure courtesy of SML, 2020.

4.8 Permitting Considerations

The Puquios Project is well advanced in permitting. The most recent changes to the proposed Project as outlined in this report were approved by means of a pertinence letter submitted in 2023, where the environmental authorities (the SEIA) decided that the submitted modifications did not require the submission of a new EIS or EID. Additional information on permitting is provided in Section 20.7, Permitting Considerations.

4.9 Environmental Considerations

The most significant environmental impact of the project is the potential harm to the ecosystem and protected species habitats due to the permanent location of mining structures. To mitigate this, Cuprum established a 183 ha Protection Zone for relocating and conserving protected flora and fauna, with ongoing monitoring. Increased traffic and mining operations may affect the endangered Tricahue parrot population along the project access road. Although some mitigation measures from a related project (Pascua-Lama) are in place, the Puquios Project must maintain other protective measures for the parrots, especially if Pascua-Lama faces early closure. The impact on water ecosystems is expected to be low, with measures in place to divert surface runoff and minimize infiltration that could cause acid mine drainage (AMD). Monitoring and additional studies will be conducted to ensure protection of water ecosystems.

4.10 Social License Considerations

There are no adjacent communities that will be immediately impacted by Project development. The closest settlement is Los Morros, a 12-km distance.

A Community Relations Plan was developed to establish and maintain a mutually beneficial relationship with local communities. The information gathering completed to date indicates a favourable stance towards the Project given past mining in the area and job opportunities that this Project will bring. There are concerns with water usage in mining operations, particularly during times of drought.

There is a group of goat-herding families who travel with their animals through the Project area. This group has been contacted in relation to proposed Project activities.

The Project is more than 43 km distance from the closest Diaguite indigenous communities. However, the Project is in an area that has active non-governmental organizations (NGOs), agricultural communities, and artisanal miners (pirquineros).

4.11 Comments on Section 4

As of the date of this report, there are no significant litigations or undisclosed liabilities associated with Camino that could impact the project.

To the extent known, to the QP there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the Project that are not discussed in this Report.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Puquios Project is located 130 km northeast of La Serena. Access from La Serena is via Route 5 for a distance of 90 km, to the junction with highway D-115, at Punta Colorada. The D-115 highway is followed for 40 km until reaching a sideroad up the Puquios ravine. The ravine road is traversed for a kilometer to reach the Project area. The total drive time from La Serena is approximately two hours. Figure 5-1 shows the access route.

Figure 5-1: Puquios Access Plan

Note: SML, 2020.

5.2 Climate

The Project is in a semi-arid zone, south of the Atacama Desert. The local climate is influenced by the presence of the Cordillera de la Costa and Los Andes, as well as by east–west-oriented river valleys.

The climate is dry, and the average annual rainfall is 46.9 mm. However, rare intense rainfall events of as much as 56 mm can occur in a short period (24 hours). Historically, the Coquimbo region has been adversely affected by floods, primarily due to El Niño events.

It is expected that any future mining operations will be conducted on a year-round basis.

5.3 Local Resources and Infrastructure

The Elqui Province is the northernmost province of the Coquimbo Region. It includes six counties (comunas), that extend from the coast to the Argentinean border. The Project is in La Higuera county, whose capital, also named La Higuera, has a population of approximately 4,300. The closest major municipality is La Serena.

The closest settlements to the Project are Los Morros (12 km), Las Cruces (30 km), and Punta Colorada (40 km).

Goods and services can be obtained from La Serena to support mining operations. The La Serena area supports numerous mining operations in its hinterland and can provide skilled mining labour and contractors.

The La Serena–Vallenar high-tension power line passes approximately 40 km west of the Project.

There is limited availability of flat land on which to construct infrastructure. As a result, any future mining activity will require excavation and construction of platforms on which to locate the major infrastructure.

Surface rights are discussed in Section 4.5, and the current water rights are outlined in Section 4.6.

The infrastructure considered in this Project is discussed in Section 18 of this Report.

5.4 Physiography

The altitude within the Project area ranges from 1,400 to 1,600 masl. The general topography is rugged, characterized by deep ravines and high hills. The Project area is characterized by mediterranean desert scrub vegetation.

There are no National System of Wild Protected Areas of the State or Wetlands of Importance within the project area, or that would be affected by the development envisaged in this Report.

As noted in Section 4.9, three protected flora species will require conservation management, and a protected area has been set aside for replanting these species where disturbed by mining-related activities.

A fauna survey completed in support of DIAs identified 47 vertebrate species, of which five (two amphibians, and three reptile species) have conservation status.

5.5 Seismicity

The mining operations are located within Seismic Zone 3, as defined by Chilean Standard 433-1996. This zone has a 0.4 g rating. The zone rating assumes that at least one earthquake of magnitude 5 would be experienced annually.

5.6 Comments on Section 5

There is sufficient land available within the Project concessions to support any future mining operations, including tailings disposal, mine waste disposal, and mining-related infrastructures such as an open-pit, heap leach facilities and associated process plant, workshops and offices, and accommodations facilities. However, due to the rugged topography and few available flat areas, infrastructure is likely to be required to be erected on excavated platforms.

Any future mining activities are expected to be conducted on a year-round basis.

6 HISTORY

6.1 Exploration History

Geological mapping was conducted in 1979 over what was then termed the Las Pascualas anomaly, at a 1:2,000 scale. The mapping accompanied geochemical sampling, which delineated a copper–molybdenum anomaly. A joint venture between Placer Dome and Elecmetal S.A. was conducted for additional geochemical sampling in 1980, which confirmed the 1979 geochemical anomaly. Additional geochemical sampling was conducted in 1982.

In 1988, Placer Dome carried out a RC drilling campaign, consisting of seven holes, which reached a maximum depth of 150 m. Drilling was conducted on a 200 x 200 m grid, covering an area of 400 x 200 m.

During 1990 and 1991, Gerardo Findel, a previous property owner through the Sociedad Legal Minera Las Pascualas Uno Estancia de Chingoles, excavated two subparallel exploration tunnels, 600 m apart, to investigate higher-grade copper values intersected in Placer Dome's RC drill holes 3 and 5. The upper tunnel is at an elevation of 1,450 masl and the lower tunnel is at 1,370 masl. The tunnels material was transported to a flotation plant for treatment, 40 km from the tunnels.

In 1991, ENAMI, the Chilean state-owned mining company, mapped and sampled the tunnels. In 1993, Compañía Minera Aurex – Chile Ltda. (Aurex, a Freeport subsidiary) optioned the Project and developed the construction of a 200-m-long, east–west tunnel that joined the tunnels constructed by Gerardo Findel. The existing tunnels were geologically mapped and sampled, supplementing the information previously obtained by ENAMI.

In August 2005, Minera Cielo Azul carried out a 50 x 50 m geochemical sampling grid, which covered an area of 1,200 x 400 m over an interpreted hydrothermal alteration zone. A total of 214 rock chip samples were collected.

Tarquin Resources (Tarquin) acquired a 51% interest in the Project in 2005. Investika Limited (later renamed to Natasa Mining Ltd. or Natasa) obtained ownership of Tarquin in 2007. The in-country Tarquin/Natasa subsidiary, Tommy S.A. (Tommy) completed 18 core holes (2,536 m) and 251 RC holes (24,946 m) in the period from 2006–2008. During 2007, Tarquin renamed the deposit from Las Pascualas to Puquios to avoid potential confusion with Barrick's similarly named Pascua-Lama deposit. A resource estimate under the Australasian Joint Ore Reserves Committee (JORC) code was performed by SRK Consulting (SRK) in 2007. This estimate was used as a pre-feasibility study which demonstrated positive project economics assuming open-pit mining and production of copper cathode. A feasibility study commenced in late 2007; however, when a resource estimate update was completed in 2008 to incorporate the results of the 50 x 50 m infill drilling, the updated tonnage estimate was deemed insufficient to support the assumed production rate. Additionally, completed metallurgical test work indicated that the proportion of insoluble copper minerals in the mineralized zone was higher than previously projected, leading to a 4% fall in metallurgical recovery assumptions.

In 2012, the Project was acquired by B&A through its Chilean subsidiary, Cuprum Resources Chile to Ltda. (Cuprum). Between 2012 and 2013, Cuprum completed a drilling program of 5 core holes and 26 RC drill holes. Later in 2014, Cuprum drilled an additional 23 RC drill holes.

In early 2018, Denham Capital Management acquired Cuprum through its Chilean subsidiary, Santiago Minerals Ltda. (SML). Furthermore, Cuprum Resources Chile Ltda. underwent a name change to Cuprum Resources Chile SpA. Since the acquisition, SML completed additional studies in support of updated Mineral Resource and Reserve statements. Between 2018 to 2021, SML drilled a total of 35 cores holes and 25 RC drill holes.

Relevant exploration and drill results are discussed further in Section 9 and 10.

6.2 Production

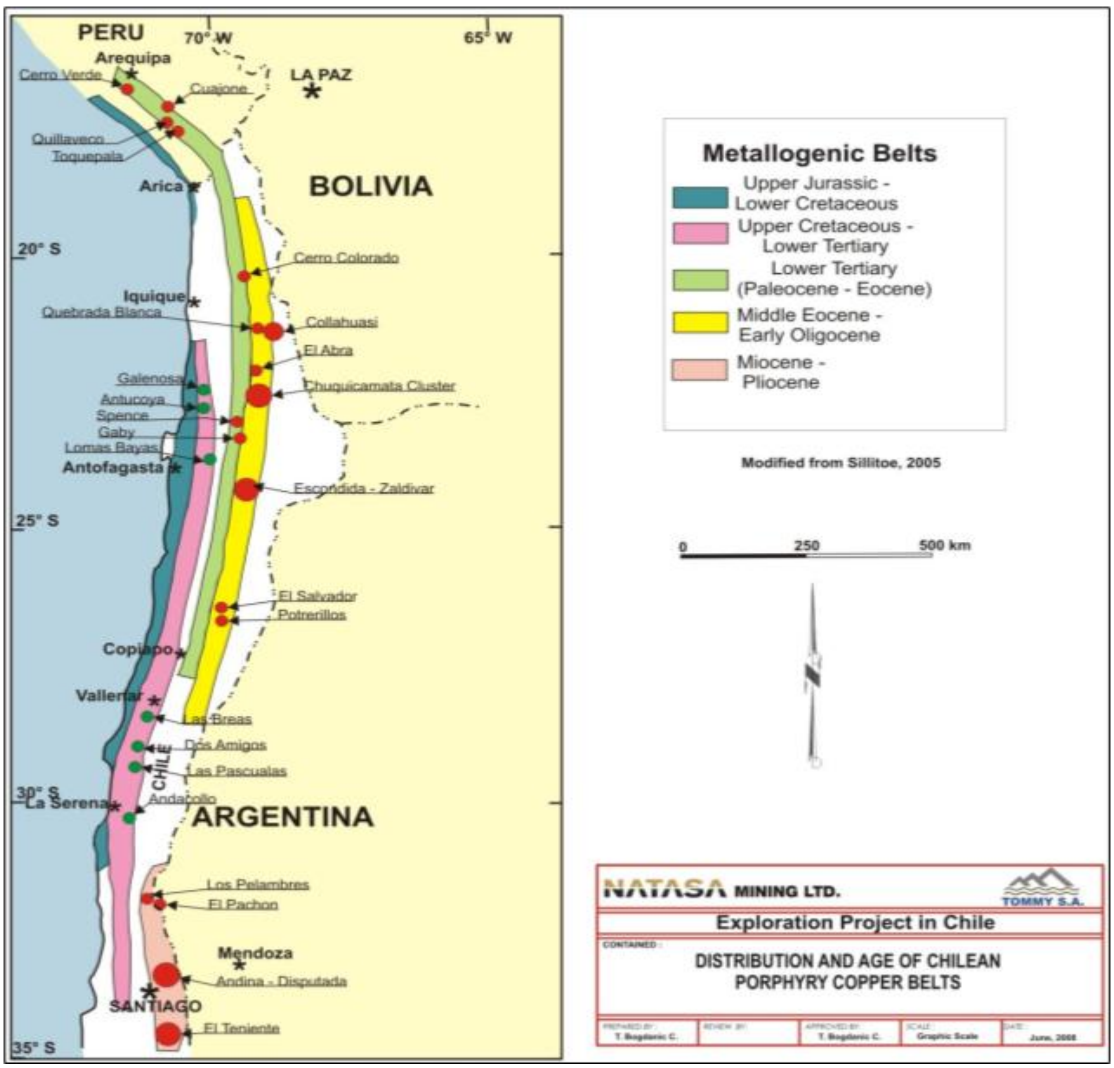
There has been no commercial production from the project area.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Project lies within the westernmost metallogenic belt of a series of mineralized belts that run down the Peruvian and Chilean coast (Figure 7-1).

Figure 7-1: Metallogenic Belt and the Las Pascualas (Puquios) Location



Source: SLM, 2020. Note: With the exception of Las Pascualas (Puquios), all other mines and projects shown as red or green circles in this figure are held by third parties and SML has no interest in these.

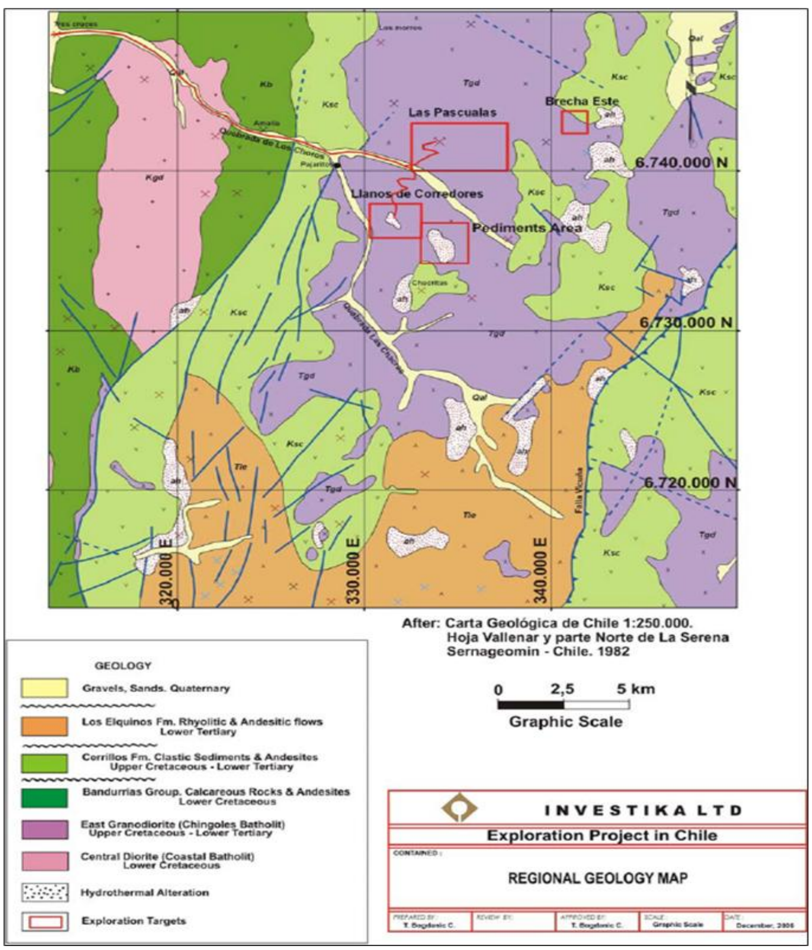
The regional geology consists of andesitic volcanic sequences with marine sedimentary intercalations (Bandurrias Group, sensu Moscoso et. al., 1982) and volcanoclastic rocks (Viñitas and Los Elquinos Fms.). Deposition ages range from Lower Cretaceous to Lower Tertiary. These units were intruded by batholitic plutonic rocks with emplacement ages that range from Upper Cretaceous to Lower Tertiary. Quaternary alluvial deposits consist of gravels and unconsolidated sands on terraces.

7.2 Project Geology

7.2.1 Lithologies

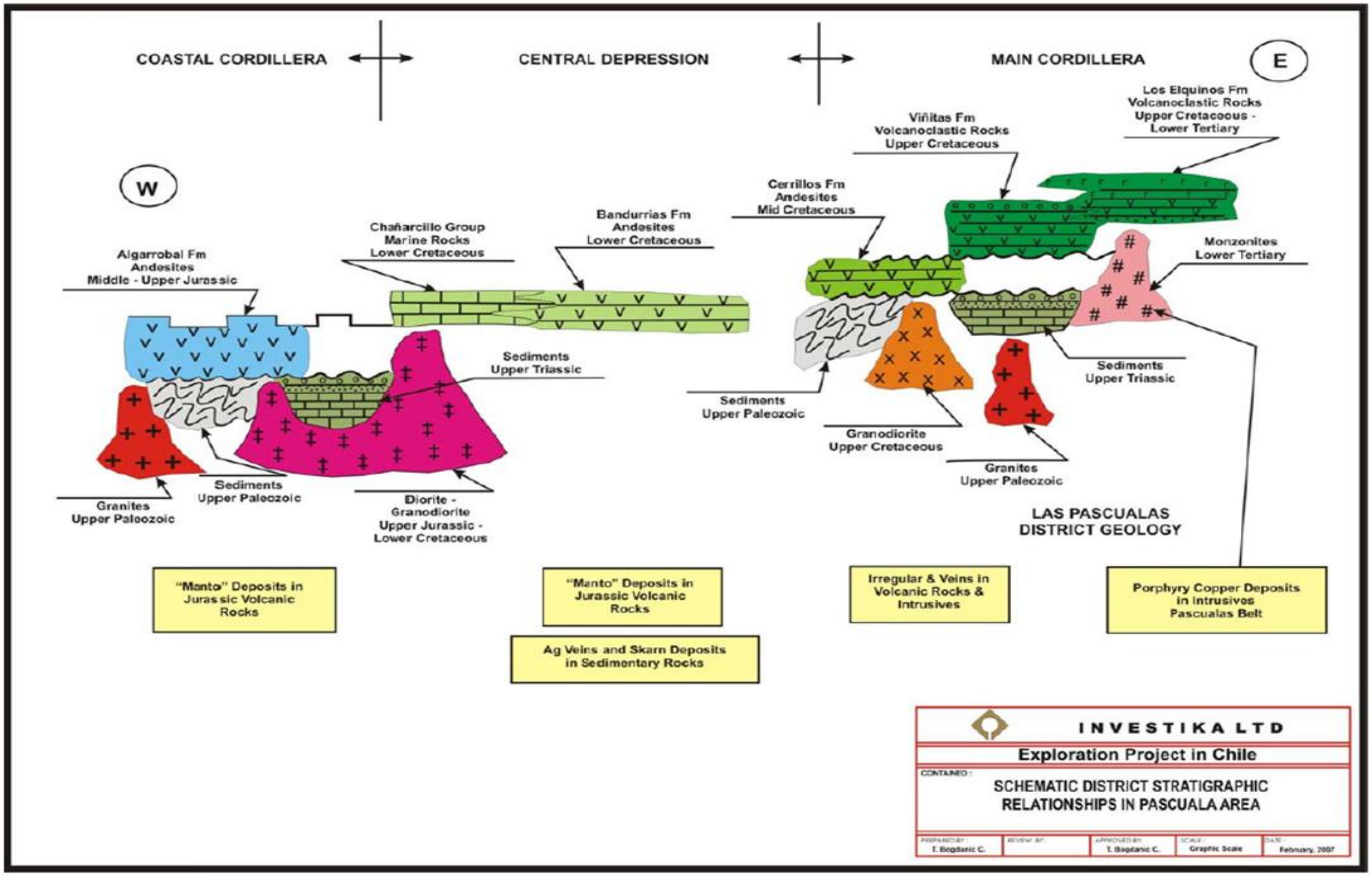
The geology of the Project area is shown in Figure 7-2. (in Figure, the Project is identified as Las Pascualas due to his previous historical name). Geomorphologically these units are situated on the western flank of the Main Andes Cordillera (Figure 7-3).

Figure 7-2: Project Geology Map



Note: Figure courtesy of SML, 2020.

Figure 7-3: Stratigraphy and Relationships of Intrusive Units, Las Pascualas District



Note: Figure from Geological Final Report – Las Pascualas Project, 2007.

The Mesozoic sequences are affected by folding and regional faults and are highly deformed.

Hydrothermal alteration in the Project area is closely related to the contact zones between the Mesozoic sequences and the granodioritic intrusions. Vein and manto-type deposits developed around these hydrothermal alteration centres.

7.2.2 Structure

There is a regional west–northwesterly–east–southeasterly structural trend that comprises parallel subvertical fractures oriented N280–300°E, which are associated with sets of andesitic dikes that developed in the deposit and surrounding areas. There are two main, subparallel, north–south-oriented, discontinuous and sinistral (syn-mineral) fault systems, the Falla Los Loros and Falla Los Pequenes fault systems, which host narrow dacitic–andesitic dikes that can be as much as 1 m in width and show late normal displacements.

Two fault sets control the copper oxide mineralization on a Project-wide scale:

- N5°E to N50°E faults: discontinuous faults that are primarily located between the Los Loros and Los Pequenes zones, host copper oxide deposits that form as tabular bodies along the fault orientations; and
- N280°E to N300°E faults: subvertical faults that host copper oxide deposits along the fault traces. These faults consist of post-mineralization, sub-horizontal, low-angle faults that displace the Puquios granodiorite to the south–southeast. Brecciated gouge bands developed in these faults and may host copper oxides.

7.2.3 Hydrothermal Alteration

Hydrothermal alteration zones result in colour- and mineralogically distinct outcrops. Mineral alteration assemblages are characteristic of those associated with copper–molybdenum porphyry deposits and include potassic (biotitic), phyllic, and propylitic alteration types.

7.2.4 Mineralization

The major mineralized zones include:

- Leached and oxidized zone: overlies the primary sulphide zone. Moderate to intense supergene argillic alteration superimposed over silica–potassic to advanced argillic alteration types. Mineralization consists of jarosite, goethite, hematite, copper wad and copper-pitch, chrysocolla, malachite, atacamite and copper-bearing clays.
- Secondary enrichment zone: located under the base of the leached and oxidized zone and above the top of the occurrence of carbonates and characterized by phyllic alteration. Mineralization comprises dusty chalcocite rimming pyrite and chalcopyrite. At depth, the zone is dominated by chalcocite–covellite rimming pyrite and chalcopyrite grains. Molybdenite occurs in fractures and veins.
- Primary sulphide zone: zone located under the base of the carbonates. Characterized by silicic–potassic alteration. Mineralization is chalcopyrite dominant. Molybdenite occurs in fractures and veins.

7.3 Deposit Description

7.3.1 Lithologies

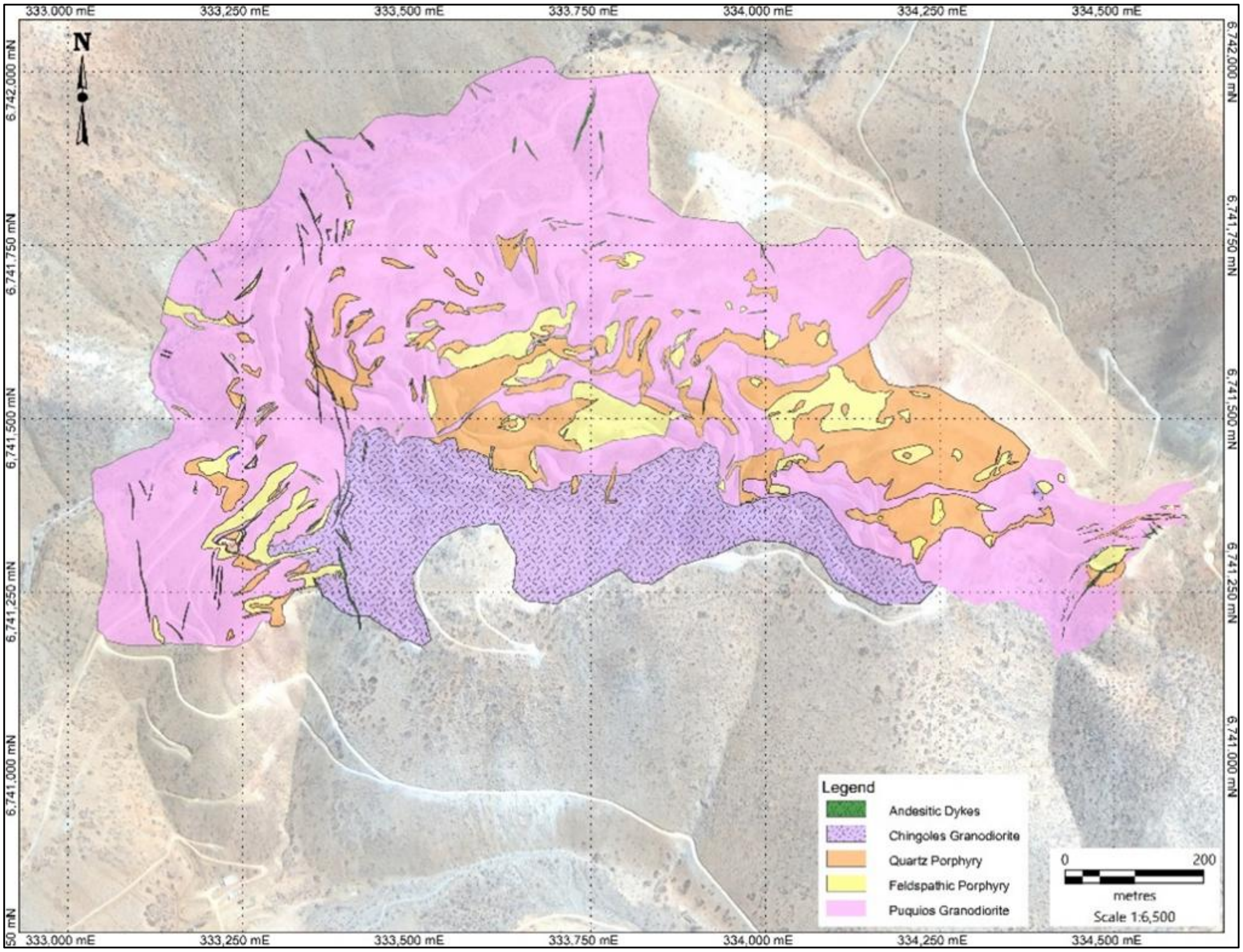
The country rock consists of volcanic and volcanoclastic andesites from the Upper Cretaceous Los Morros Formation.

Table 7-1 summarizes the plutonic and hypabyssal units. Figure 7-4 is a geology plan for the deposit area.

Table 7-1: Intrusive and Hypabyssal Lithologies

Type	Unit	Abbreviation	Age (Ma)	Note
Intrusive plutonic units	Molle monzodiorite	Mzdm	78–68	Biotite and amphibole quartz monzodiorites.
	Los Morros diorite	Dlm	68	Coarse-grained pyroxene and biotite-rich diorites.
	Puquios granodiorite	Gdp	64	Paleocene medium-grained amphibole and biotite-rich granodiorite. The host rock for porphyries, breccias and hydrothermal events.
	Chingoles granodiorite	Gdch	64	Fine-grained porphyritic biotite granodiorite.
Hypabyssal units	Microdiorites	Mdr		Microdioritic dikes and sills.
	Feldspathic aplitic porphyries	Paf		White, aplitic dikes and irregular bodies.
	Andesitic dikes and sills	Hand	ca. 61	Green andesitic dikes and sills. May reach 15 m in width and 1 km in length.
	Dacitic–andesitic dikes	Hdand		Aphanitic to porphyritic dacitic–andesitic dikes.
	Tourmaline breccia	BXT		Clast-supported breccia with quartz-tourmaline matrix. Northeast to east–west-striking. Clasts are primarily granodiorite. Strongly altered to quartz–sericite.
	Hydrothermal breccia	BXH		Hydrothermal breccia with quartz matrix, advanced argillic alteration.
	Quartzitic porphyries	Pqz		Granodioritic porphyry. Medium- to fine-grained with up to 0.5 cm plagioclase crystals. Light-grey groundmass consists of quartz and feldspars. Pyrite and chalcopyrite present in the primary zone. Boxworks and iron oxides occur in leached zone.
	Feldspathic porphyries	Pfd	78–68	Coarse-grained dacitic porphyry with up to 1 cm plagioclase phenocrysts and mafic groundmass.

Figure 7-4: Lithological Units, Puquios Deposit Area

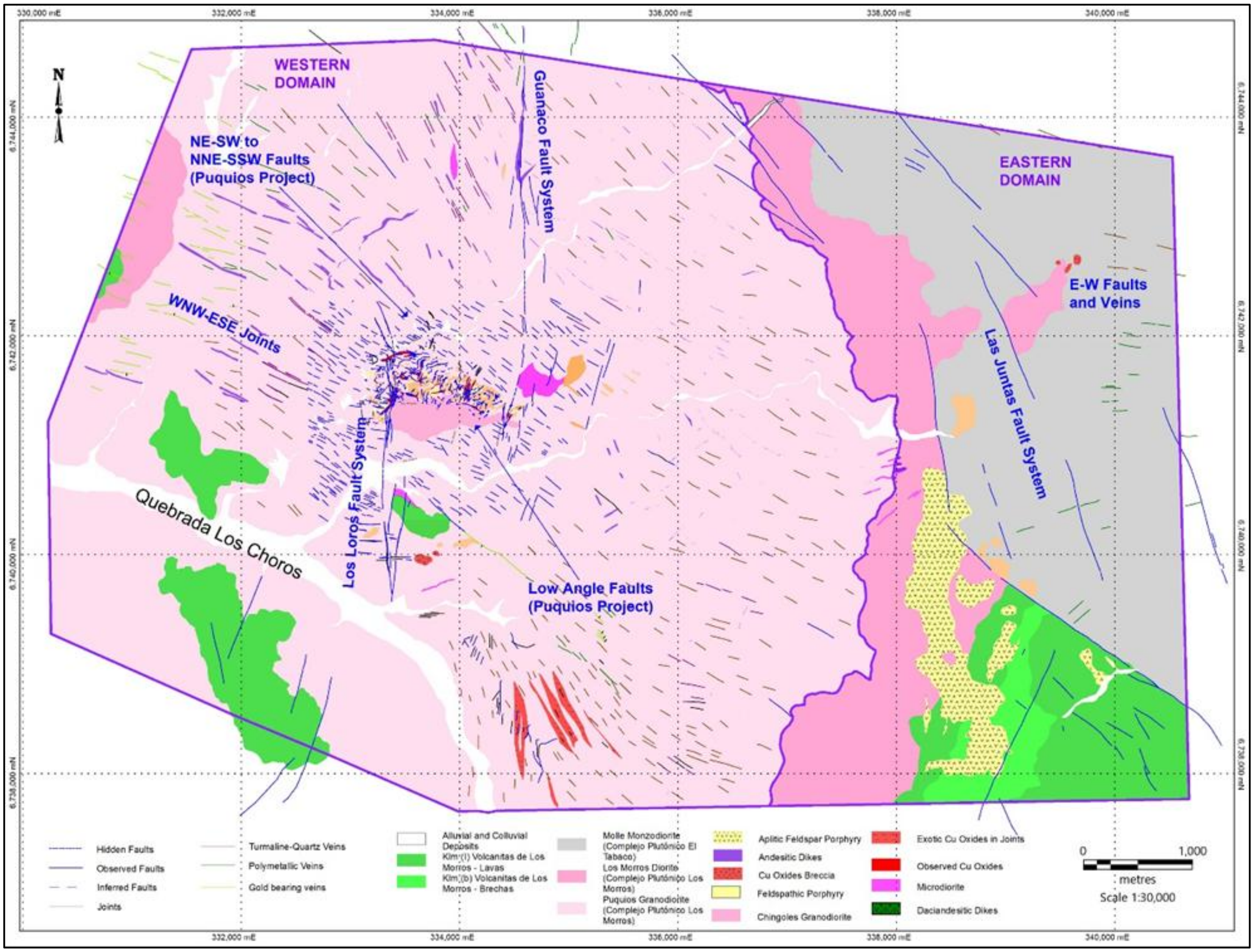


Note: Figure courtesy of SML, 2019.

7.3.2 Structure

Two structural domains were identified, the western and eastern domains (Figure 7-5).

Figure 7-5: Western and Eastern Domains Geology Map, Puquios



Note: Figure courtesy of SML, 2019.

The western domain is characterized by Paleocene-age joints and this domain hosts the Puquios deposit. The Eastern Domain generally includes regional faults that are related to the Eocene Inca Deformation Phase. The major structures within each domain are provided in Table 7-2.

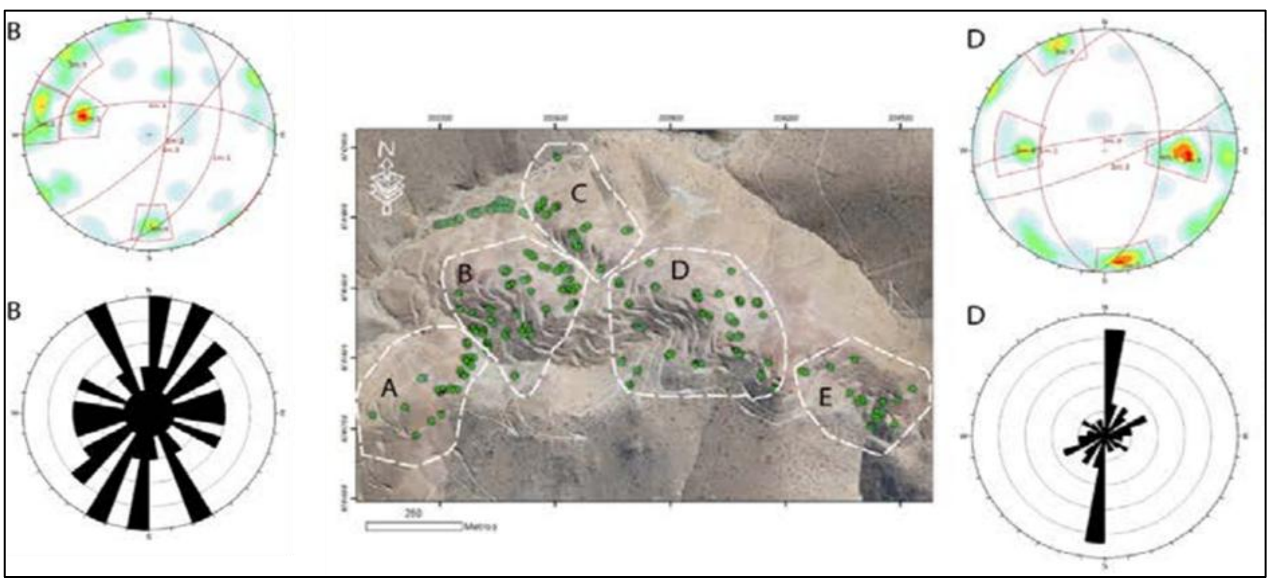
Table 7-2: Structures

Domain	Structure Type	Note
Western	West–northwest to east–southeast joint sets	Mineralization control
	Los Loros fault system	High frequency subvertical parallel joints. Frequently contains red hematite or quartz veins with quartz–sericite alteration halos
	Guanaco fault system	Mineralization control
	Northeast–southwest to north–northeast–south-southwest faults (N5°E-N45°E)	North–south-striking subparallel faults. Faults may extend as much as 350 m length
	Low-angle faults (<30°)	North–south fault trace that extends for at least 2.5 km. Displays early medium- to high-temperature dextral and late sinistral deformation. Generally non-mineralized. Copper oxide-bearing structures to the east of the Project
Eastern	Las Juntas fault system	Mineralization control
	East–west-trending vein and fault system	Short, <100 m faults. Display quartz–sericite or hematite–quartz gouge

GeoEkun (2020) interpreted the main controls on copper mineralization to be lithological contacts and the elevations at which supergene enrichment occurred. GeoEkun concluded that the major faults are not a major control on copper distribution.

This study included rosette maps of fractures and veins, which indicated a preferential 340–20º azimuth in the centre of the deposit (Figure 7-6).

Figure 7-6: Fractures/Veins Rosette Maps of the Centre Sectors of Puquios



Note: Figure courtesy of GeoEkum, 2020.

This orientation is consistent with the distribution of the high copper grades (CuT, CuS, and CuCN) for each EU (Wood, 2021). This consistency was confirmed by using copper variogram maps for all the EU.

7.3.3 Alteration

The Puquios deposit area is dominated by quartz–sericite alteration that is spatially associated with granodioritic dikes and sills that have east–west to N70°E strikes. Chlorite–sericite and propylitic alteration developed peripheral to the quartz–sericite alteration zones. Early biotitic alteration affects mafic minerals, particularly hornblende crystals within the granodioritic host rock.

A summary of the alteration assemblages is provided in Table 7-3.

Table 7-3: Alteration

Alteration	Abbreviation	Note
Quartz–sericite (phyllic)	QZD	Strong pervasive alteration typified by bands of quartz with subordinate sericite or abundant quartz–pyrite–chalcopyrite veins with sericitic halos
	QZS	Selective sericitization of plagioclase, moderate development of quartz veinlets with sericitic halos
	SER	Selective sericitization of plagioclase, weakly-developed quartz veinlets with sericitic halos
Argillic	AR	Common alteration style in the Puquios granodiorite unit. Mafic minerals are altered to clay and chlorite. Feldspars are altered to clay and limonite. Intrusive rock strengths become brittle because of the alteration process
Intermediate argillic	ARI	Weak to moderate alteration affecting the Chingoles granodiorite unit. Replacement of feldspars by clay minerals. Discolouration of mafic minerals
Advanced argillic	AA	Spatially restricted to the top of hills and controlled by faults. Characterized by intense silicification and argillization (dickite, kaolinite and pyrophyllite)
Propylitic	PROP	Primarily found in the periphery of the Puquios granodiorite. Weak to moderate argillization and chloritization. Mafic minerals can be replaced by epidote. Disseminated magnetite, pyrite and carbonate minerals may be present
Potassium, quartz, K-feldspar	QFK	An early-stage alteration characterized by irregular quartz and K-feldspar veins
Potassium, quartz, biotite	QBT	Consists of secondary biotite, pervasive quartz, magnetite and pyrite

7.3.4 Mineralization

The surface copper anomaly has dimensions of approximately 1,200 x 400 m. The mineralized area captured within the resource estimate has overall dimensions of approximately 1,250 x 500 m. It has been drilled, on average, up to 250 m in depth.

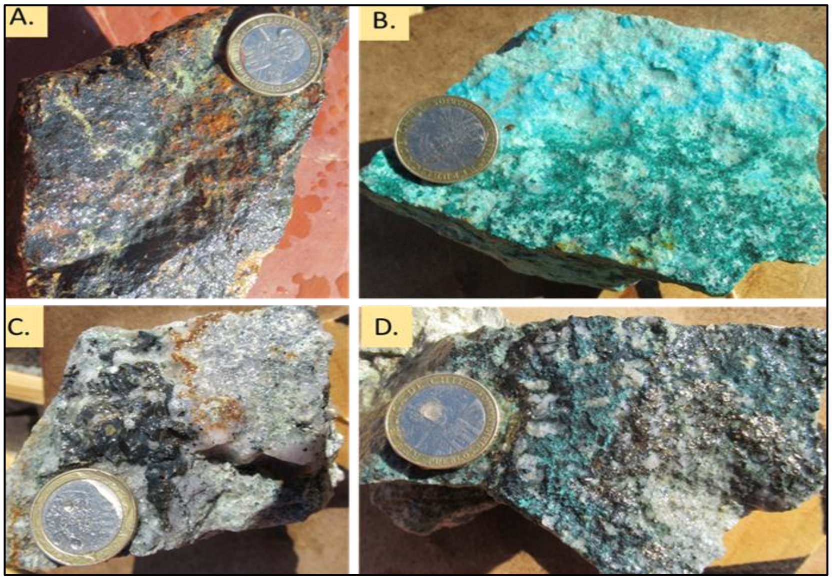
Copper mineralization is present in oxide, transitional, and sulphide forms (Table 7-4).

Table 7-4: Mineralization

Mineralization Type	Mineralization Style	Abbreviation	Notes
Oxide	Leached	LIX	Brown to reddish leached zone. Consists of variable proportions of jarosite, hematite, goethite and limonite
	Leached with copper minerals	LIXCU	Leached zone with residual copper in limonite. Occasional black or green copper oxides filling fractures and veins
	Copper oxides	OXCU	Chrysocolla, brochantite, copper sulphate and black copper oxides infilling fractures and cavities and forming veinlets. Generally show a north–south orientation, and is related to faulting/jointing/veins
		OXCUV	Predominantly green copper oxides, such as chrysocolla, brochantite, malachite, atacamite and azurite. No black copper oxides or black oxides are a minor constituent. Generally show a north–south (±20°) orientation, related to jointing/veins
		OXCUN	Predominantly black copper oxides, such as tenorite. Green copper oxides not present or a minor constituent
		OXCUVN	Approximately equal proportions of green and black copper oxides
		ARCU	Fault zones with copper-bearing clays
Transitional	Mixed	MIX	Mixed zone of copper oxides and copper sulphides
Secondary enrichment	Secondary sulphides	SEC	Chalcopyrite replaced by secondary chalcocite. Zone displays a continuous blanket shape developed in the granodioritic host rock with quartz–sericite alteration. The thickest areas are found in more permeable areas such as contacts between porphyry and host rock or fault zones. Chalcocite decreases gradually with depth, as do cyanide-soluble copper grades. Transitional enrichment at the base of the zone (chalcopyrite partially enriched by chalcocite)
Primary sulphide	Primary sulphides	PRIM	Hypogene sulphides beneath oxide or secondary enrichment zones. Primary mineralization is hosted in granodiorites and feldspar porphyries that display low-intensity quartz–sericitic alteration. Chalcopyrite to pyrite ratio increases toward the porphyry contact

Figure 7-7 provides photographic examples of the oxide and transitional minerals.

Figure 7-7: Mineralization in Puquios Deposit



Note: Figure courtesy of SML, 2019. A = tenorite and minor brochantite in fractures. B = brochantite and chrysocolla in fractures. C = pyrite and chalcopyrite replaced by chalcocite in the form of veinlets and dissemination. D = pyrite and chalcopyrite replaced by chalcocite, and chalcocite in turn partly replaced by brochantite.

The oxide (leached) zone ranges in thickness from 0–80 m. Supergene argillic alteration overprints earlier hypogene-related alteration. Copper oxides are classified as black (e.g., neotocite, copper wad) or green (e.g., chrysocolla, copper-pitch, pseudo-malachite, atacamite).

A zone of supergene enrichment, generally 40 m thick, underlies the leached zone. Chalcopyrite mineralization is replaced by secondary chalcocite. In the base of this zone, transitional forms may occur, such as chalcopyrite partially enriched by chalcocite. The transitional zone is irregular and discontinuous. Covellite may be present toward the base of this zone.

The lowermost zone is the primary sulphide zone, consisting of pyrite and chalcopyrite mineralization, and is encountered at average depths of 100–150 m. Molybdenite occurs in veinlets and fractures. The zone generally exhibits low-intensity quartz–sericite alteration and includes potassic feldspar and potassic biotite alteration.

7.4 Prospects/Exploration Targets

Prospects and areas that warrant additional exploration are discussed in Section 9.5.

7.5 Comments on Section 7

Knowledge of the Puquios deposit setting, lithologies, and alteration controls on mineralization are sufficient to support Mineral Resource estimation. The mineralization style and setting of the deposit are sufficiently well understood to support Mineral Resource estimation.

8 DEPOSIT TYPES

8.1 Porphyry Deposits

The following discussion of the geology of porphyry copper deposits is sourced from Sillitoe, (2010), Singer et al., (2008), and Sinclair (2006). Mr. Quiñones confirms that the geology of the Project corresponds to porphyry copper deposit.

8.1.1 Geological Setting

Porphyry copper systems commonly form linear belts, some many hundreds of kilometres long, as well as occurring less commonly in apparent isolation. The systems are closely related to underlying composite plutons, at paleo-depths of 5–15 km, which represent the supply chambers for the magmas and fluids that formed the vertically elongate (>3 km) stocks or dike swarms and associated mineralization.

Commonly, several discrete stocks are emplaced in and above the pluton roof zones, resulting in either clusters or structurally controlled alignments of porphyry copper systems. The rheology and composition of the host rocks may strongly influence the size, grade, and type of mineralization generated in porphyry copper systems. Individual systems have life spans of circa 100,000 years to several million years, whereas deposit clusters or alignments, as well as entire belts, may remain active for 10 million years or longer.

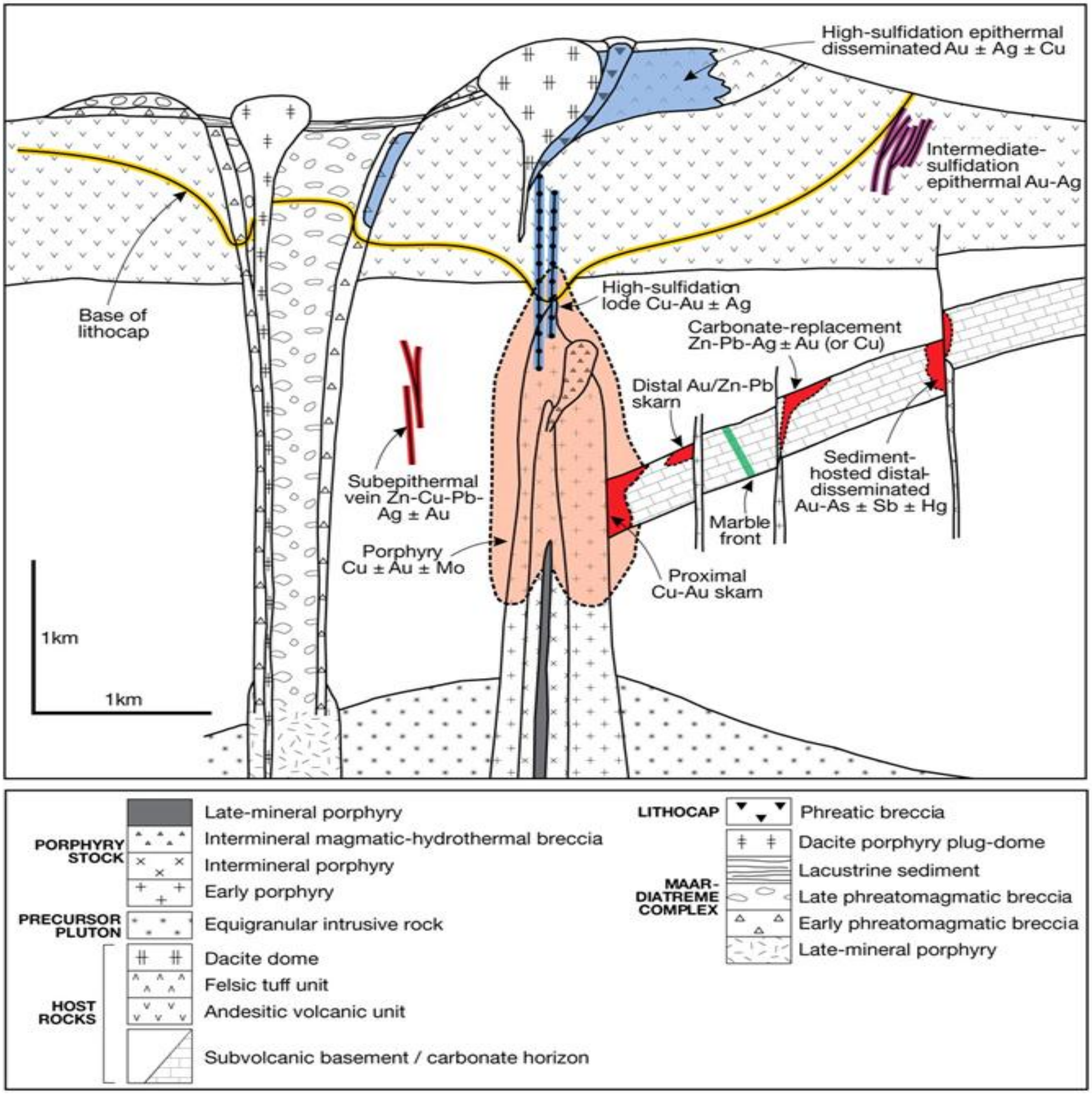
Deposits are generally semicircular to elliptical in plan view. In cross-section, mill feed-grade material in a deposit usually takes the shape of an inverted cone with the altered, but low-grade, interior of the cone referred to as the “barren” core. In some systems, the barren core may be a late-stage intrusion.

The alteration and mineralization in porphyry copper systems are zoned outward from the stocks or dike swarms, which commonly comprise several generations of intermediate to felsic porphyry intrusions. Porphyry copper–gold–molybdenum deposits are centred on the intrusions, whereas carbonate wall rocks commonly host proximal copper–gold skarns and less commonly, distal base metal and gold skarn deposits. Beyond the skarn front, carbonate-replacement copper and/or base metal–gold deposits, and/or sediment-hosted (distal-disseminated) gold deposits can form. Peripheral mineralization is less conspicuous in non-carbonate wall rocks but may include base metal- or gold-bearing veins and mantos. Data compiled by Singer et al. (2008) indicate that the median size of the longest axis of alteration surrounding a porphyry copper deposit is 4–5 km, while the median size area of alteration is 7–8 km^2.

High-sulphidation epithermal deposits may occur in lithocaps above porphyry copper deposits, where massive sulphide lodes tend to develop in their deeper feeder structures, and precious metal-rich, disseminated deposits form within the uppermost 500 m.

Figure 8 1 shows a schematic section of a porphyry copper deposit illustrating the relationships of the lithocap to the porphyry body and associated mineralization styles.

Figure 8-1: Schematic Section, Porphyry Copper Deposit



Note: Figure prepared by Sillitoe, 2010.

8.1.2 Mineralization

Porphyry copper mineralization occurs in a distinctive sequence of quartz-bearing veinlets as well as in disseminated forms in the altered rock between them. Magmatic–hydrothermal breccias may form during porphyry intrusion, with some breccias containing high-grade mineralization because of their intrinsic permeability. In contrast, most phreatomagmatic breccias, constituting maar–diatreme systems, are poorly mineralized at both the porphyry copper and lithocap levels, mainly because of many such phreatomagmatic breccias formed late in the evolution of systems, and the explosive nature of their emplacement fails to trap mineralizing solutions.

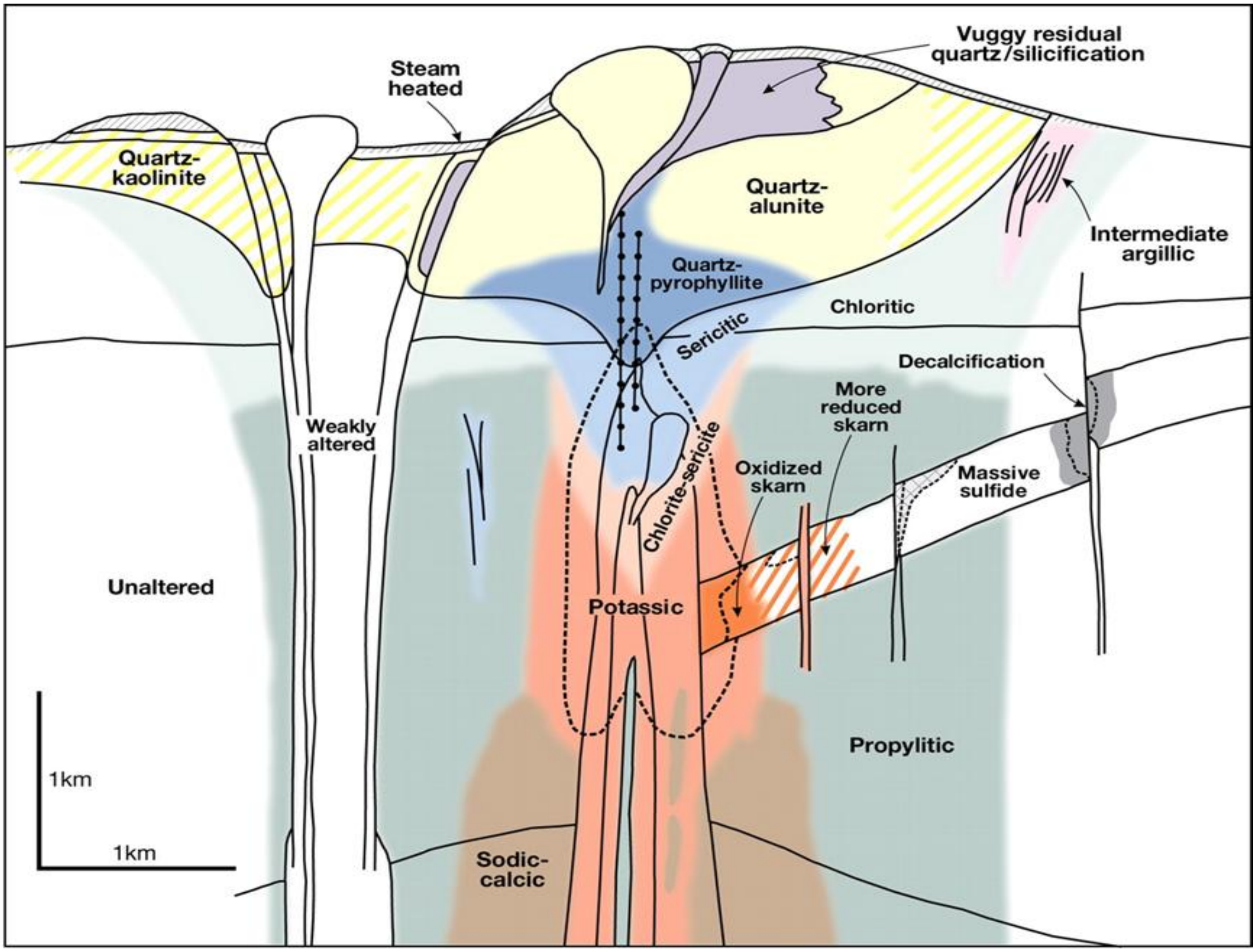
Copper–mill feed mineral assemblages are a function of the chemical composition of the fluid phase and the pressure and temperature conditions affecting the fluid. In the primary, unoxidized, or non-supergene-enriched mill feeds, the most common mill feed–sulphide assemblage is chalcopyrite ± bornite, with pyrite and minor amounts of molybdenite. In supergene-enriched mill feeds, a common assemblage can comprise chalcocite + covellite ± bornite, whereas, in oxide mill feeds, an assemblage may include malachite + azurite + cuprite + chrysocolla, with minor amounts of minerals such as carbonates, sulphates, phosphates, and silicates. Fractures and veins control the copper grades, and the amount of total copper (CuT), acid-soluble copper (CuS) and cyanide-soluble copper (CuCN) that may be present. The principal copper sulphides generally consist of millimetre-scale grains but may be as large as 1–2 cm in diameter and, rarely, pegmatitic (>2 cm).

8.1.3 Alteration

Alteration zones in porphyry copper deposits are frequently classified based on mineral assemblages. In silicate-rich rocks, the most common alteration minerals are K-feldspar, biotite, muscovite (sericite), albite, anhydrite, chlorite, calcite, epidote, and kaolinite. In silicate-rich rocks that have been altered to advanced argillic assemblages, the most common minerals are quartz, alunite, pyrophyllite, dickite, diaspore, and zunyite.

In carbonate rocks, the most common minerals are garnet, pyroxene, epidote, quartz, actinolite, chlorite, biotite, calcite, dolomite, K-feldspar, and wollastonite. Other alteration minerals commonly found in porphyry copper deposits are tourmaline, andalusite, and actinolite. Figure 8-2 shows the alteration assemblage of a porphyry copper system.

Figure 8-2: Schematic Section Showing Alteration Assemblages



Note: Figure courtesy of Sillitoe (2010)

Porphyry copper systems are initiated by injection of oxidized magma saturated with sulphur- and metal-rich, aqueous fluids from cupolas on the tops of the subjacent parental plutons. The sequence of alteration–mineralization events is principally a consequence of progressive rock and fluid cooling, from >700° to <250°C, caused by the solidification of the underlying parental plutons and downward propagation of the lithostatic–hydrostatic transition. Once the plutonic magmas stagnate, the high temperature, generally two-phase hyper-saline liquid and vapour responsible for the potassic alteration, contained mineralization at depth, and early overlying advanced argillic alteration, gives way, at <350°C, to a single-phase, a low-to-moderate-salinity liquid that causes sericite–chlorite and sericitic alteration and associated mineralization. This same liquid also is a source for mineralization of the peripheral parts of systems, including the overlying lithocaps.

The progressive thermal decline of the systems combined with syn-mineral paleo-surface degradation results in the characteristic overprinting (telescoping) and partial to total reconstitution of older by younger alteration–mineralization types. Meteoric water is not required for the formation of this alteration–mineralization sequence, although its late ingress is common.

8.1.4 Porphyry Deposits in Chile

The following deposit model for porphyry deposits in Chile is summarized from Kojima and Campos (2011).

The spatial and temporal distribution of porphyry copper deposits in northern Chile is characterized by the laterally eastward migration of magmatic arcs from the Early Cretaceous (Coastal Range) to the Eocene–Early Oligocene (Eastern Pre-Cordillera) belts.

Porphyry emplacement at shallow levels resulted in late-magmatic potassic (K-feldspar, biotite) alteration, which is overprinted by phyllic (sericite–quartz), and later argillic to advanced argillic alteration styles.

Principal hypogene mineralization developed during late-magmatic to hydrothermal stages, stages, forming veinlets, stockworks and dissemination of sulphide minerals, such as chalcopyrite, bornite and molybdenite.

Extensive secondary enriched zones can occur, characterized by an irregular vertical zonation with an oxidized subzone (chrysocolla, atacamite, antlerite, brochantite) and a sulfurized subzone (supergene chalcocite, digenite, covellite).

8.2 Comments on Section 8

The Puquios deposit has discontinuous zones of copper oxides. Underlying the leached zones, a secondary enrichment blanket is observed. This characteristic is common in some of the porphyry copper deposits in the north of Chile. At depth, the mineralogical zonation of the primary sulphides has been preserved, zoning outward from chalcopyrite to chalcopyrite–pyrite to pyrite.

A porphyry copper deposit model is acceptable for use in exploration vectoring.

9 EXPLORATION

All exploration works described in this item correspond to Puquios deposit.

9.1 Grids and Surveys

The current topographic survey was carried out by STG Ltda. in 2018 (STG, 2018).

The work consisted of geodesic mooring to the Instituto Geográfico Militar’s (IGM) La Silla vertices in WGS 84 and IGM Chañar in PSAD 56. Ten vertices were created that cover the deposit area. Outputs included a topographic surface, geodesy, and aerial photographs.

A Wingtra One unmanned flight was performed to generate a digital terrain model and obtain contour lines every 1 m. The support for georeferencing for each of the flights was provided from the ground with the vertices created by Ashtech Promak 800 GPS equipment at the corresponding vertices. The file used in the current topography is identified as “Topo_Actualizada.msh”.

This work forms the topographic base that has been used for drill hole collar locations, locations of tunnels and excavations, and surface sample locations.

9.2 Geological Mapping

Between 2007 and 2008, Tommy carried out a geological mapping campaign that included:

- Tunnel/adit geological mapping that was completed in 2007 at a 1:1,000 scale, recording lithologies, alteration, mineralization, and structural data.
- Surface geological mapping in 2008 at a 1:2,000 scale, recording lithology, hydrothermal alteration, mineralization, and structural data.

Between 2012 and 2013, B&A completed a 1:4,000-scale surface geological mapping program, recording lithology, hydrothermal alteration, mineralization, and structural data.

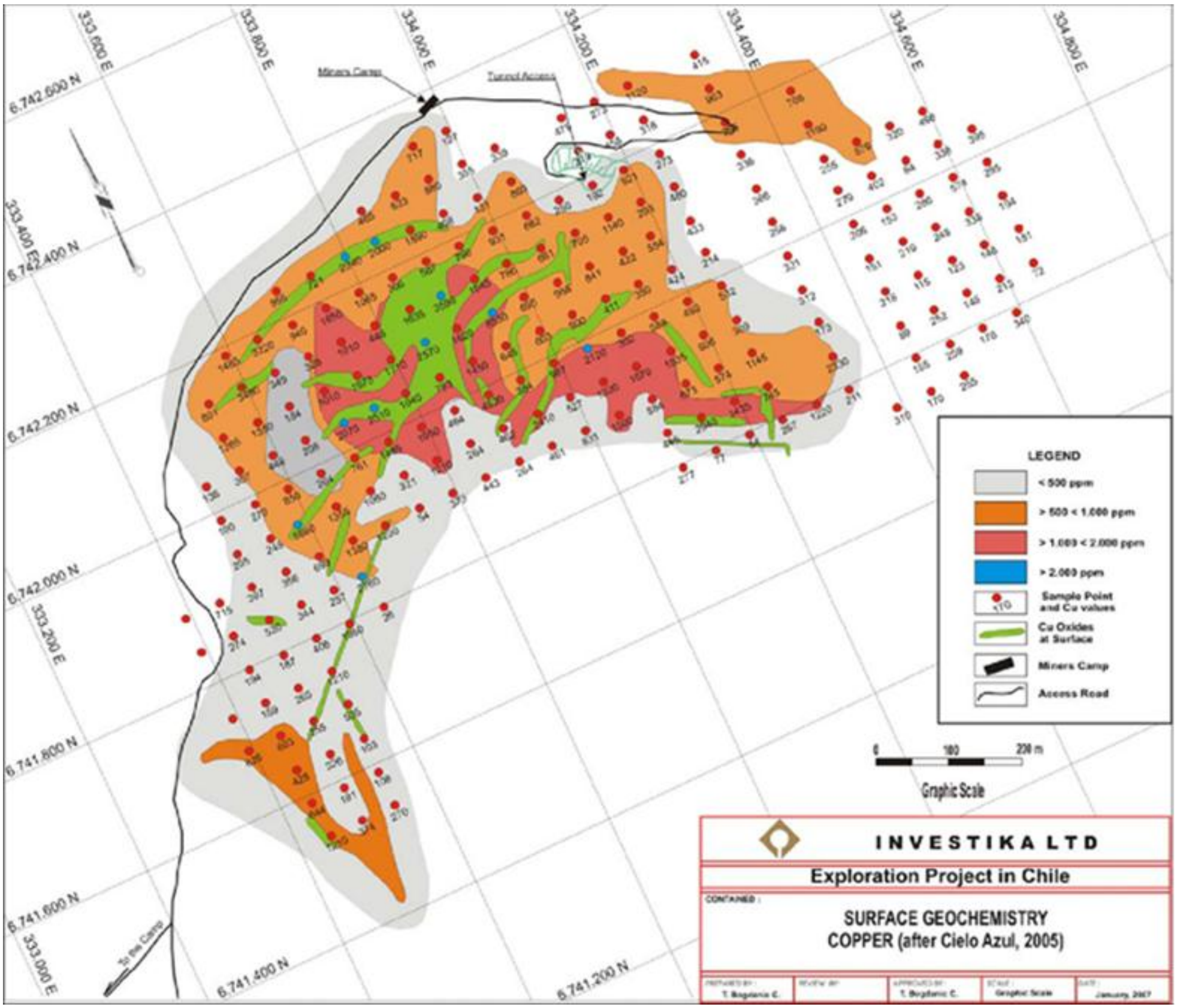
In November 2018 and February 2019, 1:2,000-scale geological mapping was carried out by SML, which recorded lithological, hydrothermal alteration, mineralization, and structural features.

The results of the geological mapping were used to prepare the geological and structural maps included in Figure 7-4 and Figure 7-5.

9.3 Geochemical Sampling

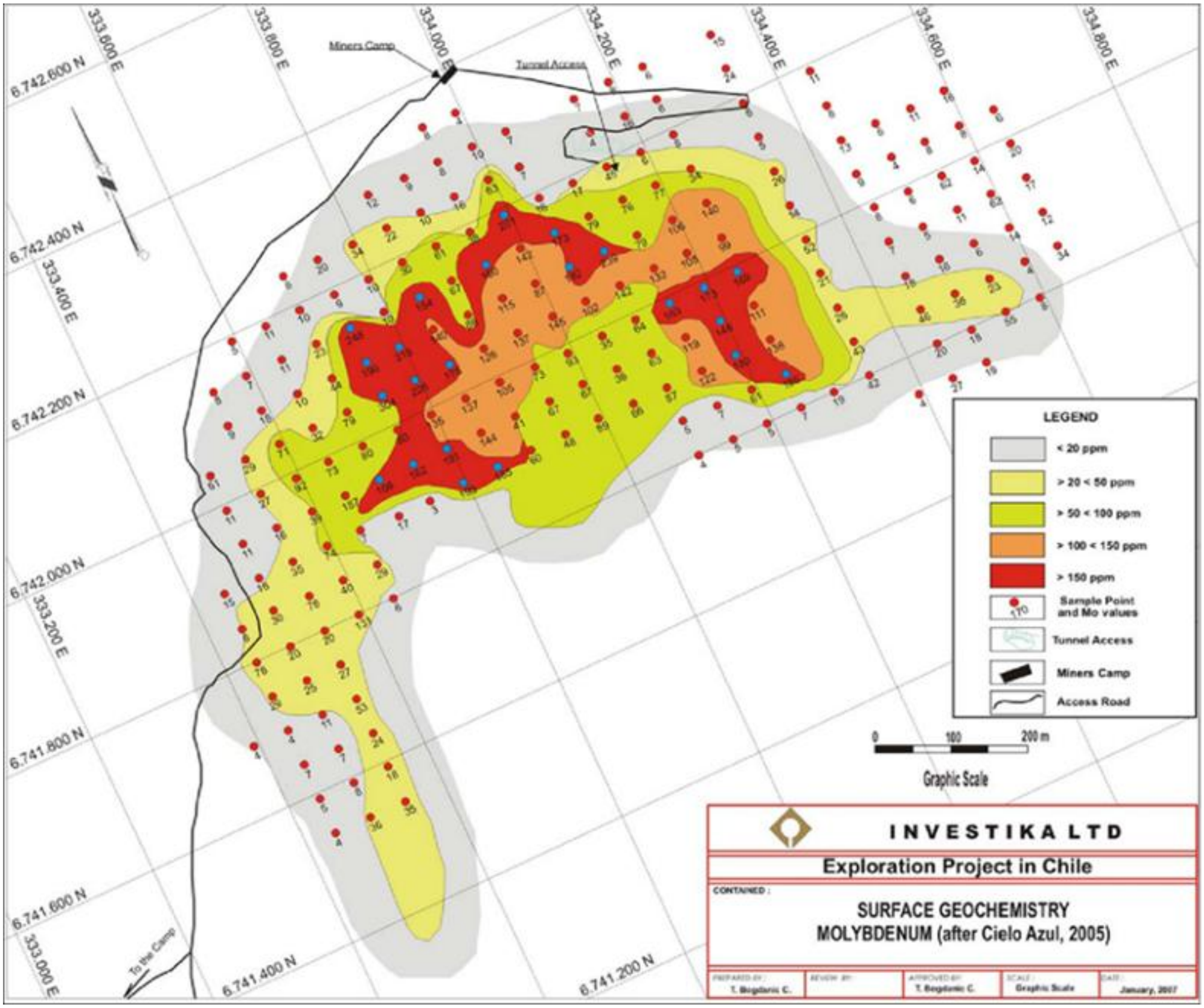
The Minera Cielo Azul geochemical program consisted of 214 samples collected on 50 x 50 m grid spacing, covering a 1,200 (east–west) x 400 m (north–south) area. Assay results were compiled by Tommy into contour plots for copper (Figure 9-1) and molybdenum (Figure 9-2).

Figure 9-1: Copper Surface Geochemistry



Note: Figure courtesy of SML, 2019.

Figure 9-2: Molybdenum Surface Geochemistry

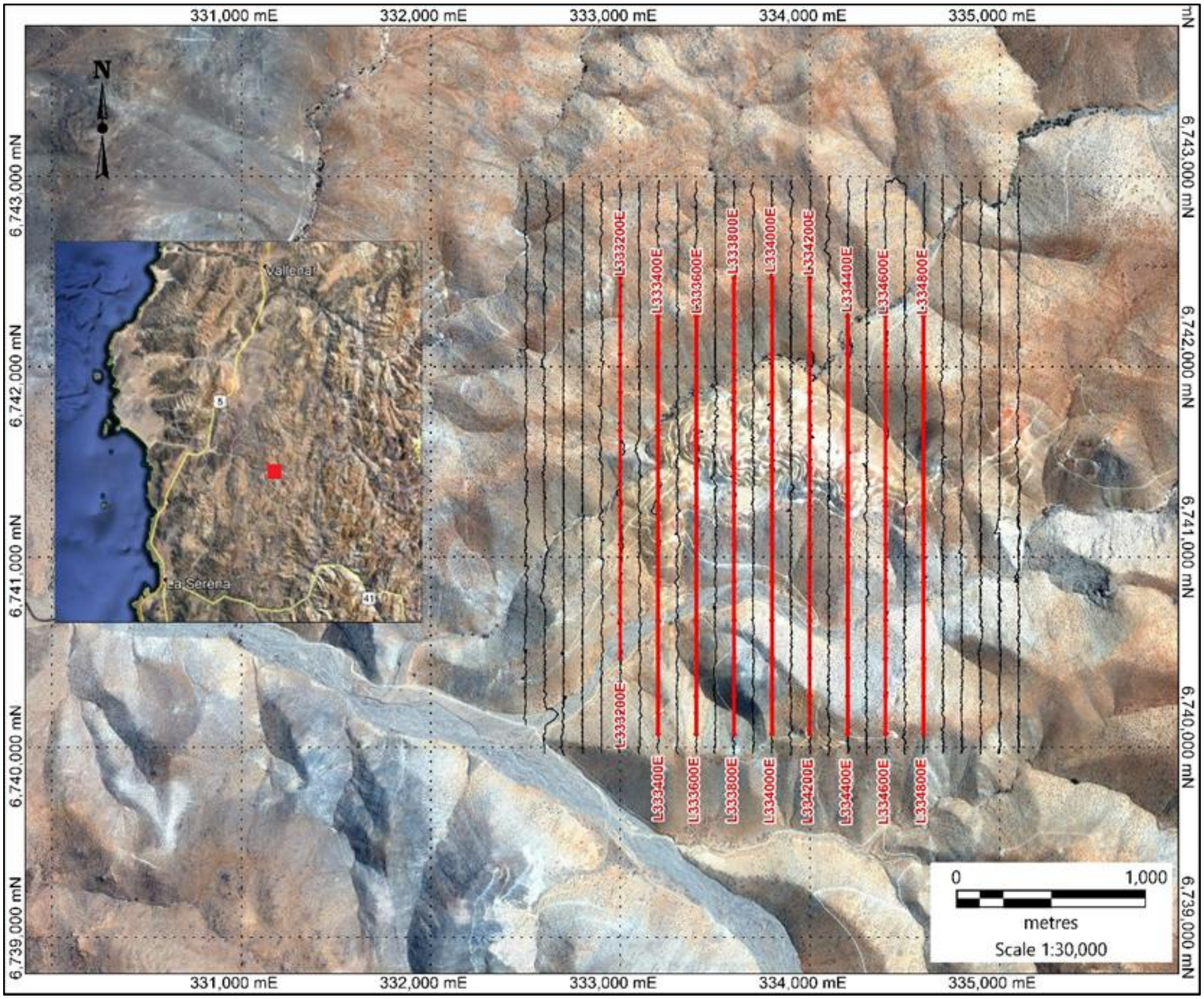


Note: Figure courtesy of SML, 2019.

9.4 Geophysics

Zonge Ingeniería y Geofísica (Chile) S.A. (Zonge) carried out dipole-dipole induced polarization (IP)/resistivity and ground magnetic surveys in 2012. The geophysical lines are displayed in Figure 9-3.

Figure 9-3: Geophysical Survey Location Plan



Note: Figure courtesy of SML, 2019. The IP/resistivity lines are shown in red, and the ground magnetic survey lines in black.

The IP/resistivity survey was conducted on nine survey lines with a separation of 200 m, for a nominal total of 20.6 line-km of data collected.

Ground magnetic data were collected along 27 survey lines of 3.0 km length at 100 m separation, for a nominal total of 81.0 line-km of data collected.

Magnetic images, despite apparent remnant magnetization effects, appear to define a coherent intrusive body of increased magnetite content with dimensions of approximately 1,600 x 1,000 m, elongated to the east–west. Elevated chargeability responses and lower resistivities around the northern and western margins may indicate that the most sulphide-rich zones could be located around these edges of this intrusive centre. However, a more subdued chargeability response coincident with the central elevated magnetic response may suggest a zonation of sulphide mineralization and a mineralogical association with increased magnetite content.

Consideration should be given to extending the survey towards the east and to the south of the current coverage to close off potential extensions to the anomalous features observed in this survey phase.

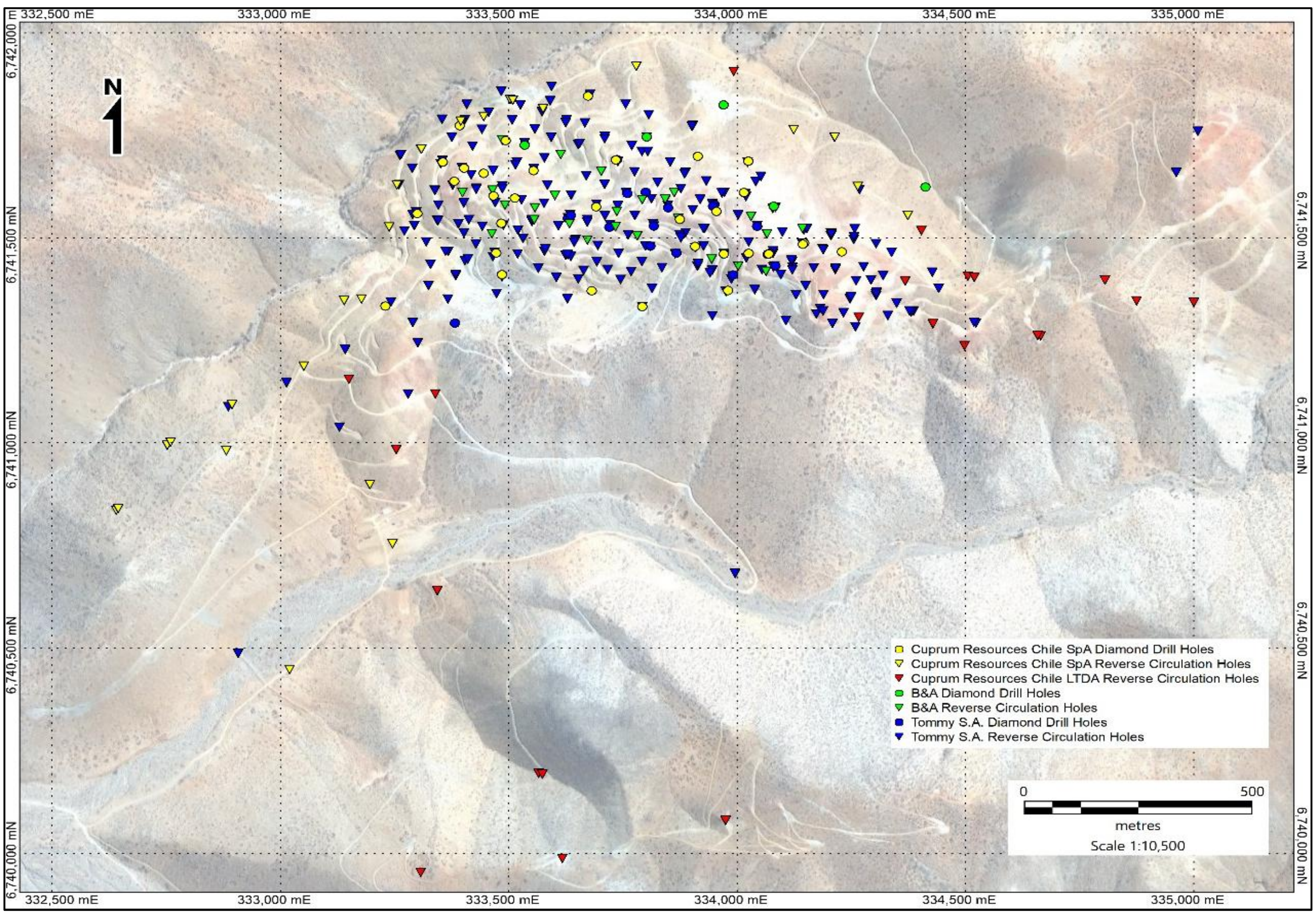
10 DRILLING

10.1 Introduction

From 1988 to 2021 four companies conducted exploration, infill drilling, geotechnical and metallurgical drilling programs in the Project area. There was a drilling hiatus from 1988 to 2006.

A total of 58 core (11,371 m) and 332 RC (36,489 m) holes were drilled from the surface. Drill collar locations are provided in Figure 10-1. Table 10-1 shows the drilling completed in the Project area by company and year.

Figure 10-1: Drilling Campaign by Campaign



Note: Figure prepared by SML, 2021. The Placer Dome database was not auditable, therefore drill holes from that campaign are not shown in this figure.

Table 10-1: Summary of Drilling Data

Company	Year	Drill holes		Drilled metres		Totals	
		Core	RC	Core	RC	Drill holes	Metres
Placer Dome	1988	0	7	0	1,032	7	1,032
Tommy	2006–2008	18	251	2,536	24,946	269	27,482
B&A	2012–2013	5	26	2,653	3,640	31	6,293
B&A	2014	0	23	0	2,744	23	2,744
SML	2018	27	25	5,053	4,127	52	9,180
SML	2021	8	0	1,129	0	8	1,129

Section 14 includes representative cross-sections of the deposit.

10.2 Drilling Methods

Where known, the companies that performed the drilling campaigns are summarized in Table 10-2.

Table 10-2: Drilling Contractors by Campaign

Campaign	Type	Contract
1988	RC	Not available
2006–2008	RC	Perfo Chile / DV Drilling
	Core	PerfoAndes
2012–2013	RC	Major Drilling
	Core	Not available
2014	RC	Not available
2018	RC	Terraservice
	Core	Boggionni
2021	Core	Boggionni

The 2006 RC drilling was conducted using a truck-mounted Ingersoll-Rand T4 with centre return hammer and 5⅝-inch 5½ inch, and 5¾-inch carbide button bits.

During 2007, core drilling was conducted using a Boart Longyear 44 drill rig, and the RC holes were drilled using a truck-mounted Ingersoll-Rand rig.

The core holes from the 2012 campaign were drilled using a UDR-4 drilling machine.

There is no available information as to the rig types used in the 2013 and 2014 drill campaigns.

The core holes completed in 2018 were drilled using U6 and U8 Diamec drill rigs. The RC drill holes were carried out using a Schramm P14 (5⅝ in and 5½ in). Most of the RC drilling was conducted using a Schramm Rota drill machine and a centre return hammer and a 5.5-in carbide button bit. The exploration core holes completed in 2021 (two extensions of historical drill holes) were drilled using U8 Diamec drill rig.

HQ core (63.5 mm core diameter) was generally drilled to a depth of approximately 300 m below which NQ core (47.6 mm diameter) was drilled, except the 2021 drill holes with geotechnical purpose (6 drill holes) were drilled HQ3 (61.1 mm core diameter).

10.3 Logging Procedures

10.3.1 Pre-2018 (Legacy) Drilling Programs

Core and RC logging for the 2006–2008 Tommy drilling programs consisted of lithology, hydrothermal alteration, mineralization descriptions and structural logging.

In 2012–2013, B&A logged core and RC recording lithological, hydrothermal alteration, mineralization and structural features.

SML re-logged selected RC chips in 2014, for lithological, hydrothermal alteration, mineralization and structural features.

10.3.2 2018–2021 Drilling Programs

10.3.2.1 Core

The drill core was delivered by the drilling contractors in 1-m-long wooden boxes, identified by hole ID, box number, and box interval. Inside the boxes “core blocks” marked the core metreage and the core recovery of the interval. These data were checked by geological technicians, validating the core information against the recovery sheet delivered by the contractor. The same team undertook a “core regularization” process, marking equal-length core intervals.

A geotechnical log was completed including core recovery, rock quality designation (RQD), fracture frequency and bulk density. Cut core samples with lengths of 15 to 20 centimetres (cm) were also collected and stored for subsequent triaxial and point load tests.

Core boxes were photographed under daylight conditions. The core holes from the 2018 program were surveyed using a Televiewer Acoustic borehole scanner.

The cores were then sent to geological and geotechnical personnel for logging via the GVMapper digital platform, sample markup and hydraulic press cutting.

10.3.2.2 RC

RC cuttings and core from the 2018 program were logged using geological unit codes created for that program. Data captured included lithology, hydrothermal alteration, mineralization, and structures. The mineralization logging was checked and amended as needed, once laboratory assay data was available.

10.3.2.3 Relogging

All geological data were entered digitally into summary logs using GVMapper. A total of 86 historical RC (8,506 m) and 23 core (5,189 m) drill holes were re-logged using the 2018 geological coding.

The last geological model update was done in 2020. SML reviewed and re-logged over 15,000 m of strategic intervals, focusing on lithology and alteration. 2021 drill holes were not considered in the geological model update to support the current Mineral Resources model.

10.4 Core and RC Chip Recovery

There is no information available on core and RC chip recovery for the legacy drilling campaigns.

Recovery was calculated for the 2018 core drilling as a ratio of the actual core length in the box to the drilled length indicated on the metre blocks. It was noted that some intervals of RC sampling had recoveries greater than 100%, which is not realistic, and such values were reduced to 100%.

The average recovery for the 2018 drilling program was 89% and 97% for RC and core drill holes, respectively. The lower recovery intervals are mainly related to overburden drilling, structural features, and groundwater levels, and are not related to a certain lithology or alteration type. The minimum recorded recovery from the core program was 0% for two intervals of 1.1 m and 1.4 m downhole. A total of 37 out of the 2,236 measured intervals (1.7%) had recoveries of <50%. The minimum recorded RC recovery was 0% for 211 intervals. A total of 303 intervals had values >100% recovery, and 241 out of the 4,125 measured intervals (5.8%) had recoveries of <50%.

The average recovery for the 2021 drilling program was 97%.

10.5 Collar Surveys

The preliminary location of legacy drill collars was carried out using a Garmin GPS map 62s device.

At the end of 2018 and during early 2019, after the topographical surveys were tied to the national geodesic grid, a total of 220 historical drill holes were surveyed using the WGS84 datum. An additional 87 drill holes were validated by transforming the original topographic certificates from the PSAD56 to WGS84 datum using GIS MapInfo software supported by the IGM datum transformer to check the resulting locations.

The topographic surveys from 2006–2008 and 2012–2014 were georeferenced using the 1924 International Ellipsoid, 1956 La Canoa Datum, Zone 19. That projection is only used as a reference for the mining tenements.

A collar pickup was performed for all the 2018–2021 drill holes. Table 10-3 shows the number of drill holes by campaign that have verified collar locations.

Table 10-3: Verified Collar Locations by Campaign

Company	Year	Total Drill Holes	Type
Tommy	2006–2008	269	RC
			Core
Cuprum Ltda. (B&A)	2012–2013	54	RC
			Core
Cuprum SpA (SML)	2018-2021	60	RC
			Core

10.6 Downhole Surveys

10.6.1 Pre-2018 (Legacy Drilling Programs)

No original legacy downhole survey data are available. Comprobe Ltda. (Comprobe) was able to re-enter and downhole survey 91 historical drill holes from the Tommy (2006–2008) and B&A (2012–2013) drilling campaigns, equivalent to 28% of the total historical drill holes.

10.6.2 2018–2021 Drilling Programs

For 2018 drilling program, downhole surveying was conducted by Comprobe using a combination of gyroscope, televiewer and accelerometer instruments, with measurements taken every 10 m downhole. Comprobe measured 52 drill holes from the 2018 Cuprum (B&A) campaign. For 2021 drill holes, downhole surveying was conducted by SG Drill company, using a combination of gyroscope, televiewer, and accelerometer instruments, with measurements taken every 5 m downhole.

Overall, 151 drill holes have downhole survey data from a total of 390 completed drill holes (39%). Information by each campaign is summarized in Table 10-4.

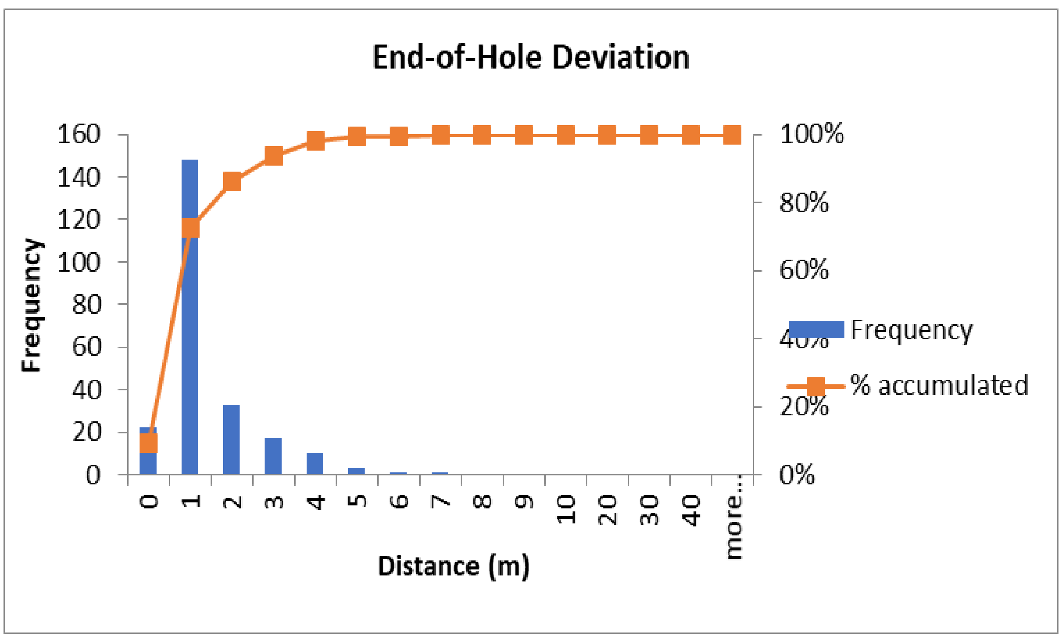
Table 10-4: Drill Holes Surveyed by Comprobe and SG Drill

Company	Surveyed By	Drill Holes	Campaign	Drilled by Year	Measured by Comprobe
Tommy	Comprobe	269	2006	108	22
			2007	161	53
B&A		54	2012	5	0
			2013	49	16
SML		52	2018	52	52
	SG Drill	8	2021	8	8
Total historical and 2018–2021 drilling		**383**		**383**	**151**

10.6.3 Legacy Data Review

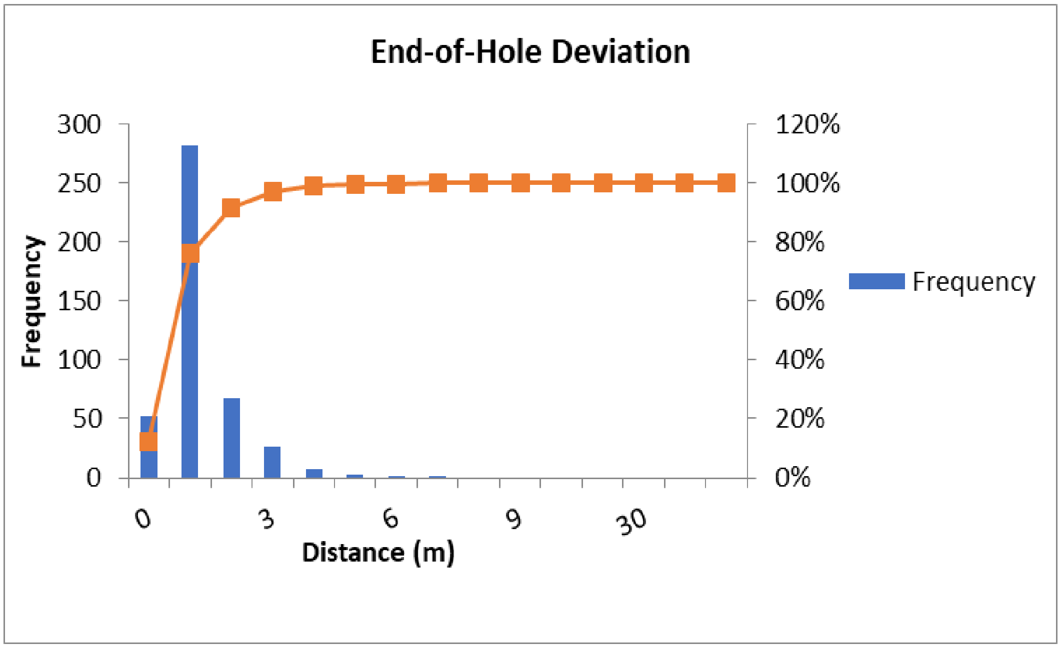
Histogram evaluations of the actual versus theoretical drill hole locations at 100 m depths were conducted and are provided in Figure 10-2 (2006 Tommy campaign), Figure 10-3 (2007 Tommy campaign), and Figure 10-4 (2013 B&A campaign).

Figure 10-2: Actual vs. Theoretical Downhole Deviations, 2006 Tommy Campaign



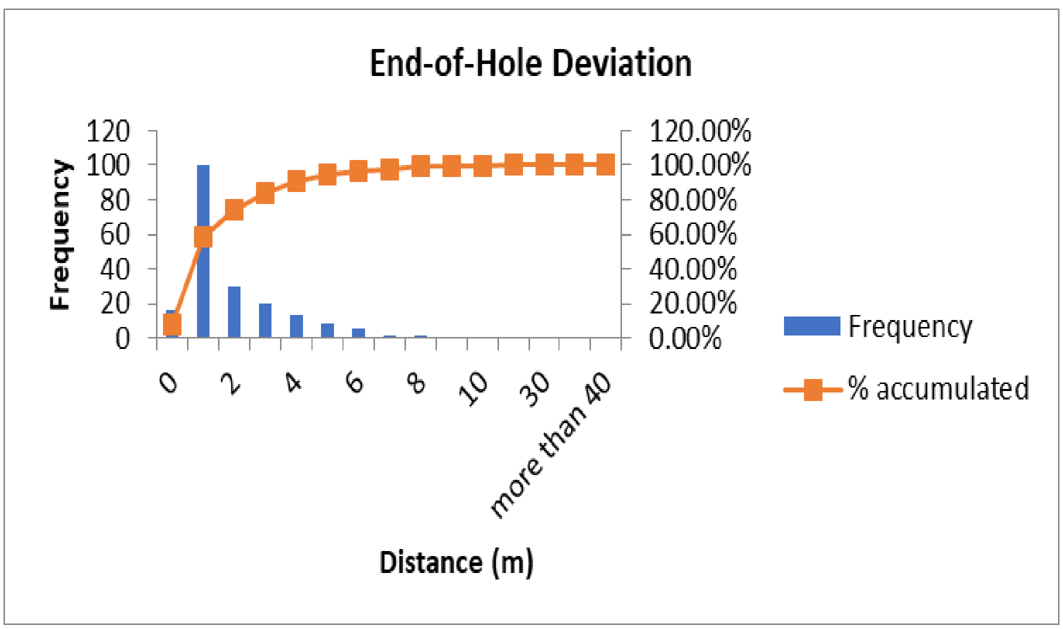
Note: Figure prepared by Wood, 2020.

Figure 10-3: Actual vs. Theoretical Downhole Deviations, 2007 Tommy Campaign



Note: Figure prepared by Wood, 2020.

Figure 10-4: Actual vs. Theoretical Downhole Deviations, 2013 B&A Campaign



Note: Figure prepared by Wood, 2020.

10.7 Sample Length/True Thickness

The drill spacing over the Puquios deposit varies.

The deposit was generally drilled along sections located 50 m apart. Most of the drill holes have a north–northeast or south–southwest azimuth, which is consistent with the general west–northwestern–east–southeastern orientation of the main copper mineralization.

Drill holes orthogonally cross the main mineralization. The average dip for the drill holes is -67°, with dips ranging from 50–90°. This is considered acceptable because the supergene mineralization in the deposit area tends to be horizontal or gently-dipping. The drill hole dip is also considered appropriate for establishing the limits of mineralization at the deposit edges and providing information on the structural framework. This pattern generated a complete coverage of the main mineralization directions and avoided biased sampling.

For the core drill holes, the average sample length was 2.26 m from 2,237 samples until 2018 campaign. A total of 155 samples (6.9%) had a length of <1 m. For the RC drill holes, the sample length is 1 m for a total of 4,124 samples. One sample had a sample length of 3 m. For 2021 campaign, the average sample length was 1 m of 1,095 samples, however those samples were not used for geological model nor grades estimation.

No RC/core twinned drill holes were completed. However, the QP performed a comparison of the data between RC and core samples within a ±10 m separation. The results are considered to be acceptable, except for the Tommy core campaign (18 drill holes). These Tommy campaign drill holes were excluded from the database for Mineral Resource estimation.

10.8 Comments on Section 10

Drilling was conducted in a manner consistent with standard industry practices. The spacing and orientations of the holes are appropriate for the deposit geometry and mineralization style. There are no drilling, sampling, or recovery factors for the drill holes retained in the database used for Mineral Resource estimation that could materially impact the accuracy and reliability of the results.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Historical Sampling

Table 11-1 displays the number of samples by each campaign.

Table 11-1: Number of Samples by Campaign

Company	Drill Holes	Type	Year	No. of Samples
Placer Dome	7	RC	1988	516
Tommy	108	RC	2006	9,459
Tommy	143	RC	2007	12,395
Tommy	18	DDH	2007	988
Cuprum Ltda. (B&A)	5	DDH	2012	1,136
Cuprum Ltda. (B&A)	49	RC	2013	3,135
Cuprum SpA (SML)	25	RC	2018	3,876
Cuprum SpA (SML)	25	DDH	2018	5,003
Cuprum SpA (SML)	8	DDH	2021	1,095

The campaigns meet industry-accepted requirements in terms of sample preparation, analyses, and security. The exceptions are the Placer Dome (1988) and Tommy (2007) core drilling campaigns, which were excluded from the estimation database. For the 2018 core campaign, 25 out of the 27 holes drilled were analysed.

Core drilling was sampled at either 1-m (89%) or 2-m (11%) intervals, except in areas of low recovery. All cores were oriented before splitting and were cut in half longitudinally.

Legacy RC drill samples were collected on 2-m intervals for the 2012–2013 campaign. Samples were split using a riffle splitter. The whole sample was first passed through the riffle splitter and recombined to homogenize the sample. Then, the homogenized sample was re-split into two subsamples. One split was used for logging and the second split was sent for assay. Further splits of the assay subsample were made, and one split was sent to the laboratory and the second retained as a backup. A granulometric distribution test was carried out at a frequency of 1 in 20 samples.

In 2018, RC drill samples had weights generally between 37–39 kg. After drilling, samples were split using a riffle splitter to obtain a 9-kg subsample. That subsample was sent for sample preparation and analysis. Reject material was retained as a backup and stored on-site.

11.2 Metallurgical Sampling

Cuprum (B&A) defined three geometallurgical units by grouping the minzones (Table 11-2):

- Oxides (PUQOX), includes the four minzones from leaching and oxide zones: Lix, LixCu + ArCu, OxCuV and OxCuV + OxCuN.
- Secondary sulphides (PUQSEC), contains the two minzones of secondary sulphide; SSF and SSD.
- Primary sulphides (PUQPRI), consists of the three primary sulphide minzones: PCY-A, PCPY-B and PPY.

Each unit displayed different lithological and alteration features.

Table 11-2: Geometallurgical Units

<table>
<tr><th>Unit Abbreviation</th><th>Description</th><th>Mineral Zone</th><th>Lithology</th><th>Alteration</th></tr>
<tr><td>PUQOX</td><td>Green oxides plus black oxide/green oxide in conjunction with leached copper</td><td>Leached Cu</td><td>Granodiorite</td><td>Quartz–sericite</td></tr>
<tr><td rowspan="3">PUQSEC</td><td rowspan="3">Secondary enrichment</td><td rowspan="3">Secondary sulphides</td><td>Granodiorite</td><td rowspan="3">Quartz–sericite, chlorite</td></tr>
<tr><td>Quartz porphyry</td></tr>
<tr><td>Feldspar porphyry</td></tr>
<tr><td rowspan="3">PUQPRI</td><td rowspan="3">Primary sulphide</td><td rowspan="3">Primary sulphides</td><td>Granodiorite</td><td>Quartz–sericite</td></tr>
<tr><td>Feldspar porphyry</td><td>Chlorite</td></tr>
<tr><td>Quartz porphyry</td><td></td></tr>
</table>

These units were used in the design and execution of metallurgical sampling. Bulk samples were collected from surface and tunnel locations by geology staff, including:

- 500-kg bulk samples of oxide and primary mineralization from surface and 200-kg bulk samples of secondary mineralization from the lower tunnel;
- 4-t bulk samples of low-grade oxide mineralization from surface and 4t of low-grade secondary plus primary mineralization from the upper tunnel;
- 3-t of oxide mineralization from surface were selected; and
- 2-t of secondary mineralization were selected from the upper tunnel.

Information on the metallurgical test work programs is provided in Section 13.

11.3 Density Determination

The majority of the bulk density determinations were performed on drill core samples that had been paraffin wax-coated, using the water displacement method.

In 2007, a total of 149 bulk density measurements were taken. The measurements were performed primarily by Análisis Minero Laboratorio in Coquimbo. Some determinations were completed by Activation Laboratories Coquimbo.

In 2013, a total of 75 bulk density measurements were completed by ALS Santiago.

In 2019, a total of 118 measurements were taken by the FF Geomechanics Laboratory (Viña del Mar).

SML located additional legacy density determinations. The QP reviewed these data and considered them to be acceptable for use in Mineral Resource estimation.

The number of density samples by estimation unit (EU) are shown in Table 11-3.

Table 11-3: Bulky Density

Estimation Unit	Description	No. of Samples	Min.	Max.	Mean	Median	CV
1	Oxides	73	2.152	2.86	2.412	2.41	0.048
2	Secondary sulphides	131	2.252	2.72	2.518	2.518	0.029
3	Primary sulphides	158	2.430	2.88	2.623	2.623	0.024

11.4 Analytical and Test Laboratories

The laboratories used throughout Project drill history are provided in Table 11-4.

Table 11-4: Laboratories by Analytical Campaign

Company	Year	Type	Quantity	From/To	Laboratory	Location	Independent	Accreditation
Placer Dome	1988	RC	7	SPP1 to SPP7	No Information	No Information	No Information	No Information
Tommy	2006	RC	108	LP1 to LP 108	Activation Laboratories (ActLabs); Andes Analytical Assay (AAA)	La Serena (ActLabs); Santiago (AAA)	Yes	Actlabs ISO/IEC 17043;
Tommy	2007	Core	18	LPDD109 to LPDD125	Act	Coquimbo	Yes	AAA ISO 17025
Tommy	2007	RC	55	LP126 to LP180	Actlabs	Coquimbo	Yes	ISO/IEC 17043

Company	Year	Type	Quantity	From/To	Laboratory	Location	Independent	Accreditation
Tommy	2008	RC	88	LP181 to LP267	AAA	Santiago	Yes	ISO/IEC 17043
Cuprum (B&A)	2012	Core	5	P12_01_DD to P12_05_DD	ALS	Santiago	Yes	ISO 17025
Cuprum (B&A)	2013	RC	26	P13_06_AR to P13_31_RC	ALS	Santiago	Yes	ISO 9001-14001
Cuprum (B&A)	2013	RC	23	RCPU01 to RCPU23	ALS	Santiago	Yes	ISO 9001-14001
Cuprum (SML)	2018	RC	25	RC-01 to RC-25	ALS	Lima	Yes	ISO 9001-14001
Cuprum (SML)	2018	Core	27	DH-01 to DDH-26	ALS; ActLabs	Lima;	Yes	ISO 9001-14001; ISO/IEC 17043-17025
Cuprum (SML)	2021	Core	8	DDH-01A21 to DDH-07-21 and DDH-03b	ALS	Lima	Yes	ISO 9001-14001

11.5 Sample Preparation and Analysis

11.5.1 Pre-2018 (Legacy Drill Program)

For the 1988 drilling campaign, there is no information as to the laboratory, preparation, or analytical procedures that were used.

For the 2006–2007 RC campaign, samples were reduced using a jaw crusher and then pulverized to 95% passing #150 Tyler mesh. Samples were assayed for total copper (CuT) using total digestion and measurement via atomic absorption (AA). Sequential and residual copper analyses were conducted on the samples. Assays were performed using an AA finish.

During 2007, 18 core drill holes were completed for metallurgical and geotechnical purposes. There is no information available as to the laboratory, sample preparation or analytical procedures for these drill holes.

For the 2012–2013 campaign, 26 RC and 5 core holes were assayed by ALS Chemex. There is no information as to sample preparation or analytical procedures for these drill holes.

11.5.2 2018-2021 Drilling Programs

For the 2018-2021 campaigns, 25 RC and 33 core holes were assayed by ALS Chemex, using the following procedure:

- Samples were crushed to 85% passing 2 mm;

- A rotary splitter was used to split out approximately 1 kg of material that was pulverized to 95% passing 75 µm;
- Each sample was digested in aqua regia followed by inductively coupled plasma atomic emission spectroscopy (ICP-AES) analysis to obtain assays for 35 different elements; and
- A CuT assay by four-acid digestion and atomic absorption spectroscopy (AAS) was conducted, followed by a three-step sequential analysis to determine sulphuric acid-soluble copper (CuS), cyanide-soluble copper (CuCN), and residual copper (CuR).

Table 11-5 and Table 11-6 summarize the ALS Chemex sample preparation and assay protocols.

Table 11-5: Sample Preparation ALS Chemex (Lab Code PREP-33SM)

ALS Chemex Code (Lab Code PREP-33SM)	Description
WEI-21	Received sample weight
LOG-22	Sample login – received without bar code
CRU-36	Fine crushing – 85% <2 mm
SPL-22	Split sample – rotary splitter
PUL-31	Pulverize split to 95% <75 µm

Table 11-6: Analytical Procedures ALS Chemex

Sample	Description	Instrument
Au-AA23	Au 30 g fire assay with atomic absorption (FA-AA) finish	ASS
Cu-AA62	Ore grade copper – four-acid digestion/atomic absorption spectroscopy (AAS)	AAS
Cu-AA16s (Cu-PKG06LI)	Sequential cyanide-recoverable copper (CNCu)	AAS
Cu-AA62s (Cu-PKG06LI)	Sequential – residual copper (RCu)	AAS
Cu-AA06s (Cu-PKG06LI)	Sequential – acid-soluble copper (ASCu)	AAS
ME-ICP41	35 elements aqua regia digest with inductively coupled plasma, atomic emission spectroscopy (ICP-AES) finish	ICP-AES

For samples sent to ActLabs in 2018, sample preparation was conducted under the following conditions:

- Crushing of 8-kg sample to 85% passing 10# Tyler mesh;
- Division of 500 g using a rotary splitter;
- Grinding to 95% passing 150#; and
- 250-g subsample for assay.

Table 11-7 displays the assay methods used by ActLabs.

Table 11-7: Analytical Procedures Actlabs

Code	Description
1A2-30	Au 30 g fire assay atomic absorption (FA-AA) finish
Cu Sequential	Sequential copper (Cu soluble in H_2SO_4- Cu soluble in NaCN-Cu Residual)
CuT	Four-acid digestion/atomic absorption spectroscopy (AAS)
1A2-30	Au 30 g fire assay atomic absorption (FA-AA) finish

11.6 Quality Assurance and Quality Control

Individual quality control studies on the 2006 drilling program were carried out by Robledo (2006) and Gacitúa (2006). For the 2012–2013 campaigns, quality control was conducted by Pizarro (2013 and 2014). Palma (2019a, 2019b) completed a quality control evaluation on the 2018 drill campaign.

The QA/QC procedures were initially established by Cuprum (B&A) and modified following recommendations from audits performed by independent third-party consultants Robledo (2006), and Ribba (2015).

The QP reviewed the QA/QC for CuT for each analytical campaign (Table 11-8).

Table 11-8: QA/QC for CuT by Analytical Campaign

Company	Year	Drilling		Duplicated			Certificate Reference Material				Fine Blank	Course Blank
		RC	DDH	Field Twin	Prep	Pulp						
Placer Dome	1998	X	X	X	X	X	X	X	X	X	X	X
Tommy	2006	√	√	√	√	√	STD 1	STD 2	STD 3	STD 4	X	X
Tommy	2007	√	X	√	√	√	STD 1	STD 2	STD 3	STD 4	X	X
B&A	2012	X	X	X	X	X	X	X	X	X	X	X
B&A	2013	√	√	√	√	√	STD 1	STD 2	STD 3	STD 4	X	√
Cuprum(SML)	2018	√	√	√	√	√	OREAS 905	OREAS 907	OREAS 908		√	√

Note: X = not available.

Precision for CuS was exclusively evaluated for the 2018 drilling campaign. No QA/QC was performed for CuCN in any campaign. QA/QC programs prior to 2013 did not use blank samples to assess for potential contamination. The results are acceptable for the different campaigns, as shown by Robledo (2006), Ribba (2015), Pizarro (2013 and 2014), and Palma (2019a, 2019b). However, the 1998 Placer Dome (1998) and 2007 Tommy core holes have no available QA/QC data.

Although the 2021 drill hole campaign was not used for geological model update nor grades estimation in the block model, a QA/QC program was carried out by SML (2021) with adequate procedures and results.

11.6.1 Certified Reference Materials (1988-2021)

All drilling programs included QA/QC programs that used certified reference materials (CRMs) inserted in the sample stream (refer to Table 11-7), except for the 1988 and 2012 drilling campaigns. No significant QA/QC issues with the CRMs were noted in the quality assurance reports. Some outlier samples were re-assayed, and some minor data entry errors were fixed. CRM lists are presented in Table 11-9 and Table 11-10.

Table 11-9: STD1 to STD4 CRMs

CRMs	Best Value	Standard Deviation *3
STD 1	1.371	± 0.033
STD 2	0.658	± 0.042
STD 3	2.523	± 0.106
STD 4	0.013	± 0.006

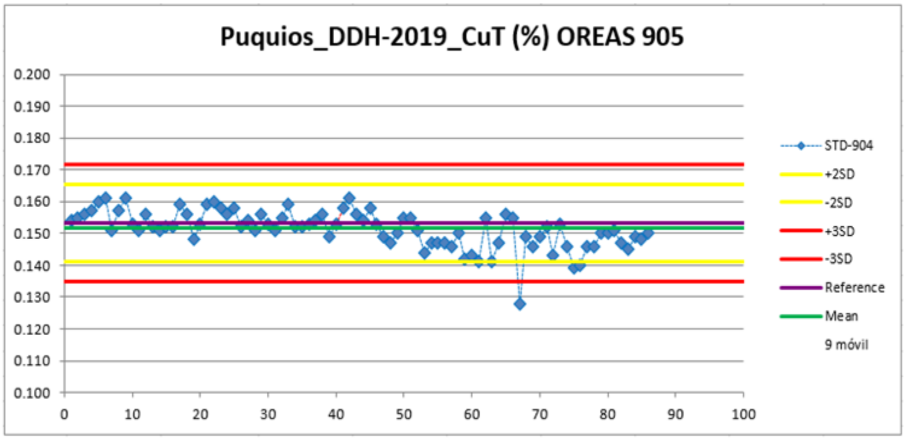
Table 11-10: OREAS CRMs

CRMs	Best Value	Standard Deviation *3
OREAS 905	0.153	± 0.018
OREAS 907	0.638	± 0.057
OREAS 908	1.250	± 0.108

No reports were available for B&A’s CRMs STD 1 to STD 4. During the 2018 campaign, the CRMs used were sourced from OREAS and covered low-, medium- and high-grade copper grade ranges. The QA/QC samples were randomly inserted with an insertion rate of approximately 10% (4% for CRMs, 3% for coarse blanks, and 3% for fine blanks). The grades in the CRMs are representative of the range of grades in the deposit.

Figure 11-1 and Figure 11-2 are examples of evaluation of the assay results for the CRMs that were inserted in the SML core drill hole campaign in 2018 and 2021, respectively.

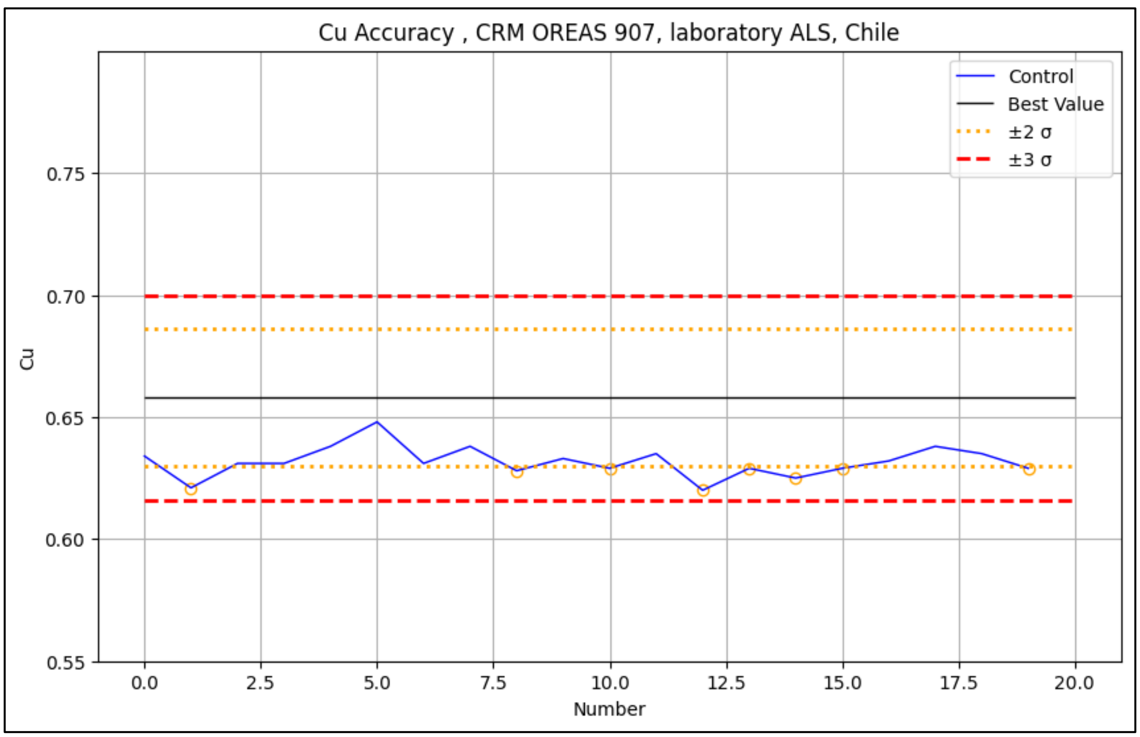
Figure 11-1: Accuracy Evaluation for Core, SML 2018 CRMs



Statistics	905
CuT	
Count:	92
Mean:	0.152
Std Dev.	0.006
Mean + 2SD	0.163
Mean - 2SD	0.140
Max:	0.161
Min:	0.128
Rejects <5%:	3.3%
Bias <5%:	-1.10%
MARD < crítico	3.90%
Reference value	0.153
Std Dev.	0.006
+2σ	0.166
-2σ	0.141
+3σ	0.172
-3σ	0.135
MARD crítico	5.63%

Note: Figure provided by SML, 2019a.

Figure 11-2: Accuracy Evaluation for Core, SML 2021 CRMs



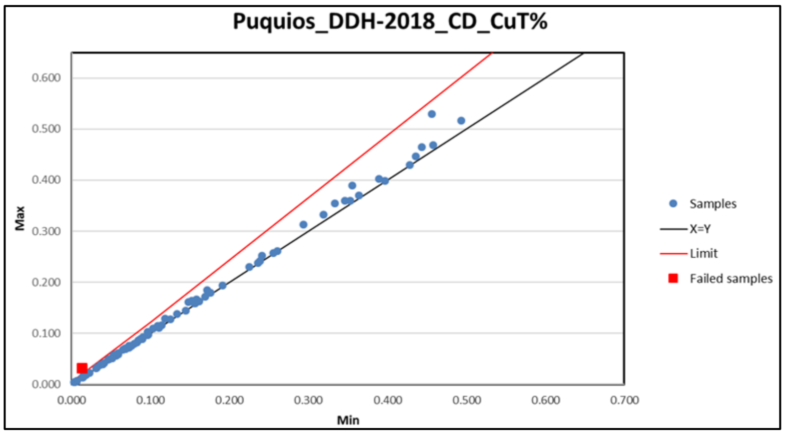
Note: Figure provided by SML, 2021.

11.6.2 Duplicate Sample Analysis (1988-2021)

Table 11-7 shows the campaigns that have duplicate data. No duplicates were analyzed in the 1988, 2012 and 2021 drill campaigns. Cuprum (B&A) reports where the duplicate data was evaluated were available. No significant QA/QC issues were noted in these reports.

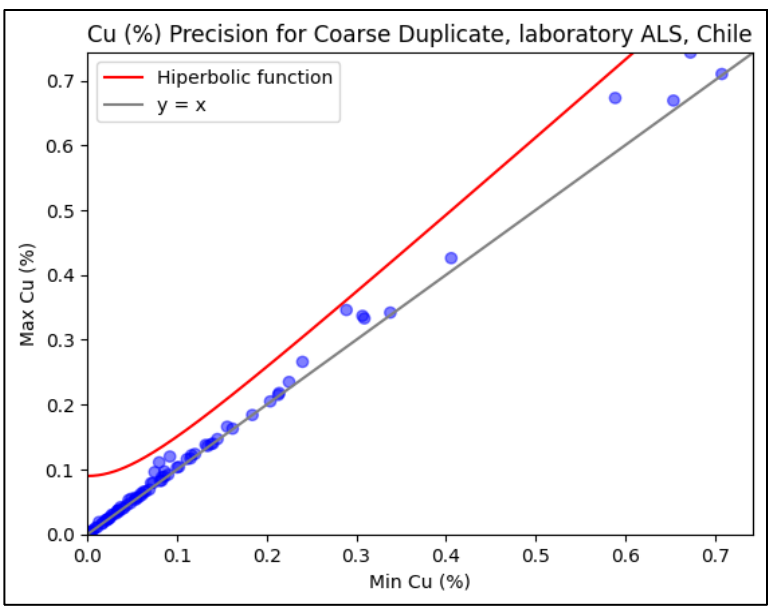
Figure 11-3 and Figure 11-4 are examples of the evaluation of coarse duplicates that were inserted in the SML core drill hole campaign in 2018 and 2021, respectively.

Figure 11-3: Coarse Duplicate Evaluation, 2018 Drill Campaign



Note: Figure provided by SML, 2019a.

Figure 11-4: Coarse Duplicate Evaluation, 2021 Drill Campaign

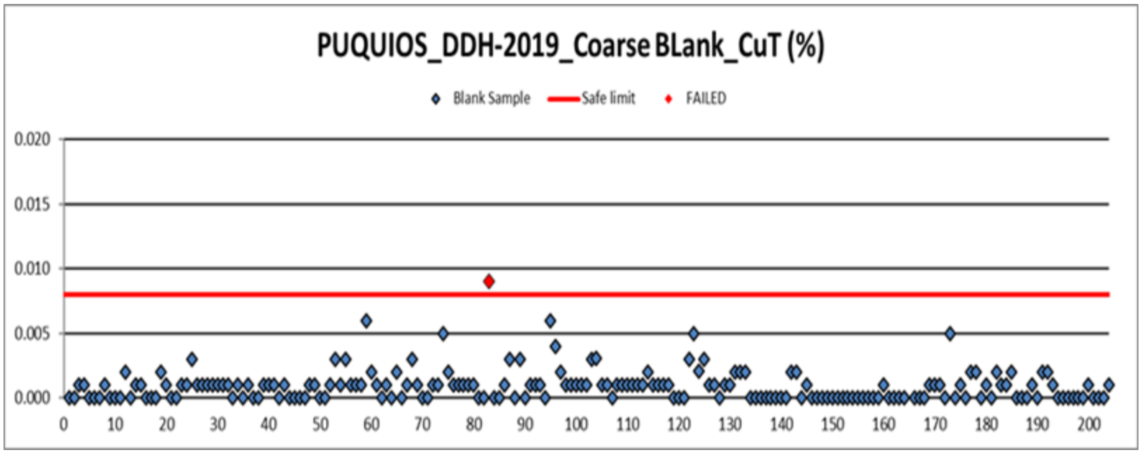


Note: Figure provided by SML, 2021.

11.6.3 Blank Sample Analysis (1988-2021)

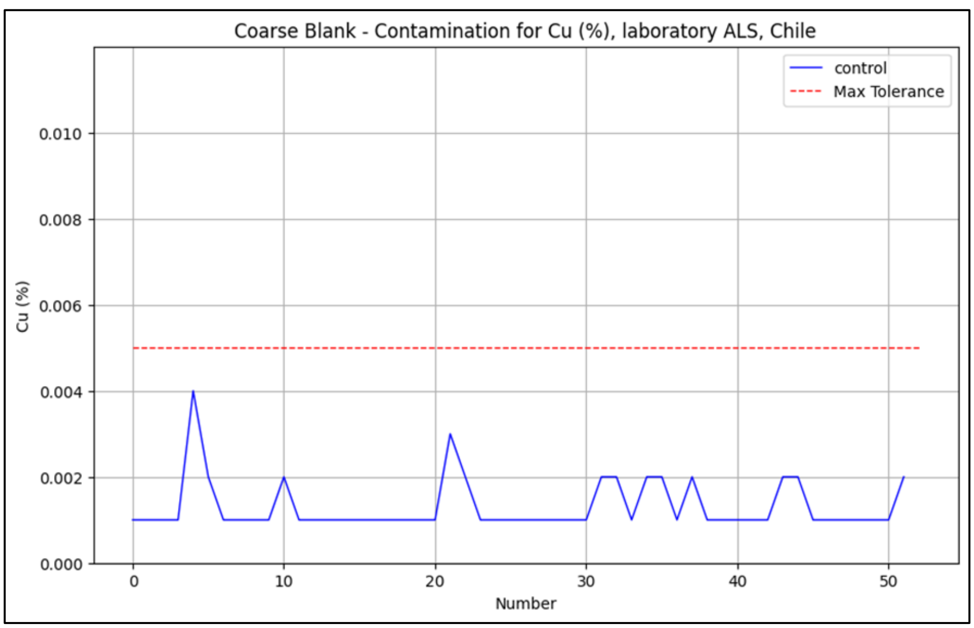
Only the Cuprum (B&A) 2013, SML 2018 and 2021 drilling campaigns included blanks as part of the QA/QC sample insertion (refer to Table 11-7). A 6% rate insertion for coarse and pulp blanks was used for the SML campaign. The 2018 and 2021 results indicate that 99.9% and 100% of the control samples are within acceptable limits for contamination (Figure 11-5 and Figure 11-6).

Figure 11-5: Blank Analysis, 2018 Drilling Campaign



Note: Figure courtesy of SML, 2019.

Figure 11-6: Blank Analysis, 2021 Drilling Campaign



Note: Figure courtesy of SML, 2021.

11.7 Analysis of Core vs. RC Holes

A comparison of paired samples was undertaken to evaluate for grade relative biases between core and RC samples. The RC and core sample grades within 10 m of each other were compared using a proprietary "getpairs" plug-in for the SGEMS geostatistical software package developed by John Wood Group PLC (Wood). Only samples that fell within the secondary sulphide zone were evaluated. With the exception of the 18 core holes from the 2007 Tommy core hole campaign, all other campaigns show acceptable results in terms of low biases between RC and core sample grades. The 18 Tommy core holes were removed from the estimation database.

11.8 Databases

The data were validated by cross-checking the information with certificates and reports and displaying it in GIS (MapInfo) and modelling programs (Gemcom and Leapfrog). Geological information was remapped by SML, while chemical analyses were validated against certificates.

The digital database is hosted on an on-site server, using a GVMapper database system, while backups are available in the Cuprum office. The GVMapper database is used for drilling, sampling and assay data but it is not being used to manage quality control data. Cuprum is currently pursuing implementation of the GVMapper QA/QC module to manage quality control for the database.

A physical database backup is maintained on-site (paper files organized by year/drill hole identifier) and includes density test results, geological and geotechnical logs, analytical certificates, downhole survey readings, sampling reports and procedures.

11.9 Sample Security

Drill core and RC rejects were stored in a core shack on-site. Wooden boxes are stored on pallets and organized by sector and drill hole. Sample pulps and rejects are stored in boxes and barrels on pallets and in a roofed warehouse. The QA/QC module is integrated into the GVMapper database system.

All drilling was completed before the site visit, and so the QP could not observe the chain of custody for the samples. However, Camino, through it subsidiary Cuprum has formal documentation that describes the sample security procedures. The procedures as set out in the documents meet industry-accepted protocols.

11.10 Comments on Section 11

The sampling methodologies employed, except for the 1998 Placer Dome and 2007 Tommy core drilling campaigns, are consistent with industry-accepted practices at the time of sampling and are appropriate for the mineralization style. The sampling is configured such that it is representative of the deposit.

The database is reasonably free from errors and suitable for use in Mineral Resource and Mineral Reserve estimation, with the exception of the 1998 Placer Dome and 2007 Tommy core drilling campaigns, which were excluded from estimation support.

The QA/QC samples insertion rates were acceptable, were reviewed in a timely fashion, and the results triggered reasonable and appropriate responses. The results indicate that the assaying was generally of good quality and acceptable for use in Mineral Resource estimation.

Despite 2021 drill holes campaign was not used for geological model update nor grades estimation in the block model, a QA/QC program was carried out by SML (2021b) with adequate procedures and results.

Since 2022 to date, no drilling campaigns have been carried out.

12 DATA VERIFICATION

12.1 Internal Verification

In 2019, SML performed an internal data verification program for all data acquisition programs in the Mineral Resource database. The verification program consisted of:

- Review of topographic and drill hole collar surveys.
- Downhole survey check.
- Geological mapping review including tunnel and surface mapping.
- Review of drill hole logging.
- Assay checks including sampling and analysis procedures and assay database integrity.

Inconsistencies were found in the geological mapping procedures, which resulted in a deg of all legacy core and a portion of the legacy RC drilling.

A percentage of the existing coarse reject and pulp samples were re-analyzed. All the internal data verification was included in a final validated database.

- A total of 1,974 core and RC coarse reject samples from the 2006–2008 campaign were re-analysed at ALS Chemex. The samples were collected based on availability; and
- A total of 6,515 core and RC pulp samples from the 2006–2008, 2012–2013 and 2014 campaigns were re-analysed at ALS Chemex. These samples were selected based on availability.

12.2 External Data Verification

12.2.1 AMC Mining Consultants Ltd. (Canada, 2017)

AMC Mining Consultants Ltd. (AMC), reviewed the B&A resource model for compliance with the 2012 JORC Code, including geology, data used, modelling, estimation methodology, estimate reporting, additional drilling, and exploration potential, to provide an opinion on the suitability of the Mineral Resource model for mine planning and pit optimization purposes.

AMC concluded that the model did not meet the requirements of Table 1 of the 2012 JORC Code, would not be compliant with CIM/NI 43-101, and that a QP or Competent Person would be required to be named, and that person must take responsibility for all sections of the report.

12.2.2 Wood 2019-2020

The QP while working at Wood undertook a high-level review, focused on the geology and Mineral Resource estimate for the Project, to identify any issues and propose remediation such that the resulting resource estimate would be of sufficient quality to support a pre-feasibility study and Mineral Resource reporting under CIM/NI 43-101.

Following the review, the QP verified the database, performed an update of the geological model and constructed a new Mineral Resource block model.

12.2.3 Wood 2021

The QP undertook a high-level review that focused on the latest activities conducted and results obtained by SML, particularly on the drill hole database administration, geological logging, structural model, and new geometallurgical tests, to confirm whether the estimate could support a PFS.

The QP performed an update of the Mineral Resource block model, including construction of a pit shell to support reasonable prospects for eventual economic extraction for the Mineral Resource estimate.

12.2.4 AsGeoMin 2024

The QP now working for AsGeoMin SpA (AsGeoMin) performed a high-level review confirming that no assay or drilling campaigns have been carried out from 2022 to date. Therefore, no updates have been made to the drill hole database, geological logging and/or geometallurgical tests during this period.

12.3 Verification Performed by the Qualified Person

The QP, Mr. Cristian Quiñones, personally verified:

- Sample storage and data security
- QA/QC procedures applied and evaluation of the copper QA/QC results
- Geological logging consistency
- Consistency within the geological model used for grade estimation
- Procedures and consistency for the estimation model
- Review of applicable parameters used when assessing reasonable prospects for eventual economic extraction
- Mineral Resource classification
- Density methodology and results.

12.4 Comments on Section 12

Data verification was completed by SML personnel and external consultancies retained by SML until 2021.

In 2021 Mr. Quiñones personally reviewed data supporting the Mineral Resource estimate, including sample storage, sample security, consistency of geological logging, density data, review of the inputs into the geological model, review of the inputs for considerations of reasonable prospects for eventual economic extraction, and reviewed the Mineral Resource confidence classifications assigned.

In December 2024, Mr. Quiñones confirmed that no assay or drilling campaigns have been carried out from 2022 to date.

As a result of the data verification efforts completed, the QP concluded that the Project data and database are acceptable for use in Mineral Resource estimation.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

Eight metallurgical testwork programs were undertaken from September 2018 to May 2020 in support of previous Project evaluations carried out prior to the start the PFS. The eight programs were completed at Geomet Laboratory facilities in Chile.

The goal of the eight programs was firstly, to demonstrate the feasibility of processing the mineralization, secondly, to evaluate the mineralization behaviour under several operational conditions such as acid and sodium chloride dosage, particle size, resting time, and irrigation rate in order to maximize the copper extraction and optimize the reagents consumption. The testwork programs provided information on different solubility and (ROM) leaching factors. The testwork was used to determine the scaling factor, which was applied to the recovery models, and used to estimate acid consumption.

Prior to this test program, other testwork was carried out to demonstrate that bacterial leaching could be used for the Project, but this process was discarded due to operational difficulties related to this process, such as ensuring bacterial activity and biomass, as well as the permanent use of aeration and solutions at temperature.

Geomet Laboratory is a metallurgical testwork facility in Chile, accredited for chemical analysis and ISO-9001 certified. The testwork program is summarized in Table 13-1.

Table 13-1: Metallurgical Testwork Summary Table

No.	Testwork	Description	Start Date	End Date
1	Bottle Leaching testwork - Geomet Laboratory	Metallurgical characteristics of several minerals located above an elevation of 50m. were analysed.	Sep 2018	Dec 2018
2	Verification of available technologies - Geomet Laboratory	Attempt to find a suitable metallurgical process other than bacterial leaching. A total of three different technologies were tested and studied in this study.	Oct 2018	Dec 2018
3	Testwork on micro-columns for different mineralogies - Geomet Laboratory	Analyse the metallurgical responses for the four copper species contained in the deposit (black oxides, green oxides, primary sulphides, and secondary sulphides).	Apr 2019	Dec 2019
4	Testwork on 1-m column series - Geomet Laboratory	Match the responses of acid-chloride leaching using industrial distribution size in a 1- to 4-m column (in a series).	June 2019	Dec 2019
5	Micro-column and drill hole columns - Geomet Laboratory	Measure the mineral response in acid-chloride leaching under standards for both size distribution and operational conditions.	Jun 2019	Jan 2020
6	Testwork on ROM mineral column - Geomet Laboratory	Verify the mineral responses of low head grade in acid-chloride leaching for ROM-size distribution.	Jun 2019	Mar 2020

No.	Testwork	Description	Start Date	End Date
7	Testwork on 5-m columns - Geomet Laboratory	Verify mineral behaviour for 1, 2, 3, 4 and 5 m, as well as for reagents and size distribution variables.	Feb 2020	Jun 2020
8	Geometallurgical variability testwork - Geomet Laboratory	Diamond drill core and reverse circulation chip samples were used to study variability, micro-column testwork, and the predictive model for copper extraction considering its scaling.	Mar 2020	May 2020

13.2 Inventory

The samples selected for the testwork are considered representative of the deposit with respect to grade. Samples of mineralization from the Project, either from samples remaining from the earlier testwork or those that had been collected from various drilling program at site, were received by Geomet between September 2018–May 2020.

The mechanical preparation consisted of obtaining subsamples of each plastic bag received and removing these subsamples by rolling and quartering. Only the amount of sample required to form the 5-kg composite was removed, keeping the remainder of each control in the bag.

Once the subsamples were compiled, they were sieved through a 1.68 mm screen (10 Tyler mesh) ; the oversize fraction was crushed 100% -1.68 mm (controlled), by means of a crusher. Once crushed, the ore was homogenized and divided into a Jones cutter and rotary sampler, according to the requirements of the chemical characterization program as well as those of the metallurgical tests.

Several samples were used for bottle leaching, micro-column and column leaching tests, first year ore testing, column verification, and ROM leaching. The next section discusses the three samples used to process the mineral (bottle leaching) and to obtain the copper recovery models (column leach test and operational conditions test).

A list of the main samples used in the testwork are described in the following bullet points:

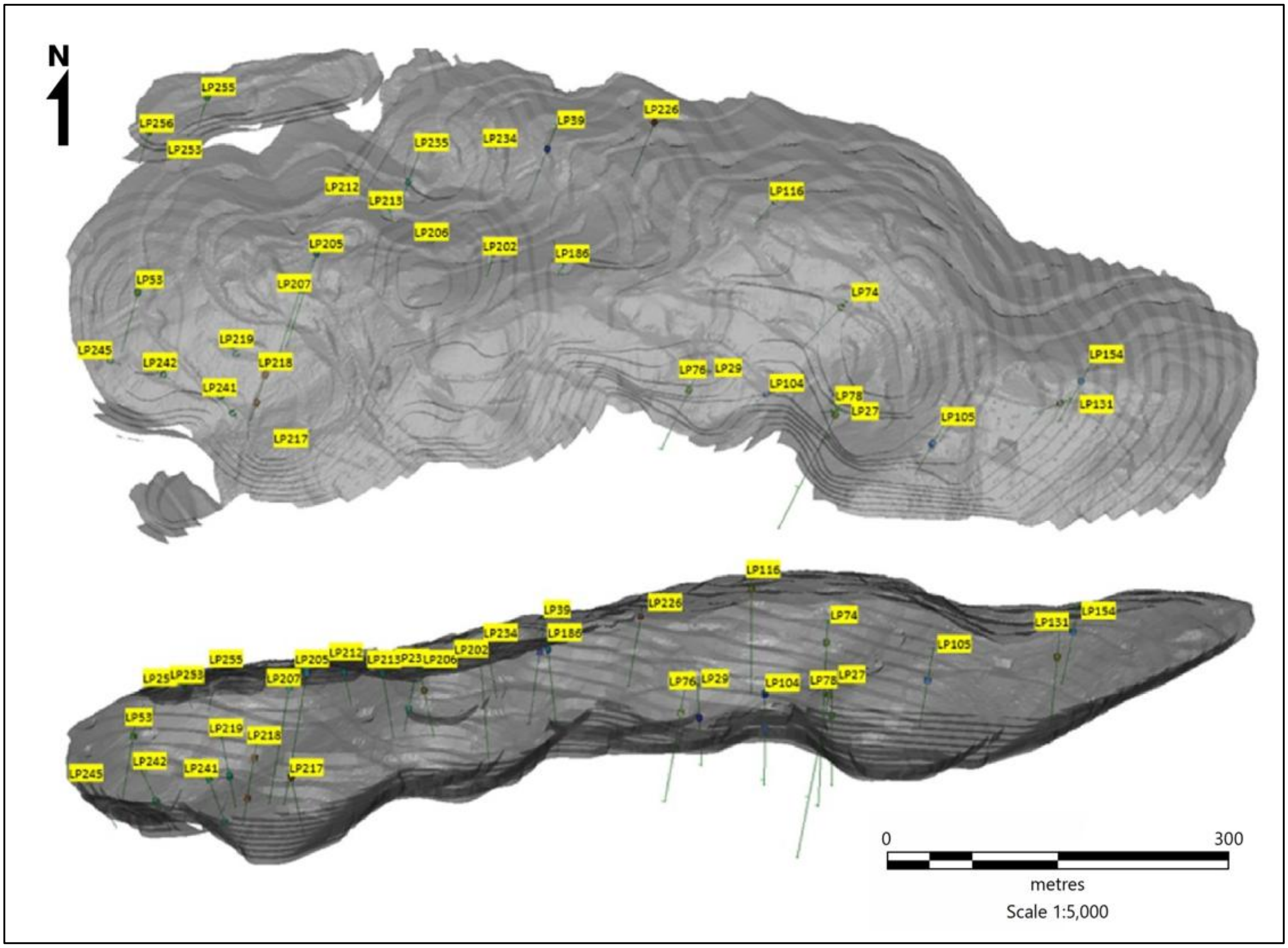
13.2.1 Bottle Rolls Leaching

A total of 35 samples of RC drill hole material was used for the bottle rolls leaching tests, with a distribution of 23% feldspar porphyry, 66% granodiorite, and 11% of quartz porphyry. A summary of the results is presented in Table 13-2, while Figure 13-1 shows the samples locations.

Table 13-2: Summary of Bottle Leaching Samples

Statistics	CuT (%)	CuS (%)	CuCN (%)	CuI (%)
No. of samples	35			
Lithology	23% PQZ, 66% GRD and 11% PFD			
Average	0.62	0.35	0.06	0.21
75th Percentile	0.77	0.51	0.09	0.25
25th Percentile	0.33	0.08	0.02	0.16

Figure 13-1: Sampling Locations for Bottle Tests



Note: Figure prepared by SML, 2021.

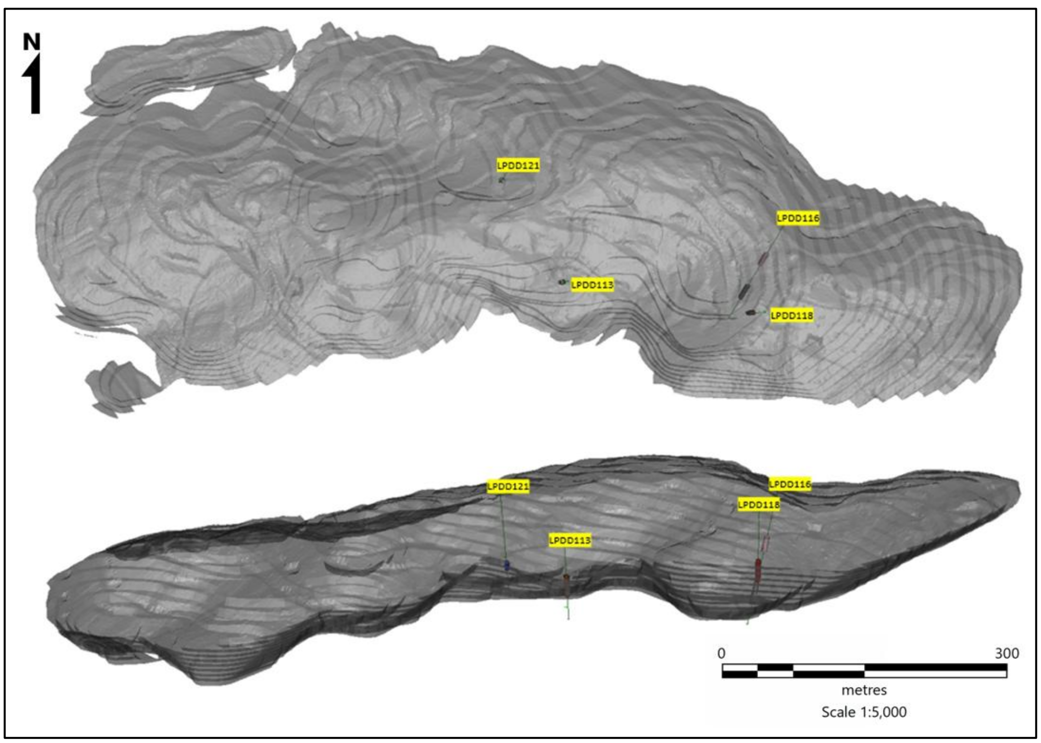
13.2.2 Column Leaching

Samples from a total of 15 columns were used in this testwork. The samples had varying distributions; for example, 67% porphyry and 33% granodiorite, 100% granodiorite,100% feldspar porphyry, 100% MDIO, and 52% granodiorite and 48% quartz porphyry. Table 13-3 summarizes the results of the column leaching tests, while Figure 13-2 shows the samples location.

Table 13-3: Summary of Column Leaching Test Details

Column No.	Drill Hole ID Sample	Stretch (m)		Alteration	Lithology	Mineral Zone
		From	To			
Col-1	LPDD121	107	120	Phyllic sericitic	67%PFD-33%GRD	SEC_LEY
Col-2	LPDD121	107	120	Phyllic sericitic	67%PFD-33%GRD	SEC_LEY
Col-3	LPDD121	107	120	Phyllic sericitic	67%PFD-33%GRD	SEC_LEY
Col-4	LPDD118	74	107	Phyllic sericitic	GRD	SEC_LEY
Col-5	LPDD118	74	107	Phyllic sericitic	GRD	SEC_LEY
Col-6	LPDD118	74	107	Phyllic sericitic	GRD	SEC_LEY
Col-7	LPDD116	52	69	Phyllic sericitic	PFD	SEC_LEY
Col-8	LPDD116	52	69	Phyllic sericitic	PFD	SEC_LEY
Col-9	LPDD116	52	69	Phyllic sericitic	PFD	SEC_LEY
Col-10	LPDD116	100	120	Phyllic sericitic	MDIO	P_LEY
Col-11	LPDD116	100	120	Phyllic sericitic	MDIO	P_LEY
Col-12	LPDD116	100	120	Phyllic sericitic	MDIO	P_LEY
Col-13	LPDD113	50	82	Phyllic sericitic	52%GRD-48%PQZ	SEC_LEY
Col-14	LPDD113	50	82	Phyllic sericitic	52%GRD-48%PQZ	SEC_LEY
Col-15	LPDD113	50	82	Phyllic sericitic	52%GRD-48%PQZ	SEC_LEY

Figure 13-2: Sampling Locations for Column Tests



Note: Figure prepared by SML, 2021.

13.2.3 Operational Condition Column Tests

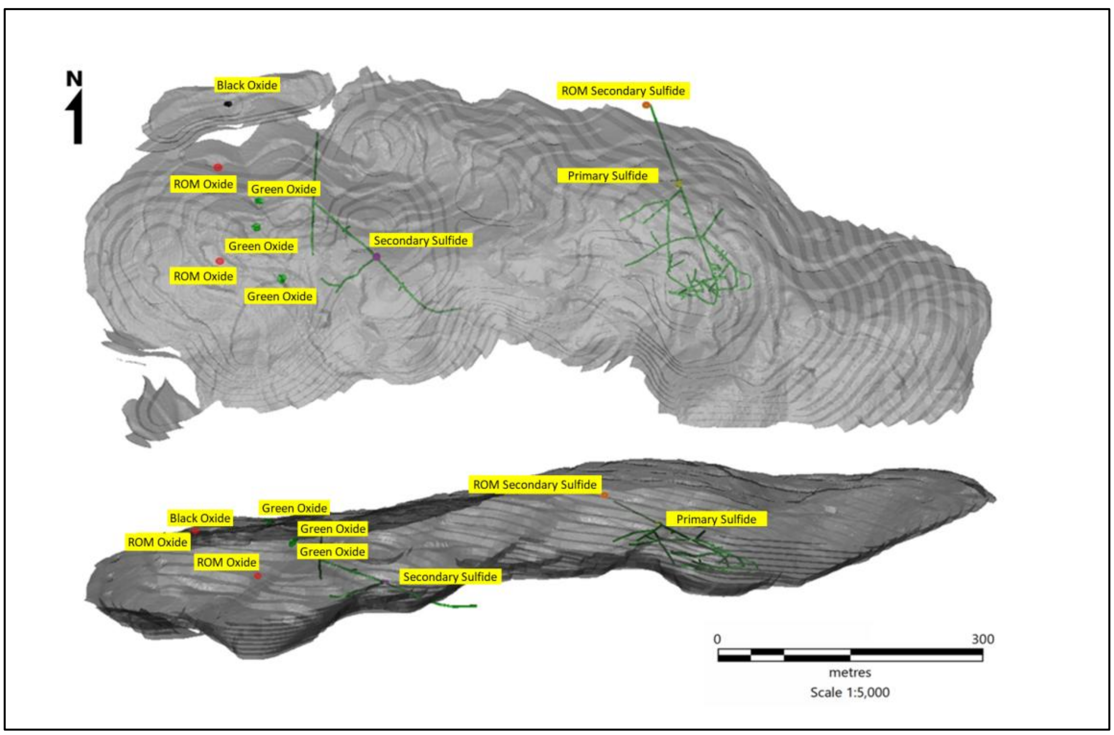
A total of nine samples were used for the operational condition testwork. Samples were obtained for this test through the identification of outcrops, clearings, and tunnels. Table 13-4 presents a summary of the samples used in this program, while

Figure 13-3 shows the samples location.

Table 13-4: Summary of Samples Used for Operational Condition of Column Leaching

Column	Sample	East Coordinates	North Coordinates	% Ratio in Mine Plan
Green oxide	M-1	333.490	6.741.552	40
	M-2	333.469	6.741.655	
	M-3	333.465	6.741.615	
Black oxide	M-4	333.436	6.741.821	
Secondary sulphide	M-5	333.600	6.741.582	53
Primary sulphide	M-6	333.981	6.741.663	7
ROM oxide	M-7	333.439	6.741.712	-
	M-8	333.418	6.741.536	
ROM secondary sulphide	M-9	333.921	6.741.838	-

Figure 13-3: Sampling Locations for Operational Condition Tests

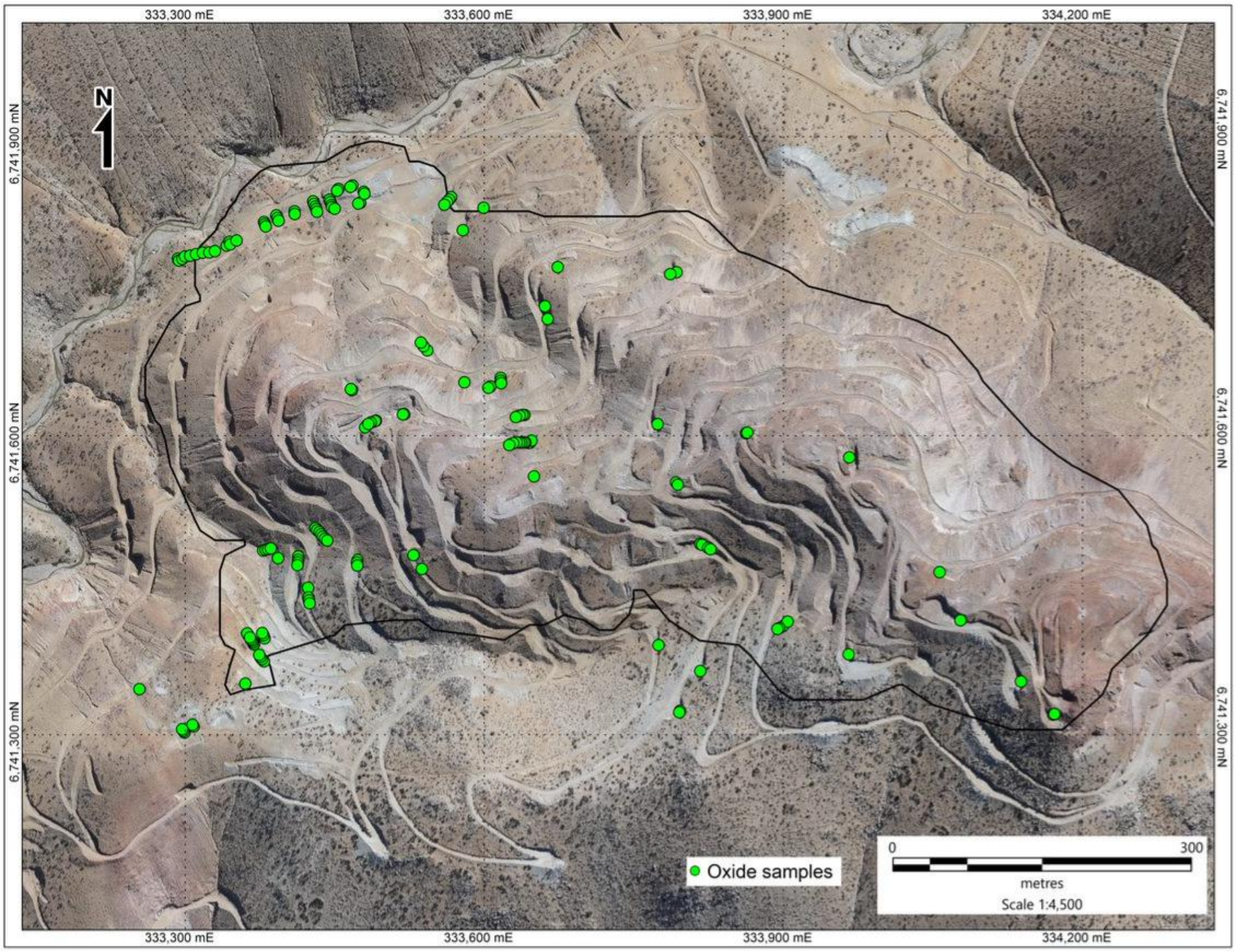


Note: Figure prepared by SML, 2021.

13.2.4 Large-Scale Column Test and Chemical and Mineralogical Analysis

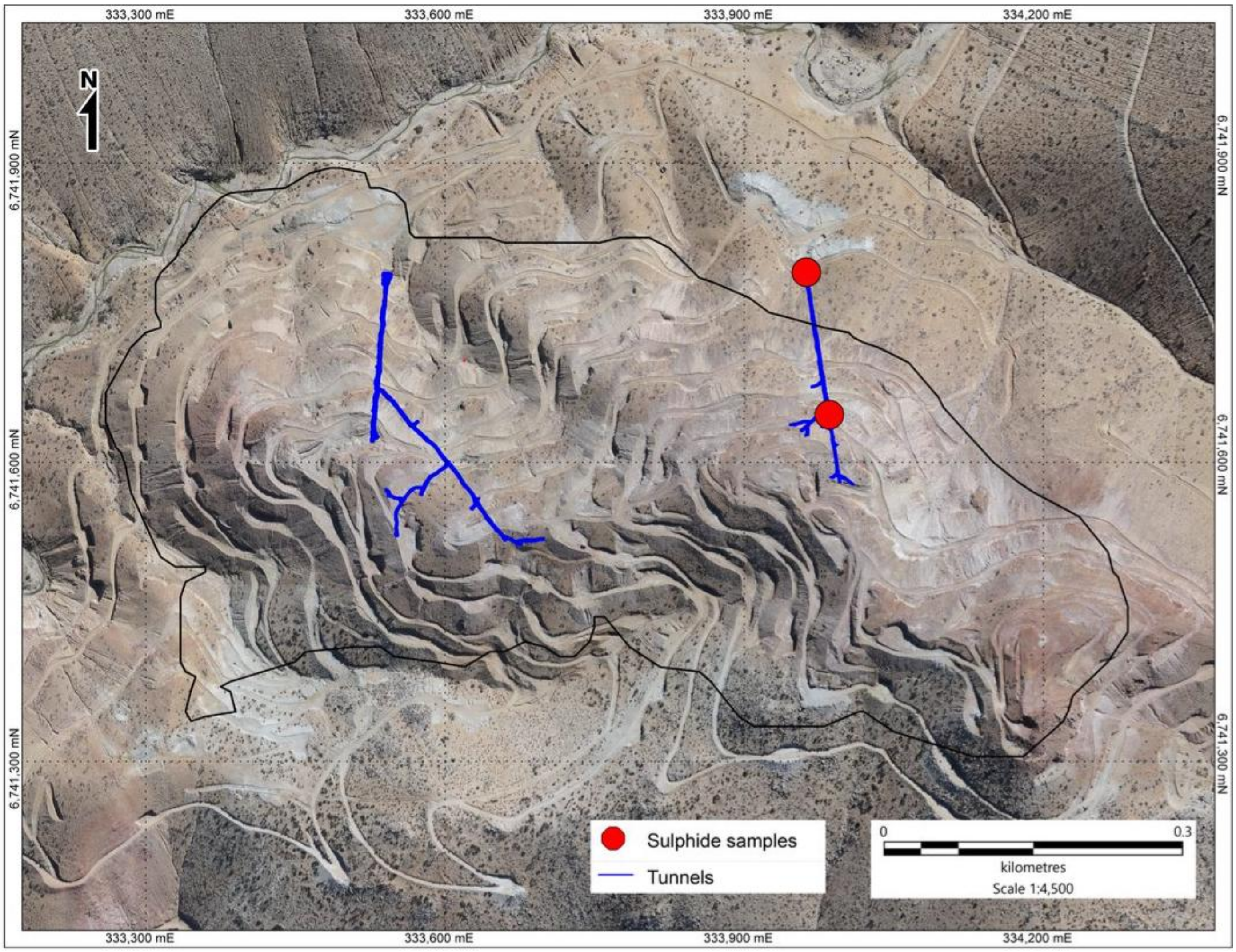
The samples used to carry out the large-scale column test and chemical and mineralogical analysis correspond to oxide and sulphide ore, coming from multiple surface and underground points within the deposit. Figure 13-4 shows the location of the oxide samples (M) used which correspond to the outcrop, while Figure 13-5 shows the sulphide samples (MET) used which correspond to existing underground galleries.

Figure 13-4: Large-scale Column Test — Oxide Sample Location



Note: Figure prepared by SML, 2021.

Figure 13-5: Large-scale Column Test — Sulphide Sample Location



Note: Figure prepared by SML, 2021.

13.3 Comminution Testing

To determine the metallurgical behaviour of the mineral in comminution, oxide, secondary sulphides, and primary sulphide, samples were sent to the Asmin Laboratory in Santiago de Chile, Chile, to perform the Bond low-energy impact test. This test is used to determine the crushing work index (CWi) of a sample, in order to estimate the net energy requirements for sizing the crushing circuit. The laboratory also performed a Bond abrasion (Ai) test, which determines the abrasion index of a sample in grams, in order to estimate steel consumption in the crusher linings. The results obtained are shown in Table 13-5.

Table 13-5: Comminution Test for Puquios Ore

Comminution Test	Unit	Oxide	Secondary Sulphide	Primary Sulphide
Crusher work index (CWi)	(metric)	11.8	8.1	18.7
Bond abrasion test (Ai+0.22)/11	kg/kWh	0.014	0.017	0.019

13.4 Feed Analysis

Chemical characterization was carried out both by the traditional means of chemical attack and atomic absorption readings, as well as by means of multi-element analysis via ICP. Table 13-6 shows the head assay chemical characterization and Table 13-7 shows the ICP chemical characterization.

Table 13-6: Head Assay Chemical Characterization

ID Sample	CuT (%)	FeT (%)	Sequential Cu (%)			Distribution Cu Sec (%)		
			CuS H^+	Cu CN	Cu Res	CuS	CuCN	Cu Res
Sulphide MET	0.921	2.69	0.232	0.479	0.197	25.12	51.93	21.33
Oxide M	0.635	2.73	0.393	0.067	0.156	61.79	10.55	24.59

Table 13-7: ICP Chemical Characterization

Element	Unit	Sulphide (MET)	Oxide (M)
Al	(%)	7.34	7.39
K	(%)	2.32	2.40
Fe	(%)	2.12	2.32
Na	(%)	1.26	1.43
Ca	(%)	0.70	1.01
Mg	(%)	0.80	0.91
Ti	(%)	0.07	0.14
CO_3=	(%)	0.21	0.12
S	(%)	1.68	0.12
Cu	(g/t)	> 5,000	4,764
P	(g/t)	310	539
Mn	(g/t)	196	481
Sr	(g/t)	199	238
V	(g/t)	53	73
Mo	(g/t)	89	62
Pb	(g/t)	54	49
Zn	(g/t)	26	43
Cr	(g/t)	50	37
Ni	(g/t)	41	34
Co	(g/t)	18	31
Li	(g/t)	17	20

Element	Unit	Sulphide (MET)	Oxide (M)
As	(g/t)	8	14
La	(g/t)	< 10	12
Y	(g/t)	10	9
Zr	(g/t)	5	8
Ag	(g/t)	< 5	< 5
Bi	(g/t)	< 5	< 5
Sb	(g/t)	5	< 5
Ga	(g/t)	< 20	< 20
Nb	(g/t)	< 20	< 20
Sn	(g/t)	< 20	< 20
Ta	(g/t)	< 20	< 20
Th	(g/t)	< 20	< 20
Tl	(g/t)	< 20	< 20
U	(g/t)	< 20	< 20
W	(g/t)	< 20	< 20
Sc	(g/t)	< 10	< 10
Te	(g/t)	< 10	< 10
Be	(g/t)	< 1	< 1
Cd	(g/t)	< 1	< 1

Bottle and column loads were chemically characterized by total copper, soluble copper, total iron, magnesium, manganese and aluminium. Additionally, analyzes to determine the proportion of total copper found with different degrees of solubility were performed for sequential copper analysis. In particular, the following sequence was developed: copper soluble in sulphuric acid CuS (copper oxides); copper soluble in cyanide CuCN (secondary sulphides), and finally determination of residual copper CuR (primary sulphides).

13.5 Mineralogy

The mineralogical composition accounts for the main characteristic that is different between both kinds of samples. For example, oxide contents were observed in the sulphide sample, yet in the oxide sample, sulphide contents were not observed. Thus, the sulphide sample (MET) had copper oxides such as chrysocolla (0.022%) and brochanthite/antlerite (0.163%), while the oxide sample (M) did not have sulphur species of any kind.

In the sulphides sample (MET), the main species observed were chalcocite/digenite and chalcopyrite-species corresponding to secondary and primary sulphides in amounts of 1.047% and 0.498%, respectively. For its part, pyrite was observed in amounts of 3.021%.

The mineralogical characterization was carried out using TESCAM methodology. Table 13-8 shows the results obtained.

Table 13-8: Mineralogical Characterization

Minerals	Sulphide (MET)	Oxides (M)
Chrisocolla	0.022	0.45
Brochantite/antlerite	0.163	-
Pseudo-malachite	-	0.16
(Cu.Fe)OH	-	0.12
Chalcopyrite	0.498	-
Chalcocite/digenite	1.047	-
(Si.Cu.Mn) WAD	-	0.27
Chlorite-Cu	-	0.71
Malachite/azurite	-	0.09
Ilmenite	-	0.37
Hematite/magnetite	0.098	2.5
Jarocite	-	0.07
Quartz	44.838	37.38
Plagioclase	18.599	27.8
Feldspar K	2.86	9.65
Anphibole	-	0.11
Muscovite/illite	24.362	12.99
Biotite/phlogopite	0.656	3.79
Chlorite	1.826	1.15
Al clays	0.827	1.14
Tourmaline	0.474	0.73
Apatite	0.025	0.16
Titanite	-	0.1
Rutile/anatase	0.185	0.09
Pyrite	3.021	-
Bornite	0.059	-
Calcite	0.273	-
Anhydrite/gypsum	0.036	-
Ankerite/siderite	0.028	-
Zircon	0.021	-
Others	0.083	0.16
Total	**100.0**	**100.0**

13.6 Recovery Performance

Copper recovery models are based on the operational conditions testwork which is detailed below and performed on the green oxide, black oxide, primary sulphide, and secondary sulphide. Large-scale column testwork results were used to validate the model used in the mine plan. In this testwork only oxide and secondary sulphide were tested, because the primary sulphides represent less 10% of the Mineral Reserves and had less sample availability.

13.6.1 Testwork Results from Operational Conditions

Operational conditions were determined by performing 0.3-m and 1-m column tests for green oxides, black oxides, primary sulphides, and secondary sulphides, in order to establish particle size, irrigation rate, acid and chloride dosage, and copper recovery. Only the 0.3-m column testwork was used to develop the copper recovery model cited earlier.

13.6.1.1 Green Oxide

Ten scenarios were evaluated on the green oxide samples. Table 13-9 and Table 13-10 show the samples and base case setting and scenarios investigated. For green oxide a 1/3 blend of M-1, M-2, and M-3 was considered.

Table 13-9: Green Oxide samples used for 0.3-m Column Test

Column	Sample	CuT %	CuS %	CuCN %	CuR %
Green Oxide	M-1	0.65	0.52	0.02	0.11
	M-2				
	M-3				

Table 13-10: Green Oxide 0.3-m Test Scenarios

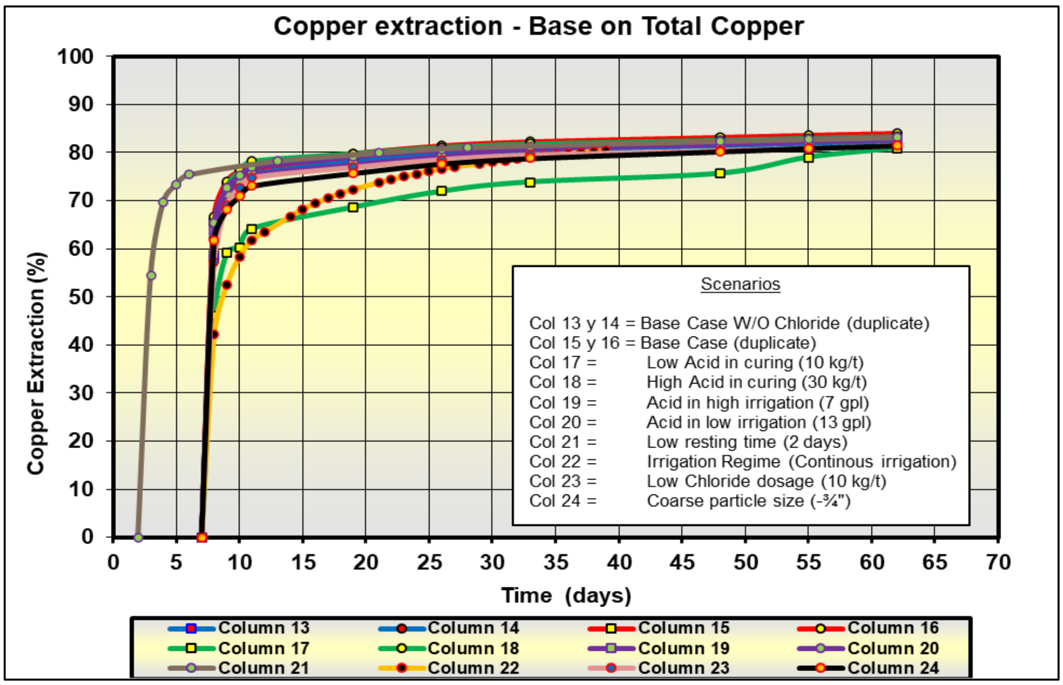
Scenarios	P_{100} (mm)	Irrigation Rate $(L/h/m)^2$	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)	Acid concentration in irrigation (g/L)
Base case	12.7	10	20	15	10
Base case without chloride	12.7	10	20	-	10
Low acid during curing	12.7	10	10	15	10
High acid during curing	12.7	10	30	15	10
Acid in high irrigation	12.7	10	20	15	13
Acid in low irrigation	12.7	10	20	15	7
Short rest period (2 days)	12.7	10	20	15	10
Continuous irrigation	12.7	10	20	15	10
Low chloride dosage	12.7	10	20	10	10
Coarse particle size	19.0	10	20	15	10

Figure 13-6 shows the results obtained from the 0.3-m column test, from which the following was concluded:

- Extractions are between 81% and 84% recovery.
- The addition of chloride to the mineral does not have a great effect on recovery (1% higher) but the leaching cycle is reduced from 200 to 90 days required for bacterial leaching.
- Based on acid, the results show that for green oxides the dose of acid during curing should be between 15 and 20 kg/t of acid.

- For acid concentration in irrigation, an effect of the final extraction between a concentration of 7 or 13 g/L of acid in the irrigation solution is not distinguished, so it is recommended to use the lower value.
- The grain size P100 19 mm with respect to the base case of 12.7 mm implies an extraction of less than two points.
- It was observed that the rest period did not influence in the final extraction.

Figure 13-6: Green Oxide Copper Recovery vs. Time – 0.3-m Column Test



Note: Figure prepared by Ausenco, 2021.

13.6.1.2 Black Oxide

Ten scenarios were carried out for the black oxide. Table 13-11 and Table 13-12 and Figure 13-16 show the base case setting and scenarios tested.

Table 13-11: Black Oxide sample used for 0.3-m Column Test

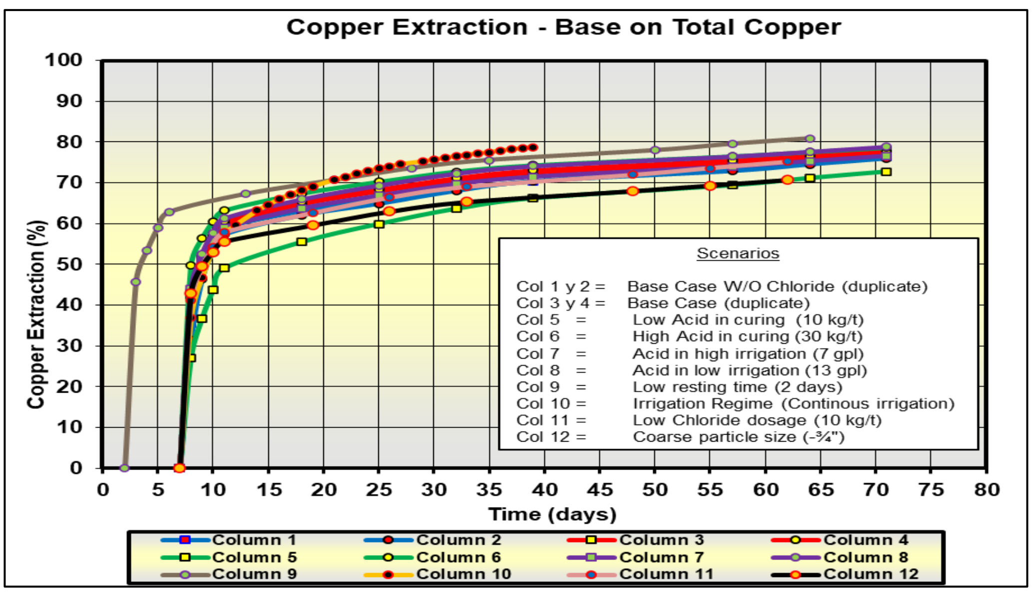
Column	Sample	CuT %	CuS %	CuCN %	CuR %
Black Oxide	M-4	0.83	0.67	0.03	0.13

Table 13-12: Black Oxide 0.3-m and 1-m Column Test Scenarios

Parameter	P_{100} (mm)	Irrigation Rate (L/h/m)²	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)	Acid concentration in irrigation (g/L)
Base case	12.7	10	20	20	10
Base case without chloride	12.7	10	20	-	10
Low acid during curing	12.7	10	10	20	10
High acid during curing	12.7	10	30	20	10
Acid in high irrigation	12.7	10	20	20	13
Acid in low irrigation	12.7	10	20	20	7
Short rest period (2 days)	12.7	10	20	20	10
Continuous irrigation	12.7	10	20	20	10
Low chloride dosage	12.7	10	20	10	10
Coarse particle size	19.0	10	20	20	10

Figure 13-7 shows the copper extractions obtained for the 0.3-m column test scenarios described above.

Figure 13-7: Black Oxide Copper Extraction vs. Time — 0.3-m Column Test



Note: Figure prepared by Ausenco, 2021.

The following was concluded from the tests:

- The extraction kinetics is slower than for green oxides and the final extraction for the same irrigation ratio is lower, varying between 70% and 80% after 60 days of irrigation.

- The coarse crush size of 19 mm and the lower dosage of acid during curing are the conditions that most affect copper extraction.
- The dosage in the curing of the black oxides has a strong effect on copper extraction kinetics, as the final extraction was affected by up to 6% (from 20 to 10 kgH^+/t).
- Net consumption is strongly influenced by gangue consumption; therefore, dosages of 30 kgH^+/t during curing do not mean higher extractions, but they do imply higher net consumption.
- The gangue from this mineral is highly acid consuming throughout the leaching cycle.

13.6.1.3 Primary Sulphide

Ten scenarios were evaluated on black oxide samples. Table 13-13 and Table 13-14 shows the base case setting and scenarios investigated. No column test was carried out on the 1-m column for primary sulphide.

Table 13-13: Primary Sulphide Sample used for 0.3-m Column Test

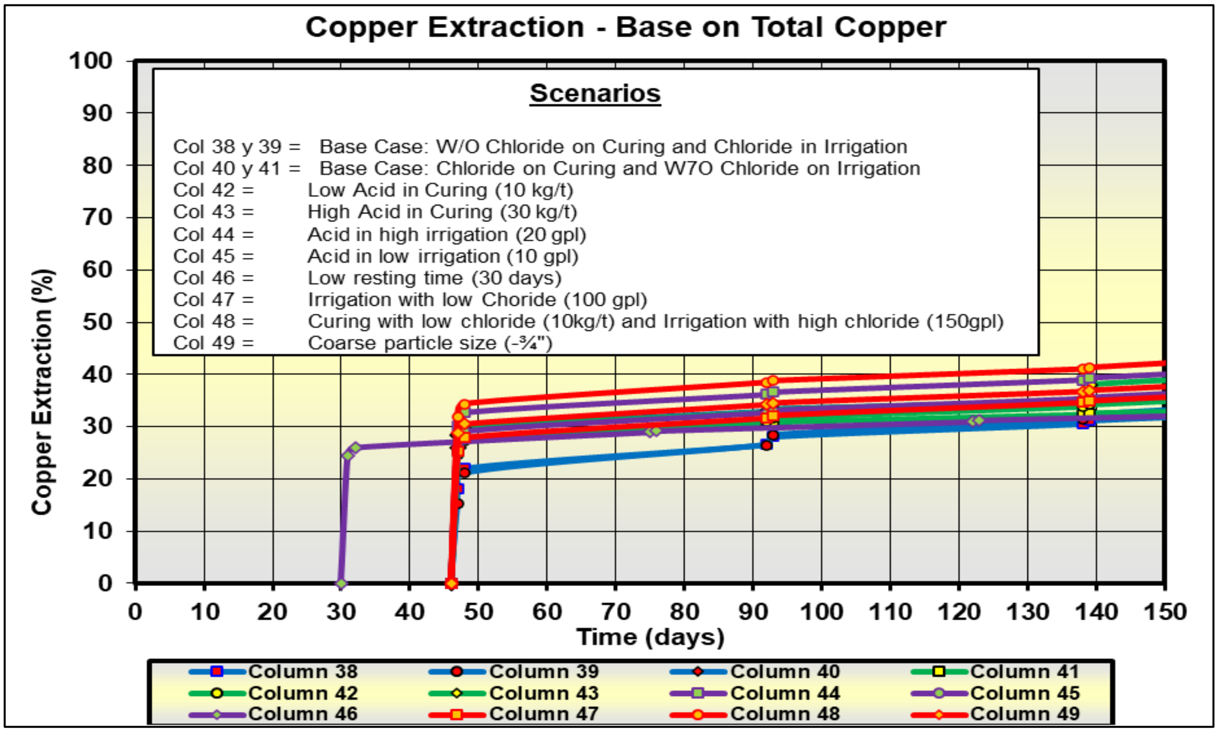
Column	Samples	CuT %	CuS %	CuCN %	CuR %
Primary sulphide	M-6	0.22	0.04	0.06	0.11

Table 13-14: Primary Sulphide 0.3-m Column Test Scenario

Parameter	P_{100} (mm)	Irrigation Rate $(L/h/m)^2$	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)	Acid concentration in irrigation (g/L)
Base case	12.7	10	20	20	15
Base case without chloride	12.7	10	20	-	15
Low acid during curing	12.7	10	10	20	15
High acid during curing	12.7	10	30	20	15
Acid in high irrigation	12.7	10	20	20	20
Acid in low irrigation	12.7	10	20	20	10
Short rest period (30 days)	12.7	10	20	20	15
Low chloride in irrigation (100 g/L)	12.7	10	20	20	15
Low chloride dosage (and high chloride in irrigation 150 g/L)	12.7	10	20	10	15
Coarse particle size	19.0	10	20	20	15

Figure 13-8 shows the copper extractions obtained for the scenarios described above. The following was concluded from the tests.

Figure 13-8: Primary Sulphide Copper Extraction vs. Time — 0.3-m Column Test



Note: Figure prepared by Ausenco, 2021.

- The total Cu extractions obtained fluctuate between 37%–45%[1];
- The test that included curing with 10 kg/t of chloride and 150 g/L of chloride in irrigation presented favourable conditions but more corrosion resistant equipment that will be in contact with this solution will be required. The materials of construction for piping, pumps, and materials that will be used must be reviewed to ensure it can handle the acid and chloride concentrations.
- Copper extraction achieved for a 30-day rest period compared to the standard 45-day showed a three-point drop.
- The difference between 19 mm crush size versus a 12.7 mm crush size is negligible, indicating that the coarser crush size is acceptable.
- A dosage of sulphuric acid of 30 kg/t during the curing generated an extraction five points greater than for a dose of 10 kg/t. In terms of a higher dosage of acid in irrigation, a slightly better kinetics and extraction rate were achieved when the acid concentration in irrigation is 20 g/L as compared to 10 g/L.

[1] The previous tests demonstrated that NaCl is essential for this process, so it was established that all tests will use chloride, with the only variation being whether it was added during curing or irrigation.

- Mineral gangue is highly consuming, so it is not recommended to add excess acid during irrigation and adjust it to 20 kg/t or less during curing.

13.6.1.4 Secondary Sulphide

Eleven scenarios were carried out for secondary sulphide. Table 13-15 and Table 13-16 show the base case setting and scenarios tested.

Table 13-15: Secondary Sulphide Sample used for 0.3-m Column Test

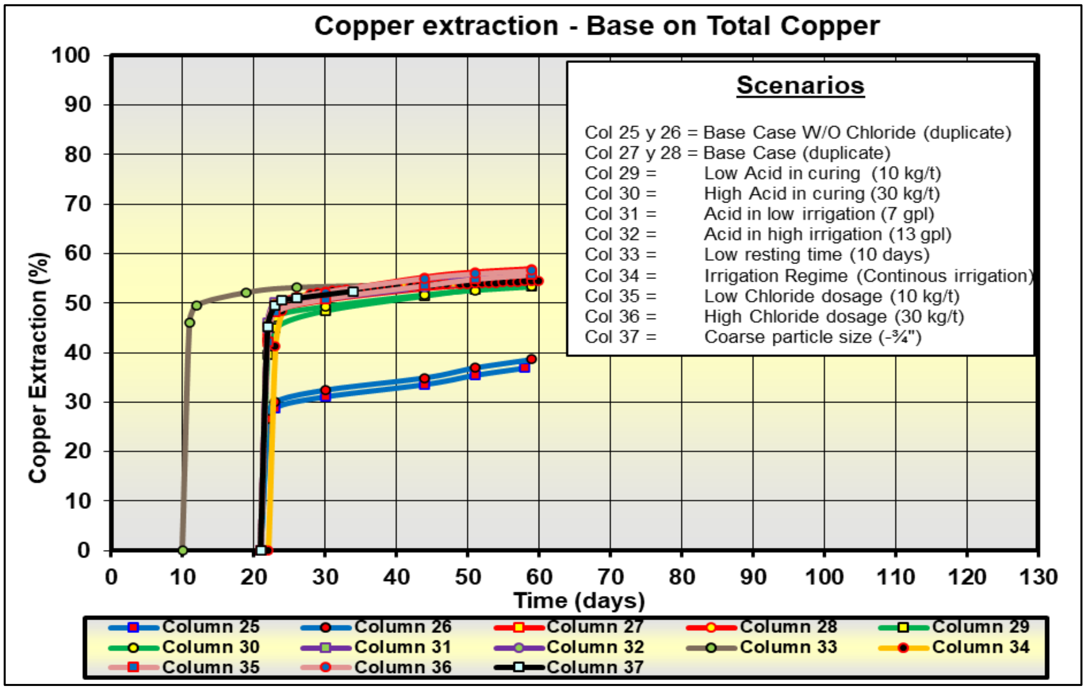
Column	Sample	CuT %	CuS %	CuCN %	CuR %
Secondary sulphide	M-5	0.95	0.21	0.43	0.32

Table 13-16: Secondary Sulphide 0.3-m Test Scenarios

Parameter	P100 (mm)	Irrigation Rate ($L/h/m^2$)	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)	Acid concentration in irrigation (g/L)
Base case	12.7	10	20	20	10
Base case without chloride	12.7	10	20	-	10
Low acid during curing	12.7	10	10	20	10
High acid during curing	12.7	10	30	20	10
Acid in high irrigation	12.7	10	20	20	13
Acid in low irrigation	12.7	10	20	20	7
Short rest period (30 days)	12.7	10	20	20	10
Continuous irrigation	12.7	10	20	20	10
Low chloride dosage	12.7	10	20	10	10
High chloride dosage	12.7	10	20	30	10
Coarse particle size	19.0	10	20	20	10

Figure 13-9 shows the copper extractions obtained for the 0.3-m column test scenario described above.

Figure 13-9: Secondary Sulphide Copper Extraction vs. Time — 0.3-m Column Test



Note: Figure prepared by Ausenco, 2021.

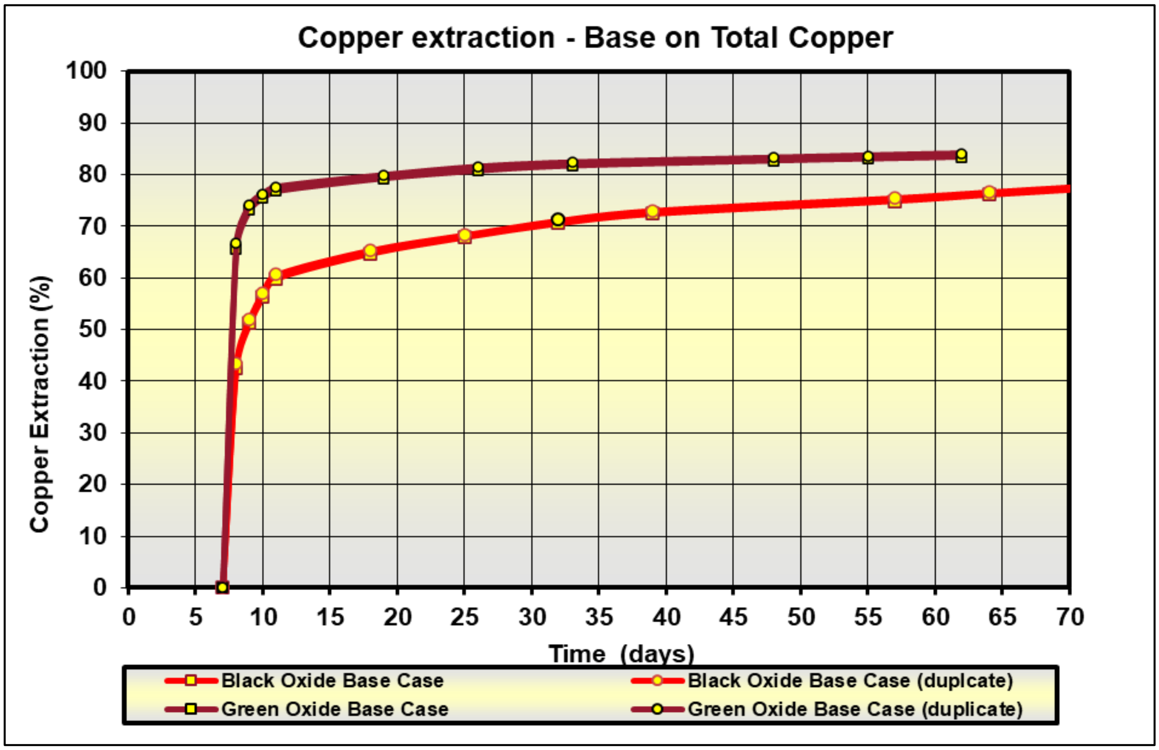
The following was concluded from the tests:

- Not adding sodium chloride means approximately 18 points less extraction with respect to the same sample with addition of sodium chloride.
- There is no apparent change between adding 10 kg/t or 30 kg/t of chloride compared to the base case of 20 kg/t.
- Acid dosage during curing had no effect on the final extraction; the acid dosage has a strong impact on the net acid consumption but adding more acid during curing does not ensure greater recovery. In other words, adding 30 kgH^+/t of acid during curing does not imply greater extraction.
- When 10 kgH^+/t was added during curing, the net consumption was greater than when added during agglomeration, reaching estimated values between 15%–20%.

13.6.2 Green Oxide and Black Oxide Analysis

Figure 13-10 shows the extraction of copper as a function of time for the base cases and their duplicates used in the 0.3 m tests, at a P_{100} of 12.5 mm (½ inch) and an acid and salt dosage of 20 kg/t of mineral each.

Figure 13-10: Base Case for Green Oxide and Black Oxide for 0.3-m Column Test



Note: Figure prepared by Ausenco, 2021.

The base case for the green oxide has a CuT of 0.63%, CuS of 0.51%, and a CuCN of 0.02%. The black oxides, have a CuT of 0.81%, CuS of 0.65%, and CuCN of 0.03%.

It can be seen in Figure 13-10 that the green oxides obtain their maximum recovery around day 30, but the black oxides, show increasing recovery over time, which is not at maximum at the conclusion of the test.

From this data, it can be inferred that the behaviour of black oxides differs from that of green oxides but considering that black oxides represent 2.8% of the mining plan and only 7.3% of the geometallurgical unit (GMU) of oxides, it was decided to combine them in a single GMU, given the low net impact on the mining plan.

13.6.3 Large-scale Column Testwork Results

Mineral responses for 5-m columns were studied for the two GMUs defined in Section 13.8. These GMUs are oxide and secondary sulphide. No tests were carried out on primary sulphides in this program due to its low presence on the mine plan and availability of samples (7%).

13.6.3.1 Oxides

Five scenarios were carried out for oxides. Table 13-17 shows the base case setting and scenarios tested.

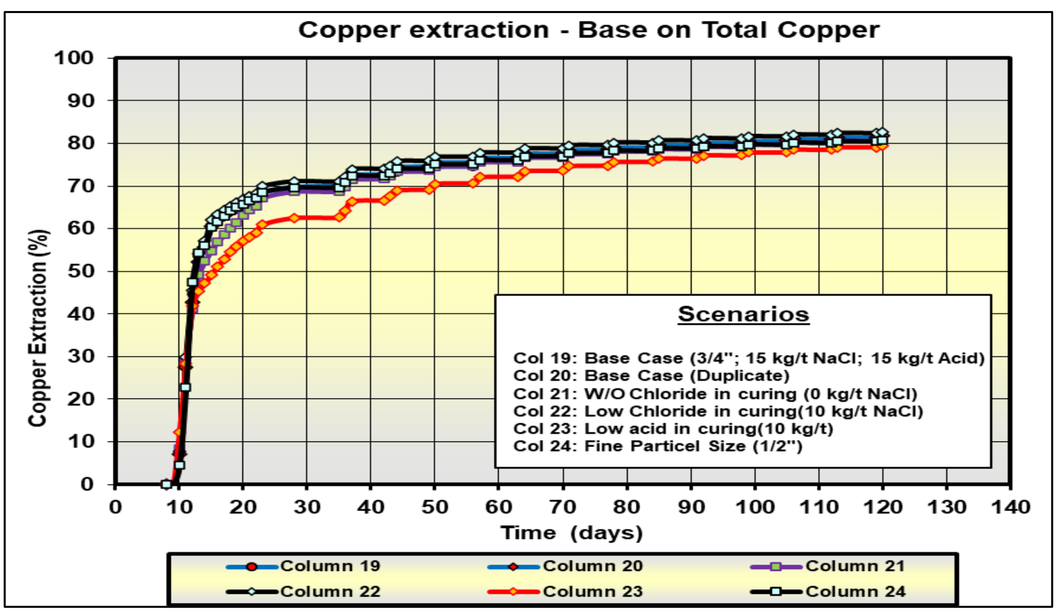
Table 13-17: Oxide 5-m Column Test Scenario

Parameter	P_{100} (mm)	Irrigation Rate (L/h/m)^2	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)
Base case	19	10	15	15
Base case without chloride	19	10	15	-
Low chloride during curing	19	10	15	10
Low acid during curing	19	10	10	15
Fine particle size	12.7	10	20	15

Figure 13-11 shows the results obtained, from which the following was concluded:

- The average copper recovery is 81.4%, while the test that did not use NaCl during curing it was 81.6%.
- The recovery in the test that used the low NaCl during curing was 83.2%.
- In the test that used the least amount of acid during curing, the copper extraction was 79.7%.
- The test with the smallest crush size (100% 12.7 mm), had a recovery of 81.4%.
- The extraction kinetics were slow and did not reach maximum extraction levels at the conclusion of the tests; The slowest kinetics were exhibited by the column with lowest acid addition during curing.
- The leaching ratio was 1.0 m^3/t of ore but there is room to increase recovery with oxide ore with the positive slope in the recovery curve, with the design leaching ratio is 3.0 m^3/t.

Figure 13-11: Oxide Copper Extraction vs. Time — 5-m Column Test



Note: Figure prepared by Ausenco, 2021.

13.6.3.2 Secondary Sulphide

Five scenarios were carried out on secondary sulphide. Table 13-18 shows the base case setting and scenarios investigated.

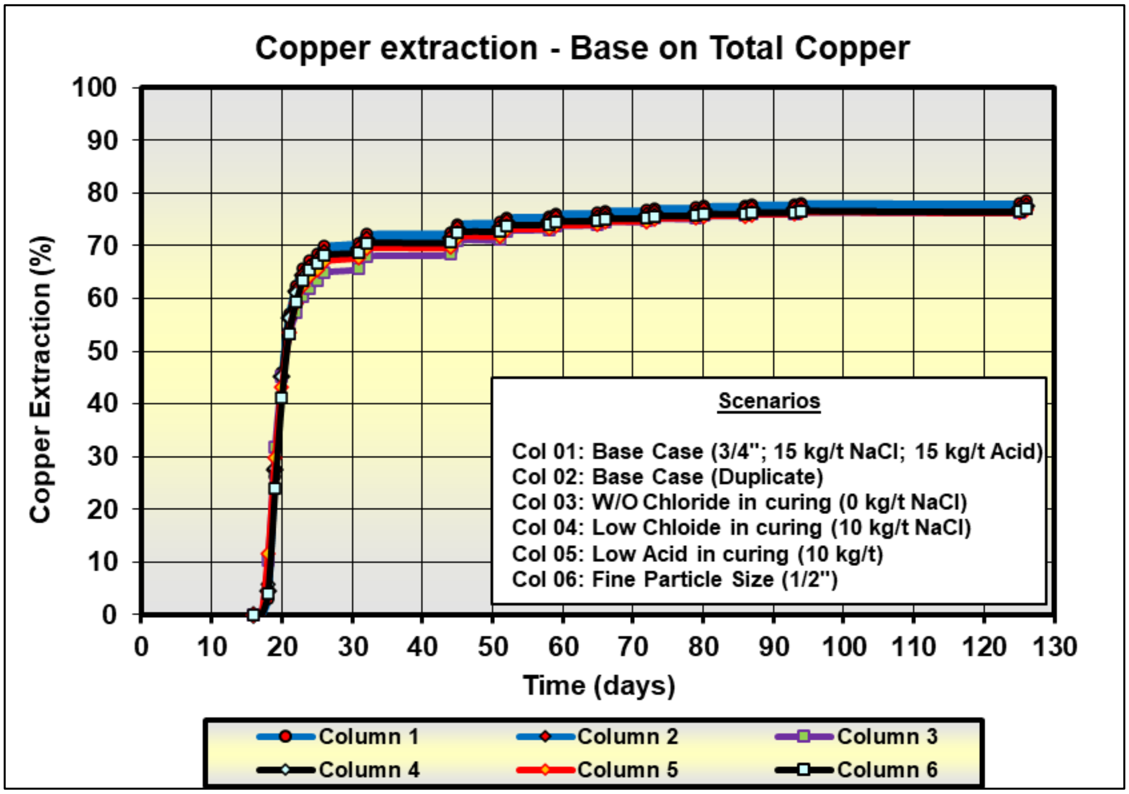
Table 13-18: Secondary Sulphide 5-m Column Test Scenarios

Parameter	P_{100} (mm)	Irrigation Rate (L/h/m²)	Acid Dosage (kg/t of ore)	Chloride Dosage (kg/t of ore)
Base case	19	10	15	15
Base case without chloride	19	10	15	-
Low chloride during curing	19	10	15	10
Low acid during curing	19	10	10	15
Fines particle size	12.7	10	20	15

Figure 13-12 shows the results obtained, from which the following was concluded:

- The average copper recovery was 78.0%, which corresponds to the highest level of copper extraction among the tests carried out, while in the test that did not use NaCl during curing, it was 77.3%; in the test that used the least amount of NaCl during curing was 77.1%.
- In the test that used the least amount of acid during curing, the copper extraction was 76.8%.
- The extraction of the test that used the smallest crush size (100% 12.7 mm), was 77.1%.
- Extraction kinetics were relatively fast, reaching a maximum extraction level at 78 days; the slowest behaviour was shown by the column that did not use NaCl during curing.
- The leaching ratio was 0.95 m^3/t of ore, but there is room to increase recovery marginally in the secondary sulphide ore due the flat slope in the recovery curve, while the design leaching ratio is 3.0 m^3/t of ore.
- The addition of NaCl did not improve copper recovery to the same extent as the acid dosage did.
- Crush size does not have major impact on copper recovery.

Figure 13-12: Secondary Sulphide Copper Extraction vs. Time — 5-m Column Test



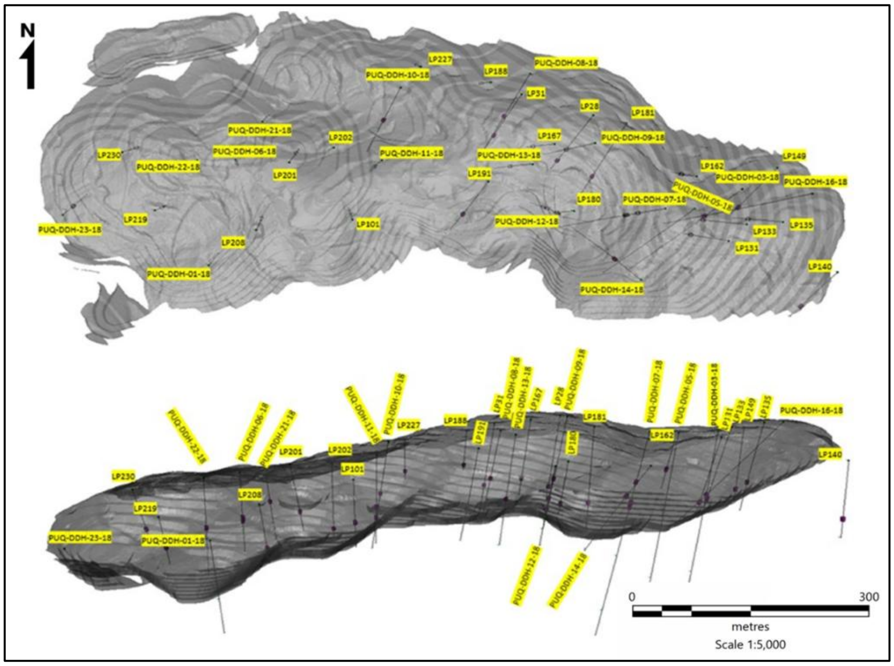
Note: Figure prepared by Ausenco, 2021.

13.7 Metallurgical Variability

The objective of these tests was to identify the potential variability between mineral zones, lithology and alteration in the deposit. To define the number of samples to be used in the analysis of deposit variability, the current block model and the mine plan were used as references.

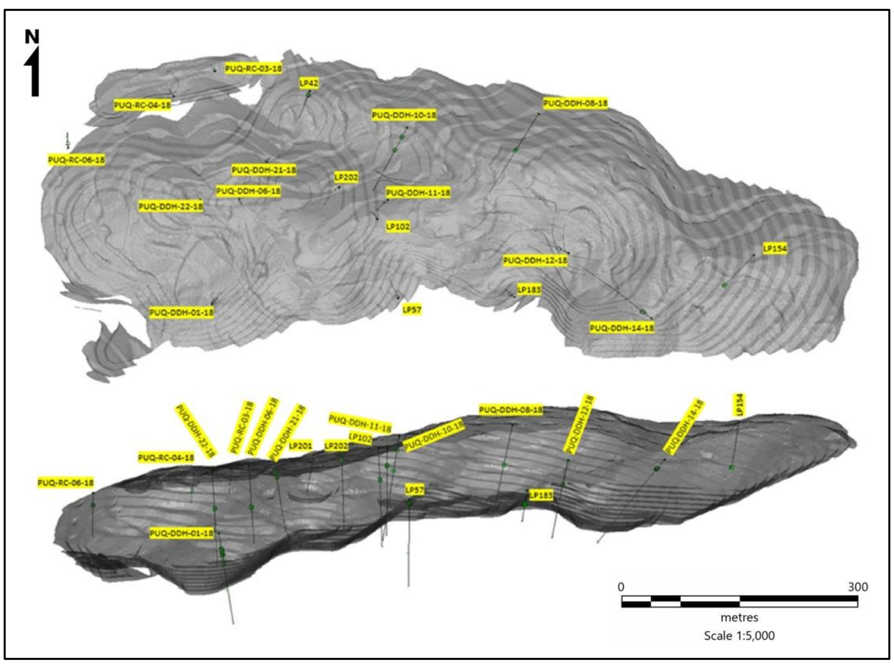
Since the main mineralization type is secondary sulphide, 40 samples were selected, and their spatial distribution can be seen in Figure 13-13. For oxide, 22 detailed samples were selected, and their spatial distribution is shown in Figure 13-14. For primary sulphide, 15 samples were selected, and their spatial distribution is shown in Figure 13-15. The samples correspond to core intervals from a single continuous section that are spatially evenly distributed throughout the deposit area.

Figure 13-13: Location of Core Drilling for Variability Tests in Secondary Sulphides



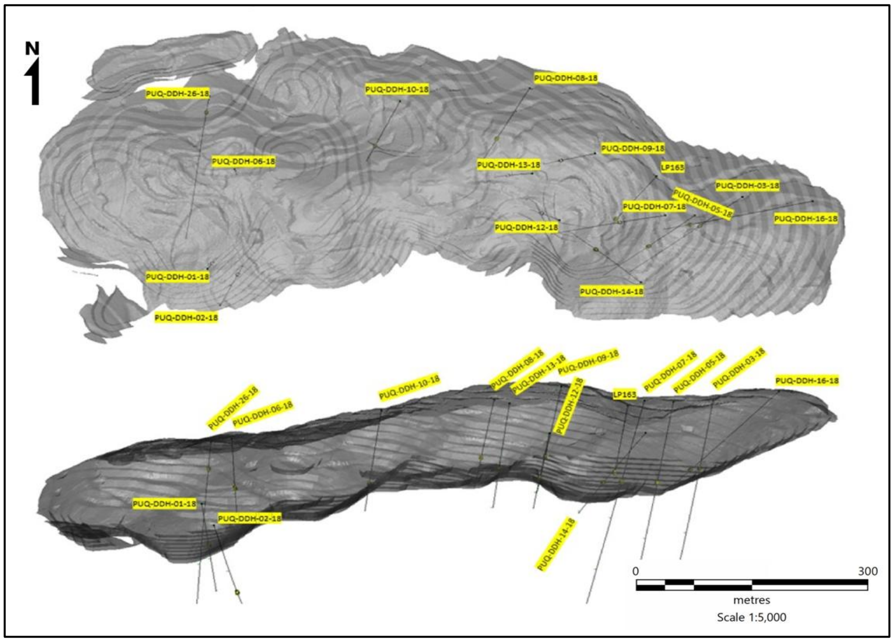
Note: Figure prepared by SML, 2021.

Figure 13-14: Location of Core Drilling for Variability Tests in Oxide



Note: Figure prepared by SML, 2021.

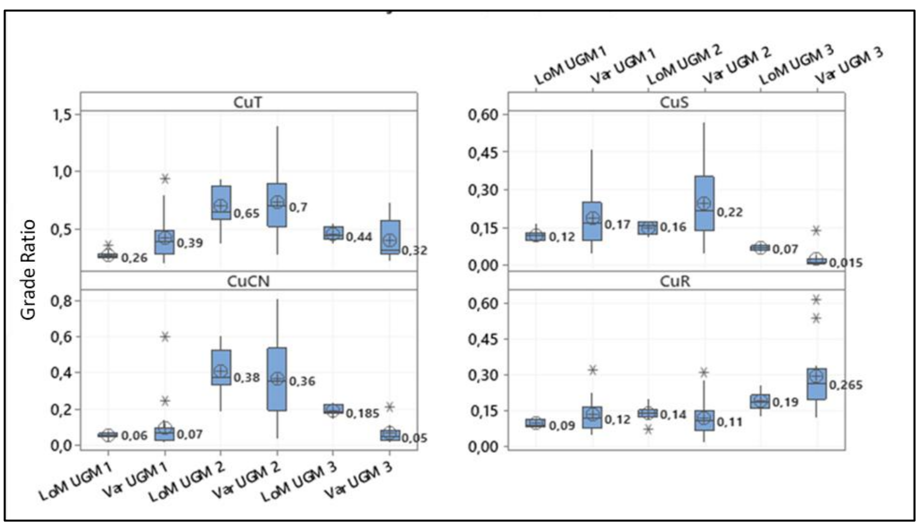
Figure 13-15: Location of Recent DDH Drilling for Variability Tests in Primary Sulphide



Note: Figure prepared by SML, 2021.

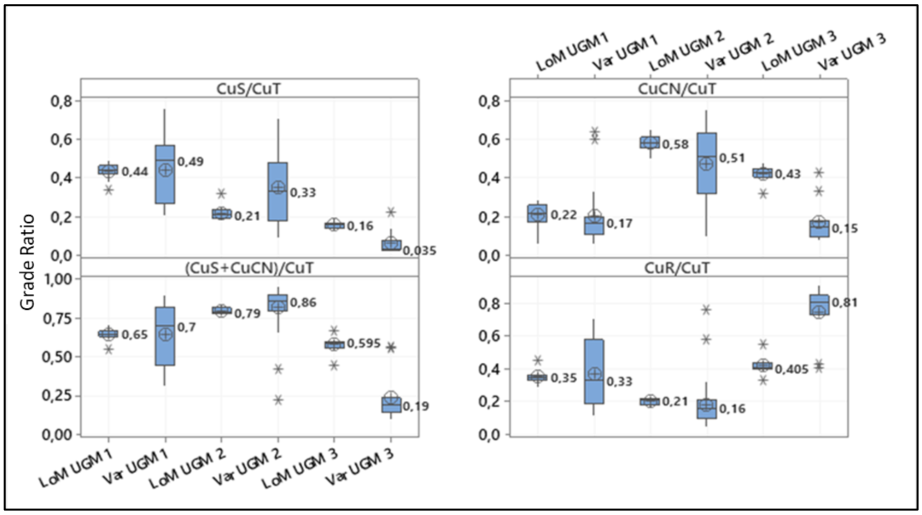
Boxplots were generated where the CuT, CuS, CuCN and CuR grades of the samples used were compared with the average grades per year of the mine plan (LOM) for each GMU as shown in Figure 13-16. The behaviour of the samples for tests with the LOM by solubility was compared for CuS/CuT, CuCN/CuT, (CuS + CuCN)/CuT and CuR/CuT, as shown in Figure 13-17. The LOM mine plan is adequately covered by the 77 samples used in the variability program.

Figure 13-16: Comparison of Grade Between Variability Samples and LOM by GMU



Note: Figure prepared by SML, 2021.

Figure 13-17: Comparison of Grade Ratio Between Variability Samples and LOM by GMU



Note: Figure prepared by SML, 2021.

A test program was defined using 0.3-m columns using representative samples from oxide, secondary sulphide, and primary sulphide mineral zones. It was decided to use micro-columns over bottles since the nature of the chlorinated acid leaching does not allow good control and operation of the bottle leach tests, which leads to erroneous results.

The conditions used in the test program are shown in Table 13-19, with the conditions used being the same for all the columns. Of the total number of samples, 40 correspond to secondary sulphides, 22 to oxides, and 15 to primary sulphides, for a total of 77 samples.

Table 13-19: Variability Test Conditions

Conditions	Unit	Oxide	Secondary sulphide	Primary sulphide
No. of samples	-	22	40	15
Particle size	mm	1.65		
Acid dosage	kg/t	20		
Chloride dosage	kg/t	20		
Moisture	%	10		
Rest period	days	8		

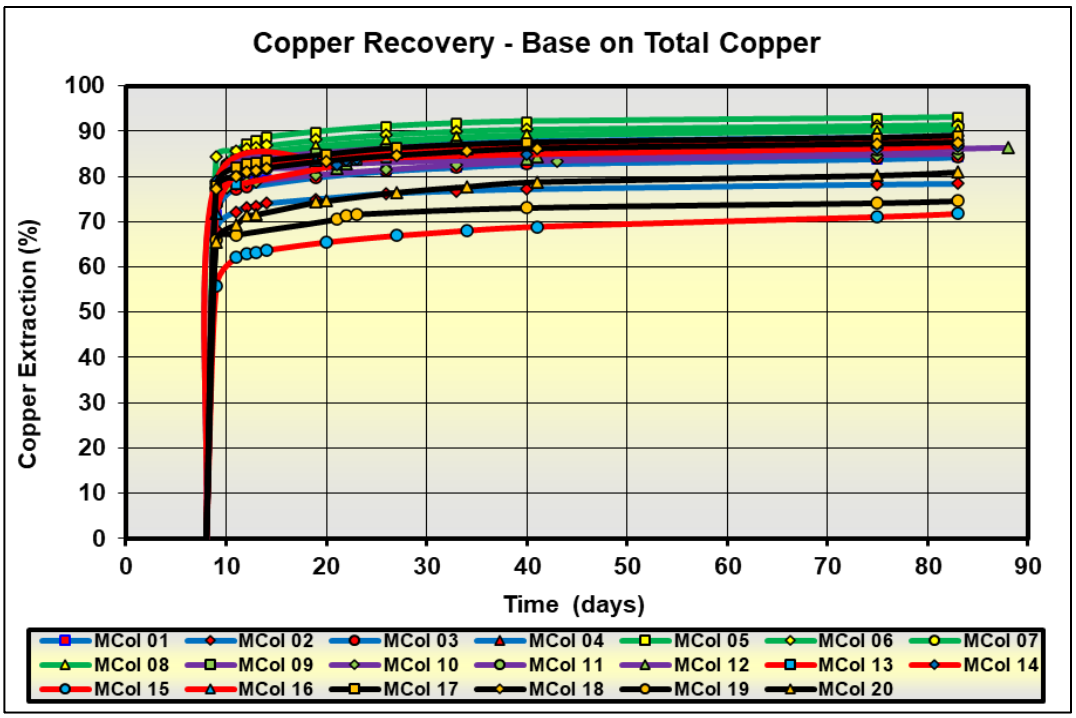
From the variability tests carried out, the following can be concluded:

- CuT extractions for secondary sulphides reached values between 83% and 93%. The net acid consumption reached values between 8 kg/t and 30 kg/t. (60% of the data are between 16 kg/t and 24 kg/t and an average of 20 kg/t);
- The CuT extractions for the oxides were divided into two groups: those that reached values between 75% and 85% and others between 34% and 58%. The net acid consumption reached values between 18 kg/t and 33 kg/t (60% of the data are between 23 kg/t and 30 kg/t and an average of 26 kg/t); and
- CuT extractions for primary sulphides reached values between 7% and 25%. The net acid consumption reached values between 18 kg/t and 38 kg/t. (60% of the data are between 24 kg/t and 33 kg/t and an average of 28 kg/t).

Figure 13-18 to

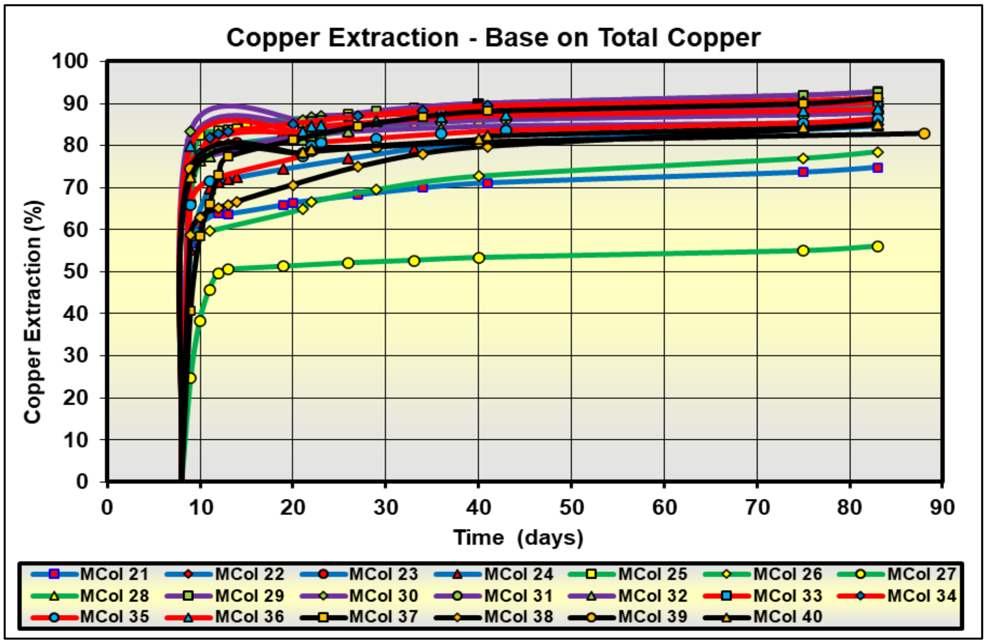
Figure 13-21 shows the copper extraction over time for the 3-m column testwork by material type, while Table 13-20 to Table 13-22 shows the samples used for the variability testwork.

Figure 13-18: Copper Extraction vs. Time for Secondary Sulphides (1–20) in a 0.3-m Column



Note: Figure prepared by Ausenco, 2021.

Figure 13-19: Copper Extraction vs. Time for Secondary Sulphides (21–40) in a 0.3-m Column



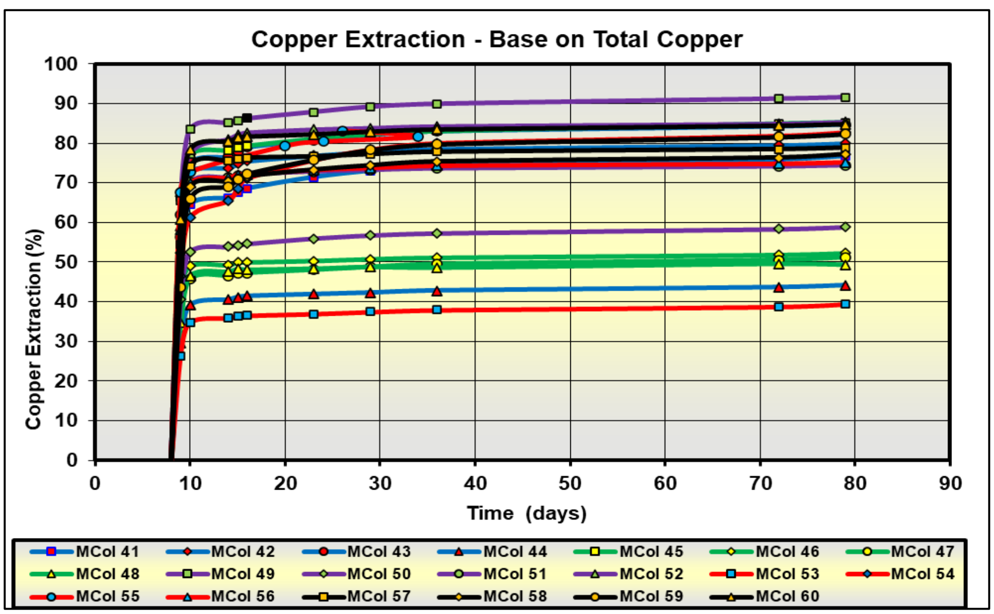
Note: Figure prepared by Ausenco, 2021.

Table 13-20: Secondary Sulphide Variability Test Samples

Column	ID Sample	Length (m)	
		From	To
1	PUQ-DDH-06-18	74	78
2	PUQ-DDH-01-18	57	60
3	PUQ-DDH-03-18	95	98
4	PUQ-DDH-05-18	83	86
5	PUQ-DDH-07-18	76	79
6	PUQ-DDH-07-18	107	100
7	PUQ-DDH-07-18	118	121
8	PUQ-DDH-08-18	78	81
9	PUQ-DDH-09-18	105	108
10	PUQ-DDH-10-18	77	80
11	PUQ-DDH-11-18	85	88
12	PUQ-DDH-11-18	103	106
13	PUQ-DDH-12-18	57	60
14	PUQ-DDH-12-18	79	82
15	PUQ-DDH-13-18	112	115
16	PUQ-DDH-14-18	67	70
17	PUQ-DDH-16-18	141	144
18	PUQ-DDH-21-18	53	56
19	PUQ-DDH-22-18	80	83
20	PUQ-DDH-23-18	35	38

Column	ID Sample	Length (m)	
		From	To
21	LP133	120	121
22	LP180	68	69
23	LP135	99	100
24	LP162	51	53
25	LP230	79	80
26	LP101	77	78
27	LP181	112	113
28	LP201	97	98
29	LP208	84	85
30	LP219	53	54
31	LP202	123	125
32	LP188	72	73
33	LP191	81	82
34	LP131	107	108
35	LP149	89	91
36	LP31	93	94
37	LP28	104	105
38	LP167	102	104
39	LP227	73	75
40	LP140	76	77

Figure 13-20: Copper Extraction vs. Time for Oxides in a 0.3-m Column

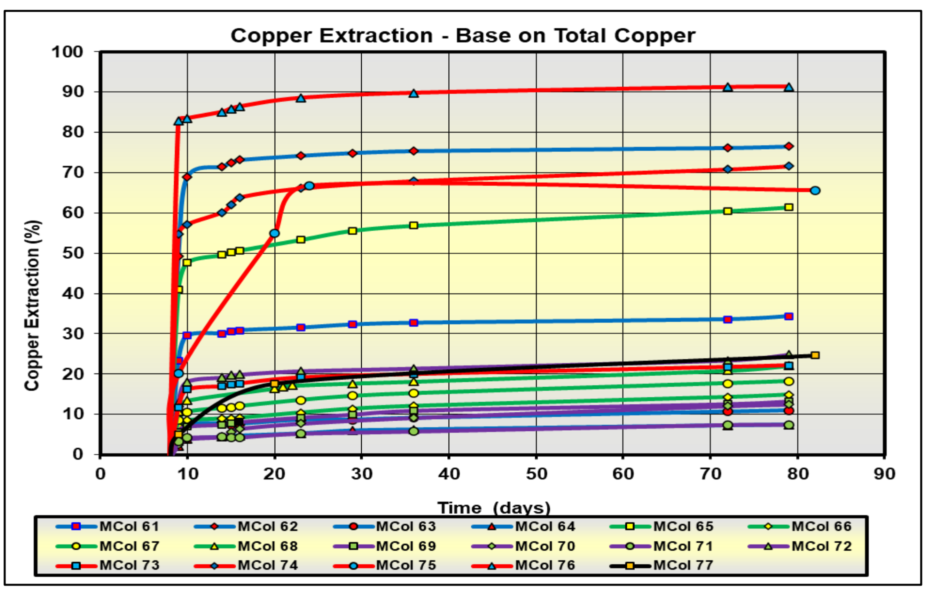


Note: Figure prepared by Ausenco, 2021.

Table 13-21: Oxide Variability Test Samples

Column	ID Sample	Length (m)	
		From	To
41	PUQ-DDH-01-18	26	29
42	PUQ-DDH-01-18	34	37
43	PUQ-DDH-01-18	49	52
44	PUQ-DDH-06-18	70	73
45	PUQ-DDH-08-18	66	70
46	PUQ-DDH-10-18	52	55
47	PUQ-DDH-10-18	20	23
48	PUQ-DDH-11-18	26	29
49	PUQ-DDH-12-18	44	47
50	PUQ-DDH-14-18	19	23
51	PUQ-DDH-21-18	2	7
52	PUQ-DDH-21-18	14	17
53	PUQ-DDH-22-18	59	62
54	PUQ-RC-03-18	13	14
55	PUQ-RC-04-18	42	43
56	PUQ-RC-06-18	32	33
57	LP102	58	59
58	LP183	26	27
59	LP154	63	64
60	LP202	5	7

Figure 13-21: Copper Extraction vs Time for Primary Sulphides in a 0.3-m Column



Note: Figure prepared by Ausenco, 2021.

Table 13-22: Primary Sulphide Variability Test Samples

Column	ID Sample	Length (m)	
		From	To
61	LP42	8	9
62	LP57	6	8
63	PUQ-DDH-01-18	73	76
64	PUQ-DDH-02-18	153	156
65	PUQ-DDH-03-18	100	103
66	PUQ-DDH-05-18	115	118
67	PUQ-DDH-06-18	87	90
68	PUQ-DDH-07-18	133	136
69	PUQ-DDH-08-18	100	103
70	PUQ-DDH-09-18	126	129
71	PUQ-DDH-10-18	115	119
72	PUQ-DDH-12-18	84	89
73	PUQ-DDH-13-18	121.79	125
74	PUQ-DDH-14-18	120	123
75	PUQ-DDH-16-18	161	164
76	PUQ-DDH-26-18	41	44
77	LP163	101	102

13.8 Definition of GMU

The following criteria were considered for the definition of geometallurgical units (GMUs):

- The relative abundance of units present within the resource pit, considering mineralization, lithology, and alteration.
- The grouping of units based on geological similarities and representativeness.
- The combination of these grouped units.
- A geologically and statistically consistent definition, with a reduced number of units to facilitate characterization, modelling, planning and operation.
- Porphyries were not considered for the definition of GMUs.

Based on the above criteria and the detailed analysis of the geological model and metallurgical test results, three GMU were defined to represent the Puquios deposit, as shown in Table 13-23.

Table 13-23: Puquios Reservoir GMU

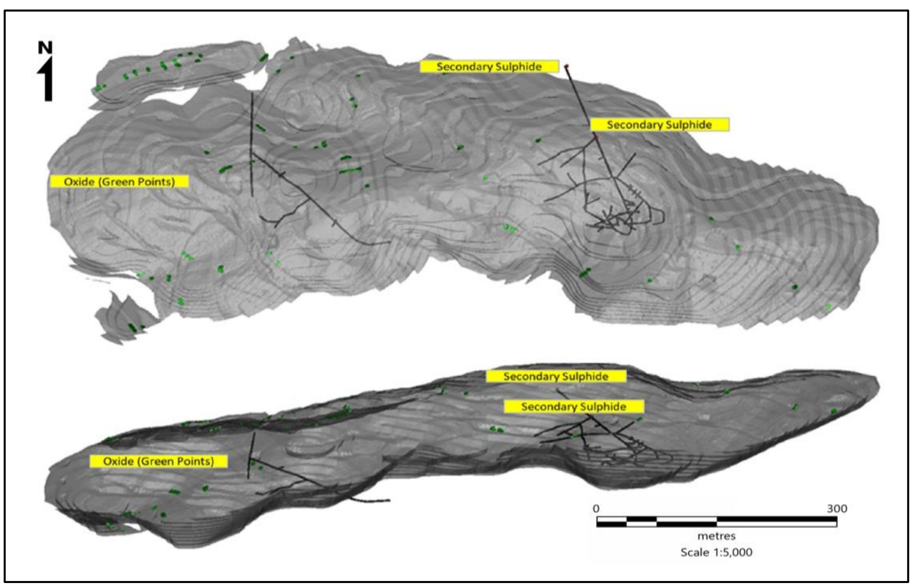
GMU	Lithology	Alteration	Mineral Zone	Description	% of Mining Plan
GMU1	GRD	Intense to weak phyllic	Lix / LixCu_ArCu / OxCuV / OxCuN_OxCuVN	Leachates with copper and oxides	40
GMU2	GRD	Intense to weak phyllic	SSF / SSD	Secondary enrichment (strong and weak)	53
GMU3	GRD	Weak to strong phyllic/propylitic/BIK	PCPY_A / PCPY_B	Primary chalcopyrite and pyritic sulphides	7

Representative samples from old drilling campaigns, surface and tunnel samples, as well as the current drilling performed at the end of 2018 were used for metallurgical characterization. The metallurgical test campaigns were defined to meet the objective of providing the information needed in order to define the feasibility of chloride leaching, as well as to generate a model of copper recovery, acid and chloride consumption, and other parameters necessary to characterize the process.

13.9 Scaling Factor Results

The objective of these tests was to determine the scaling factor that would be applied to the recovery model and to the estimate of acid consumption obtained from tests performed on short columns with mineralization from the 2018 drill campaign core samples. Samples used were selected from surface outcrops of oxides and samples obtained from inside the existing upper exploration tunnel. Sample locations are shown in Figure 13-22. To meet the objective of this test, 0.3 m, 1-m, and 5 m columns were designed which were loaded with secondary oxides and sulphides.

Figure 13-22: Sampling Locations for Scaling Tests



Note: Figure prepared by SML, 2021.

To obtain a scaling factor for Cu recovery from 0.3-m columns at 1 and 5 m, a set of tests with two sample composites was performed; one was mainly secondary sulphide and the second was mainly oxides. The scaling result is shown in the Table 13-24. A scaling factor of 97.6% was obtained.

Table 13-24: Scaling Factors

Scaling	CuT	CuS	CuCN
0.3 to 1 m	98.2%	97.4%	102.4%
1 to 5 m	99.4%	98.7%	98.2%
0.3 to 5 m	97.6%	96.2%	100.6%

The acid consumption scaling factor was obtained from the 1-m to 5-m column testwork. The process used to obtain the scaling factor was:

- Scaling from micro-column (6.5 g/L H^+) to 1-m column (6.5 g/L H^+) = 0.62.
- Scaling from 1-m column (6.5 g/L H^+) to 1-m column (12.0 g/L H^+) = 1.30.
- Scaling from 1-m column (12.0 g/L H^+) to 5-m column (12.0 g/L H^+) = 0.70.

Based on these results, the global scaling for acid consumption is 0.62 x 1.30 x 0.7 = 0.56.

Scaling for the 5-m column test was not developed on an industrial case level.

Two constraints were used in the design. These constraints were developed based on expert opinions in order to compensate for the irrigation inefficiency effect and are described in the following subsections.

1. Leaching ratio

   For the design of this process a leaching ratio of 1.3 m^3/t of processed ore was considered. This value was calculated based on the industrial heap area generated by the location of the heap, an irrigation rate of 10 L/hm^2, the 90-day leaching cycle, and refining and ILS irrigation flows used in correspondence with the PLS flow feeding the SX area. While the column test shows leaching rates between 0.95–1 m^3/t, it was decided to use a conservative value of 1.3 m^3/t. Therefore, there is potential to improve the process.

2. Chloride concentration

   The concentration of chloride (Cl-) per balance of solutions is 90 g/L (range 90–100 g/L). This value was calculated in steady state as part of the general mass balance of the plant considering the salt input and the loss of solution due to evaporation and moisture of the ore. Although the chloride concentration in the column test was 80 g/L, a conservative scenario was used for the process design of 90 g/L. This means that there is a potential for increasing the recovery since chloride, apart from acid, is a leaching agent.

13.10 Hydraulic Conductivity Testwork

Hydraulic conductivity testwork was carried out for sulphide and oxide samples in 1.0-m-high laboratory columns and bench scale testwork was carried out in 5.0 m columns. An acid dosage of 20 kg/t and a sodium chloride dosage of 15 kg/t were used in the tests. Extreme saturation and pulse solution irrigation conditions were used in order to determine the drainage rate.

The Table 13-25 shows the main results of the hydraulic conductivity testwork.

Table 13-25: Hydraulic Conductivity Test Results

Description	Unit	Oxide	Sulphide
K factor	cm/min	0.0962	0.1109
Flow Rate	m/h	0.05772	0.06654
	$L/h/m^2$	57.72	66.54

Results of the testwork indicated that the hydraulic conductivity and the K factor of oxidized minerals with a large amount of soluble copper are very low, while the secondary sulphides minerals have better hydraulic conductivity and a better K factor. Also, low-grade primary minerals had less clay content; if they are blended with oxides and sulphide, it can improve hydraulic conductivity.

Testwork showed that an irrigation rate of 10 $L/h/m^2$ is achievable since test results for oxide and sulphide minerals indicated that both minerals could obtain even greater values. Therefore, it can be said that Puquios minerals have a high hydraulic transmissibility rate for oxide and sulphide minerals.

13.11 Recovery Models

13.11.1 Copper Recovery Model

For the metallurgical evaluation of the samples, a leaching test program was designed using sulphuric acid and sodium chloride as leaching agent using micro-columns, which correspond to columns of 0.3 m in height and with a diameter of 0.1 m. The use of these columns was defined since, according to previous studies, their results are scalable, they do not require long operating times, and they use a reduced mass.

The regressions that best fit the metallurgical test results incorporate the following variables:

- For oxidized, it was decided to integrate the current test results with previously obtained results. The regression is based on CuS/CuT and CuCN/CuT
- For secondary sulphides, the regression is based on CuS/CuT and CuCN/CuT
- For primary sulphides, the regression was updated based on CuT, CuS/CuT and CuCN/CuT
- For low-grade ore, a regression based on CuT, CuS/CuT and CuCN/CuT was used

- The model is valid for an irrigation rate of 10 L/hm[2].

For the oxidized case the model that best fits the test results shown in Equation 13.1. For secondary sulphides the model is presented in Equation 13.2, for primary sulphides the model is shown in Equation 13.3, and for low-grade ore the model is presented in Equation 13.4.

- CuT Extraction Model for Oxidized:

$$RCuT\ OX = 0.976 * \left(16.6 + 84.2\ x\ \left(\frac{CuS}{CuT}\right) + 79.3\ x\ \left(\frac{CuCN}{CuT}\right)\right) \quad (13.1)$$

- CuT Extraction Model for Secondary Sulphide:

$$RCuT\ SS = 0.976 * \left(19.8 + 71.0\ x\ \left(\frac{CuS}{CuT}\right) + 84.3\ x\ \left(\frac{CuCN}{CuT}\right)\right) \quad (13.2)$$

- CuT Extraction Model for Primary Sulphide:

$$RCuT\ SP = 0.976 * \left(-8.0 + 10.9\ x\ CuT + 195.3\ x\ \left(\frac{CuS}{CuT}\right) + 75.2\ x\ \left(\frac{CuCN}{CuT}\right)\right) \quad (13.3)$$

- CuT Extraction Model for Low-Grade Ore:

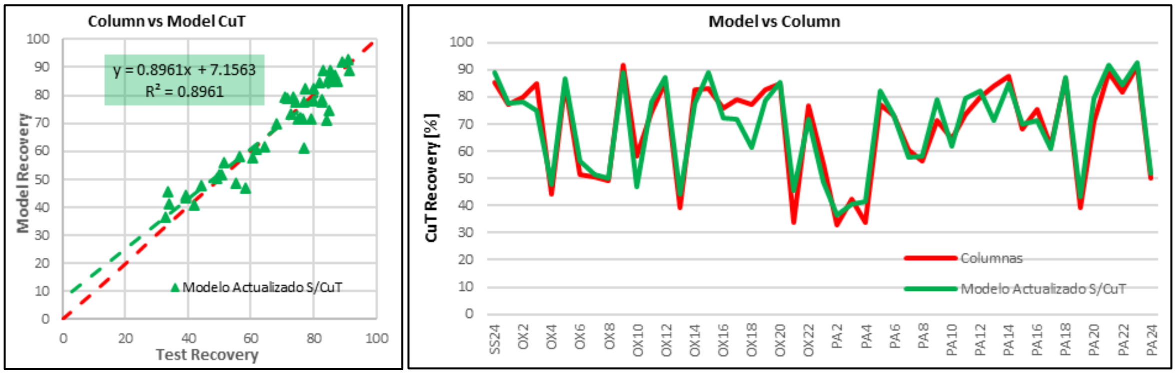
$$RCuT\ BL = 0.976\left(-79.0 + 816.0\ x\ CuT + 66.1\ x\ \left(\frac{CuS}{CuT}\right) + 95.9\ x\ \left(\frac{CuCN}{CuT}\right)\right) \quad (13.4)$$

For CuT values under 0.154%, a single regression was used for low-grade ore and for CuT values greater than 0.154% regressions for oxidized, secondary sulphide or primary sulphide depending on the respective ore zone were used. The definition comes from the average of the highest CuT value from the low-grade tests and the lowest CuT value from earlier test work.

According to studies completed by Wood in 2020 and 2021, in addition to the equations obtained from the copper extraction model, a cut-off for a maximum of 91.6% for oxidized ores, 71.4% for primary sulphides and 93.7% for secondary sulphides should be used.

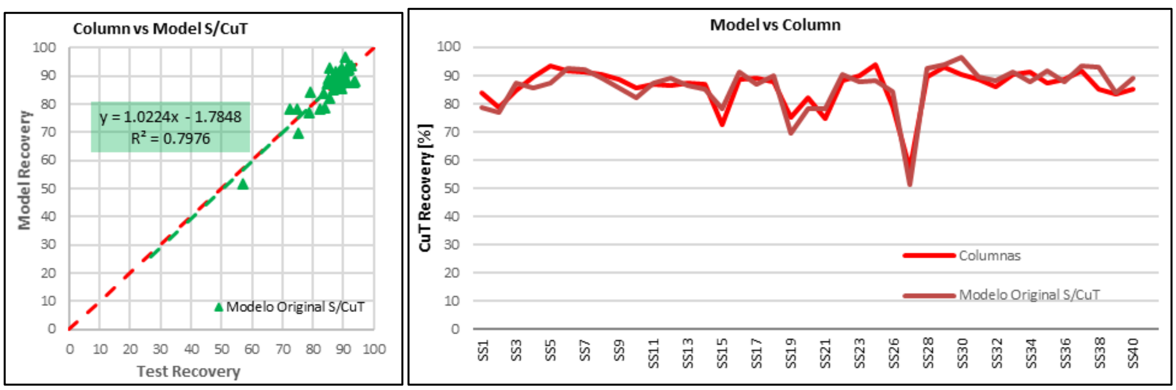
The reconciliation between the prediction of the recovery model and the recovery of the tests shows a fit with a quotient of determination of 0.89. In turn, when plotting the recovery per column versus the model prediction, good predictability is also observed. For the oxidized case the fit and reconciliation is shown in Figure 13-23 for the secondary sulphides it is shown in Figure 13-24. For the primary sulphides it is shown in Figure 13-25 and for low-grade ore in Figure 13-26.

Figure 13-23: Recovery Reconciliation between Oxidized Model and Tests



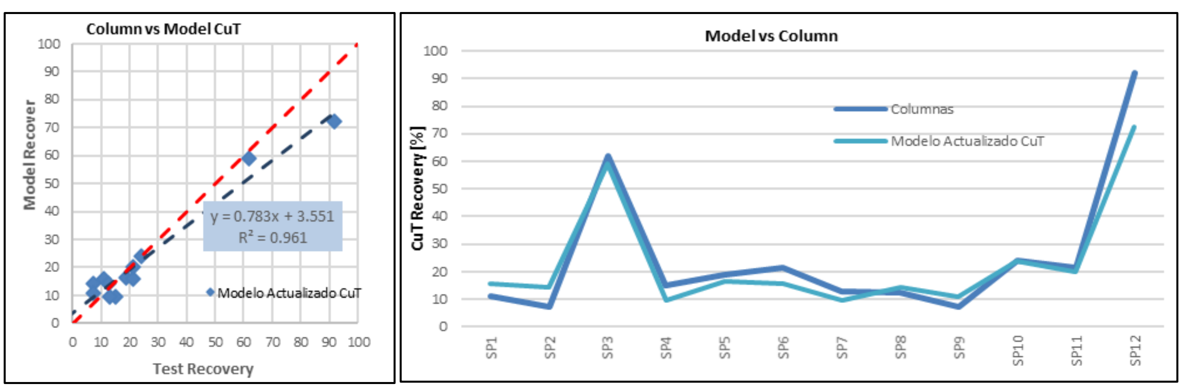
Note: Figure prepared by Ausenco, 2021.

Figure 13-24: Recovery Reconciliation between Secondary Sulphide Model and Tests



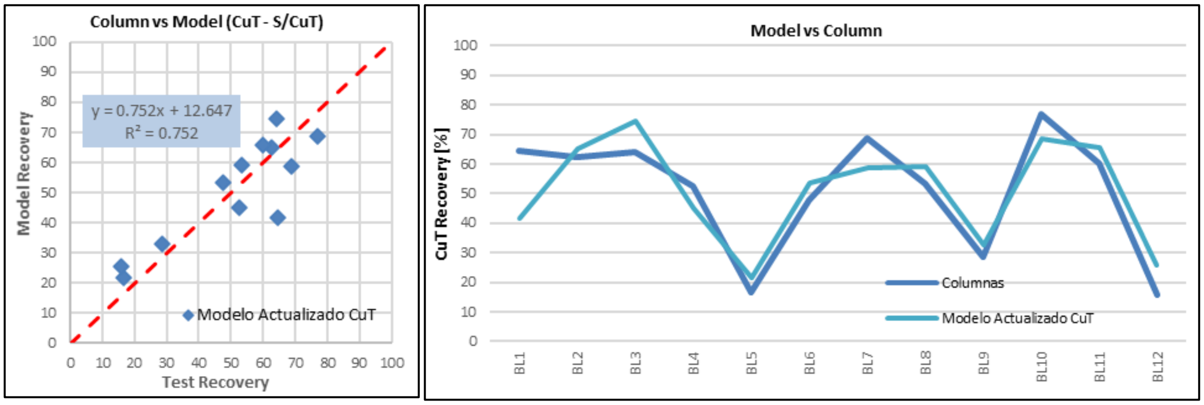
Note: Figure prepared by Ausenco, 2021.

Figure 13-25: Recovery Reconciliation between Primary Sulphide Model and Tests



Note: Figure prepared by Ausenco, 2021.

Figure 13-26: Reconciliation between Model and Low-Grade Tests



Note: Figure prepared by Ausenco, 2021.

13.11.2 Acid Consumption Model

The net acid consumption model for secondary sulphides is shown in Equation 13.5, in Equation 13.6 for oxides and leachates and in Equation 13.7 for primary sulphides. The regression model is fitted with a scaling factor of 0.56.

Net acid consumption model for secondary sulphide:

$$Net\ Consumption\ SS = 0.56\ (19.85 - 1.36\ CuT - 7.86\ CuCN + 5.92\ Ca + 6.36\ Mg - 1.58\ Al + 1.19\ Fe) \qquad (13.5)$$

Net acid consumption model for copper oxides and leachates:

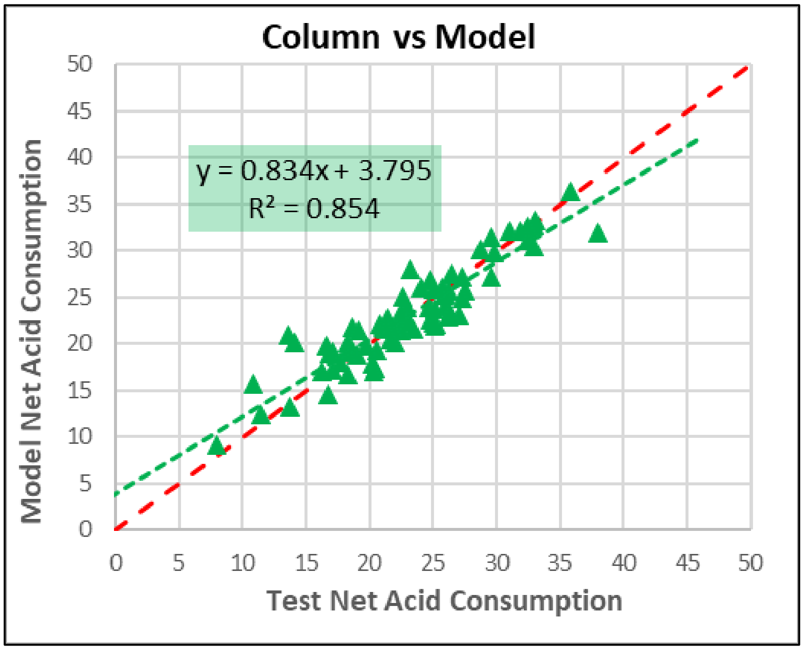
$$Net\ Consumptio\ OX = 0.56\ (22.93 - 6.77\ CuT - 6.93\ CuCN + 1.81\ Ca + 8.44\ Mg - 0.54\ Al + 0.16\ Fe) \qquad (13.6)$$

Net acid consumption model for primary sulphide:

$$Net\ Consumption\ SP = 0.56\ (17.34 - 7.61\ CuT - 24.3\ CuCN + 8.10\ Ca + 12.89\ Mg - 5.60\ Al + 2.86\ Fe) \qquad (13.7)$$

The reconciliation between the prediction of the acid consumption of the model of each GMU and the acid consumption of the column tests is shown in Figure 13-27.

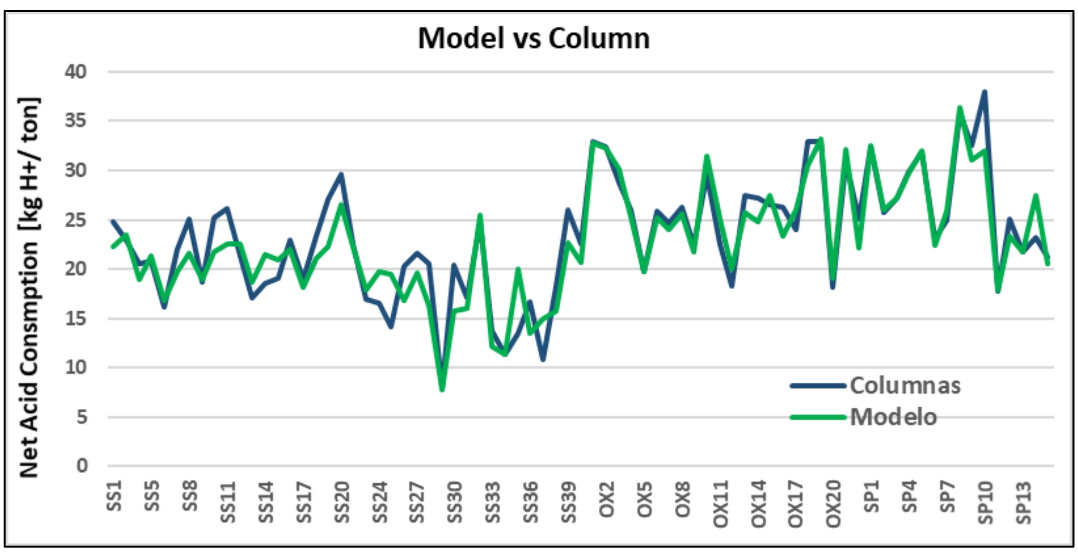
Figure 13-27: Reconciliation of Net Acid Consumption between Model and Tests



Note: Figure prepared by Ausenco, 2021.

Plotting the acid consumption per column versus the model prediction as shown in Figure 13-28 also shows good predictability.

Figure 13-28: Acid Consumption Model Predictability



Note: Figure by Ausenco, 2021.

The average modelled acid consumption for the secondary sulphide tests was 20.5 vs. 20.6 for the columns, for the oxides the average modelled recovery was 26.0 vs. 26.0, and for the columns and for the primary sulphides, the acid consumption was 27.9 vs. 28.4. For the total tests the average modelled acid consumption was 23.3 vs. 23.3 for the columns.

13.12 Deleterious Elements

In 2020, Geomet carried out chemical analysis on several PLS samples in order to quantify the main contaminants. Table 13-26 summarizes the descriptive statistics.

Table 13-26: Descriptive Statistics on PLS samples

Statistics	FeT (g/L)	Fe^{++} (g/L)	Al (g/L)	Mg (g/L)	Mn (g/L)
Average	14.41	13.65	21.55	18.93	1.60
Standard deviation	3.19	3.90	2.10	4.75	0.05
Coefficient of variation	0.22	0.29	0.10	0.25	0.03
Max	22.68	24.46	25.20	25.14	1.73
Min	10.58	9.82	16.51	8.41	1.51

In 2021 Solvay performed a chemical characterization of one sample provided by Geomet. Table 13-27 shows the contaminant concentration values.

Table 13-27: PLS Chemical Characterization

Chemical Element	Unit	Value
Cu	g/L	6.2
pH @ 20°C	-	1.05
Mn	g/L	0.50
FeT	g/L	7.5
Fe+2	g/L	1.79
Fe+3	g/L	1.79
Mg	g/L	2.5
Al	g/L	1.5
Cl-	g/L	94.5
Nitrates	g/L	0.186

From the chemical characterizations performed on the PLS samples, it can be determined that:

- FeT: the organic can co-extract the ferric from the PLS. Three types of extractant were evaluated, resulting in selection of an aldoxime-modified formulation that reduces co-extraction.

- Mn: the Mn concentration is low compared to the used in the industry (2–4 g/L). Mn concentrations may increase when Mn reaches equilibrium, which is why it must be controlled so that it does not generate oxidative degradation in the extractant.
- Al and Mg: the concentrations of Al and Mg are low in the PLS and do not affect the viscosity. However, it is advisable to monitor these values until equilibrium is reached.
- Cl-: chlorine concentrations are high in PLS and could increase if chloride-bearing minerals are leached. The design of the plant considers two washing stage to maintain the control of this contaminant.

In conclusion, there are no deleterious elements in the solutions generated in the different stages of heap leaching process, and therefore there will be no issues for the next SX-EW stage.

13.13 Comments on Metallurgical Testwork

Eight test campaigns were carried out to define parameters for the leaching process: acid dose, salt dose, leaching cycle and particle size, which support the selected saline chlorine leaching process.

Three main geometallurgical units were defined in coordination with the geological model and were tested.

Design tests were carried out on columns of different dimensions and the scaling parameters were established between 0.3-m, 1.0-m, and 5.0-m columns. The 5-m column tests, which are the height of the planned heap leach facility, are standard heights for testwork when designing copper leaching processes.

A geometallurgical variability program was carried out to develop a copper recovery model for acid consumption as a function of the content of CuS, CuCN and Cu Ins with a high degree of correlation. For this study, 77 samples were used, distributed in proportion to the tons of reserves of the geometallurgical units.

There is robust metallurgical support for designing the process route, estimating the metallurgical recoveries, and key reagent consumption, as well as for predicting acid and salt consumptions by the different mineralization and gangue types.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

The cut-off for assay data for the Mineral Resource estimate presented in this Report was 22 May 2020. The number of samples in the assay database used in the resource model is shown in Table 14-1 (non-zero values are included).

Table 14-1: Assay Database Used in Block Model

Assay	Number of Samples	Average (5%)	STD	CV	% of the Total Drilled
CuT	35,430	0.196	0.337	1.72	96
CuS	20,024	0.066	0.175	2.67	52
CuCN	20,070	0.111	0.276	2.48	53

Note: STD = standard deviation, CV = coefficient of variation.

Table 14-2: Drill Holes Used in Block Model

Assay	Number of Drill Holes	Core	RC
CuT	349	30	319
CuS	323	25	298
CuCN	334	25	309

All of the Placer Dome and 18 Tommy core drill holes (Table 11-1) were excluded from estimation support.

The majority (88%) of the assays were taken on 1-m intervals. Most of the drill holes were drilled at an inclination of -60° to -70°. There is adequate drill coverage of the oxide copper mineralization. Hole lengths vary widely but are generally in the range of 80–200 m.

14.2 Geological Models

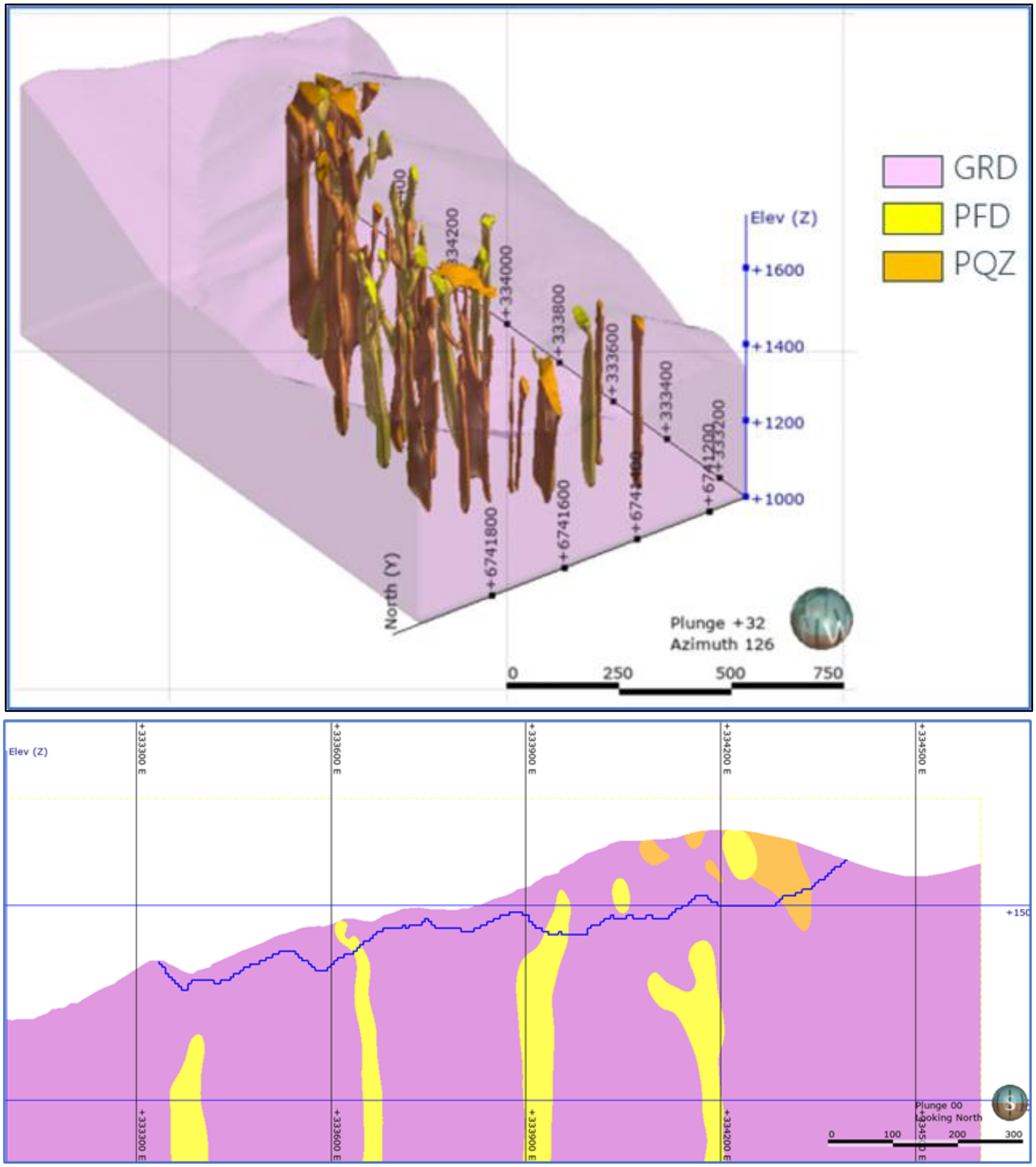
Three-dimensional (3D) wireframes of nine mineralized zones (minzones), four alteration domains, and three lithology domains (Table 14-3) were constructed. Since 2021 to date, no geological model update has been carried out.

Table 14-3: Summary of the Modelled Geological Units

	Unit	Description	Main Criteria Considered for Modelling
Lithology	PFD	Feldspar porphyries	Hypabyssal rock forms a feeder zone. Earliest unit
	PQZ	Feldspar porphyries	Hypabyssal rock forms a feeder zone
	GRD	Granodiorite	Plutonic body with granodioritic composition. Hosts the porphyries
Alteration	L_Phyl	Low Phyllic	Low to moderate intensity quartz–sericite alteration. Argillic as secondary alteration
	H_Phyl	High Phyllic	High to very high intensity of quartz–sericite alteration. Chlorite as secondary alteration
	Prop	Propylitic	Chlorite is dominant, as a selective replacement of mafic minerals
	BIK	Potassic biotite	The original texture of the rocks is preserved. K-feld and secondary biotite as veins and selective replacement. Located at the base of the deposit and in some zones in the south of the deposit
Minzones	Lix	Limonite (Fe)	Limonite with a cut-off <0.13%CuT
	LixCu + ArCu	Limonite and clay with copper	Limonite with a cut-off >0.13%CuT
	OxCuV	Green oxide	Only green oxides
	OxCuV + OxCuN	Green and/or black oxides	Green and black oxides, and black oxides
	SSF	High secondary sulphide enrichment (strong)	Chalcocite (cs) without chalcopyrite (cpy)
	SSD	Low secondary sulphide enrichment (weak)	Below the SSF and above of the PCPY, considering a Cut>0.1% and CuCN/CuT>0.25
	PCPY-A	High chalcopyrite content	Primary mineralization is located in the centre of the deposit and below the SSF&SSD. Cpy content >0.3%
	PCPY-B	Low chalcopyrite content	Primary mineralization, located on the border of the PCPY-A. Cpy content 0.2–0.3%
	PPY	Pyrite dominant	Primary mineralization. Mainly dominated by pyrite (py). Cpy content <0.2%

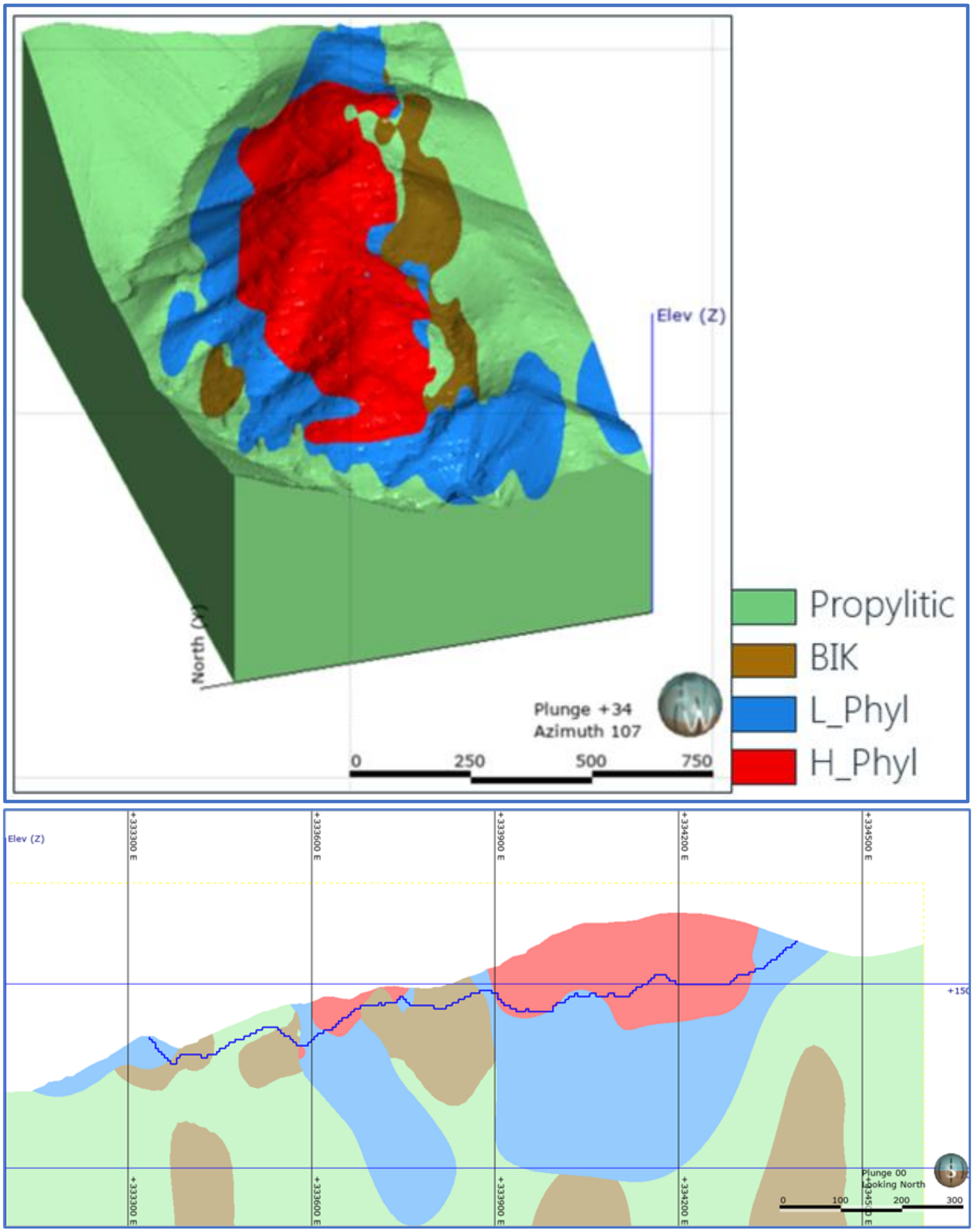
These geological units were interpreted using the implicit modelling method within Leapfrog Geo software. Figure 14-1 to Figure 14-3 show representative views of the modelled geological units. Table 14-4 to Table 14-6 summarize the main statistical parameters for each modelled geological unit.

Figure 14-1: 3D View (above) and Longitudinal Section View (below) of the Modelled Lithology Units



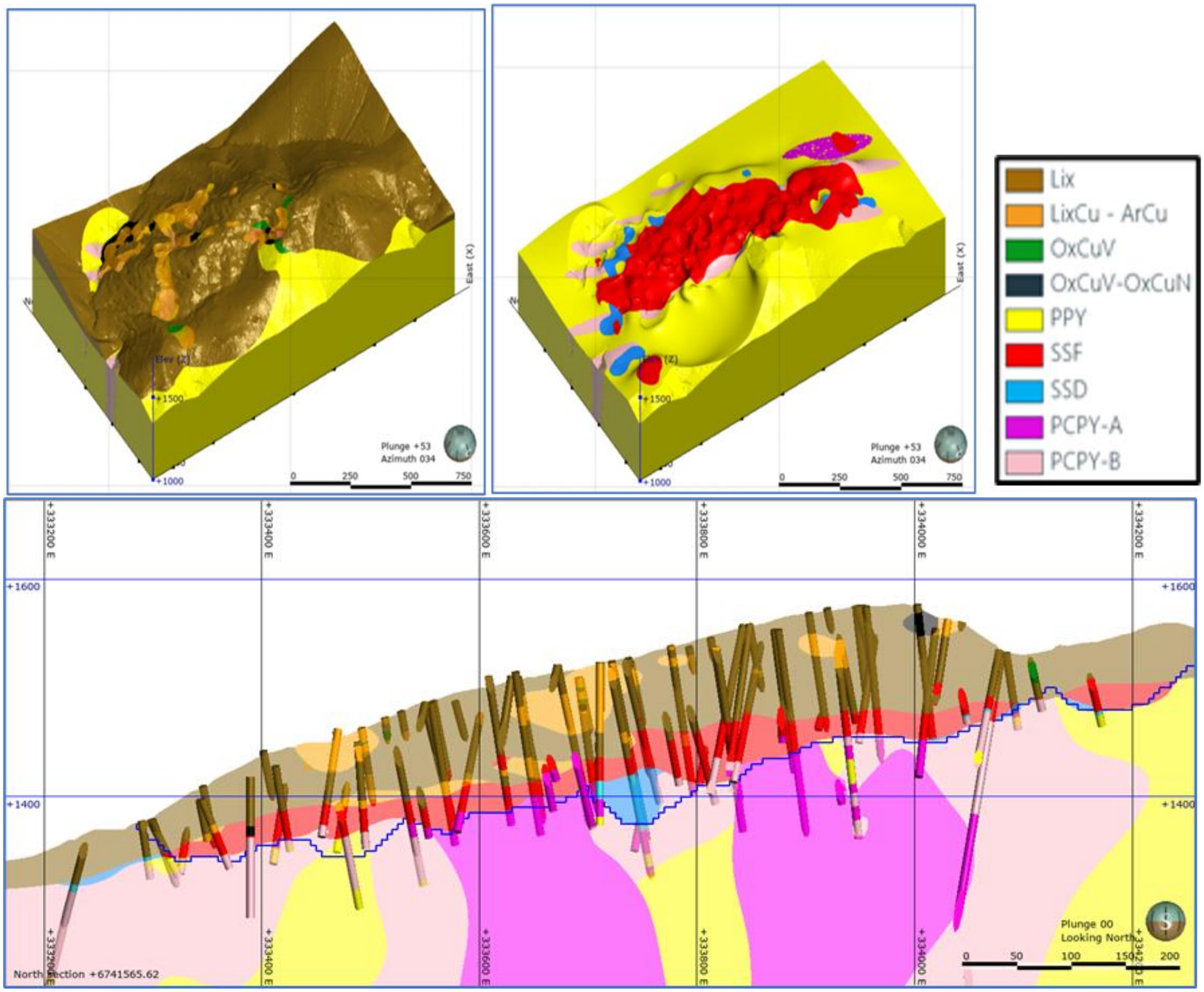
Note: Figure prepared by Wood, 2020. Outline of conceptual pit used to constrain the Mineral Resources shown in blue for reference.

Figure 14-2: 3D View (above) and Longitudinal Section View (below) of the Modelled Alteration Units



Note: Figure prepared by Wood, 2020. Outline of conceptual pit used to constrain the Mineral Resources shown in blue for reference.

Figure 14-3: 3D View (above) and Longitudinal Section View (Below) of the Modelled Minzones Units



Note: Figure prepared by Wood, 2020. Outline of conceptual pit used to constrain the Mineral Resources shown in blue for reference.

Table 14-4: Modelled Lithology Units Statistical Summary

Lithology/Assay	Count	Mean	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
GRD	27,643						
CuCN	10,797	0.175	0.000	0.005	0.013	0.200	6.895
CuS	12,722	0.083	0.000	0.010	0.020	0.100	7.580
CuT	27,246	0.223	0.000	0.050	0.010	0.230	8.380
PFD	1,281						
CuCN	739	0.240	0.001	0.005	0.020	0.400	2.200
CuS	843	0.094	0.001	0.001	0.030	0.120	2.080
CuT	1,259	0.336	0.007	0.055	0.157	0.410	2.908
PQZ	3,149						
CuCN	981	0.208	0.001	0.010	0.030	0.212	2.395
CuS	1,053	0.064	0.001	0.005	0.020	0.100	0.920
CuT	3,115	0.182	0.008	0.030	0.060	0.190	3.160

Table 14-5: Modelled Alteration Units Statistical Summary

Alteration/Assay	Count	Mean	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
BIK	1,124						
CuCN	200	0.038	0.002	0.005	0.008	0.035	0.684
CuS	267	0.140	0.005	0.010	0.030	0.130	2.150
CuT	1,074	0.600	0.001	0.060	0.117	0.200	2.300
Low Phyllic	7,754						
CuCN	3,535	0.050	0.000	0.005	0.010	0.023	4.170
CuS	3,842	0.044	0.000	0.005	0.010	0.020	5.810
CuT	7,625	0.184	0.000	0.060	0.120	0.236	6.999
High Phyllic	19,800						
CuCN	6,240	0.335	0.001	0.013	0.187	0.515	6.895
CuS	8,277	0.111	0.001	0.010	0.060	0.140	7.580
CuT	19,569	0.266	0.001	0.005	0.110	0.280	8.380
Propylitic	3,395						
CuCN	2,542	0.014	0.001	0.005	0.008	0.010	0.651
CuS	2,232	0.025	0.001	0.005	0.005	0.010	2.030
CuT	3,352	0.087	0.000	0.035	0.055	0.088	2.181

Table 14-6: Modelled Minzones Units Statistical Summary

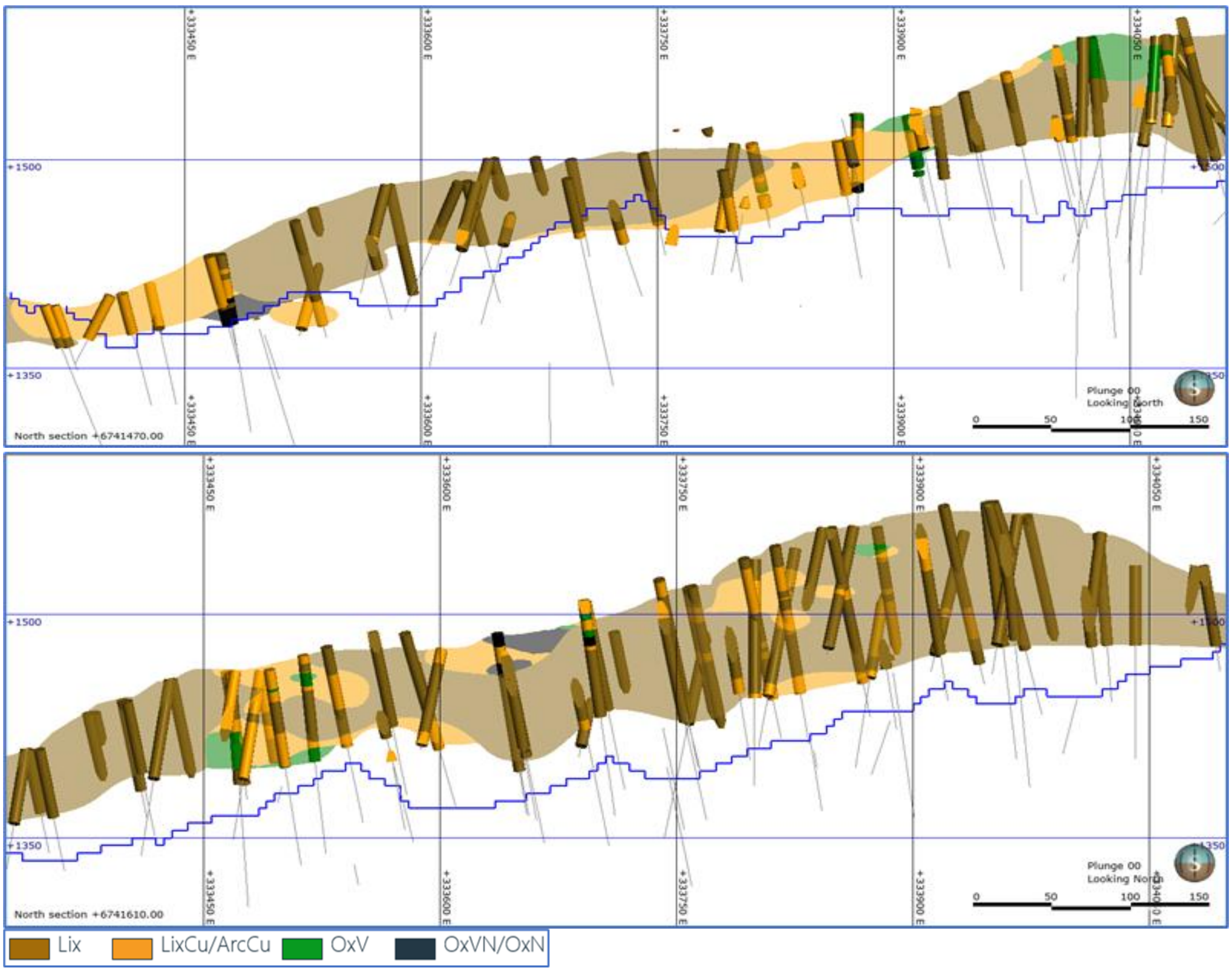
Minzone/Assay	Count	Mean	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
LIX	14,237						
CuCN	4,552	0.016	0.000	0.000	0.005	0.010	2.300
CuS	4,419	0.036	0.000	0.010	0.014	0.030	5.810
CuT	14,074	0.073	0.001	0.030	0.050	0.089	5.920
LIXCU_ARCU	3,764						
CuCN	2,756	0.022	0.000	0.004	0.010	0.015	1.100
CuS	2,969	0.100	0.000	0.022	0.043	0.090	7.580
CuT	3,721	0.226	0.004	0.130	0.170	0.231	8.260
OXCUN_OXCUVN	293						
CuCN	236	0.042	0.000	0.010	0.022	0.043	1.014
CuS	254	0.286	0.010	0.090	0.200	0.350	2.030
CuT	288	0.459	0.025	0.210	0.378	0.621	2.181
OXCUV	398						
CuCN	355	0.024	0.000	0.005	0.010	0.010	0.800
CuS	352	0.121	0.010	0.030	0.040	0.070	7.260
CuT	385	0.242	0.030	0.113	0.157	0.221	7.445
PCPY-A	4,022						
CuCN	3,149	0.031	0.000	0.008	0.010	0.028	1.479
CuS	3,191	0.014	0.000	0.005	0.010	0.010	1.060
CuT	3,989	0.278	0.004	0.149	0.243	0.359	3.451
PCPY-B	3,197						
CuCN	2,226	0.026	0.000	0.005	0.010	0.020	1.103
CuS	2,104	0.015	0.000	0.005	0.005	0.010	1.200
CuT	3,173	0.143	0.001	0.060	0.105	0.178	1.930
PPY	4,502						
CuCN	2,641	0.024	0.000	0.003	0.006	0.015	1.479
CuS	2,251	0.017	0.000	0.002	0.005	0.010	0.640
CuT	4,459	0.084	0.001	0.031	0.054	0.090	2.270
SSD	644						
CuCN	552	0.172	0.000	0.038	0.080	0.220	1.857
CuS	537	0.076	0.000	0.025	0.053	0.100	0.810
CuT	643	0.342	0.010	0.120	0.220	0.430	2.420
SSF	4,736						
CuCN	4,338	0.471	0.000	0.143	0.351	0.693	6.895
CuS	4,311	0.168	0.000	0.080	0.130	0.210	5.210
CuT	4,707	0.742	0.002	0.310	0.590	1.040	8.380

It is important to note the supergene enrichment of copper grades in the secondary sulphide zone is an important control on the distribution of copper grades in the deposit.

The unit termed secondary enrichment sulphides (SSF) has approximately 56% of the contained metal. This unit covers practically all the deposit, extending for 500 m north–south and 1,500 m in the west–northwest–south–southeast direction. The unit varies from 20–100 m in thickness.

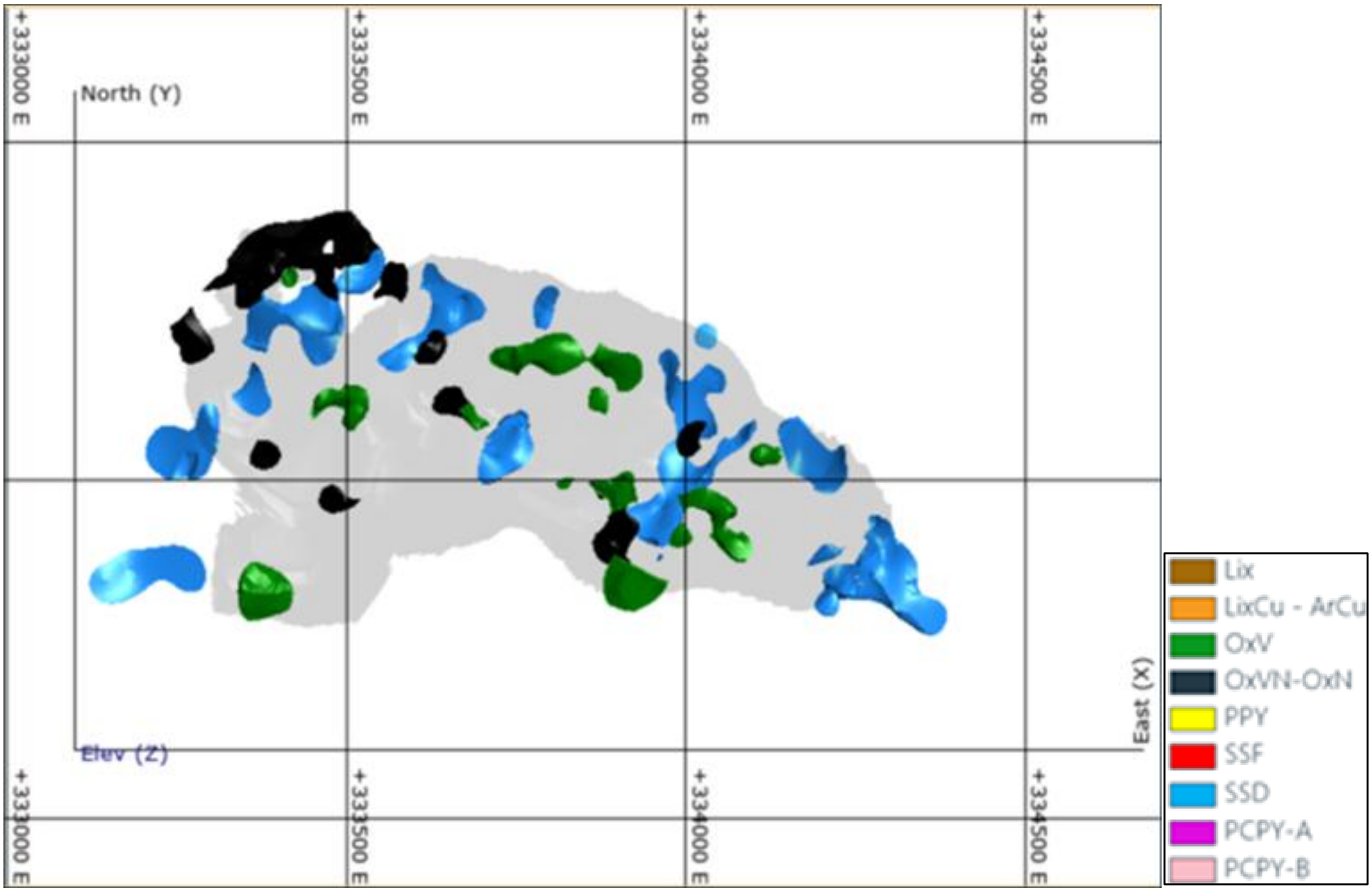
Isolated pods of green and/or black oxides and transitional secondary enrichment sulphides are also present. Figure 14-4 and Figure 14-5 provide examples of these mineralization types.

Figure 14-4: Longitudinal Section Showing the Discontinuous Green and Black Oxide Units



Note: Figure prepared by Wood, 2020.

Figure 14-5: Plan View of the Isolated and Discontinuous Minzones Units



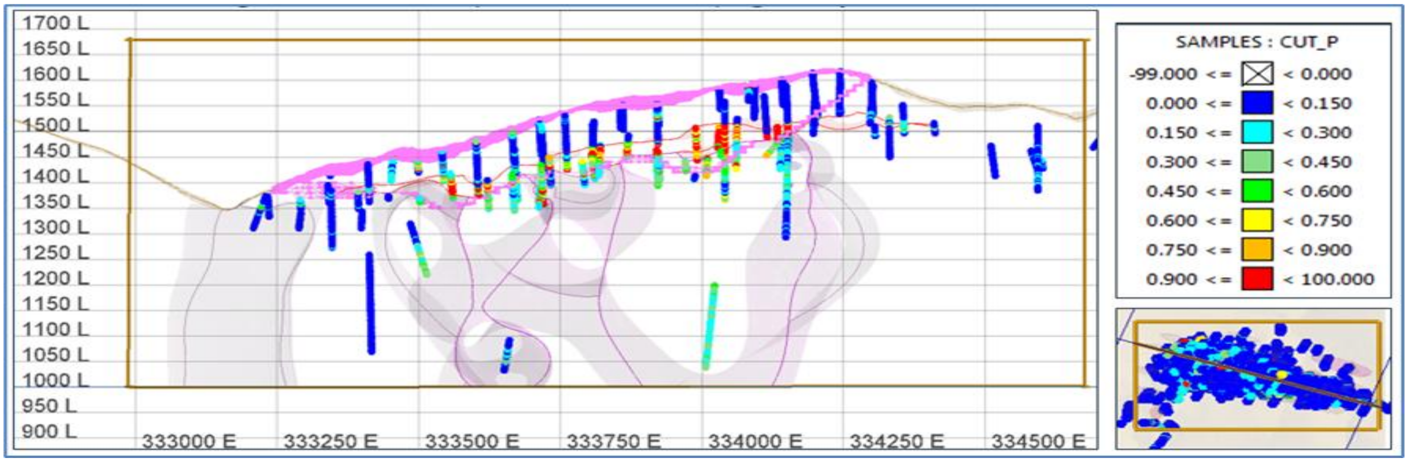
Note: Figure prepared by Wood, 2020.

Some copper oxide-bearing mineralized structures were identified at surface but did not appear to have continuity at the depth, based on the original geological logging.

14.3 Compositing

Assay intervals were composited based on the geometry of the geological wireframes, particularly for the SSF unit, and based on the projected block model size. Samples were composited in downhole intervals of 2.5 m starting at the contact for each zone and continuing until the drill hole exited the zone. Figure 14-6 shows a representative section of the composites used for grade estimation.

Figure 14-6: Longitudinal Section View Showing the Composites Used for CuT Grade Estimation.



Note: Figure prepared by Wood, 2020.

Composites for each zone or lithological feature were assigned unique numeric codes to differentiate them from the surrounding material.

14.4 Exploratory Data Analysis

The QP conducted exploratory data analysis (EDA) using log probability curves, box plots, contact plots, variography and examining the spatial distribution of the composites.

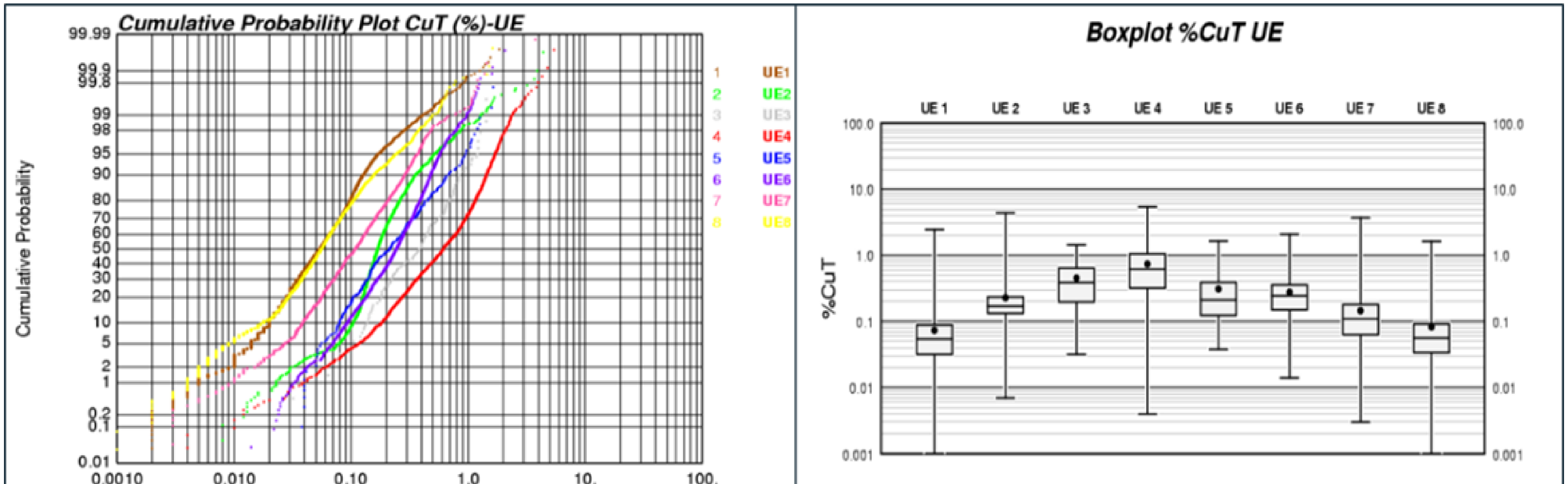
Originally, the EU was defined for each grade variable (CuT, CuS and CuCN). However, some inconsistencies were noted in the relationships between the sequential copper grades, so the same EU was used for all variables. Figure 14-7 shows the final EU for CuT, CuS and CuCN.

Table 14-7: Estimation Units

EU	Minzone Control	Dominant Alteration
1	Lix	All
2	LixCu_ArcCu	
	OXV	High Phyllic
3	OXVN-OXN	
4	SSF	
5	SSD	
6	PCPY-A	Low Phyllic
7	PCPY-B	
8	PPY	Prop

Figure 14-7 to Figure 14-9 show the grade distribution for each estimation unit (EU).

Figure 14-7: CuT Grade Distributions for each Estimation Unit (EU)

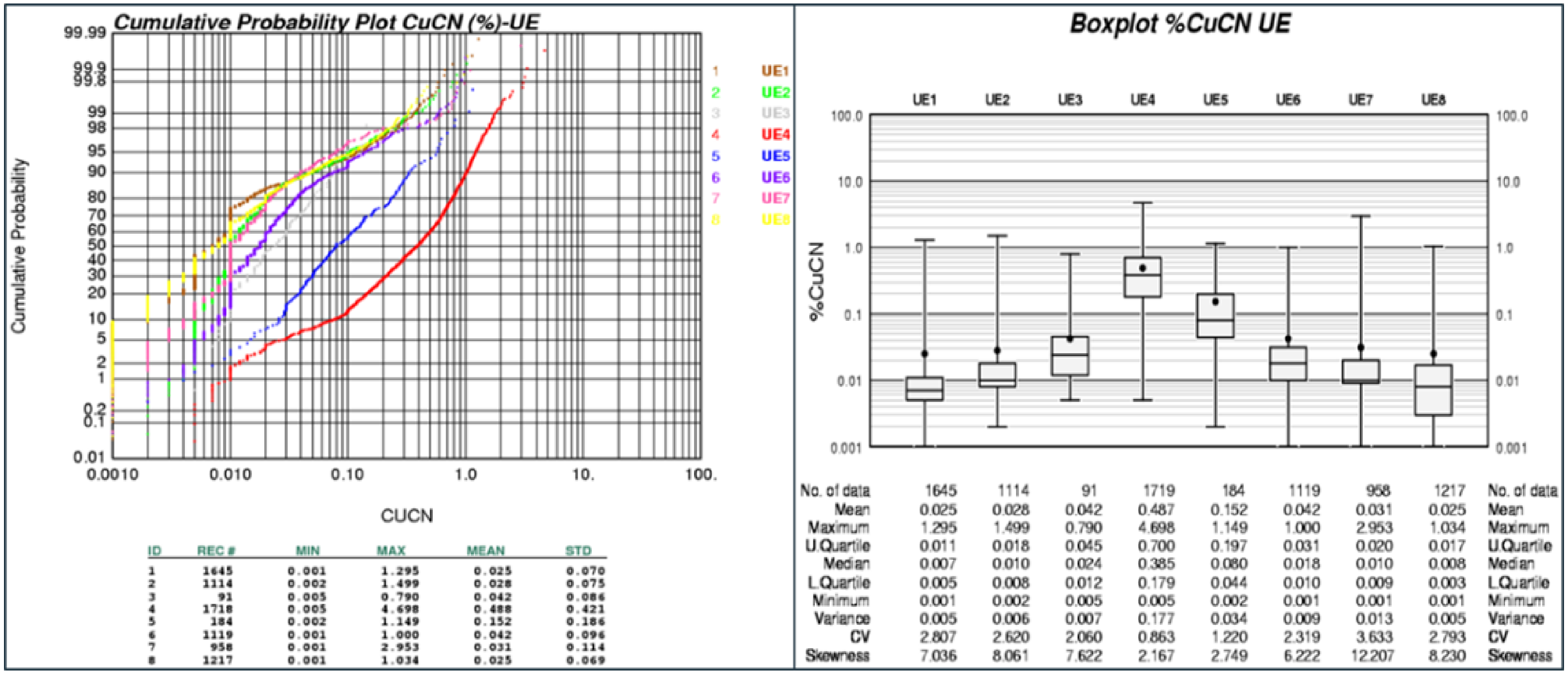


ID	REC #	MIN	MAX	MEAN	STD
1	5712	0.001	2.436	0.073	0.093
2	1637	0.007	4.386	0.228	0.267
3	118	0.032	1.438	0.450	0.317
4	1911	0.004	5.402	0.741	0.553
5	225	0.038	1.636	0.309	0.285
6	1786	0.014	2.060	0.276	0.182
7	1511	0.003	3.740	0.146	0.151
8	2094	0.001	1.620	0.082	0.103

	UE 1	UE 2	UE 3	UE 4	UE 5	UE 6	UE 7	UE 8	
No. of data	5712	1637	118	1912	225	1786	1511	2094	No. of data
Mean	0.073	0.228	0.450	0.741	0.309	0.276	0.146	0.082	Mean
Maximum	2.436	4.386	1.438	5.402	1.636	2.060	3.740	1.620	Maximum
U.Quartile	0.088	0.234	0.640	1.047	0.387	0.356	0.181	0.091	U.Quartile
Median	0.054	0.170	0.383	0.613	0.212	0.244	0.109	0.056	Median
L.Quartile	0.032	0.134	0.197	0.318	0.124	0.150	0.063	0.034	L.Quartile
Minimum	0.001	0.007	0.032	0.004	0.038	0.014	0.003	0.001	Minimum
Variance	0.009	0.071	0.100	0.305	0.081	0.033	0.023	0.011	Variance
CV	1.263	1.169	0.704	0.746	0.921	0.658	1.036	1.256	CV
Skewness	9.284	8.255	1.144	1.749	2.025	2.242	6.652	6.051	Skewness

Note: Figure prepared by Wood, 2020. EU = estimation unit.

Figure 14-8: CuT Grades Distributions for Each Estimation Unit (EU)

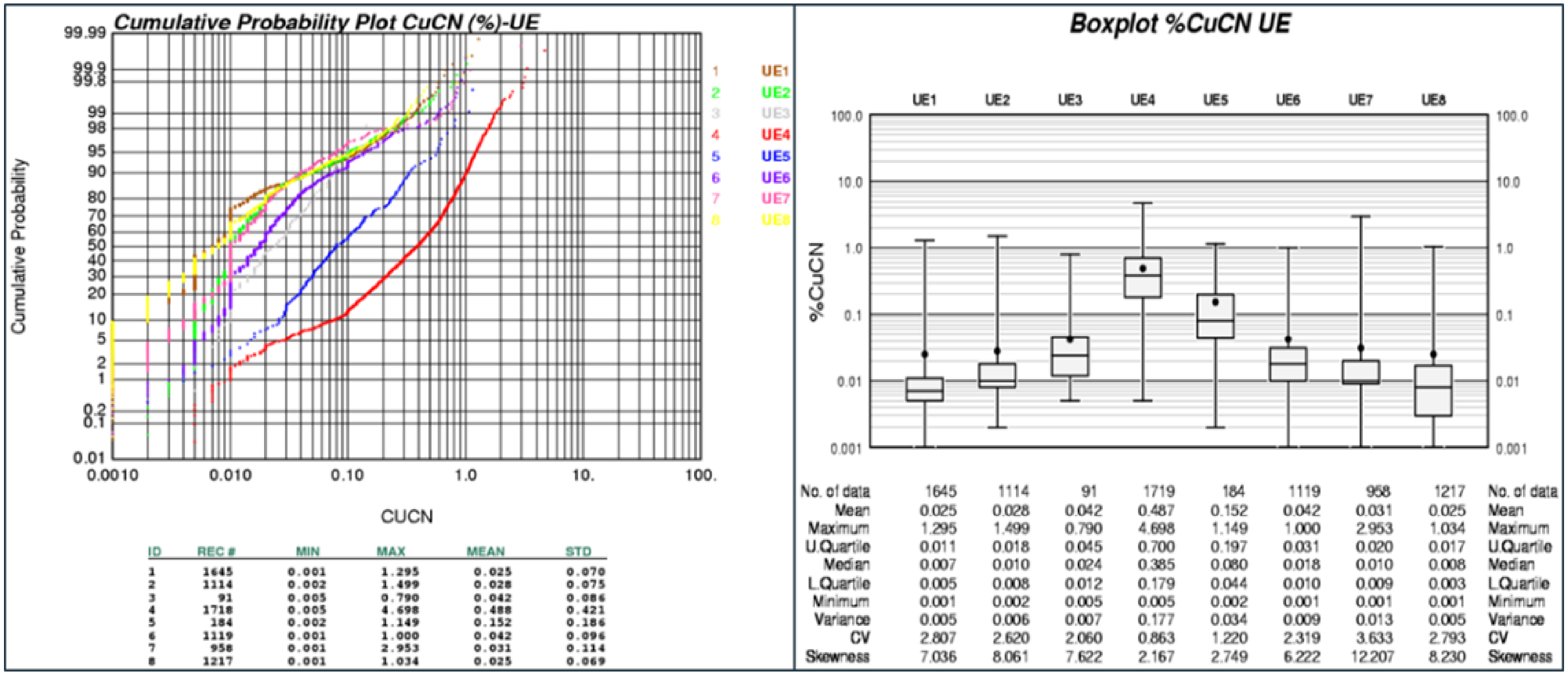


ID	REC #	MIN	MAX	MEAN	STD
1	1645	0.001	1.295	0.025	0.070
2	1114	0.002	1.499	0.028	0.075
3	91	0.005	0.790	0.042	0.086
4	1718	0.005	4.698	0.488	0.421
5	184	0.002	1.149	0.152	0.186
6	1119	0.001	1.000	0.042	0.096
7	958	0.001	2.953	0.031	0.114
8	1217	0.001	1.034	0.025	0.069

	UE1	UE2	UE3	UE4	UE5	UE6	UE7	UE8	
No. of data	1645	1114	91	1719	184	1119	958	1217	No. of data
Mean	0.025	0.028	0.042	0.487	0.152	0.042	0.031	0.025	Mean
Maximum	1.295	1.499	0.790	4.698	1.149	1.000	2.953	1.034	Maximum
U.Quartile	0.011	0.018	0.045	0.700	0.197	0.031	0.020	0.017	U.Quartile
Median	0.007	0.010	0.024	0.385	0.080	0.018	0.010	0.008	Median
L.Quartile	0.005	0.008	0.012	0.179	0.044	0.010	0.009	0.003	L.Quartile
Minimum	0.001	0.002	0.005	0.005	0.002	0.001	0.001	0.001	Minimum
Variance	0.005	0.006	0.007	0.177	0.034	0.009	0.013	0.005	Variance
CV	2.807	2.620	2.060	0.863	1.220	2.319	3.633	2.793	CV
Skewness	7.036	8.061	7.622	2.167	2.749	6.222	12.207	8.230	Skewness

Note: Figure prepared by Wood, 2020. EU = estimation unit.

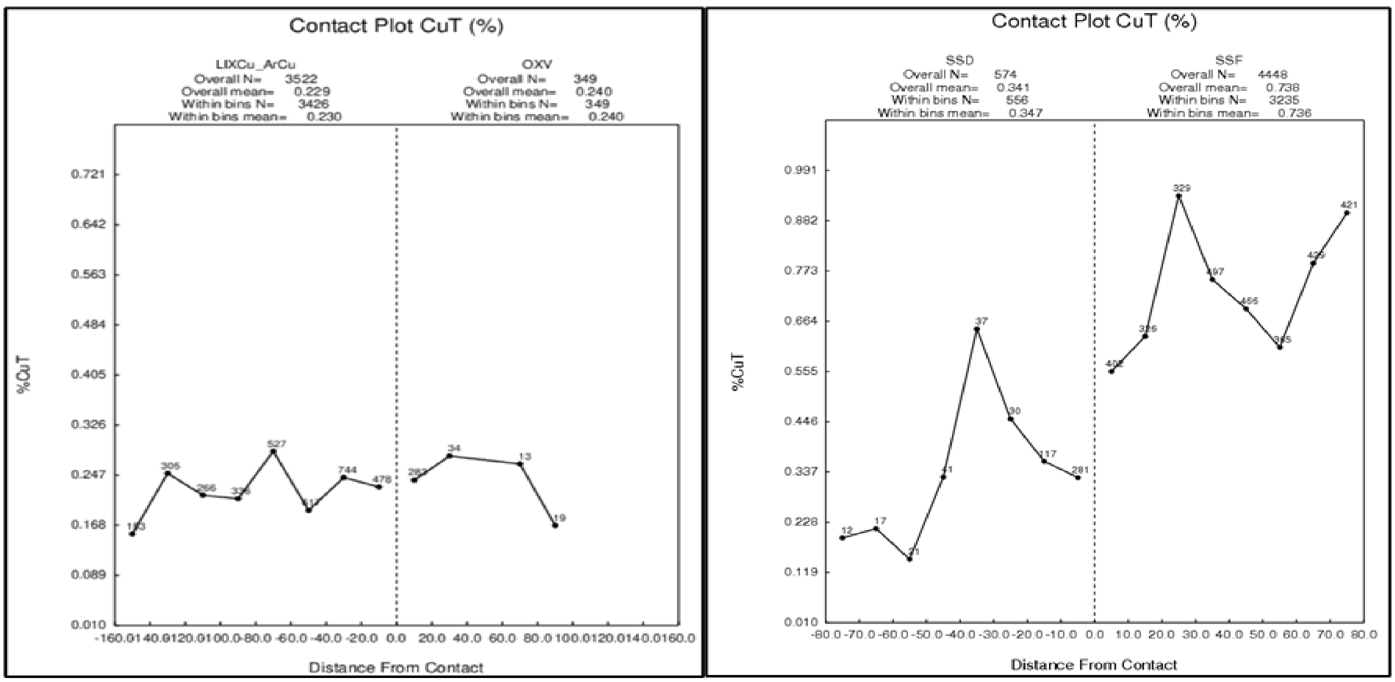
Figure 14-9: CuT Grades Distributions for Each Estimation Unit (EU)



Note: Figure by Wood, 2020. EU = estimation unit.

The contact plots confirm the differences in some EUs. Hard contacts were used between units having strong contrasts in grade, for example, between the SSF and SSD as shown in Figure 14-10 (right). Other units were considered to have soft contacts, for example, LixCu_ArCu and OXV, as shown in Figure 14-10(left).

Figure 14-10: Soft Contact Between LixCu_ArCu and OXV (left) and Hard Contact Between SSF and SSD (right)



Note: Figure prepared by Wood, 2020

The hard and soft contact types were used to determine possible codes of composites to be used to estimate the grades of each unit.

Experimental correlograms were calculated for each of the EUs. The experimental correlograms were used to produce correlogram models. The correlogram models are referred to as variogram models and their parameters are presented in Figure 14-8. Down-the-hole variograms were used for spatial correlation over short distances.

Table 14-8: Estimation Unit Variogram Model Parameters

EU CuT	Rotation			Nugget	SPH 1				SPH 2			
					Sill	Range			Sill	Range		
	Azimuth	Plunge	Dip			Major	Semi-Major	Minor		Major	Semi-Major	Minor
1	75	10	0	0.2	0.7	20	20	10	0.1	240	320	700
2	246	2	0	0.3	0.68	32	7	29	0.02	320	40	595
3	0	0	0	0.15	0.56	10	10	10	0.29	45	45	45
4	241	32	0	0.2	0.52	18	88	20	0.28	587	1473	86
5	10	0	0	0.2	0.17	100	98	3	0.63	455	105	50
6	0	0	0	0.15	0.59	10	10	25	0.26	440	440	9999
7	0	0	0	0.1	0.6	25	25	25	0.3	135	135	135
8	14	2	0	0.1	0.68	9	15	65	0.22	101	363	209

14.5 Estimation/Interpolation Methods

14.5.1 Model Dimensions

The selected block size for the resource model was 5 m east–west, 5 m north–south and 5 m high. This block size is consistent from the geological point of view, due to the low continuity in east–west and north–south directions within the oxide bodies, and the limited thickness in some parts of the sulphide enrichment zone. The 5 m x 5 m x 5 m block size corresponds to a re-blocked model prepared prior to the optimization stage. The grades were first estimated in a subcell block model with a minimum size of 2.5 m and maximum size of 5 m in each direction.

The model dimensions were 1,500 m east–west, 900 m north–south and 680 m high. Each block that was located at least partially within an interpreted zone was assigned an EU code and an interpolated grade. Where a block straddled more than one zone, the block received the code of the zone with the largest portion within the block.

14.5.2 Interpolation

A grade estimation was performed, whereby CuT estimation was supported by 35,430 samples, CuS by 20,024 samples and CuCN by 20,070 samples. The preliminary estimation runs indicated many inconsistencies in the relationships between sequential copper grades where the total copper grade was less than the sum of the sequential copper grades, particularly within the SSF unit (EU4). These inconsistencies were found in 13% of the total blocks estimated for this unit. Considering the significance of the SSF/EU4 unit in terms of the metal content (around 56%), Wood (2020b) performed a verification check on CuS and CuCN samples in locations where only CuT was available. The methodology used was a sequential gaussian co-simulation with 50 realizations. The grades were based on the e-type from realizations. Since the database was corresponded to the same place as EU4, grades for CuT, CuS and CuCN were interpolated into each block using ordinary kriging (OK). Block estimates for each EU were constrained to use only composites from that EU. Table 14-9 shows a summary of the estimation parameters.

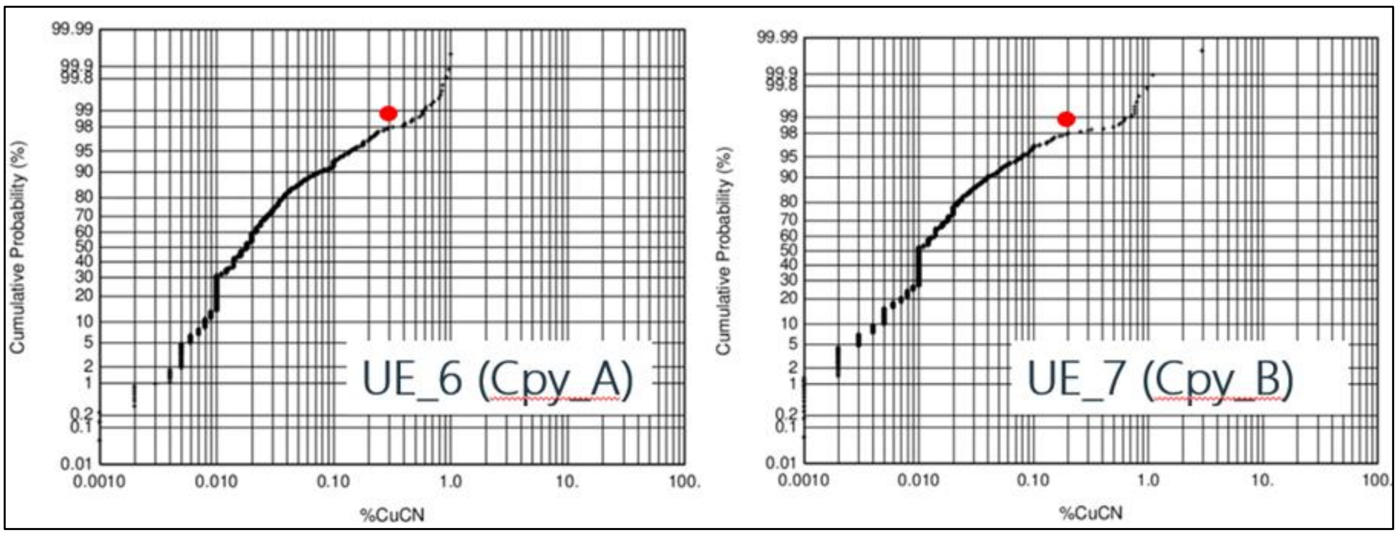
Table 14-9: Summary of the OK Estimation Parameters (EU4 highlighted)

EU CuT	Pass	Bearing	Plunge	Dip	Axis			Samples		High-Yield Restrictions						Max Sample by Drill Hole
					Major	Semi-Major	Minor	Min	Max	% CuT	% CuS	% CuCn	Major	Semi-Major	Minor	
1	1	75	1	10	100	80	80	8	20	1.2	0.3	0.4	20	60	20	3
	2	75	1	10	200	160	160	8	24	1.2	0.3	0.4	20	60	20	3
	3	75	1	10	350	250	250	4	24	1.2	0.3	0.4	20	60	20	3
2	1	246	1	2	75	60	60	8	20	1.7	0.8	0.3	20	60	20	3
	2	246	1	2	150	125	125	8	24	1.7	0.8	0.3	20	60	20	3
	3	246	1	2	300	250	250	4	24	1.7	0.8	0.3	20	60	20	3
3	1	0	1	0	50	50	50	8	20	1.2	0.6	0.2	60	20	20	3
	2	0	1	0	150	150	150	8	24	1.2	0.6	0.2	60	20	20	3
	3	0	1	0	300	300	300	4	24	1.2	0.6	0.2	60	20	20	3
4	1	241	1	32	50	80	80	8	20	3	1.2	2.5	20	20	20	3
	2	241	1	32	100	180	180	8	24	3	1.2	2.5	20	20	20	3
	3	241	1	32	200	350	350	4	24	3	1.2	2.5	20	20	20	3
5	1	10	1	0	80	50	50	8	20	1.3	0.25	0.61	60	20	20	3
	2	10	1	0	160	100	100	8	24	1.3	0.25	0.61	60	20	20	3
	3	10	1	0	300	200	200	4	24	1.3	0.25	0.61	60	20	20	3
6	1	0	1	0	100	100	100	8	20	1.3	0.15	0.3	60	40	20	3
	2	0	1	0	200	200	200	8	24	1.3	0.15	0.3	60	40	20	3
	3	0	1	0	400	400	400	4	24	1.3	0.15	0.3	60	40	20	3
7	1	0	1	0	75	75	75	8	20	2.5	0.2	0.2	60	40	20	3
	2	0	1	0	150	150	150	8	24	2.5	0.2	0.2	60	40	20	3
	3	0	1	0	300	300	300	4	24	2.5	0.2	0.2	60	40	20	3
8	1	14	1	2	75	100	100	8	20	0.6	0.25	0.4	60	20	20	3
	2	14	1	2	150	200	200	8	24	0.6	0.25	0.4	60	20	20	3
	3	14	1	2	200	250	250	4	24	0.6	0.25	0.4	60	20	20	3

The new estimation results indicated an inconsistency rate of <1%. For this reason, estimation of the EU4 unit used a database with the same amount of data for all the variables. For all other EUs, the original database was used, with different numbers of data for CuT, CuS and CuCN.

The orientation and distance used for the estimation research ellipsoid take account of the direction and range of continuity of the variograms (correlograms). A high-yield restriction was used in all EUs a to limit potential over-projection of high-grade samples. The fractures/veins rosette map and the variographical maps were used to determine the ellipsoidal ranges for the high-yield restriction. Composites above the high-yield threshold grade were projected for a distance of 60 m in the major direction, 20–40 m for the semi-major distance, and 20 m for the minor. The threshold definition for CuT, CuS and CuCN for each unit used the log distributions (based on the main inflection and discontinuity of the curves; Figure 14-11).

Figure 14-11: Example Log Probability Plot, EU6 and 7 for CuCN

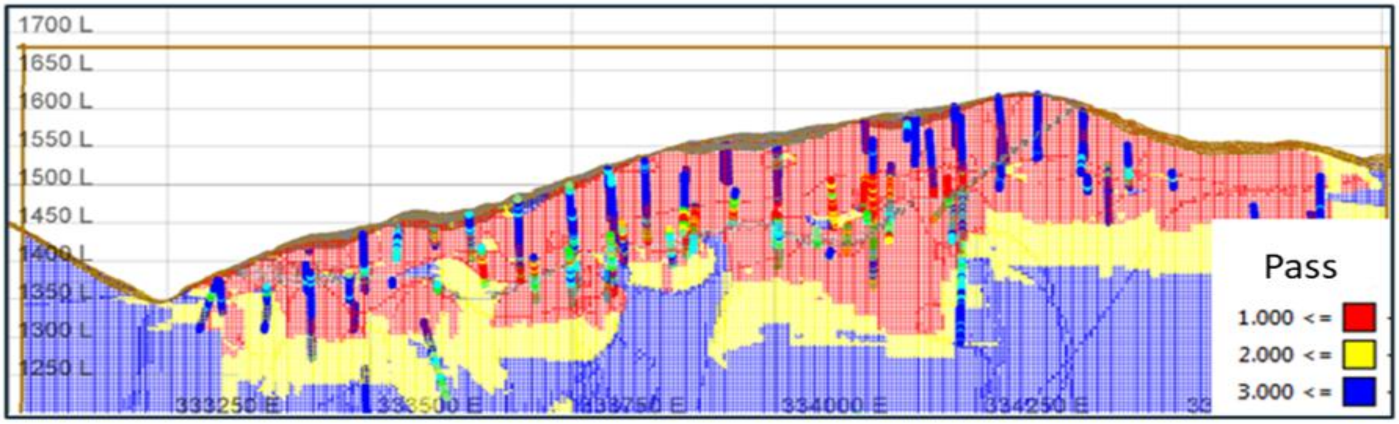


Note: Figure prepared by Wood, 2021.

In their evaluation, the QP visually confirmed that these restrictions avoided excessive smearing of high grades as desired. Statistically, in terms of metal removed, the impact is approximately 1.5% for CuT within the main domain (EU4), and approximately 1% for CuT, 5% for CuS, and 3% for CuCN within the conceptual constraining Mineral Resource pit.

Figure 14-12 is a representative long-section view showing the results of the three-pass OK estimate.

Figure 14-12: Longitudinal Section View Showing the Three Estimation Passes Used for OK



Note: Figure prepared by Wood, 2020.

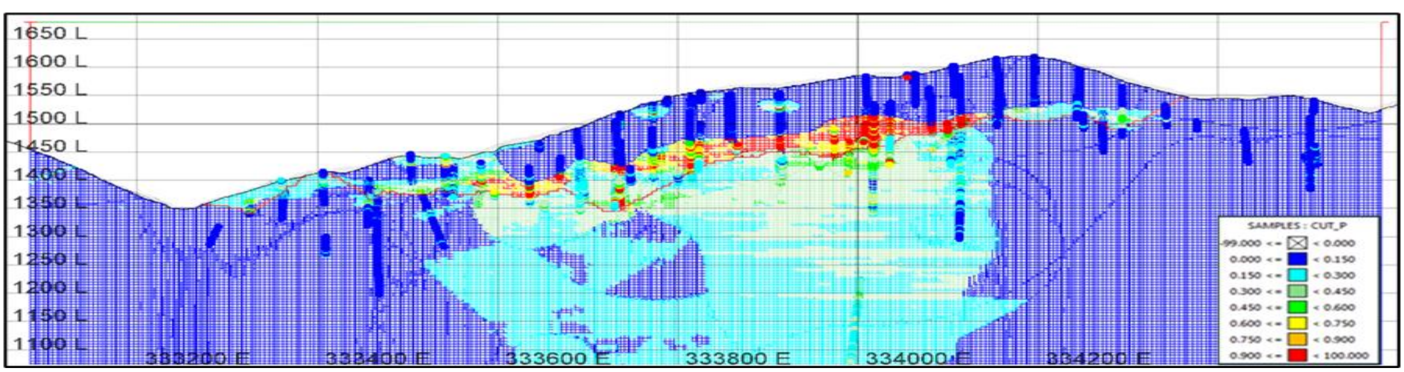
14.6 Validation of Grade Estimate

Multiple methods were used to validate the estimate:

- Visual validation using sections and plans (example in Figure 14-13);
- Global bias review, based on a comparison between nearest neighbour (NN) and OK estimates (Table 14-10 to Table 14-12);
- Local bias review, using swath plot comparisons between NN and OK estimates (example in Figure 14-14and Figure 14-15); and
- Contact analysis (example in Figure 14-16).

Since 2021 to date, no grade estimation update has been carried out.

Figure 14-13: Longitudinal Section View Showing the Consistency Between the Composites and Estimated Blocks



Note: Figure prepared by Wood, 2021.

Table 14-10: Global Bias Analysis Validation of CuT Estimate (EU4 in grey)

Variable	UE	Number		Minimum		Maximum		Mean		%
		NN	OK	NN	OK	NN	OK	NN	OK	Bias (NN)
CuT %	1	521,815	521,815	0.001	0.001	2.44	1.30	0.07	0.07	0.00
	2	70,026	70,026	0.007	0.049	4.39	1.94	0.23	0.22	-4.39
	3	5,883	5,883	0.032	0.125	1.44	1.13	0.48	0.45	-6.63
	4	76,836	76,836	0.004	0.053	5.40	3.61	0.68	0.70	2.80
	5	13,711	13,711	0.038	0.055	1.64	1.19	0.36	0.33	-9.64
	6	325,116	325,116	0.014	0.034	2.06	1.08	0.24	0.26	6.17
	7	327,351	327,351	0.003	0.012	3.74	1.35	0.12	0.13	5.74
	8	1,229,180	1,229,180	0.001	0.004	1.62	1.40	0.07	0.08	10.29

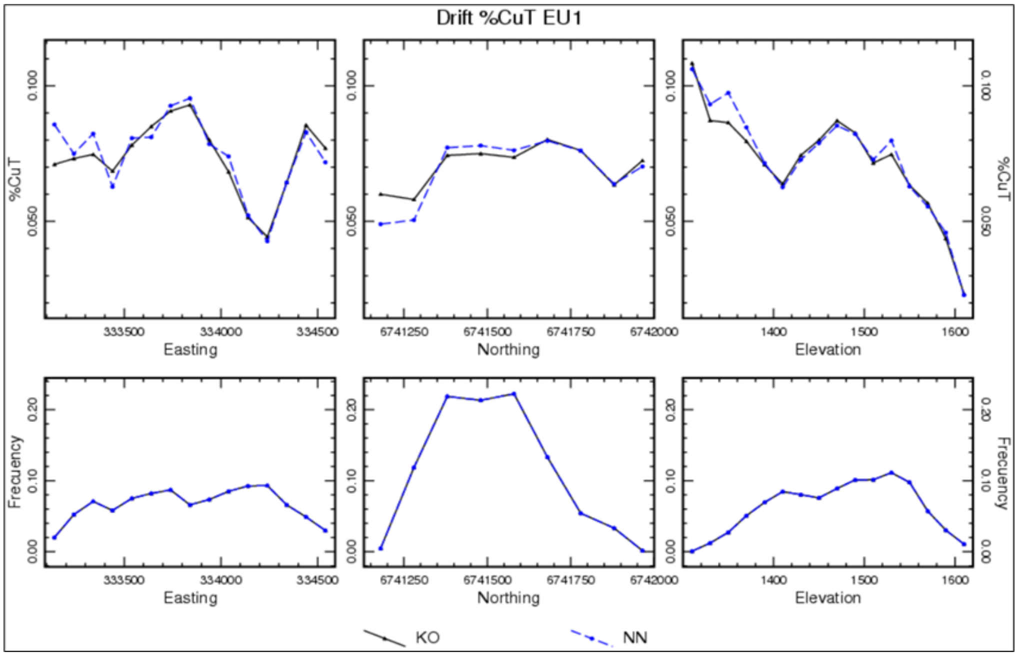
Table 14-11: Global Bias Analysis Validation of CuS Estimate (EU4 in grey)

Variable	UE	Number		Minimum		Maximum		Mean		%
		NN	OK	NN	OK	NN	OK	NN	OK	Bias (NN)
CuT %	1	515,802	515,802	0.001	0.003	2.45	1.29	0.037	0.039	5.41
	2	70,026	70,026	0.004	0.015	3.68	1.58	0.099	0.091	-8.08
	3	5,883	5,883	0.020	0.048	1.29	0.97	0.252	0.244	-3.17
	4	76,832	76,832	0.001	0.000	2.45	0.99	0.154	0.155	0.65
	5	13,711	13,711	0.002	0.014	0.56	0.34	0.074	0.071	-4.05
	6	325,100	325,100	0.001	0.004	0.86	0.36	0.011	0.011	0.00
	7	323,732	323,732	0.001	0.001	0.72	0.24	0.012	0.015	25.00
	8	1,138,023	1,138,023	0.001	0.001	0.68	0.56	0.025	0.027	8.00

Table 14-12: Global Bias Analysis Validation of CuCN Estimate

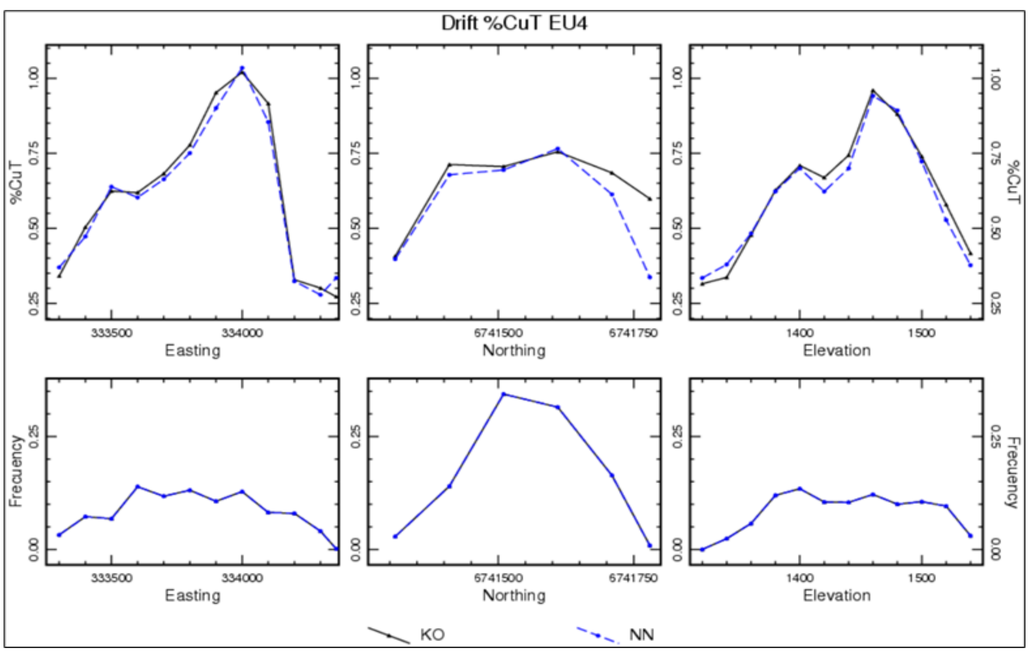
Variable	UE	Number		Minimum		Maximum		Mean		%
		NN	OK	NN	OK	NN	OK	NN	OK	Bias (NN)
CuT %	1	517,217	517,217	0.001	0.002	1.295	0.653	0.025	0.027	8.00
	2	70,026	70,026	0.002	0.005	1.499	0.492	0.03	0.028	-6.67
	3	5,883	5,883	0.005	0.009	0.79	0.55	0.041	0.044	7.32
	4	76,017	76,017	0.001	0.011	4.689	2.753	0.406	0.424	4.43
	5	13,711	13,711	0.002	0.016	1.149	0.816	0.145	0.141	-2.76
	6	325,100	325,100	0.001	0.007	1	0.614	0.023	0.026	13.04
	7	327,251	327,251	0.001	0.003	2.953	0.96	0.021	0.022	4.76
	8	1,175,207	1,175,207	0.001	0.001	1.034	0.882	0.023	0.025	8.70

Figure 14-14: Local Bias Analysis Estimation Grade Validation, EU1



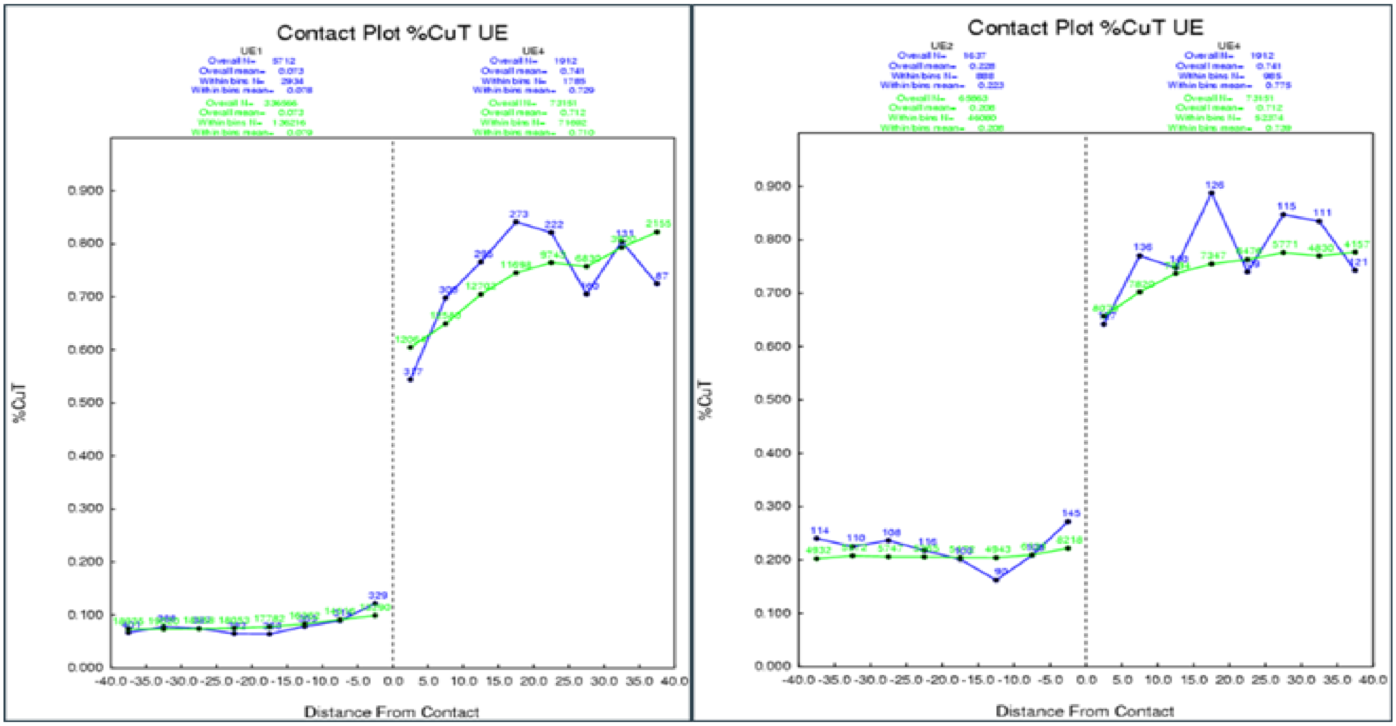
Note: Figure prepared by Wood, 2020. KO = ordinary kriging.

Figure 14-15: Local Bias Analysis Grade Estimate Validation, EU4 (Ordinary Kriging as KO)



Note: Figure prepared by Wood, 2020. KO = ordinary kriging.

Figure 14-16: Longitudinal Contact Analysis

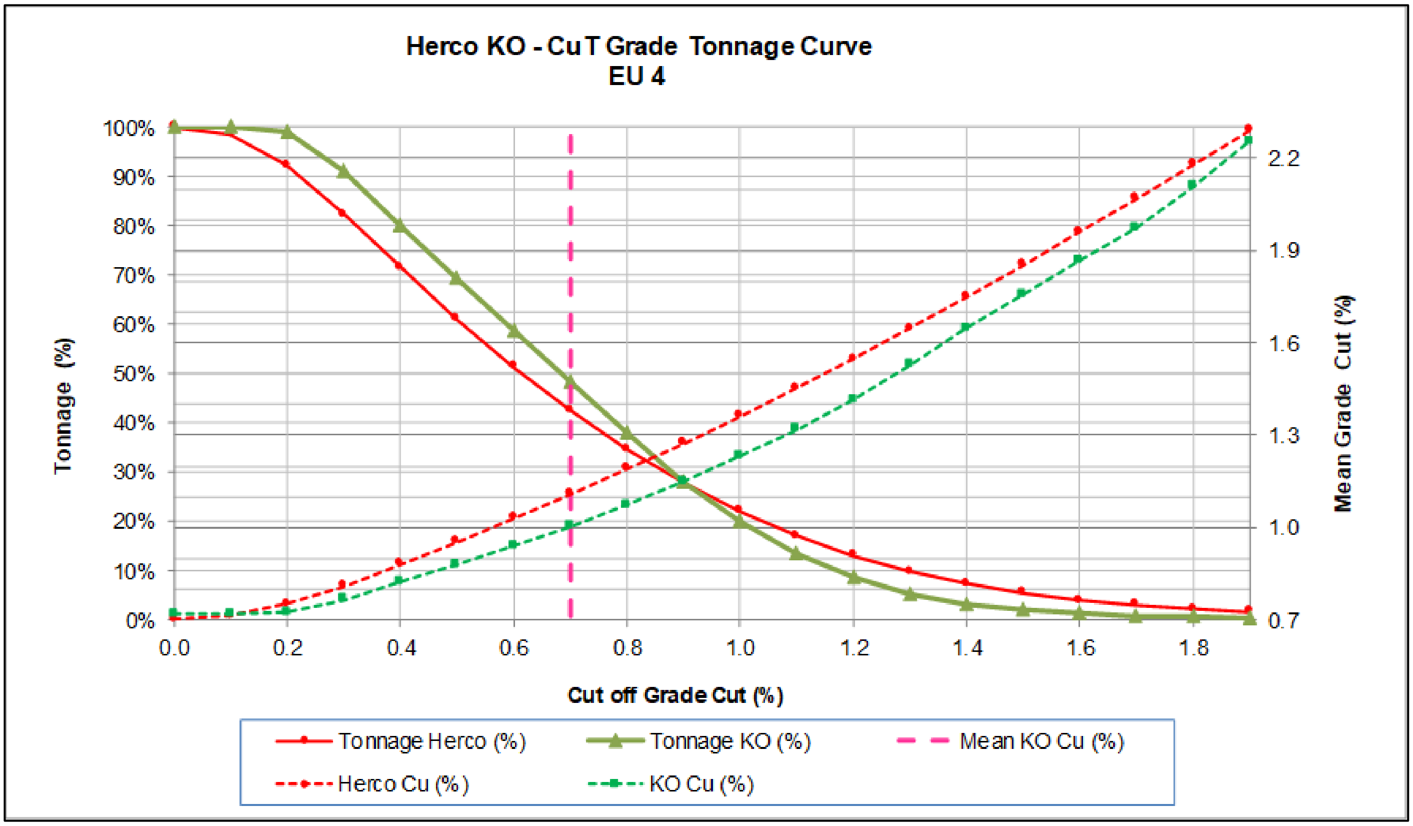


Note: Figure prepared by Wood, 2020. Green = estimated blocks. Blue = composites. EU = estimation unit.

Results show an acceptable range for the estimates in the current block model, in particular for the relevant EUs. High global biases are observed in some EUs, which are interpreted to result from very low mean copper values. Likewise, high local biases are shown in sectors that have a very low number of samples for estimation, which also makes validation acceptable.

A further validation step was performed by analyzing the estimation smoothing. using Wood's in-house software SBK to calculate the block (SMU) variance adjustment factors, and HERCP to obtain the SMU block grade distribution based on the discrete gaussian model. A later comparison between these theoretical grade–tonnage curves, and the estimated grade–tonnage distributions was performed to assess the degree of smoothness of estimation. The SMU size corresponds to 5 m x 5 m x 5 m. Figure 14-17 shows the results for EU4 based on Measured and Indicated Mineral Resources.

Figure 14-17: Validation by Smoothing Analyses (HERCO) for CuT in EU4



Note: Figure prepared by Wood, 2021.

In contained metal terms, the bias is close to 3% at a cut-off grade of 0.15% CuT and around 2.5% for the mean grade of the unit (0.7% CuT).

The QP manually checked the cut-off grade calculation using the parameters provided for the Mineral Resources pit calculation (see Figure 14-15). The calculation confirmed a marginal cut-off of 0.15% CuT, which is in line with the cut-off grade deduced from the Mineral Resources pit results.

The QP is of the opinion that difference in contained metal at the marginal cut-off is acceptable. However, it is recommended that the degree of smoothing, in particular for Measured Mineral Resources to be extracted in early years be reduced. It is recommended sensitivity studies be performed on the SMU size.

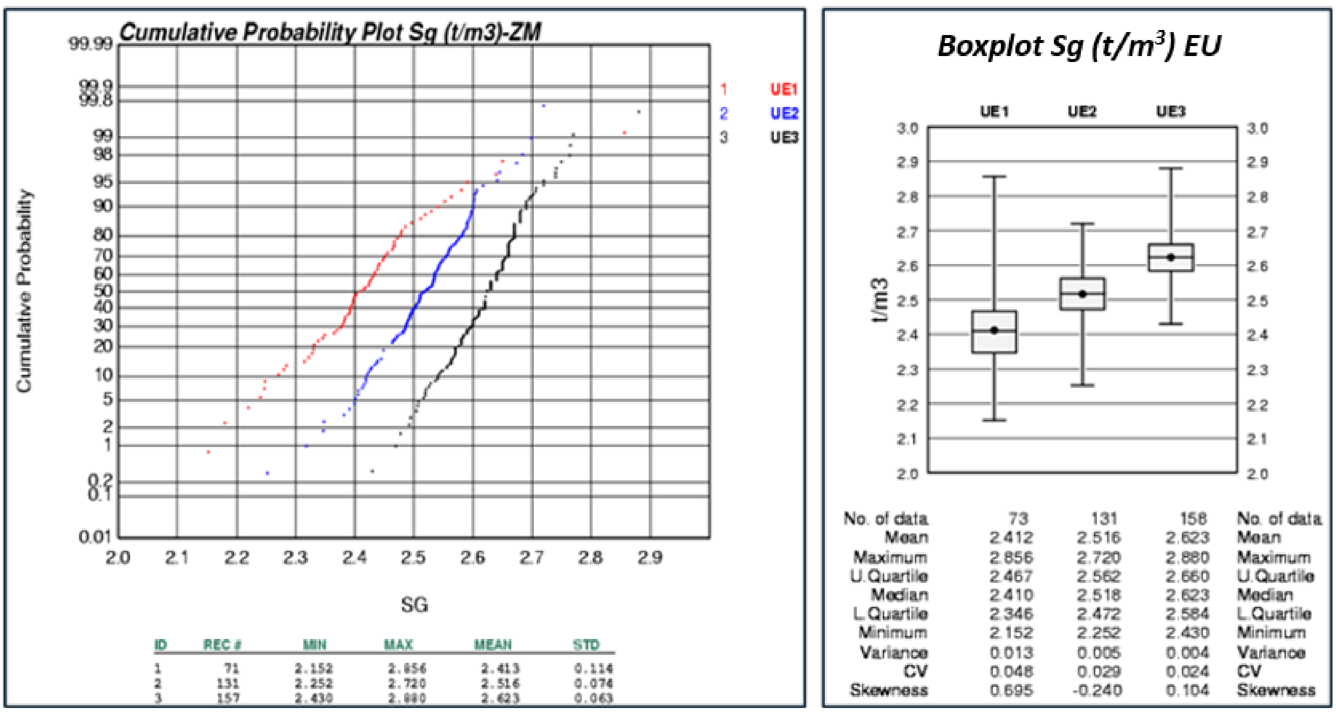
14.7 Specific Gravity

The density (SG) database contained 370 determinations. Three EU by minzone group were defined. Although there are some controls for certain alteration variables and lithology for the density, the main control is due to the minzones. The EU density definitions are:

- EU1= LIX + (LIXCu-ArCu) + (OXN – OXV)
- EU2= SSF + SSD
- EU3= PCYP_A + PCYP_B + PPY.

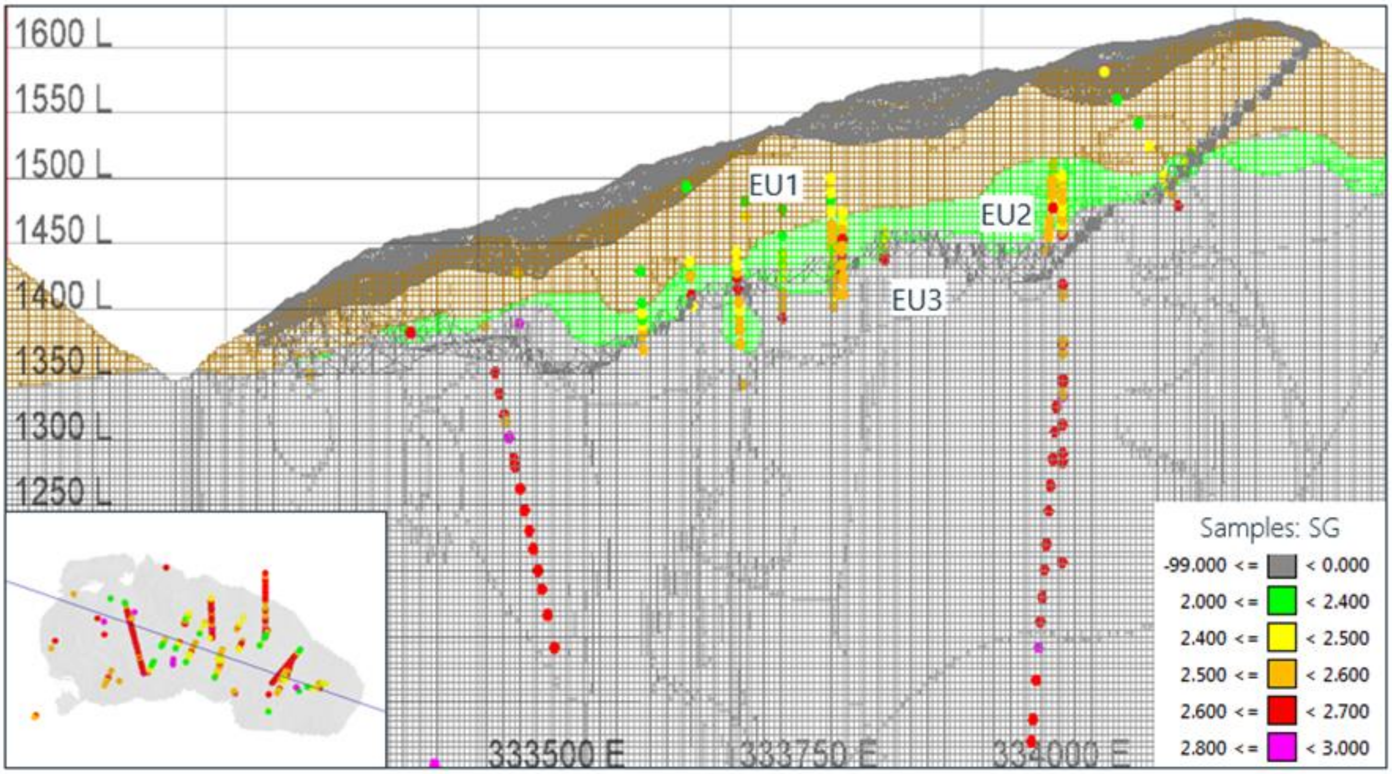
Figure 14-18 and Figure 14-19 show the SG distribution by EU.

Figure 14-18: Density Value Statistical Distribution by EU



Note: Figure prepared by Wood, 2020.

Figure 14-19: Density Value Spatial Distribution by EU



Note: Figure prepared by Wood, 2020.

These values are consistent with a porphyry copper-type deposit.

Experimental correlograms were calculated for each of the EU. The experimental correlograms were used to produce correlogram models. The correlogram models are referred to as variogram models and their parameters are presented in Table 14-13. Down-the-hole variograms were used for spatial correlations over short distances.

Table 14-13: Estimation Unit Variogram Model Parameters

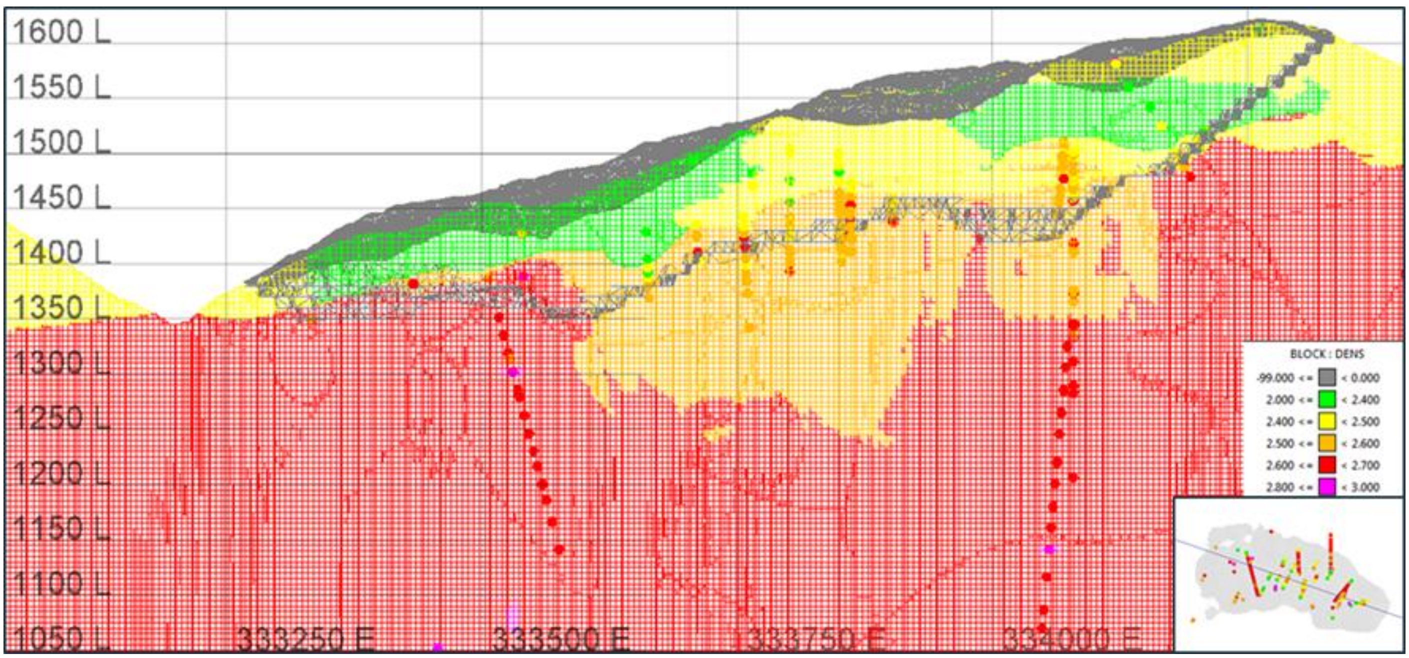
EU SG	Rotation			Nugget	SPH 1				SPH 2			
					Sill	Range			Sill	Range		
	Azimuth	Plunge	Dip			Major	Semi-Major	Minor		Major	Semi-Major	Minor
1	0	0	0	0.3	0.338	35	35	5	0.362	190	190	60
2	0	0	0	0.3	0.483	30	30	5	0.217	185	185	30
3	0	0	0	0.15	0..35	30	30	5	0.5	80	80	130

SG was interpolated into each block using OK. Block estimates for each EU were constrained to use only composites from that EU. Estimation parameters are summarized as:

- Two passes with ellipsoid distances varying according to the variogram models;
- Minimum of two drill holes for the first pass and one drill hole for the second pass; and
- Without restriction as octants or high-yield restriction.

The metal proportions of CuT per EU of density within the conceptual pit correspond to 30% (EU1), 59% (EU2), and 11% (EU3). Validation of the density estimate was visually performed using sections and plans (Figure 14-20), by global bias (Table 14-14) and local bias (Figure 14-21).

Figure 14-20: Longitudinal Section View Showing Density Values and Estimated Blocks

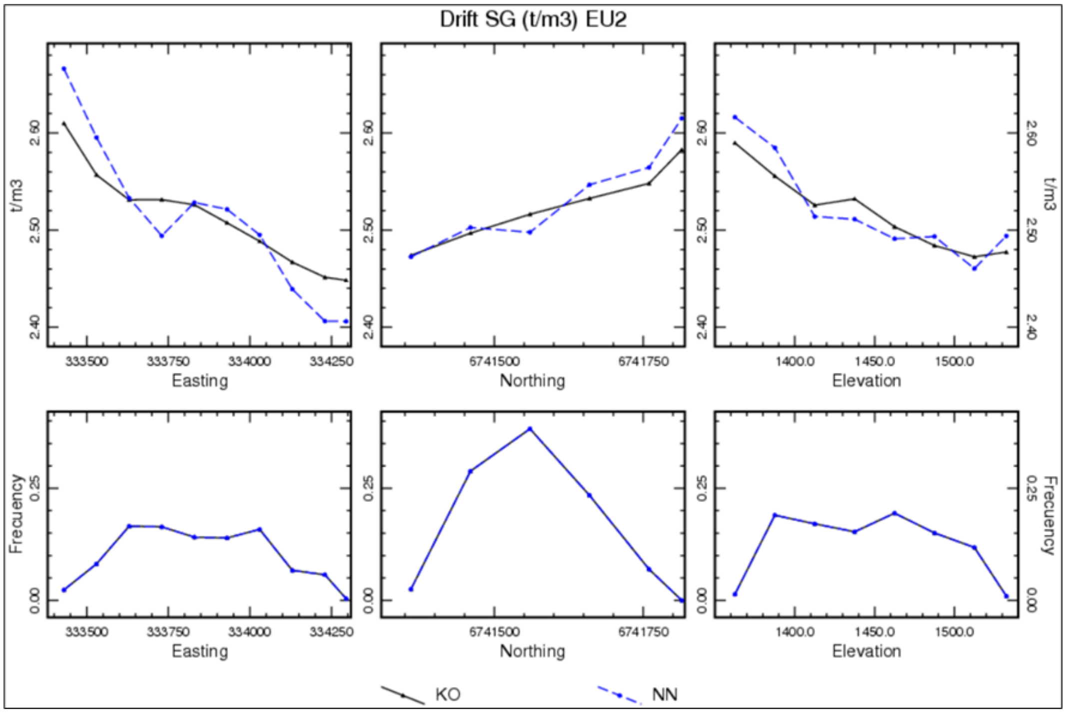


Note: Figure prepared by Wood, 2020.

Table 14-14: Global Bias Analysis Validation, Density

Variable	UE	Number		Minimum		Maximum		Mean		%
		NN	OK	NN	OK	NN	OK	NN	OK	Bias (NN)
CuT %	1	214,788	214,788	2.152	2.221	2.856	2.606	2.390	2.391	0.04
	2	67,687	67,687	2.252	2.383	2.720	2.607	2.514	2.516	0.08
	3	140,668	140,668	2.478	2.507	2.880	2.720	2.608	2.607	-0.04

Figure 14-21: Density Variable Validation by Swath Plot (EU2)



Note: Figure prepared by Wood, 2020. KO = ordinary kriging.

All the validations showed satisfactory results. Since 2021 to date, no density estimation update has been carried out.

14.8 Classification of Mineral Resources

A drill hole spacing study method was used by the QP (Wood, 2021c) to classify the Mineral Resources. This methodology establishes a drill hole spacing for a given confidence interval (CI). In other words, it defines the drill hole spacing that is needed to ensure that any error on tonnes and/or grade is within ±15% at a 90% CI level (i.e., 9 times out of 10) for a given production period. The following assumptions are required:

- A production period (quarterly or monthly for measured; annually for indicated);
- Error on production tonnes and/or grade is normally distributed; and
- Normal distribution: 90% confidence interval (CI) on error; ± 1.645xσEr.

The variance of the error (VAR Er) is the estimation variance of the production block grade, and can be obtained from the variogram, production block size, and drill hole spacing. By calculating the relative estimation variance of the single block (production block size), the 90% CI can be obtained and adjusted for the period considered.

By repeating the exercise for different spacing grids (from sparse to dense spacing), the relationship between the 90% CI and sample spacing can be plotted.

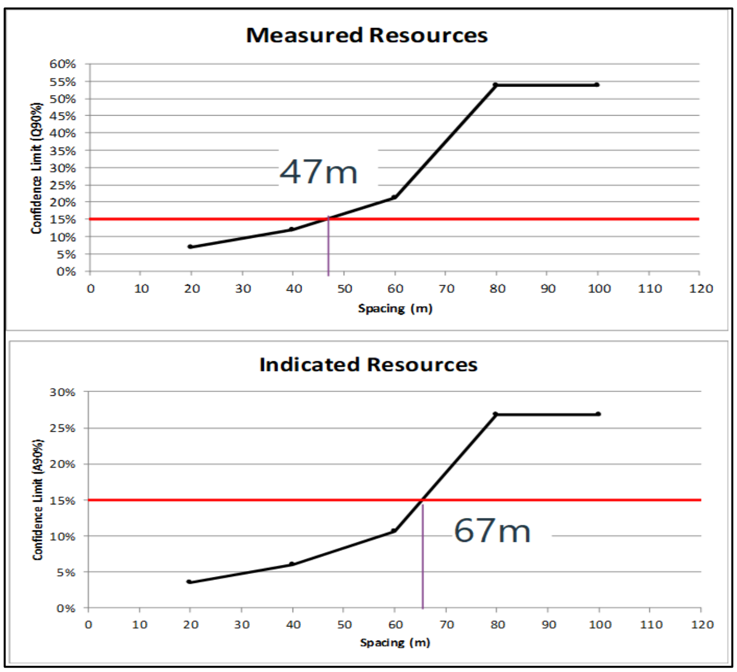
The following assumptions were made for the Puquios deposit:

- Quarterly production volumes for measured, and annual for indicated; and
- Assumption of error (Er) normally distributed: 90% confidence interval of the error; ± 1.645 x σEr.

The error variance corresponds to the estimation variance of a unit block (production volume defined above), which was carried out on a monthly volume, from an annual projection of approximately 1.8 Mt and then scaled to assumed quarterly and annual production rates.

Figure 14-22 shows the results of the confidence limit investigation for Measured and Indicated Mineral Resources for copper.

Figure 14-22: Cu Confidence Limits for Measured and Indicated Mineral Resources



Note: Figure prepared by Wood, 2021.

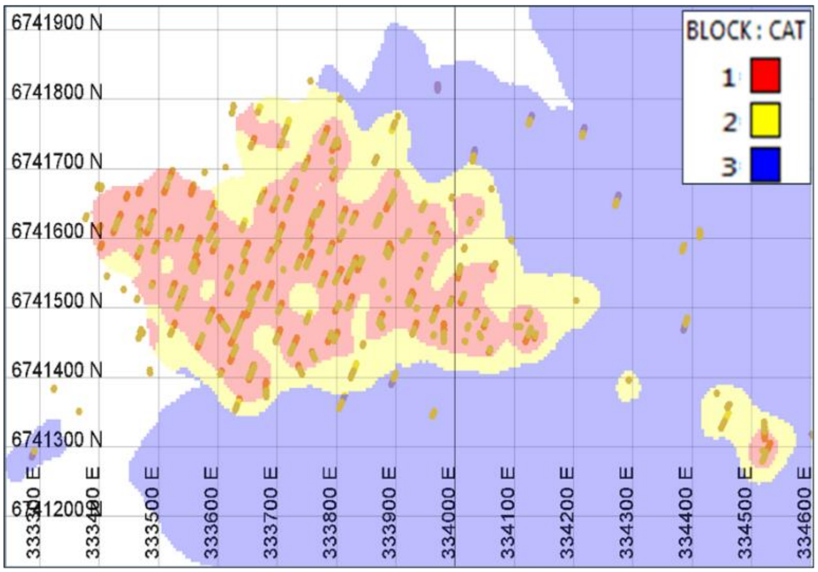
The nominal drill spacing was determined to be 47 x 47 m for Measured, 67 m x 67 m for Indicated and >67 x 67 m for Inferred.

A post processing routine was executed on initial results. The post processing considers (for each block) the category of blocks around and according to that can modify the category in order to eliminate isolated “spotted dog effect” and smoothing the result between categories.

The QP considers the quality of the geological model and the estimation database for the Mineral Resources classification to be acceptable. The QP also considers that the geological model is appropriate for this type of deposit and that the understanding of the deposit is adequate. The data quality of the informing drill holes is also acceptable.

Figure 14-23 is an example of the classifications assigned based on the drill spacing study. Since 2021 to date, no Mineral Resources classification update has been carried out.

Figure 14-23: Drill Spacing Study Mineral Resource Classification



Note: Figure prepared by Wood, 2021. Cat. 1 = Measured, Cat 2 = Indicated, Cat. 3 = Inferred.

14.9 Reason Prospects of Eventual Economic Extraction (RPEEE)

Open-pit mining is assumed to be the preferred mining method. The estimate was constrained using a conceptual pit shell that used the parameters set out in Table 14-15.

Table 14-15: Summary of The Parameters Used for the Mineral Resources Pit Calculation

Parameter	Value	Source
Slope angle	Six slope domains (52.3° to 59.8°)	Ingeroc (2021 and 2021a)
Mine cost	US$2.00/t mined	Benchmark
Process costs (including G&A costs)	US$5.59/t processed	SML 2021e
Difference mineralization/waste cost	US$0.10/t	SML 2021e
Total cost heap leach mineralization	US$5.69/t	Benchmark
Heap leach metallurgical recovery	Three regressions according to EU and one for low-grade	SML 2021d
Copper price	US$3.45/lb	Wood guideline (2021b)
Solvent extraction-electrowinning, sales cost	US$0.28/lb	Benchmark

A cut-off grade of 0.15% CuT was considered appropriate for resource reporting.

Metallurgical regression models were completed by SML (Cuprum, 2021d) and are based on CuS/CuT and CuCN/CuT and the results of 770.3 m high micro-column tests. The scaling factor used for Mineral Resource estimation purposes was 0.98, which was derived from 5-m-high micro-columns to columns, measured in tests.

Three models were defined by grouped minzones (SS: secondary sulphide zone, OX: oxide zone, SP: primary sulphide zone), which allowed unbiased regressions. A separate model was constructed for the low-grade unit (refer to Equation 13.1 to Equation 13.4).

From 2021 to date, no RPEEE definition update has been carried out.

14.10 Mineral Resource Statement

The Mineral Resource estimates were prepared under the supervision of Cristian Quiñones, CMC, AsGeoMin SpA. Mineral Resources are reported in Table 14-16 using the 2014 CIM Definition Standards. Mineral Resources have an effective date of March 8, 2021. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Table 14-16: Mineral Resources Statement

Classification	Tonnes (kt)	Grade			Contained Metal (kt)
		CuT%	CuS%	CuCN%	
Measured	26,496	0.475	0.117	0.232	126
Indicated	5,664	0.399	0.111	0.167	23
Measured + Indicated	32,160	0.462	0.116	0.220	149
Inferred	660	0.295	0.133	0.059	2

Notes to accompany Mineral Resource table:

1. Mineral Resources estimates were classified using the 2014 CIM Definition Standards.
2. The Qualified Person for the estimates is Mr. Cristian Quiñones, CMC, AsGeoMin SpA.
3. Mineral Resources have an effective date of 8 March 2021.
4. Mineral Resources are reported using a cut-off grade of 0.15% total copper (CuT).
5. Mineral Resources are constrained by preliminary pit shells derived using a Lerchs-Grossmann algorithm and the following assumptions: six geotechnical domains (52.3° to 59.8°); mining cost of US$2.10/t mined, processing cost of US$5.69/t processed (including G&A cost); variable processing recoveries derived from four regression models; and a metal price of US$3.45/lb Cu.
6. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade, and contained metal content. Metal content based on CuT.
7. Tonnage measurements are in metric units. Copper is reported as percentages.

14.11 Factors That May Affect the Mineral Resource Estimate

In the QP's opinion, the following risk factors could materially impact estimates of Mineral Resources:

- Changes in local interpretations of mineralization geometry, structures, and continuity of mineralised zones.
- Changes to geological and grade shape and geological and grade continuity assumptions.
- Assumptions used to generate the conceptual data for consideration of reasonable prospects of economic extraction including:
    - Commodity price assumptions;
    - Exchange rate assumptions;
    - Geotechnical and hydrogeological assumptions;
    - Metallurgical recovery assumptions;
    - Operating and capital cost assumptions;
    - Delays or other issues in reaching agreements with local communities;
    - Changes in land tenure or permitting requirements; and
    - Changes in the regulatory regimes assumed to apply to the Project.

The RPEEE in the current Mineral Resources statement considered a metal price of US$3.45/lb Cu. The QP opinion is that this price is conservative regarding the metal price in 2024. This is an opportunity for the next RPEEE update of the Project.

There are no other known environmental, permitting, legal, title, taxation, socioeconomic, marketing, political or other relevant factors known to the QP that are not discussed in this Report that could affect the Mineral Resource estimates.

15 MINERAL RESERVE ESTIMATES

15.1 Summary

Mining Reserves are estimated by applying the appropriate modifying factors to the Measured and Indicated Mineral Resources and are supported by an economic mining plan based on the open pit mine designs. The following sections detail the mining loss and dilution modifying factors that were used to estimate the Mining Reserves. Section 16 details the geotechnical, mine design, and mine scheduling modifying factors.

15.2 Mining Loss and Dilution Parameters

Mining loss and dilution occur along the boundary between waste and ore.

Mining dilution occurs when there are small, isolated blocks of waste material surrounded by ore. Attempts to mine these waste blocks separately from the surrounding ore will increase the unit mining costs. Therefore, these isolated waste blocks will be mined along with the surrounding ore and sent to the crusher or the stockpile.

Mining losses occur when isolated small blocks of potential mineral material are surrounded by tailings. Attempts to mine these blocks separately as ore will increase the unit mining cost and decrease the economics of the material, effectively making them waste. Therefore, these isolated blocks will be mined with the surrounding waste and sent to the North Waste Rock Storage Facility (NRSF) or the heap leach platform. Additional mining losses can occur due to spillage during transport between the pit, stockpile, crusher, and heap leach pad.

15.3 Mining Dilution

The Hexagon mine planning software program was used to examine potential ore blocks in the model and calculate the number of tailing contact edges (between zero and four) for each ore block. An NSR cut-off grade of $5.59/t (incremental breakeven cut-off grade) was used to code the number of ore blocks surrounding each waste block. Waste blocks with three or four surrounding ore blocks were re-coded as ore blocks, since the cost to mine them separately from the surrounding ore blocks will be excessive. 'High-grade' waste blocks ($5.40/t≤NSR≤$5.59/t) with two ore contact edges were also re-coded as ore blocks, since they will be mined from the surrounding ore blocks and sent to the crusher.

The total waste tonnes that were re-coded as ore was 2.4% of the in-situ ore tonnes. This is the mining dilution.

15.4 Mining Losses

Hexagon was used to examine potential ore blocks (defined as NSR ≥ $5.59/t) and calculate the number of surrounding waste blocks (between 0 and 4). Potential ore blocks that are surrounded by three or four waste blocks will incur high unit mining costs when attempting to mine them separately from the surrounding waste. These ore blocks would also incur high dilution due to the large number of waste contact edges. Therefore, these blocks were considered as waste, even though the in-situ grade was above the incremental breakeven cut-off grade.

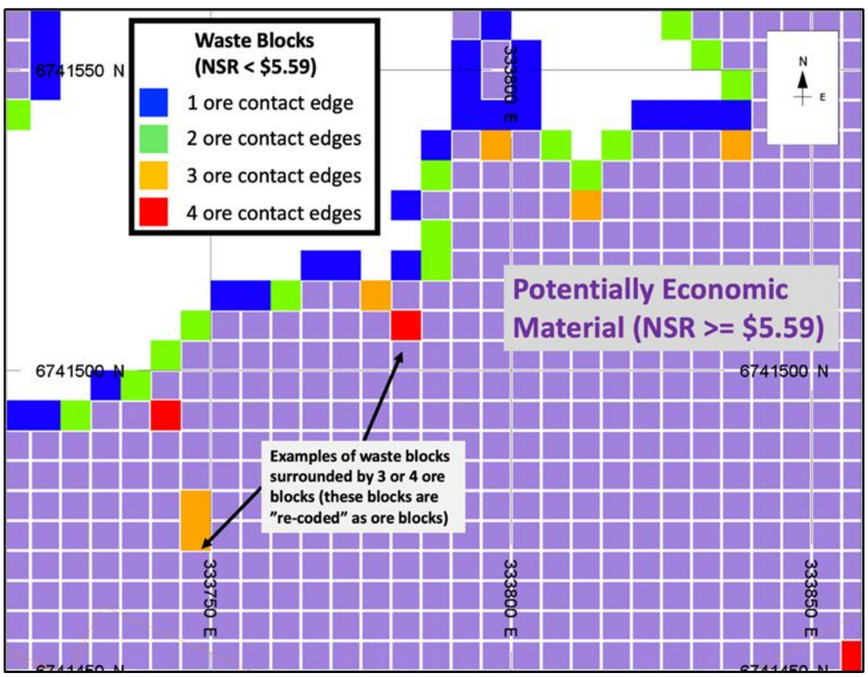
The total potential ore tonnes that were re-coded as waste (due to a high number of waste contact edges) was 2.1% of the in-situ ore tonnes.

An additional mining loss of 0.5% was assumed, due to spillage from the haul trucks between the pit and the crusher.

15.5 Examples of Mining Dilution and Mining Losses

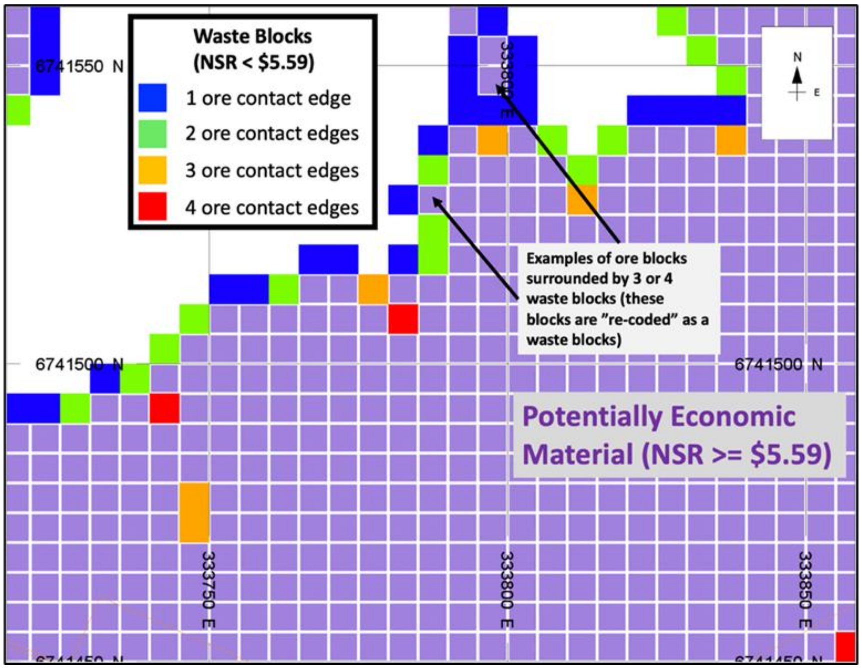
Figure 15-1 and Figure 15-2 show examples of mining dilution blocks and mining losses blocks respectively, and the recoding that occurs (Figure 15-3).

Figure 15-1: Dilution Examples



Note: Figure prepared by MMTS, 2021.

Figure 15-2: Loss Example



Note: Figure prepared by MMTS, 2021.

Figure 15-3: Recoding Based on Loss and Dilution

Note: Figure prepared by MMTS, 2021.

15.6 Ore Cut-off Grade

The cut-off grade for ore/waste determination is NSR ≥$5.59/t. The cut-off grade calculation is described in Section 16.2.2.

15.7 Factors that May Affect the Mineral Reserves Estimates

Mineral reserves are based on the engineering and economic analysis described in Sections 16 to 22 of this report. Changes in the following factors and assumptions may affect the Mineral Reserve estimate:

- Metal prices
- Interpretations of mineralization geometry and continuity of mineralization zones
- Geotechnical and hydrogeological assumptions
- Ability of the mining operation to meet the targeted annual production rate
- Operating cost assumptions
- Mining and process plant recoveries
- Ability to meet and maintain permitting and environmental license conditions, and the ability to maintain the social license to operate.

15.8 Mineral Reserves

Mineral Reserves are reported in Table 15-1. Mineral Reserves are a sub-set of the Mineral Resources.

Table 15-1: Proven and Probable Mineral Reserves

Reserves	Ore (kT)	CuT (%)	NSR ($/t)
Proven	21,805	0.506	24.64
Probable	4,168	0.430	20.19
Total	**25,973**	**0.494**	23.92

Notes:

1. The Mineral Reserves estimates were prepared by Jesse Aarsen, P.Eng. (who is also an Independent Qualified Person), reported using the 2014 CIM Definition Standards, and have an effective date of September 21, 2021.
2. The cut-off grade used for ore/waste determination is NSR >= US$5.59/t. Cut-off grade assumes US$3.19 /lb Cu, block recoveries from the block model, US$75/t cathode premium, 2% vendor royalty and US$0.30/lb SX/EW costs.
3. The average associated metallurgical recovery for copper is 79%.
4. Mineral Reserves are converted from Measured and Indicated Mineral Resources through the process of pit optimization, pit design, production schedule and are supported by a positive cash flow model.
5. The Mineral Reserves reported are the tonnages delivered to the crusher, pre-delivery to the heap leach pad.
6. Mineral Reserves are a sub-set of the Mineral Resources
7. Rounding as required by reporting guidelines may result in summation differences.
8. Factors that may affect the Mineral Reserve estimate include metal prices, changes in the interpretations of mineralization, geometry and continuity of mineralization zones, geotechnical and hydrogeological assumptions, ability of the mining operation to meet the annual production rate, process plant and mining recoveries, the ability to meet and maintain permitting and environmental license conditions, and the ability to maintain the social license to operate.

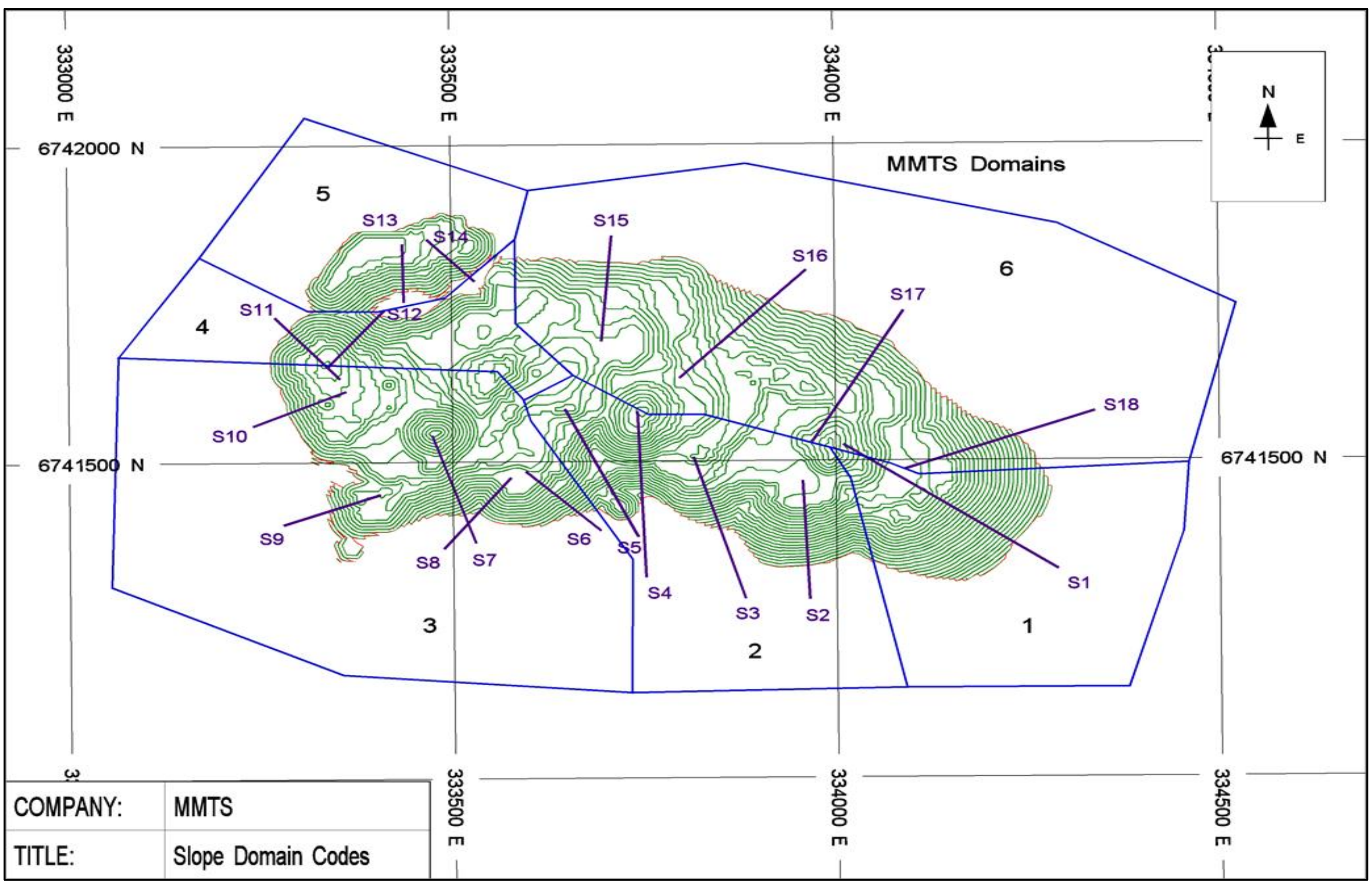
16 MINING METHODS

16.1 Mine Geotechnical Studies

16.1.1 Ultimate Pit and Phases

The bench face angles and overall pit slope angles by zone for internal phases and ultimate pit walls were provided by Ingeroc and shown respectively in Figure 16-1 and Table 16-1. Ingeroc provided the bench face angles and overall slope angles for both the 20-m and 10-m berm spacing configurations. The 10-m berm spacing conflicts with the target inter-ramp angle (IRA) due to the minimum berm width requirements (8.5m). After discussions with Ingeroc and Camino, the decision was made to adopt slope parameters corresponding to the 20-m berm spacing configuration, since this configuration achieves the targeted IRA.

Figure 16-1: Plan View of Slope Design Sections



Note: Figure prepared by MMTS, 2022.

Table 16-1: Pit Slope Parameters (20 m between berms)

Section	Slope Dip Direction	Bank Face Angle	Double Bench Height	Bench Width	Inter-ramp Angle Double Bench	MMTS Domain
1	300	75	20	8.5	55.3	1
2	358	78	20	8.5	57.5	2
3	334	78	20	8.5	57.5	
4	358	78	20	8.5	57.5	
5	338	78	20	8.5	57.5	
6	313	75	20	8.5	55.3	3
7	342	75	20	8.5	55.3	
8	40	75	20	8.5	55.3	
9	70	75	20	8.5	55.3	
10	68	75	20	8.5	55.3	
11	130	70	20	8.5	51.7	4
12	220	70	20	8.5	51.7	
13	360	75	20	8.5	55.3	5
14	313	75	20	8.5	55.3	
15	185	70	20	8.5	51.7	6
16	225	70	20	8.5	51.7	
17	208	70	20	8.5	51.7	
18	250	70	20	8.5	51.7	

16.2 Mine Development

16.2.1 Design Parameters and Cut-off Grade

The following section describes the main input parameters used. Wherever possible, input parameters remain the same as the earlier study titled "Informe_FFGEO-SML-PU-006_2019 Rev-1 (Mining English Report)-ENGLISH.pdf" (SML, 2019).

The block model with the filename: "modelo_puquios2.asc." serves as the basis. The size and extent of this block model are shown in Table 16-2.

Table 16-2: Model Extents

	Minimum	Maximum	Block Size	Number of Blocks
X – easting	333100	334600	5	300
Y – northing	6741100	6742000	5	180
Z – elevation	1000	1680	5	136

The model contains a total of 7,344,000 blocks in the model. It is unrotated and functions a whole block model.

The metal price used is presented in Table 16-3, and is provided by SML in the file titled, "CIBC-Consensus Commodity Prices.xlsx" (2021).

Table 16-3: Metal Prices

Metal	Price (US$)
Copper	3.19/lb

The additional costs considered for the incremental breakeven cut-off grade are presented in Table 16-4. The cathode transport cost is US$75/t, and a 2% vendor royalty is included.

Table 16-4: Additional Costs

Cost Description	US$/t	US$/lb
Cathode transport cost	75	0.034
SX/EW	-	0.300
Total		**0.334**

Only Measured and Indicated material receive an economic value (CATEGORY = 1 or 2). SML provided updated classifications in September 2021 (filename: "categ_actualizada.zip").

A description of the block model items is shown in Table 16-5.

Table 16-5: Block Model Items

Item	Description	Notes	Ming Planning Unit
CuT	Total copper	-	-
CuS	Soluble copper	-	-
CuCN	Estimated cyanidable copper	-	-
UECUT	Estimation unit	-	-
MZONE	Mineral zone code	-	-
LITO	Lithology code	-	-
ALTE	Alteration code	-	-
DENS	Density	-	-
PASS	# of passes	-	-
CuR	Residual copper	-	-
ZMIN	Mineral zone variable	1 = oxides, 2 = primary, 3 = secondary	-
ZGEO	Geotechnical zone identifier	-	-
RECG	Global copper recovery	-	-
MAL	Average hole spacing	-	-

Item	Description	Notes	Ming Planning Unit
CLASS	Classification	1 = Measured, 2 = Indicated, 3 = Inferred	Updated in September 2021, Only Measured or Indicated were used
INDPT	Resource pit indicator	0 = Outside, 1 = Inside, -99 = Air Block	Only blocks inside Pit were used (INDPT = 1)
MTOPO	Percent of the block inside topo	Calculated by MMTS using the topo surface	Used as the topo% item
N319	NSR value	Based on Cu = $3.19/lb	-
SCHED	Mill feed/waste block descriptor	Incorporates loss/dilution and NSR CoG	1 = mill feed, 2 = waste

Note: Topo = topography.

The economic value derives from a combination of the metal prices, grades, process recoveries, royalties, and costs of sale. For example, a block of material containing high-grade copper may have a low process recovery, making it uneconomic. Conversely, a block of material with a copper grade below 0.21% (heap leach copper cut-off grade used in the "Informe_FFGEO-SML-PU-006_2019 Rev-1 Mining English Report-ENGLISH.pdf" (SML, 2019)) may be economic if the material has a high recovery value. An NSR cut-off grade strategy was used to optimize Project pit limits and mine schedules. The NSR value, expressed in$/t, represents the value of the material at the mine. The calculation of the NSR incorporates sale costs, process recoveries, in-situ grades, royalties, and metal prices.

All material within a calculated economic pit limit contributes to a net economic profit. Therefore, all material inside an economic pit limit is extracted. If the NSR value of any mined material (inside the economic pit limit) exceeds the processing cost ($/t), it is considered mill feed, as it will generate positive economics after processing. In this context, the NSR value serves as the cut-off grade.

The total mining costs are already accounted for in the selection and calculation of the ultimate economic pit limit. The NSR value serves as the cut-off grade item, as the cut-off between mill feed and waste is determined by economics.

The net smelter price (NSP) represents the metal price after accounting for additional costs and payable amounts. Using the inputs shown in Table 16-5 and a conversion rate of 2204.62 lbs/t, the NSP for the Puquios Project is summarized in Table 16-6.

Table 16-6: Net Smelter Prices (NSP) for Metals

Description	Base Price	% Payable	Additional Cost	NSP
Copper	US$3.19/lb	98%	US$0.334/lb	US$2.792/lb

The NSR formular was calculated for each block in the model, using the following formula:

$$NSR\ (\$/t)\ =\ (CUT/100)\ *\ (RECG/100)\ *\ \$2.792\ \$/lb\ *\ 2204.62\ lb/t.$$

16.2.2 Ultimate Pit Limit

A Lerchs-Grossmann (LG) ultimate economic pit limit analysis was performed for the Puquios Project. The LG analysis includes overall pit slope angles, mining and processing costs, and a series of economic pit shells, with each shell corresponding to a different metal price. The geotechnical zones, with the corresponding overall pit slope angles and the zone boundaries, were provided by Ingeroc and coded in the block model.

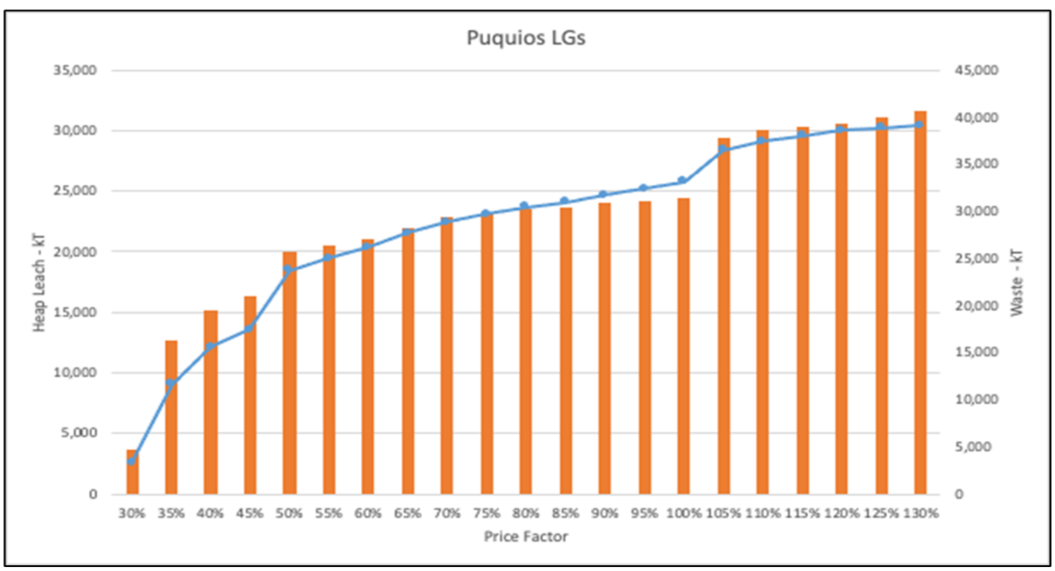
The following unit costs (in USD) are used for the ultimate economic pit limit analysis:

- Waste mining costs - US$2.11/t
- Mill feed mining costs - US$2.21/t
- Processing + G&A costs - US$5.59/t (heap leaching).

The processing + G&A costs serve as the economic cut-off grade. Any material planned to be mined that has an economic value greater than the cost to process it (including G&A costs associated with processing) is considered mill feed. The NSR value captures the metal price, additional costs, and process recoveries. Therefore, the NSR value is compared to the processing + G&A value to determine whether the material is mill feed or waste.

The base case copper price used in the LG analysis was $3.19/lb and corresponds to the 100% shell. A range of price factors were evaluated (30%–130% in 5% increments) to generate a series of nested pits. The smallest pit corresponds to the lowest price factor. A constant cut-off grade of NSR ≥$5.59/t is used to report mill feed/waste inside each pit. The smallest pit is the most economic, as the breakeven copper price used to generate this pit shape was $0.96/lb (30% of $3.19/lb), generating the highest profit margin when base case economics were considered. The potential heap leach and waste tonnes for each LG shell/nested pit are shown in Figure 16-2.

Figure 16-2: LG Analysis – Potential Heap Leach and Waste Tonnes

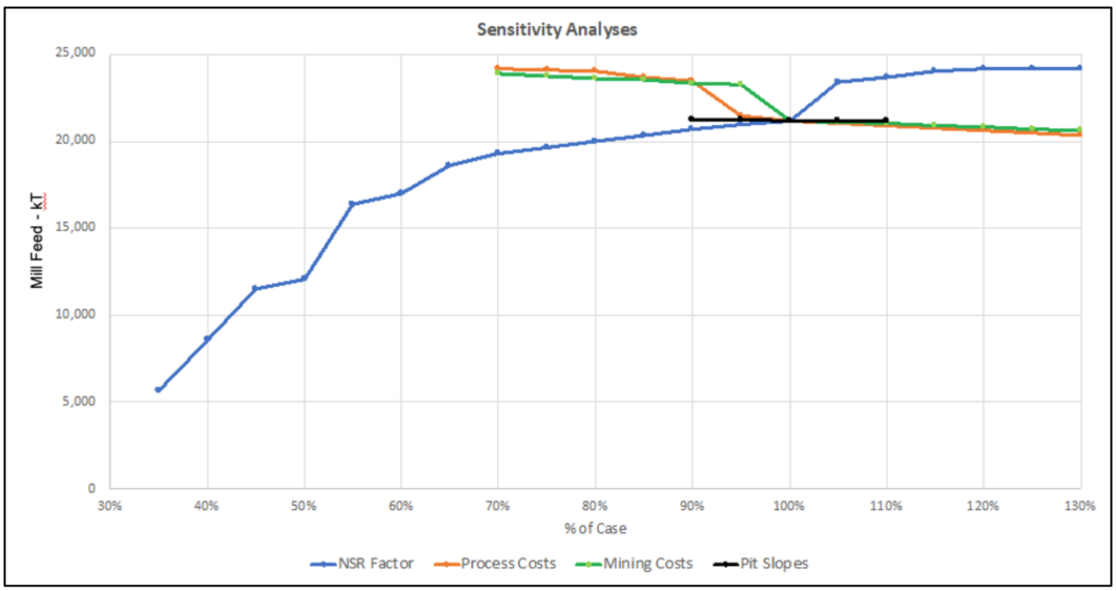


Note: Figure prepared by MMTS, 2022.

Inflection points occur when small increases in price do not generate large increases in mill feed tonnes. Therefore, inflection points are recommended for consideration in selecting the potential ultimate pit limit. The main inflection points are at the 40%, 50%, and 105% price factors.

Based on previous estimates from contractor miners, a waste mining cost of US$2.11/t is considered a conservative estimate. Ultimate pit limit sensitivity analyses were run on waste mining costs and processing costs. The results show that slightly lower processing costs, slightly lower mining costs, or slightly higher copper prices would move the 105% inflection point to the left of the base case (100%, the maximum ultimate pit limit). After consulting with Camino and receiving their feedback, the 105% case is selected as the ultimate pit limit. The material between 100% and 105% was designed as an independent phase (Phase 5) that can either be mined or left behind, depending on the economic parameters the operating mine experiences at that time. The mining schedule currently considers Phase 5 material. Figure 16-3 presents the results of the sensitivity analysis performed.

Figure 16-3: Sensitivity Analysis Results



Note: Figure prepared by MMTS, 2022.

16.2.3 Detailed Designs

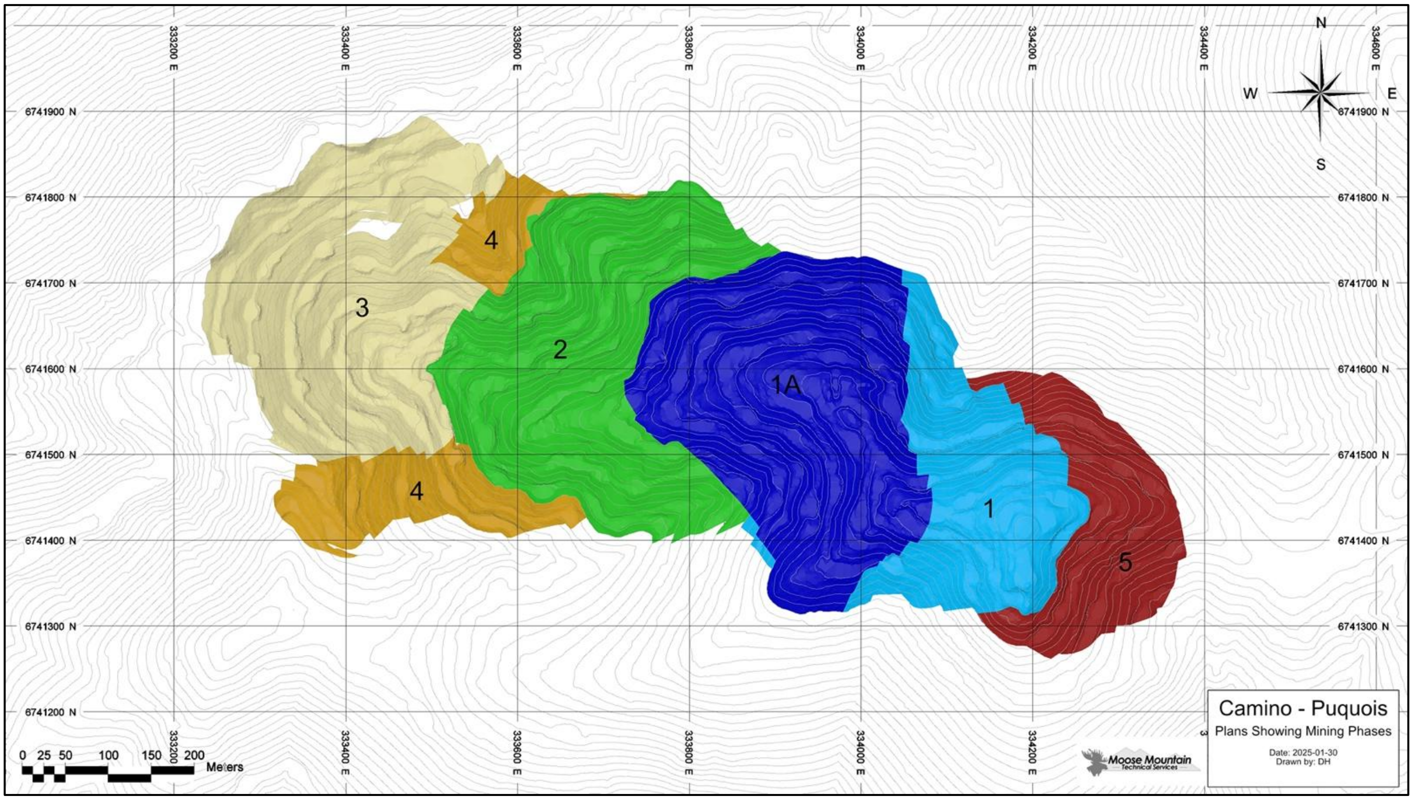
The following parameters used for the detailed pit/phase designs are as follows:

- Minimum mining width: 40 m
- Drilling bench height: 10 m
- Mining bench height: 5 m
- Berms: every 20 m of elevation (double benching for drilling & blasting)
- Geotechnical berms or highwall ramps: every 100 m elevation

- Ramp width: 13 m (supplied by Camino and approved by MMTS)
- Ramp maximum grade: 12%.

A total of six phases were designed. Phase 1 is split into a starter phase (Phase 1A) and a secondary phase (Phase 1). Phase layouts are shown in Figure 16-4.

Figure 16-4: Mining Phases



Note: Figure prepared by MMTS, 2025.

Based on feedback provided by Artois Consulting (2025), the base of the designed pit (1,320 m) will pass ~40 m below the expected groundwater elevation (1,360 m). A water management system will be put in place to handle groundwater inflow at the deepest parts of the pit.

16.2.4 Waste Rock Storage Facilities

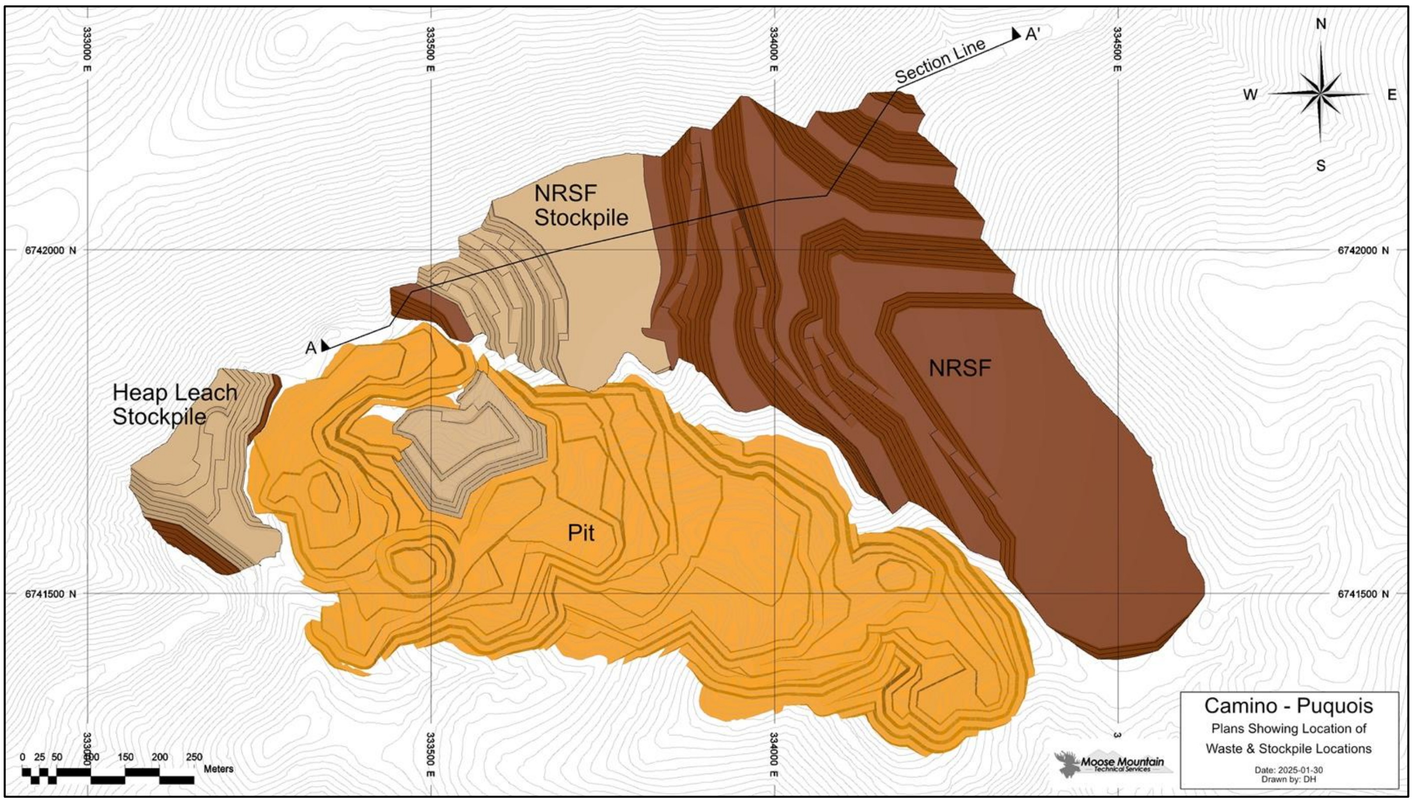
Uneconomic material will be used to build the base platforms for the heap leach and stockpile during the pre-stripping period. Excess waste rock will be stored on the north side of the pit in the NRSF.

The NRSF facility will be constructed top-down, in lifts, with each lift having a maximum placement height of 36 m and a berm width of 26 m. Lifts will be built in succession from the bottom up. The resulting overall dump face angle for the northeast face will be 25.3°. The addition of haul roads on the southwest face will further decrease the dump face angle to 23°.

The WRSF will be monitored using wireline extensometers, with safe operating limits established for each WRSF face. The wireline extensometers will provide warnings of any unsafe conditions that may arise during waste rock placement. Alternative dump faces can be used if dump crest movements are too high, allowing the dump lift time to consolidate and return to safe operating conditions.

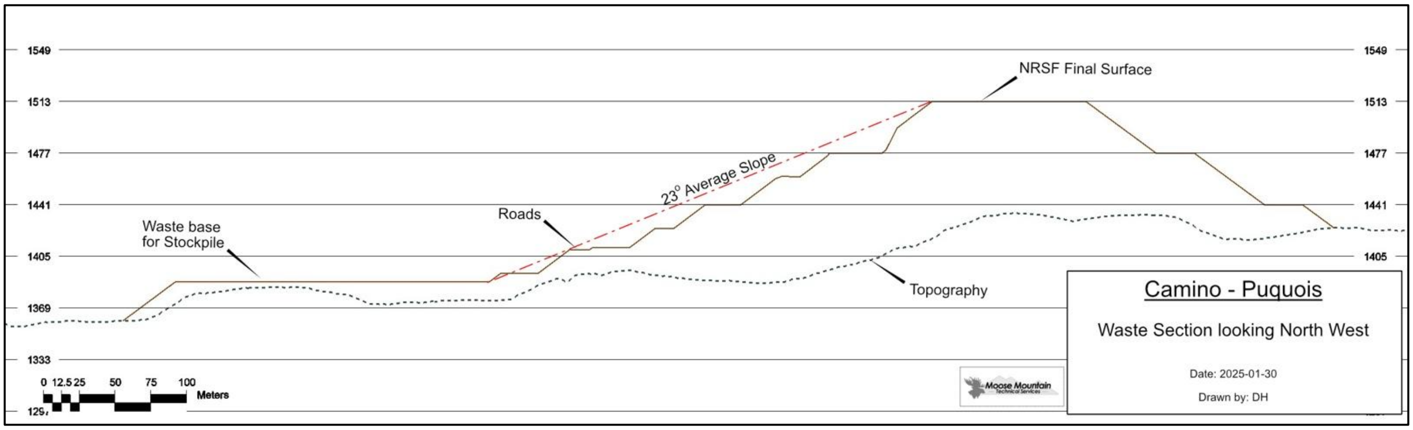
The proposed location of the NRSF is shown in Figure 16-5, and a sample cross-section is shown in Figure 16-6.

Figure 16-5: Location of NRSF



Note: Figure prepared by MMTS, 2025.

Figure 16-6: Cross-section of NRSF

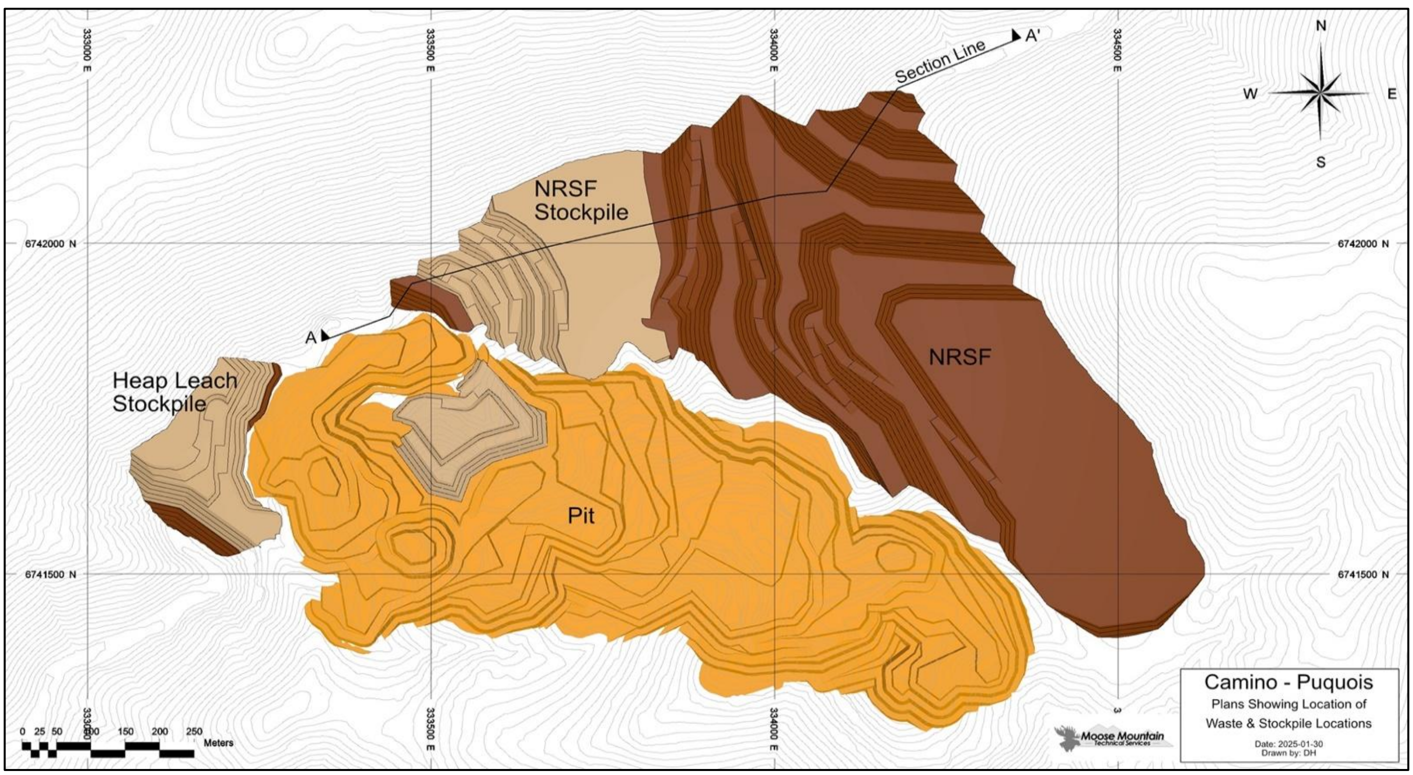


Note: Figure prepared by MMTS, 2025.

16.2.5 Stockpile Storage

Two stockpile locations will be used, one at the top end of the heap leach pad and the other, the largest stockpile, at the base of the NRSF. The location of these stockpiles is shown in Figure 16-7.

Figure 16-7: Waste and Stockpile Locations



Note: Figured prepared by MMTS, 2025.

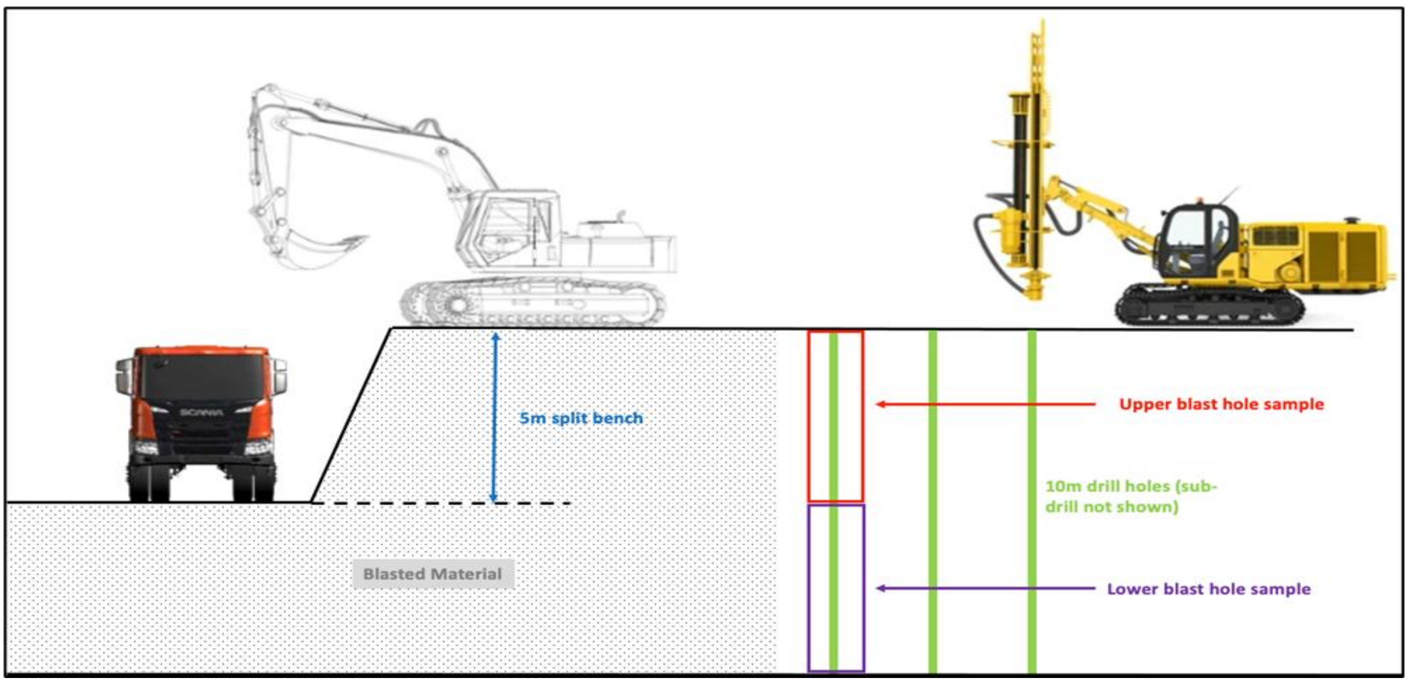
The bases for the stockpiles will be constructed using rock from mining operations, placed by mining haul trucks. Once the stockpile base platforms are built, mill feed material can be placed on top. The flat waste platforms underneath the stockpiles will help reduce dilution during stockpile reclamation activities.

The stockpiles will be built using a top-down method in lifts, with each lift having a maximum placement height of 18 m and a berm width of 13 m. With the addition of ramps on the stockpile faces, the resulting average slope will be 20° for the NRSF stockpile and 20–23° for the heap leach stockpile.

16.2.6 Mining Schedule

Mining equipment assumes 40-ton haul trucks matched with 5.5 m^3 excavators working on 5-m split benches. The maximum digging depth of the excavators ranges from 7-9 m. Excavators will be positioned on the bench above the trucks, loading a bucket of material and swinging 90° to load the haul trucks on the bench below. Drilling and blasting (D&B) is planned for 10-m benches to maximize the efficiency of these operations. D&B will be done ahead of mining operations. The mining and drilling bench configuration is shown in Figure 16-8.

Figure 16-8: Mining and Drilling Bench Configuration

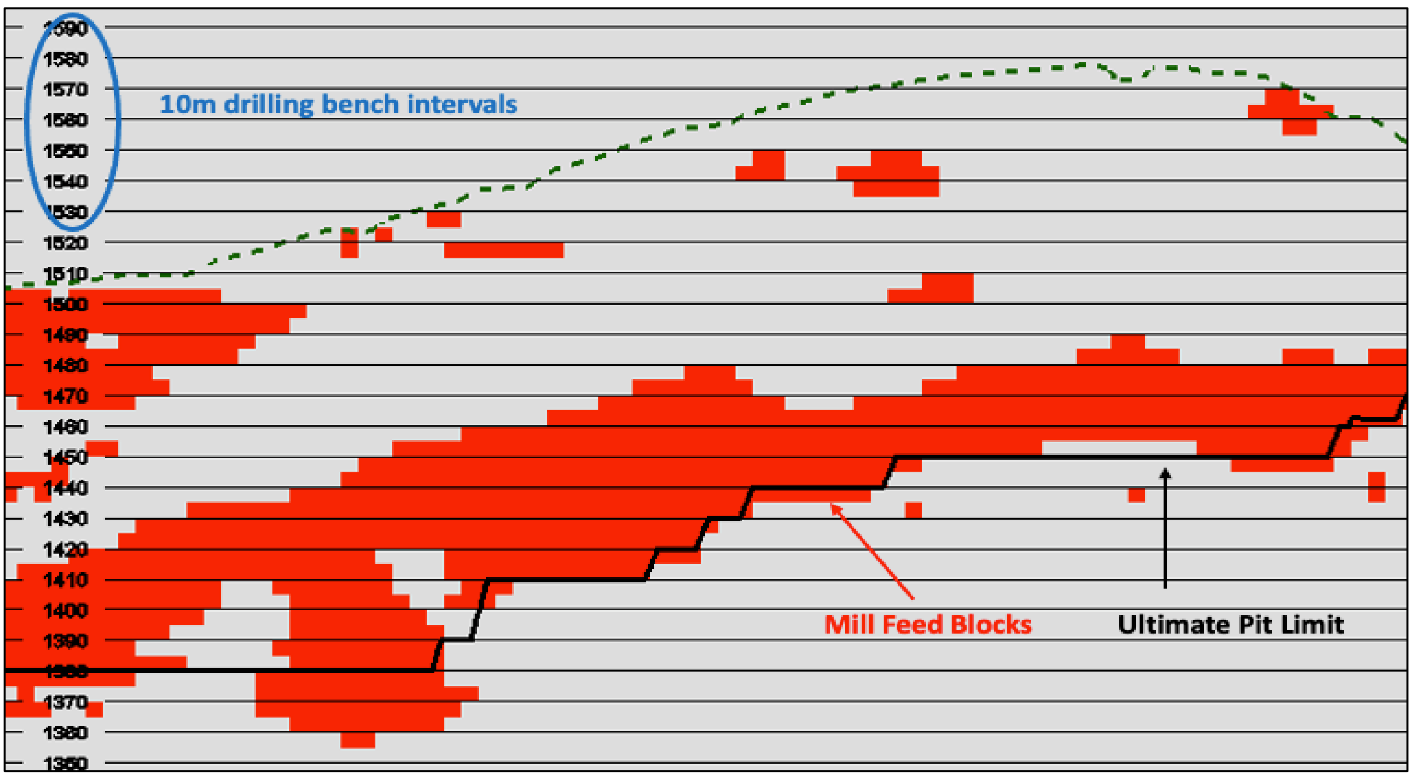


Note: Figure prepared by MMTS, 2022.

Highwall berms will be added on the double D&B benches, with a vertical spacing of 20 m between berms). Blast hole sampling will follow the mining configuration, meaning that an upper sample and a lower sample should be collected from the blast hole cuttings by the sampler. The sampler will collect the upper half of the blast hole cuttings as the “lower drill hole sample,” as the earliest blast hole cuttings represent the top of the drill hole and are placed first in the lower portion of the blast hole cuttings. The sampler will then collect a second sample from the lower portion of the blast hole cuttings, from the ground around the drill hole, as the “upper drill hole sample.” Sampling will be done after drilling has been completed. The holes planned for sampling will be determined by the engineering staff. Only holes around the waste/mill feed contact and inside the mill feed zone are planned to be sampled. Detailed operational procedures will be developed to achieve the sampling requirements.

The mill feed zone inside the current block model is illustrated in Figure 16-9.

Figure 16-9: Sample Mill feed Block Configuration (showing 10-m drilling benches)



Note: Figure prepared by MMTS, 2022.

The maximum vertical advance rate will be limited to 10 m per month, or 120 m per year. This equates to one drilling and blasting (D&B) bench per month or two split-bench truck/loader benches per month.

The mining schedule attempts to meet either the maximum crusher throughput or the maximum cathode throughput, whichever is the limiting factor. The maximum crusher throughput is 2.1 Mt/a, and the maximum cathode production is 9,000 t/a.

The equipment parameters used to calculate available operating hours per year is shown in Table 16-7.

Table 16-7: Equipment Parameters

Available total hours per shift	12	-
Lunch and coffee breaks	1	h
Shift change and safety check	0.5	h
Total scheduled delays per shift	1.5	h
Available operating hours per shift	10.5	h
Non-scheduled delays per shift, hours:	**-**	**-**
Relocation - long moves (deadheading)	0.15	h
Blasting	0.15	h
Clean up/fuel	0.2	h
Subtotal	0.5	h
Total effective operating hours per shift	**10**	**h**
Calendar days per year	365	days
Available hours per day	24	h
Calendar hrs per year	8,760	h
Shutdown days	10	days
Total work hrs per year	8,520	h
Mechanical availability, %	87	%
Mechanical downtime	1,139	h
Use of availability, %	90	%
Standby hrs	762	h
Annual gross operating hrs (GOH)	6,619	h
Annual operating delay hrs	1,112	h
Annual Net Operating Hours (NOH)	**5,507**	**h**

Truck and loader capacity parameters, along with the resulting average loader productivity parameters (using the available NOH), are shown in Table 16-8.

Table 16-8: Loader Productivity Parameters

Description	Units	In-Pit	Rehandle
Loader fleet		PC 950	PC 950
Truck fleet		G500 B8x4HZ	G500 B8x4HZ
Loader bucket size	m^3	5.5	5.5
Loader bucket fill factor		90%	90%
Material swell factor		30%	30%
Moisture content (by weight)		3%	3%
Material bank density, in-situ	t/m^3 (in-situ)	2.4	2.4
Material loose density, in-situ	t/lcm	1.85	1.85
Material in each bucket w/ moisture	t	9.4	9.4
Truck maximum payload	t	40	40
Truck heaped volume capacity	m^3	24	24
Truck average fill factor		97%	97%
# of passes to fill payload		4.1	4.1
# of passes to fill volume		4.8	4.8
Number of Passes Used		5	5
Pass time	minutes	0.5	0.5
Loading time[1]	minutes	2.6	2.6
Truck exchange time	minutes	0.5	0.5
Load size, in-situ	t	37.7	37.7
Load with exchange time	minutes	2.6	2.6
Potential loader productivity, in-situ	t/h	869	869
Loader operations efficiency		80%	90%
Effective load with exchange time	minutes	3.258	3.25
Effective Loader Productivity	**t/h**	**695**	**782**
Loader Annual Production[2]	**kt/a**	**3,830**	**4,308**

1. Loading time assumes the first bucket is ready while the truck is backing up. Therefore, the first pass has zero time associated with it. Loading time = (# passes minus one) plus additional 0.1 min spotting time.
2. Loader annual production is calculated from the t/hr rate and the available hours per year.

Truck parameters are as follows:

- Haul road designs: 12%
- Maximum allowable gradient: 14%
- Truck operator efficiency: 90%

The maximum speeds for each type of haul are listed in Table 16-9.

Table 16-9: Truck Maximum Speeds

Speed	Flat	Uphill	Downhill
Maximum Speed (km/h)	40	15	30

Blasting parameters were obtained from the report provided by Geoblast (2021). The drilling and blasting parameters are summarized in Table 16-10.

Table 16-10: Drilling and Blasting Parameters

Description	Units	Mill feed	Waste	Trim 1	Trim 2	Pre-Cut
Material bank density	kg/BCM	2.49	2.52	2.52	2.52	2.52
Pure penetration rate	m/h	40	40	40	40	40
Driller operations efficiency		85%	85%	85%	85%	85%
Effective penetration rate[1]	m/h	34	34	34	34	34
Drill setup time per hole	min	3	3	3	3	3
Drill rod change time per hole	min	2	2	2	2	2
Drill move time per hole	min	5	5	5	5	5
Drill hole spacing/burden (equidistant)	m	6.45	7.55	4.00	5.00	1.50
Drill hole diameter	mm	200	200	165	165	165
Explosives diameter	mm	200	200	165	165	40
Explosive density	g/cm^3	1.25	1.25	0.98	1.25	1.50
Bench height	m	10	10	10	9	10
Subdrill	m	1.5	1.5	0	0	0
Stemming	m	4.5	5	7	5.4	5
Charge per drill hole	kg/hole	275	255	63	96	160
Tonnes blasted per drill hole	t/hole	1,036	1,436	403	567	57
BCM blasted per drill hole	BCM/hole	416	570	160	225	23
Powder Factor	**kg/t**	**0.265**	**0.178**	**0.156**	**0.170**	**0.166**
	kg/BCM	**0.66**	**0.45**	**0.39**	**0.43**	**0.42**
Percent of total material		Split varies by bench		6%	6%	3%[2]
Total drill hole depth	m	11.5	11.5	10.0	9.0	10.0
Drilling time	min	20.3	20.3	17.6	15.9	17.6
Setup and move times	min	10.0	10.0	10.0	10.0	10.0
Drill holes/hour		1.98	1.98	2.17	2.32	2.17
Re-drills		3%	3%	3%	3%	3%
Effective Drill Rate	**m/h**	**22.1**	**22.1**	**21.1**	**20.3**	**21.1**
BCM drilled per hour		800	1,096	337	506	47
tonnes drilled per hour		1,992	2,762	850	1,276	119
kt Drilled per year		**10,970**	**15,212**	**4,679**	**7,028**	**658**

1. The effective penetration rate of 34 m/h is achievable based on MMTS drilling experience. As described in the Appendix, there is contingency in the drilling to cover any reductions in penetration rate that the operators can achieve.
2. The 3% pre-cut material tonnes are additive to the total D&B scheduled tonnage.

Table 16-11: Support Equipment Parameters

Unit	Size	Function	Operating Hours	# of Units
Primary Mine Support				
Unit	**Size**	**Function**	**Operating Hours**	**# of Units**
Track dozer	264 kW	Stockpile maintenance, pit maintenance, loader support, site prep, construction	0.4 * loading hours	2
Excavator	1.8 m^3 bucket	Grade control, pit support	0.4 * loading hours	2
Fuel/lube truck	on highway 6x4	Fuel/lube support of wheel loader, drills and support equipment	0.3 * loading hours	1
Grader	4.3 m blade	Haul road support	1h per 8 hauler operating hours	2
Water/gravel truck	on highway	Haul road support, gravel hauling	1h per 12 hauler operating hours	1
Secondary Mine Support				
Unit	**Size**	**Function**	**Operating Hours per Unit**	**# of Units**
Crew bus	15 persons	Employee transport	500 h/a	1
Pickup trucks	1/4 t, 4x4	Staff transport	2000 h/a	6
Light plants	6 kW	Pit lighting	3500 h/a	9
Dewatering pumps	150 m^3/h	Pit sump dewatering	3000 h/a	2
Dump truck	on highway	Utility material movement	1500 h/a	2
Mine Maintenance Fleet				
Unit	**Size**	**Function**	**Operating Hours per Unit**	**# of Units**
Maintenance trucks	1 t, 4x4	Mobile Maintenance crew and tool transport	2000 h/a	1
Mobile crane	30 t capacity	Mobile maintenance material handling	500 h/a	1
Forklift and tire manipulator	3 t capacity	Shop material and tire handling	500 h/a	1
Portable steam cleaner	-	Mobile maintenance support	500 h/a	1
Scissor lift	-	Maintenance support	500 h/a	1

Pit dewatering requirements were calculated by Artois Consulting. Groundwater inflow into the pit is expected at rates between 10–280 m^3/d. A 3-day, 1:50-year event would require emergency pumping capacity of 5,800 m^3/d. Pit dewatering will be carried out using sump pumps, and in emergency events, a sump at the bottom of the pit will be used for overflow until the sump pumps can catch up.

Multiple iterations of mining schedules were run to optimize economics, particularly focusing on improving the Project's payback period (generally the first five years of production or less).

Each schedule is broken down into multiple periods, which represent months, quarters or years. When the mining schedule is run, the periods are grouped into multi-period windows of time, each representing at least one year of production. The mine scheduling program (HxGN Mineplan Schedule Optimizer – MPSO) optimizes each multi-period window by examining the periods simultaneously, using dynamic programming methodology. Individual periods are optimized by evaluating every potential solution that fits the constraints provided (such as minimum or maximum crusher tonnage, minimum or maximum cathode production, minimum or maximum vertical advance rate, minimum or maximum material movement, minimum or maximum grades, minimum or maximum truck hours, etc.) Each period can have several thousand possible solutions that satisfy all possible constraints for that period. Using dynamic programming, the scheduling program combines every single possible outcome for each period, with every single possible outcome for all the other periods within the multi-period window. This methodology allows the examination of several hundred thousand iterations for each multi-period window. Mining costs for various material types (mill feed/waste/rehandle) are input into the schedule, along with the estimated revenue from mill feed material. Revenue is estimated using the NSR value, which combines copper prices, heap leach recoveries, additional costs, and the percentage payable. The scheduling program analyzes the costs and revenues associated with every possible outcome for the multi-period window and selects the outcome that generates the highest economic value for that multi-period window. A yearly discount rate of 10% is used for multi-period windows to account for NPV impacts. Once the scheduler optimizes the first multi-period window, the mining solution for that window is locked in, and MPSO uses it as the starting point to examine the next multi-period window. Nine multi-period windows were optimized for each schedule (Table 16-12).

Table 16-12: Multi-Period Windows

Period	Period Time	Multi-period Window	Multi-period Window Time
1–12	Monthly	1	1 year
13–24	Monthly	2	1 year
25–36	Monthly	3	1 year
37–48	Monthly	4	1 year
49–52	Quarterly	5	1 year
53–56	Quarterly	6	1 year
57–60	Yearly	7	4 years
61–64	Yearly	8	4 years
65–68	Yearly	9	4 years

The general scheduling strategy involves stockpiling in the early years of the mine life to increase the grades delivered to the heap leach pad, which requires a greater amount of material to be moved. The scheduling program optimizes the balance between increased mining costs (due to more material movement due to stockpiling) and higher revenue (from higher grades in the early years of the mining schedule). Stockpiled material is reclaimed throughout the Project life during periods of lower mine production, or at the end of the Project life, if there is sufficient economic value to cover the additional reclamation and processing costs.

A total of five iterations of the mining schedule were run, which are summarized below.

- Schedule 1: one year of pre-production, 22.3 Mt heap leach feed, Phases 1–4, gradually declining equipment fleet size, max material movement is approximately 7.5 Mt/a, approximately 1.2 Mt of un-reclaimed stockpile material at end of mine life, 40-t and 90-t haul truck options were considered.
- Schedule 2: two years of pre-production, 24 Mt heap leach feed spread, Phases 1–4, Phase 1 split into a starter pit (Phase 1A) and a pushback pit (Phase 1), maximum material movement of approximately 5.5 Mt/a, maximized cathode production targets in Years 1 and 2, stockpile is fully reclaimed at end of mine life, replaced 90-t truck option with 60 t trucks.
- Schedule 3: two years of pre-production, 26 Mt heap leach feed (loss and dilution logic included), Phases 1–5 (added 5th phase), Phase 1 split into a starter pit (Phase 1A) and a pushback pit (Phase 1), maximum material movement of approximately 6.8 Mt/a, stockpile is fully reclaimed at the end of mine life, 40-t and 60-t haul truck options considered.
- Schedule 4: two years of pre-production, 26 Mt heap leach feed (loss and dilution logic included), Phases 1–5 (added 5th phase), Phase 1 split into a starter pit (Phase 1A) and a pushback pit (Phase 1), maximum material movement of approximately 6.8 Mt/a, stockpile is fully reclaimed at the end of mine life, smoothed material movement in Years 11–14, 40-ton and 60-ton haul truck options considered.
- Schedule 5: two years of pre-production, 26 Mt heap leach feed (loss and dilution logic included), Phases 1–5 (added 5th phase), Phase 1 split into a starter pit (Phase 1A) and a pushback pit (Phase 1), maximum material movement of approximately 6.5 Mt/a, stockpile is fully reclaimed at the end of mine life, smoothed material movement in Years 11–14, 40-ton and 60-ton haul truck options considered, 40-ton haul cycles calibrated against times provided by mining truck specialist.

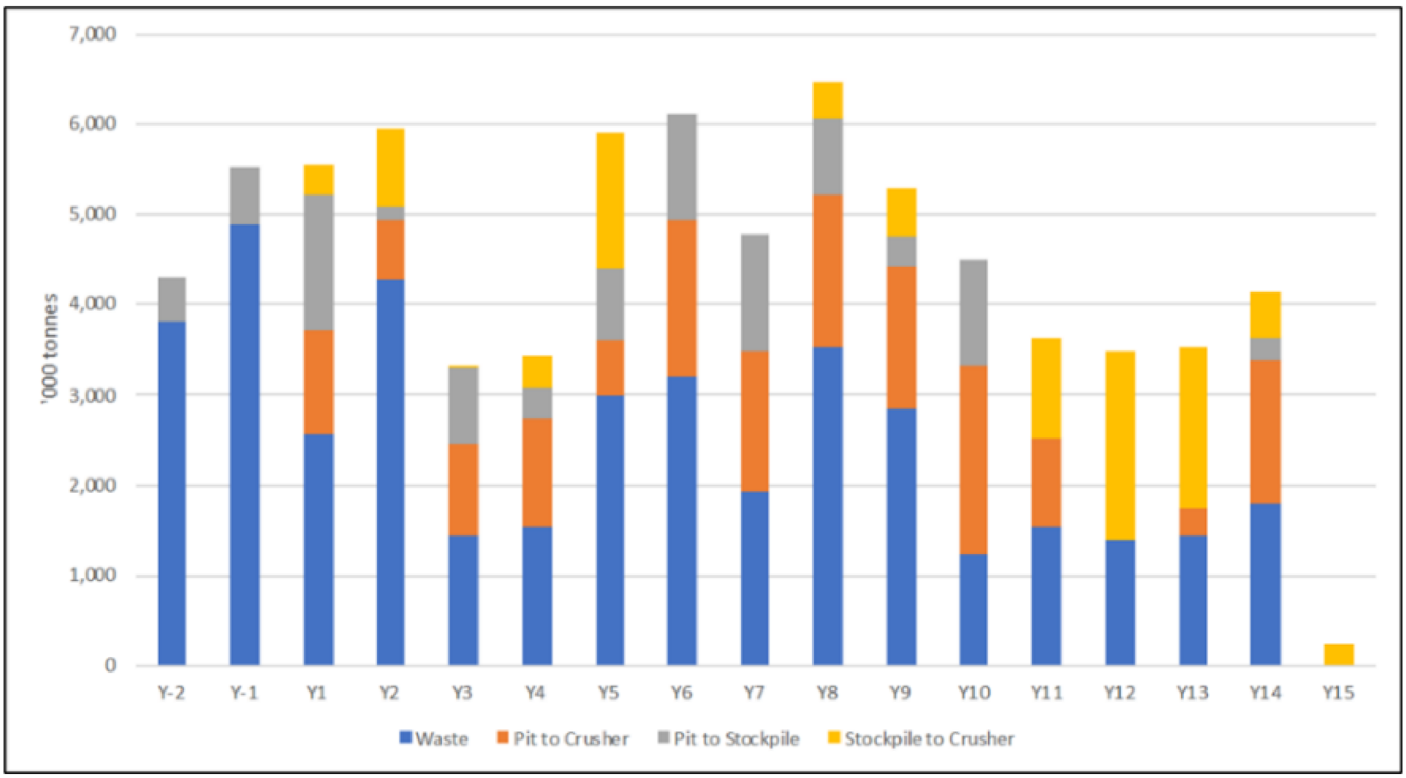
The results of a Schedule 5 analysis show that it achieves a good balance of higher early grades with a reduced amount of material to be moved, leading to lower mining costs. As a result, Camino selected it as the mining schedule for the PFS. The mining schedule designs for detailed operations may identify other areas of opportunity.

Table 16-13 and Figure 16-10 show the material movement by year, while Table 16-14 and Figure 16-11 show the heap leach tonnes and grades based on the 40-ton haul truck case.

Table 16-13: Material Movement by Year

Year	-	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Pit to Crusher	kt	0	0	1,151	680	1,021	1,197	596	1,750	1,560	1,687	1,576	2,100	988	15	313	1,584	0
Stockpile Reclaim to Crusher	kt	0	0	322	864	13	380	1,504	0	0	413	524	0	1,112	2,085	1,787	516	236
Total crusher feed	kt	0	0	1,472	1,544	1,034	1,577	2,100	1,750	1,560	2,100	2,100	2,100	2,100	2,100	2,100	2,100	236
Pit to Stockpile	kt	477	618	1,518	138	859	314	799	1,152	1,299	822	351	1,173	0	0	0	235	0
Stockpile balance	kt	477	1,095	2,291	1,565	2,411	2,345	1,640	2,792	4,092	4,500	4,327	5,500	4,388	2,304	517	236	0
Waste	kt	3,821	4,894	2,552	4,268	1,428	1,549	3,001	3,198	1,933	3,540	2,839	1,227	1,532	1,384	1,426	1,804	0

Figure 16-10: Material Movement by Year

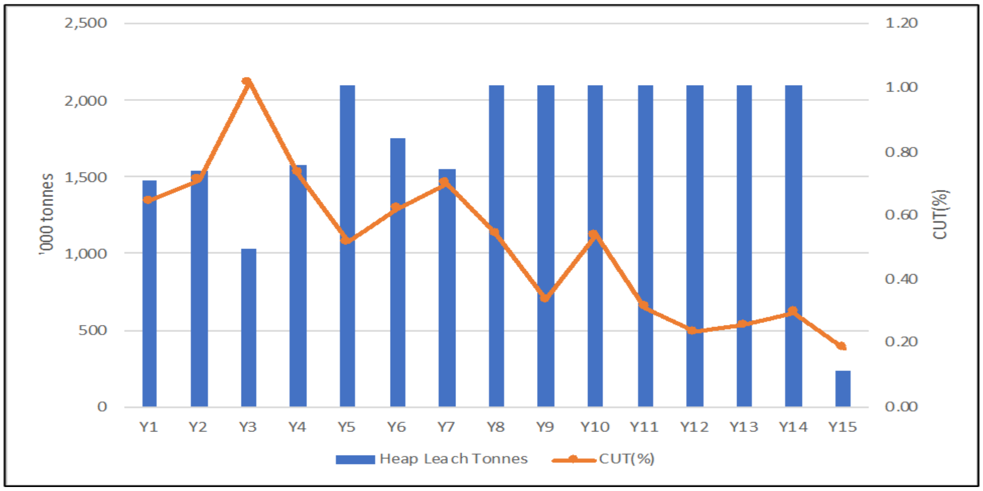


Note: Figure prepared by MMTS, 2022.

Table 16-14: Heap Leach Tonnes and Grades

Year	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
kt	**25,973**	1,151	680	1,021	1,197	596	1,750	1,560	1,687	1,576	2,100	988	15	313	1,584	0
NSR	**$23.93**	322	864	13	380	1,504	0	0	413	524	0	1,112	2,085	1,787	516	236
CuT (%)	**0.49**	1,472	1,544	1,034	1,577	2,100	1,750	1,560	2,100	2,100	2,100	2,100	2,100	2,100	2,100	236

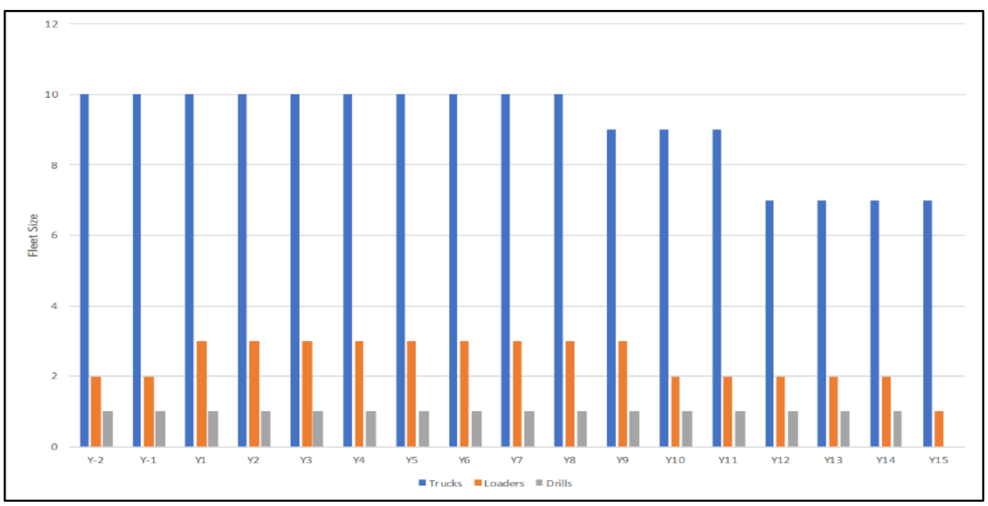
Figure 16-11: Heap Leach Grades



Note: Figure prepared by MMTS, 2022.

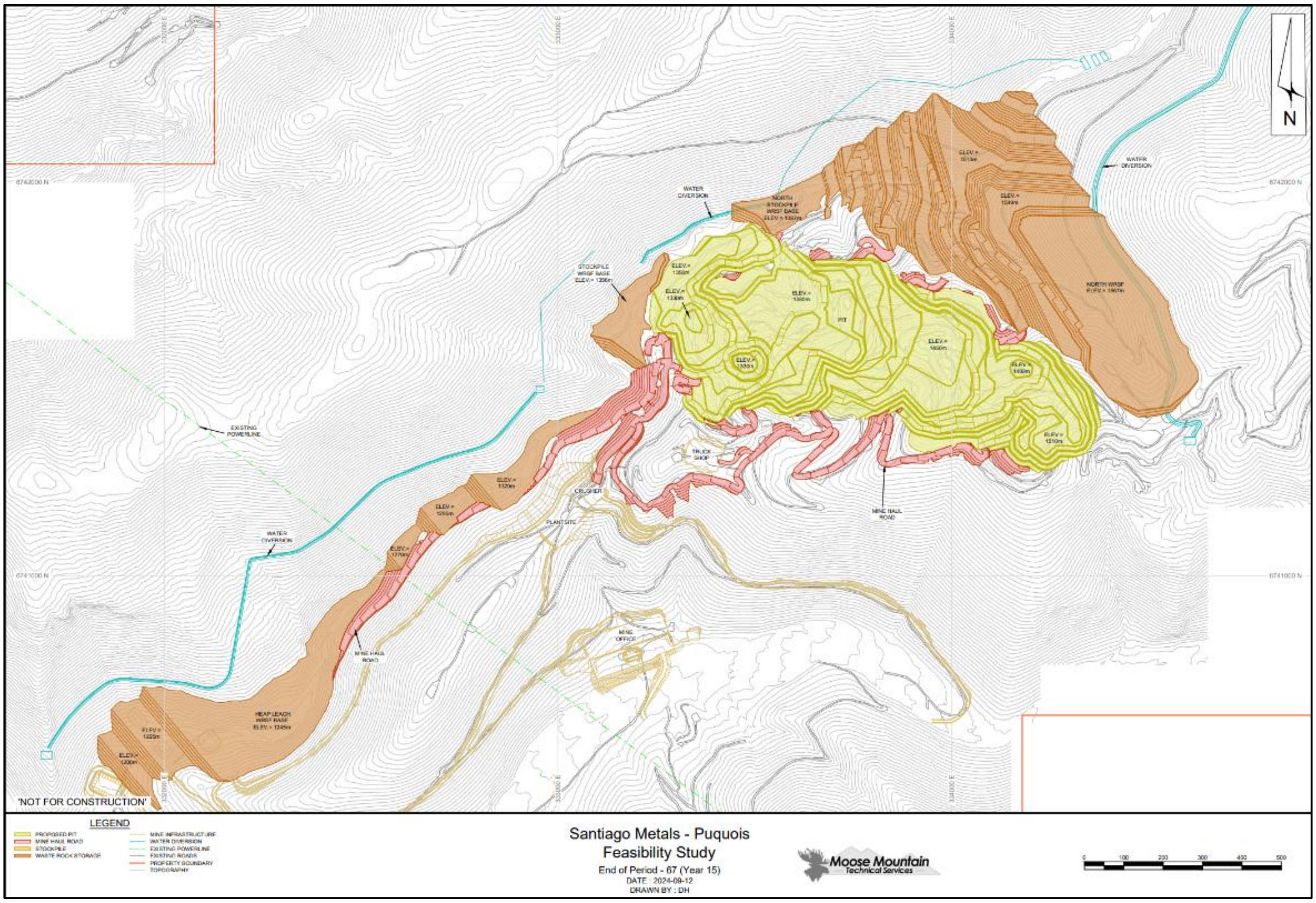
Figure 16-12 shows the allocated fleet size, while Figure 16-13 shows the general layout for the mining schedule.

Figure 16-12: Fleet Size Allocated



Note: Figure prepared by MMTS, 2022.

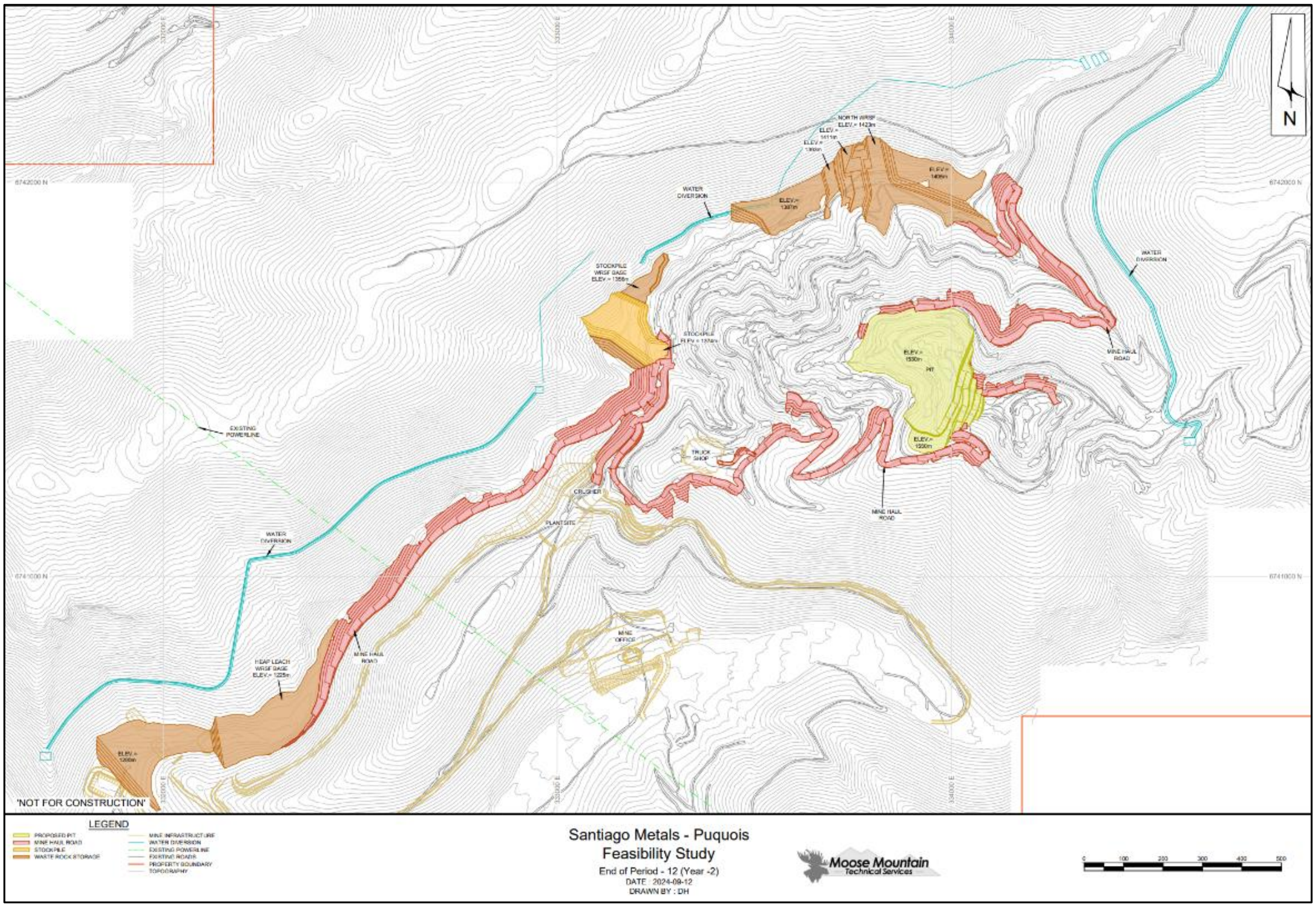
Figure 16-13: General Layout for Mining Schedule



Note: Figure prepared by MMTS, 2022.

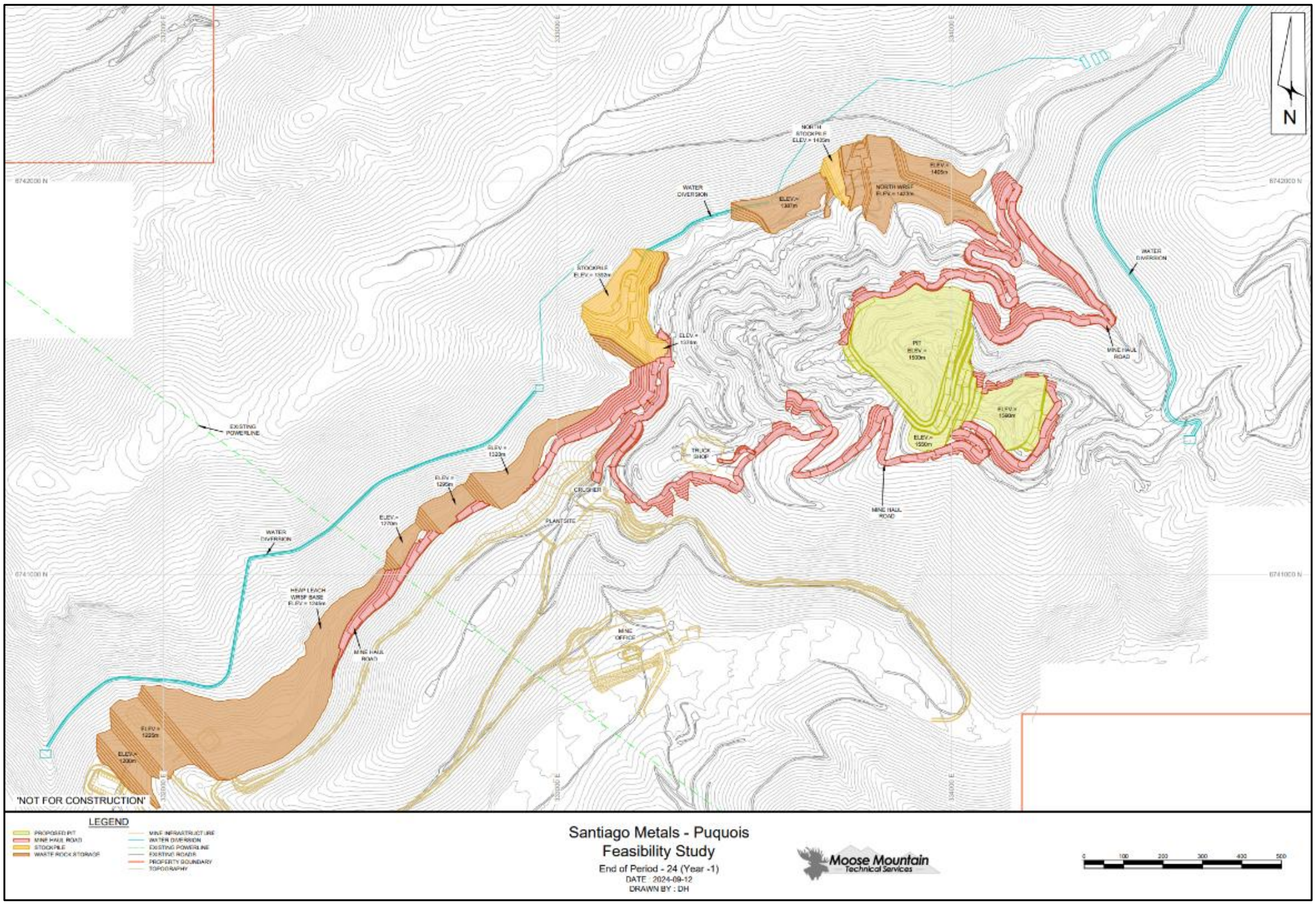
End-of-period drawings were generated for Mining Schedule 5 and are shown in Figure 16-14 through Figure 16-22.

Figure 16-14: End of Period Year -2



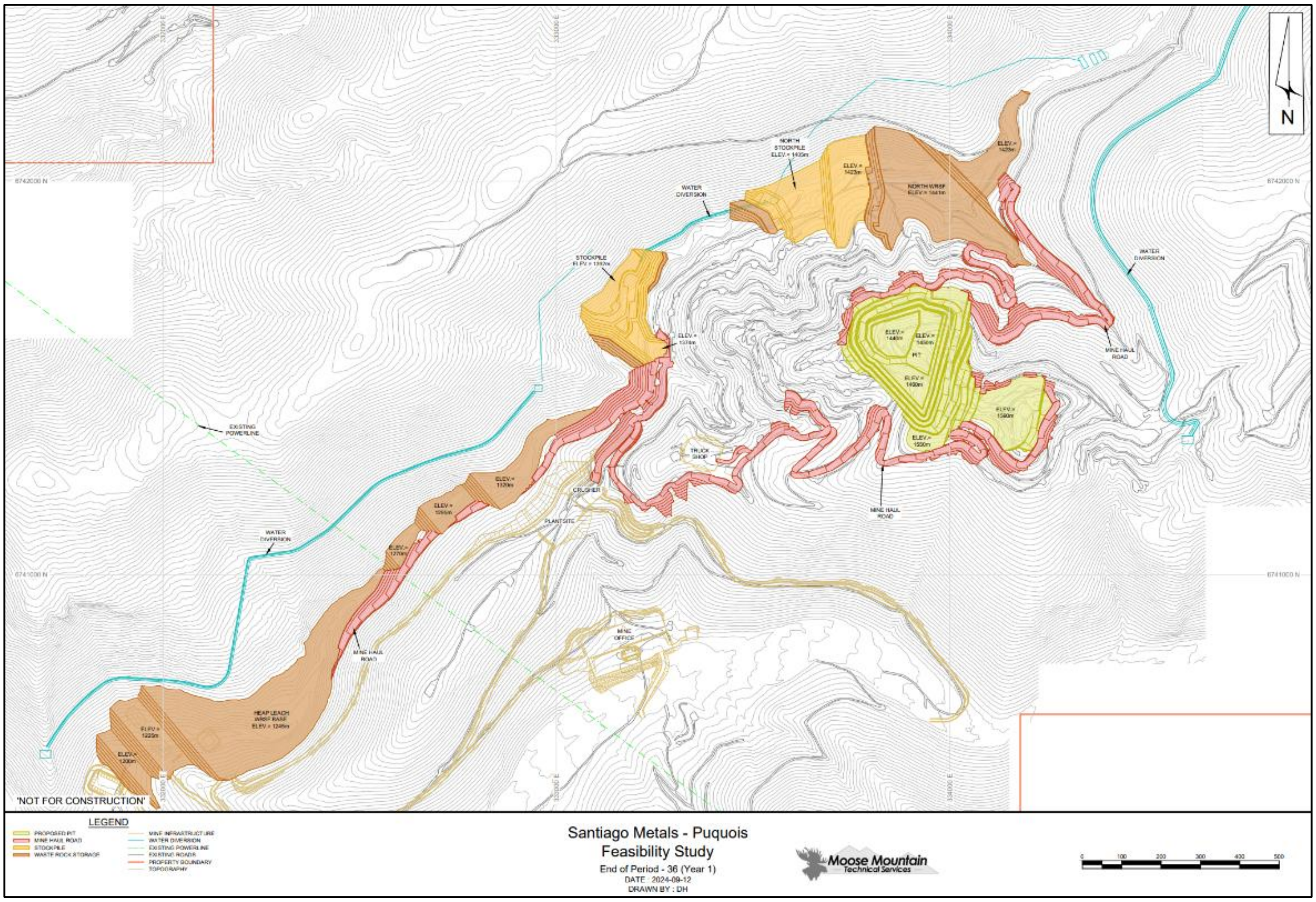
Note: Figure prepared by MMTS, 2022.

Figure 16-15: End of Period Year -1



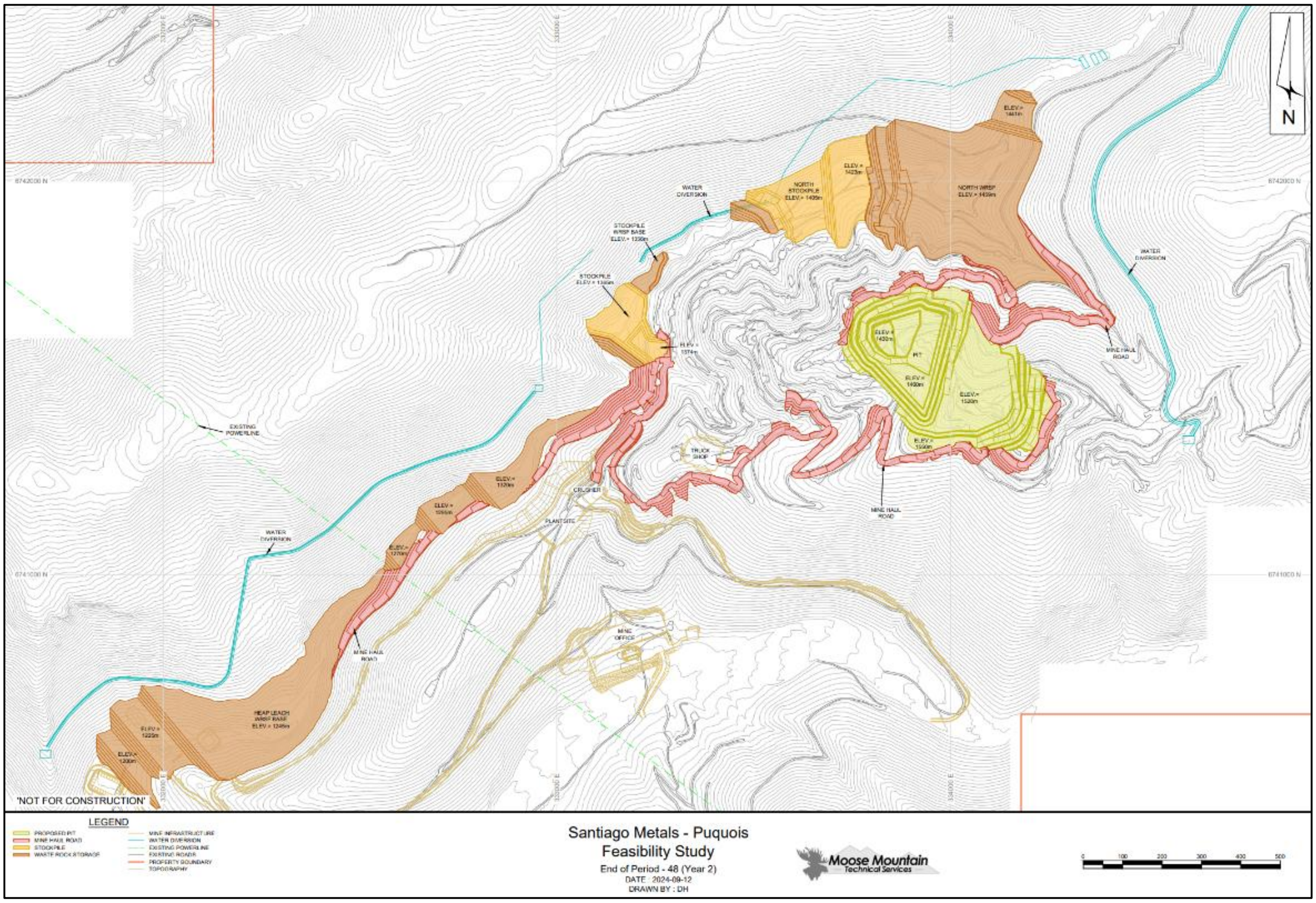
Note: Figure prepared by MMTS, 2022.

Figure 16-16: End of Period Year 1



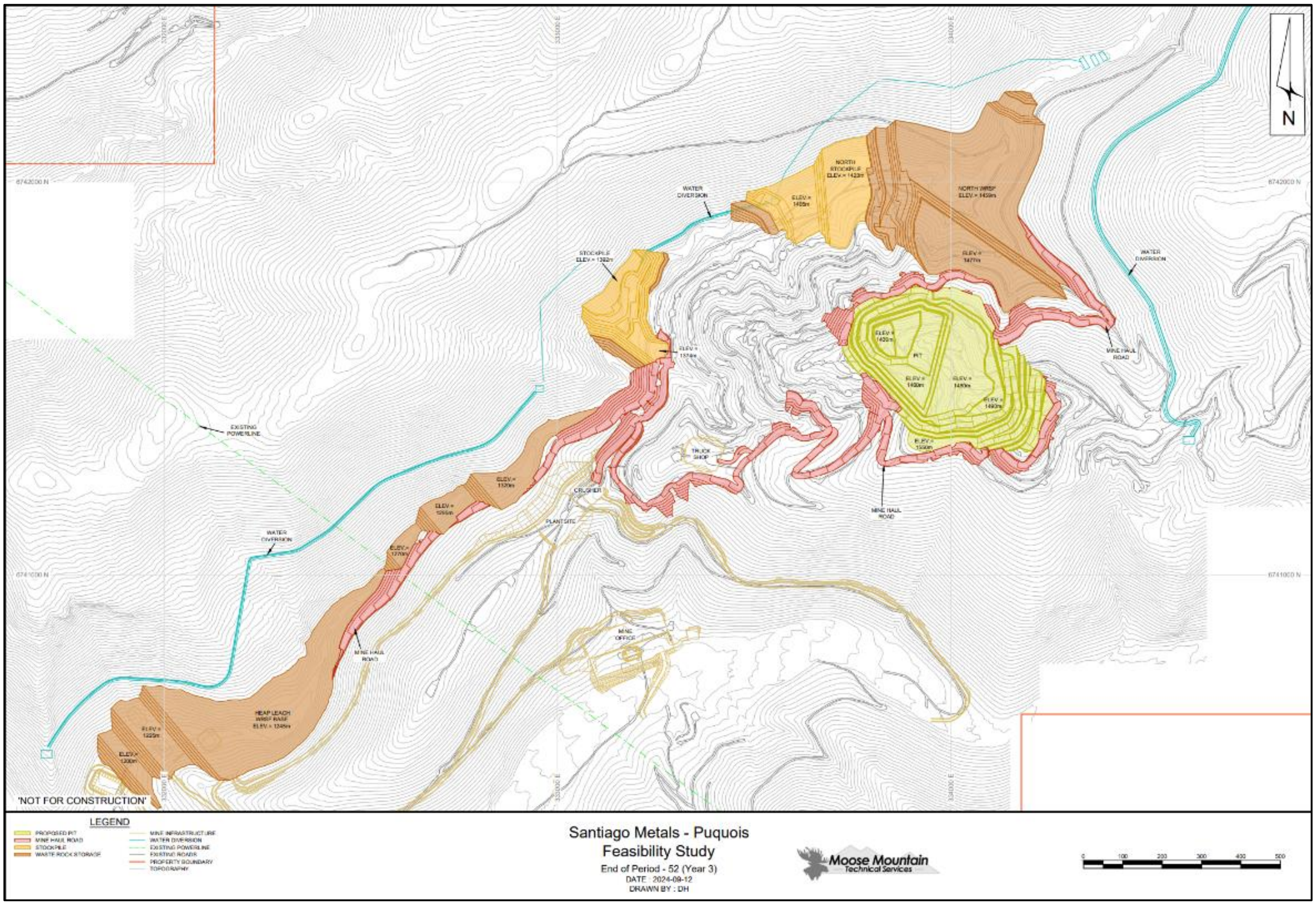
Note: Figure prepared by MMTS, 2022.

Figure 16-17: End of Period Year 2



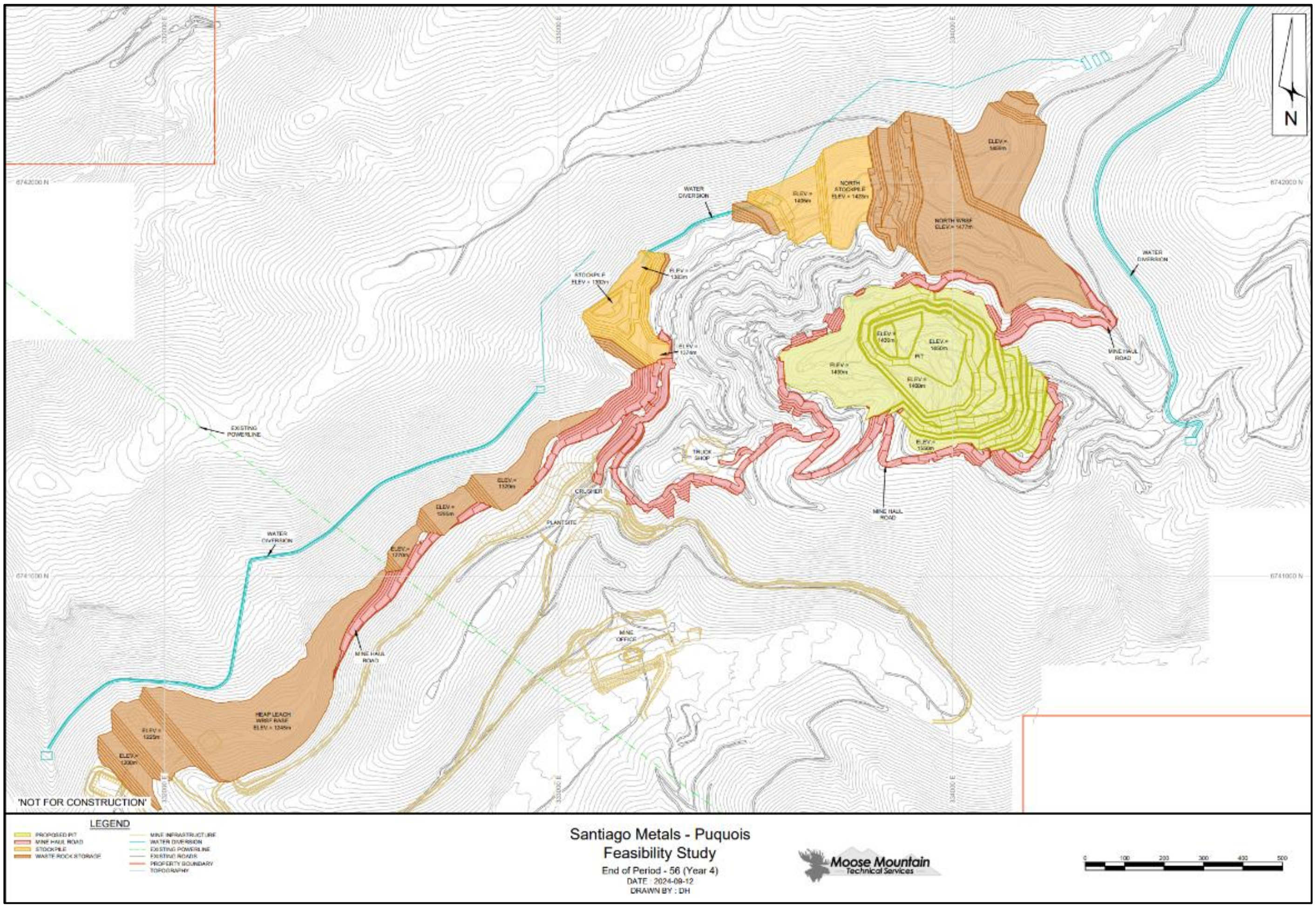
Note: Figure prepared by MMTS, 2022.

Figure 16-18: End of Period Year 3



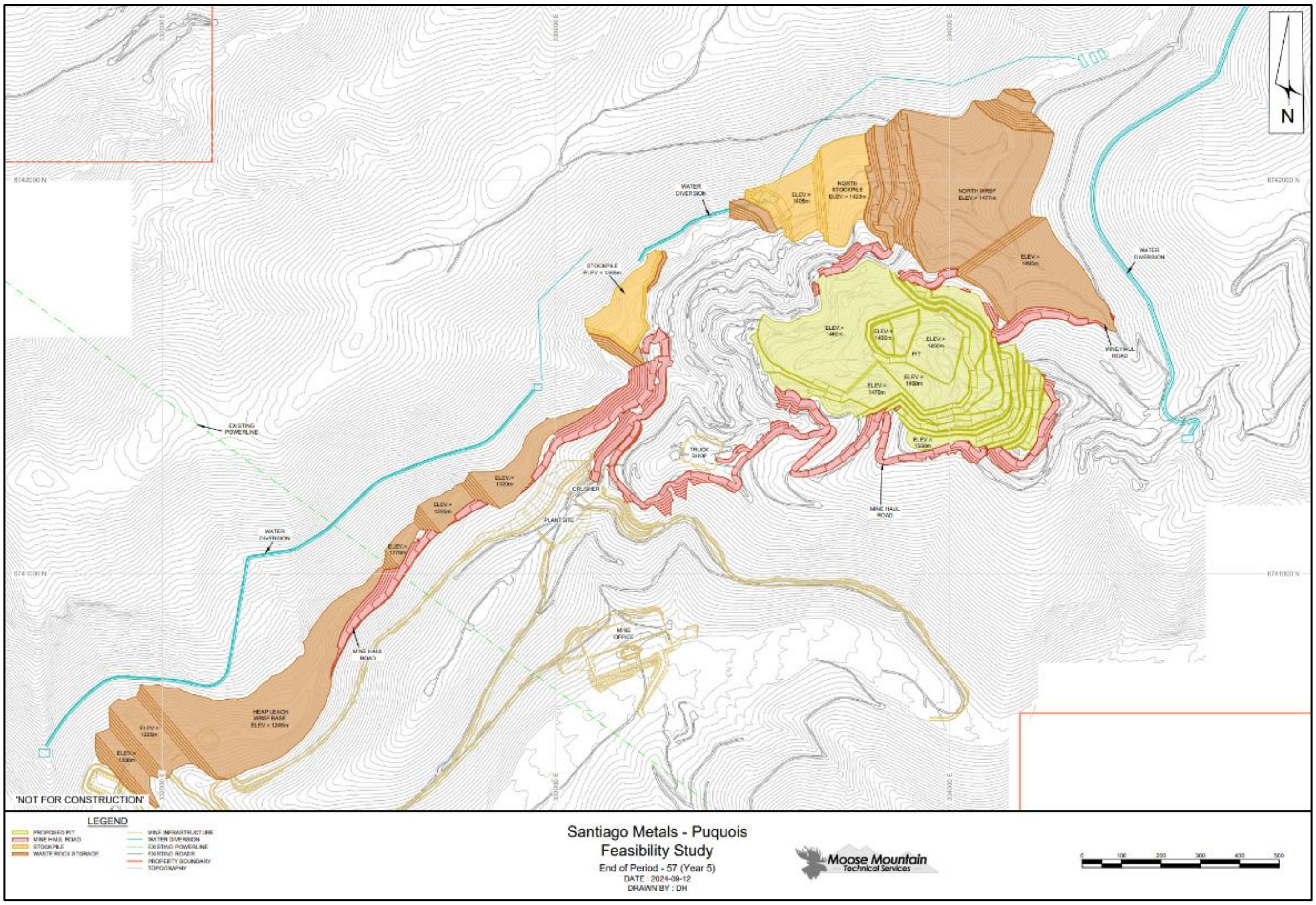
Note: Figure prepared by MMTS, 2022.

Figure 16-19: End of Period Year 4



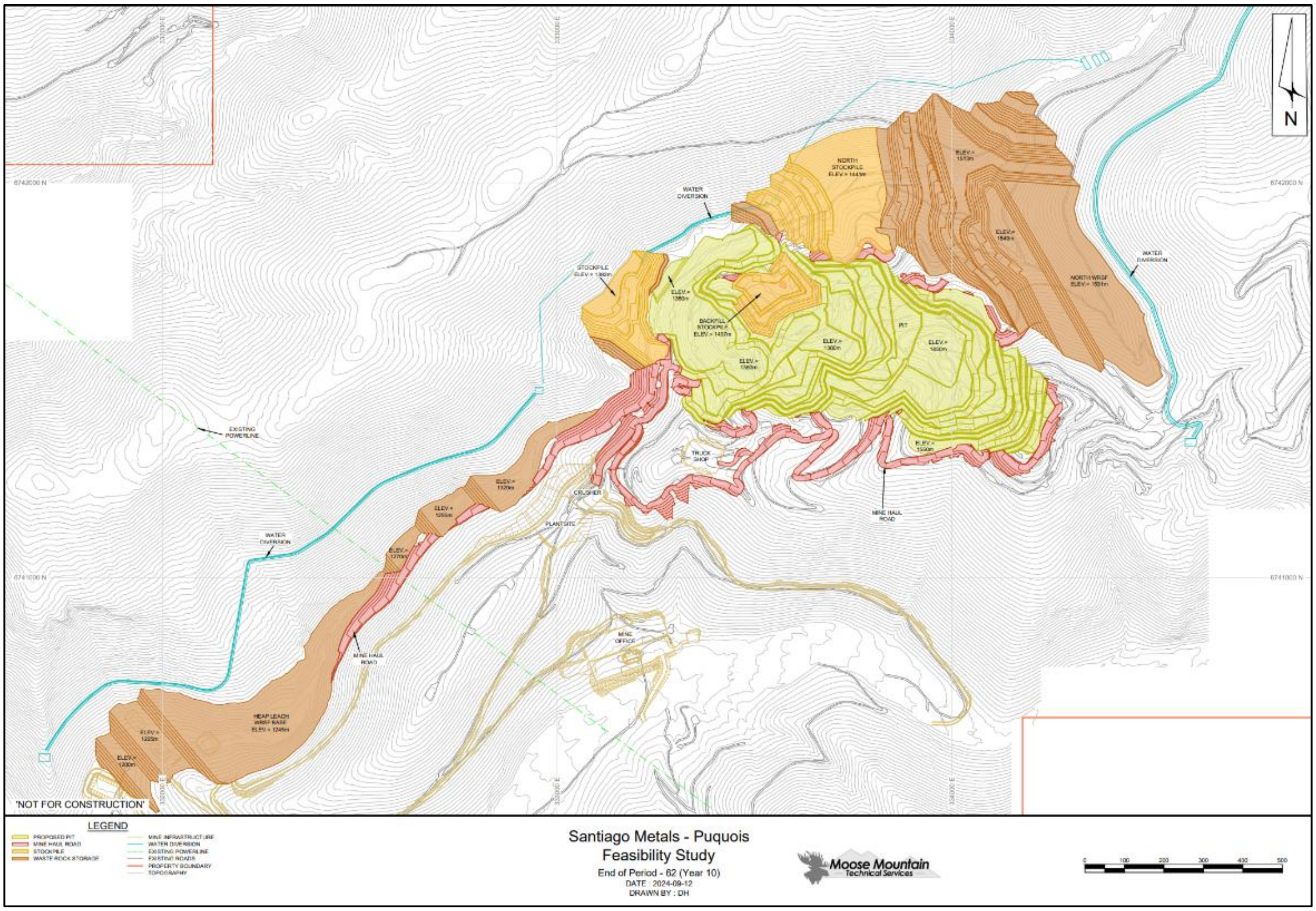
Note: Figure prepared by MMTS, 2022.

Figure 16-20: End of Period Year 5



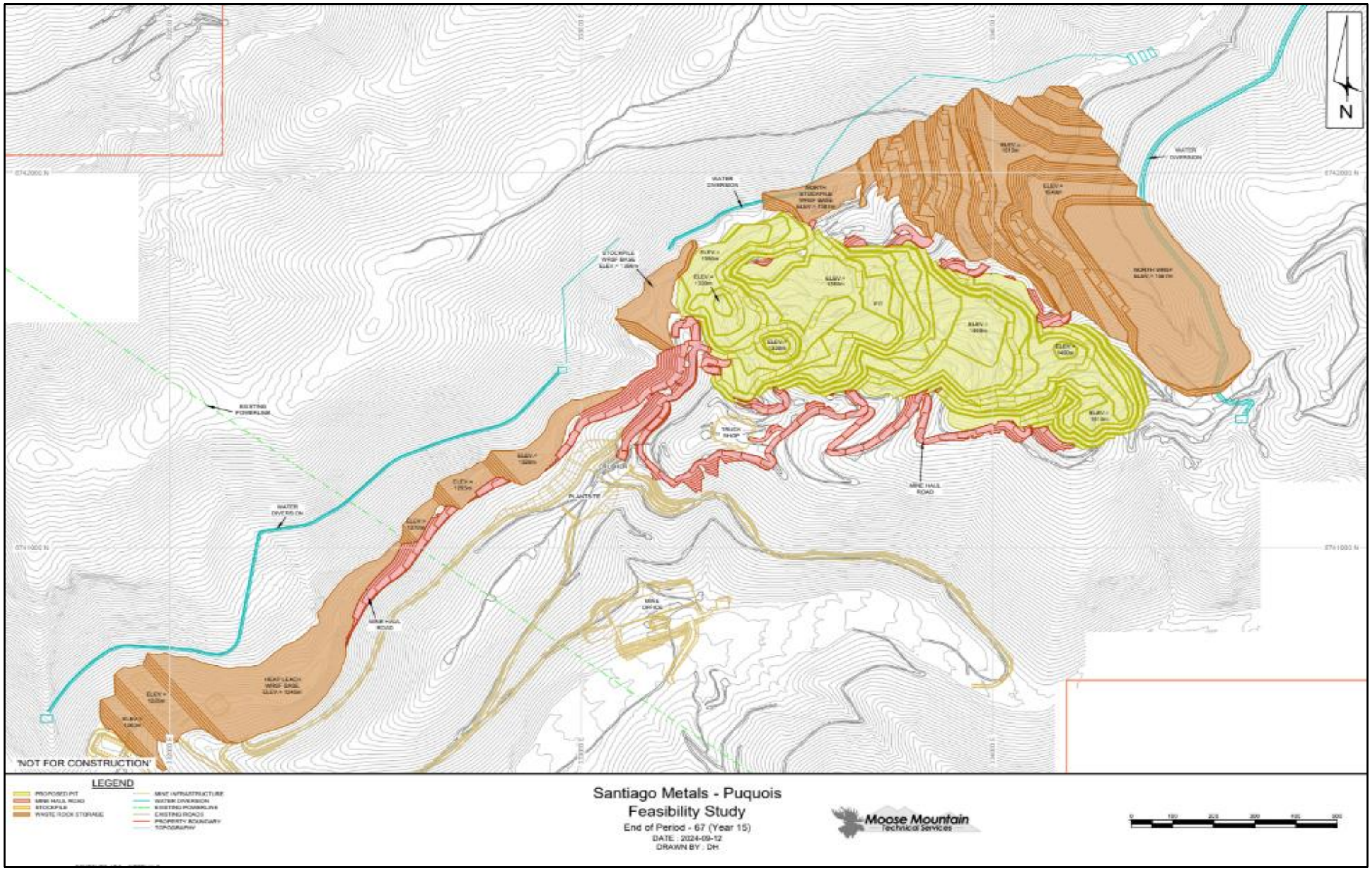
Note: Figure prepared by MMTS, 2022.

Figure 16-21: End of Period Year 10



Note: Figure prepared by MMTS, 2022.

Figure 16-22: End of Period Year 15 (LOM)



Note: Figure prepared by MMTS, 2022.

16.2.7 Mine Operations

Mine operations are planned to be representative of similar small-scale open-pit operations and are organized into two areas: direct mining and general mine expenses (GME) and technical.

Direct mining includes equipment capital and operating costs, as well as operating labour for the following:

- Production drilling
- Blasting
- Loading
- Hauling
- Pit services
- Maintenance.

Each unit of operation accounts for all equipment consumables and parts, required manpower (both operating and maintenance), and all material costs (blasting). This also includes distributed mine maintenance items such as maintenance labour and repair parts plus off-site repairs which contribute to the hourly operating cost of the equipment.

GME includes supervision of direct mining activities and the technical support requirements from the mine engineering and geology functions. A more detailed description of mine organization and unit mining activities is provided below.

For this study, direct mining and mine maintenance are planned as Owner-operated operations. The Owner will be responsible for all equipment mobilization/demobilization, operational and labour costs, as well as the maintenance of mining equipment. Blasting unit operations will be performed by a dedicated blasting contractor. Supervision, geology, and mine planning will be done by the Owner.

16.2.7.1 Production Drilling

The rock at the deposit will require drilling and blasting to create suitable fragmentation for efficient loading and hauling for both mill feed and waste.

Drilling and blasting are planned on 10-m benches in selectively mined areas, using down-the-hole (DTH) drills. Diesel-powered drills will be required as external power is not planned for the pits. Hole spacing and collar heights will be modified to achieve targeted powder factors.

16.2.7.2 Production Blasting

The powder factor that will be used is 0.265 kg/t for mill feed and 0.178 kg/t for waste.

A contracted explosives supplier will provide the blasting materials and technology. The explosives supplier is assumed to be responsible for obtaining the necessary manufacturer, storage, and transportation permits, while the Owner will be responsible for securing required licenses for blasting operations.

Delivery to the hole and explosive loading will be carried out by contractor personnel using bulk explosives loading trucks. The holes will be stemmed to avoid fly-rock and excessive air blasts. Blast hole cuttings, or crushed waste rock, will be used for stemming, and a small wheel loader will be available for loading stemming into the blast holes.

The contracted blasting crew will work day shifts only and will supply explosives to the mine. The main duties of the blasting crew will include receiving deliveries of bulk materials, gassing the explosives, setting up guard fences around the loading area, piloting the explosives loading truck, loading blast holes, preparing boosters and primers ahead of the loading process, stemming the blast holes after they are loaded, tying the blast patterns, and detonating the blasts.

Subgrades, or sub-drilling, will be used to reduce high spots between holes on bench floors. The height of the explosive column is calculated from the explosive density and hole diameter to achieve the required powder factor. The remainder of the hole will be backfilled with drill cuttings or crushed rock.

The Owner's pit supervisor and technical services team will coordinate the drilling and blasting activities to ensure a minimum of two weeks of broken material inventory is maintained for each loader and that drilling areas are prepared in a timely manner for the next pattern.

16.2.7.3 Loading

Operations will require two 5.5-m^3 bucket hydraulic excavators along with one 6.4-m^3 bucket wheel loader, which are appropriately sized to meet the production requirements of the mining schedule and matched to the 40-ton trucks. Hydraulic excavators will be required to handle the production from the pits, including all identified mill feed and waste zones.

Material hauled from the pit is planned for direct dumping at the crusher, placement into stockpiles, or placement into the NRSF.

Loading productivities are based on 0.5-minute passes for the hydraulic excavator. Operational efficiencies account for situations where the loader is operating at the loading face but not actively loading haulers, is loading inefficiently, or when operators lack experience. The selected efficiencies are based on MMTS' experience with similar operations.

16.2.7.4 Hauling

Mill feed and waste rock haulage will be done with 40-ton haulers. Haulage profiles are estimated from selected benches in each phase to designated dumping points using a "top-middle-bottom" approach. This approach generates haul profiles from three sources per phase (top-middle-bottom) to each destination. The haul profiles are input into a haul cycle simulation program, and the resulting cycle times are calculated. The cycle times for the remaining source-destination combinations are interpolated using the calculated profiles. The truck travel cycle times for each bench (along with the spot + load + dump times) are used to estimate required hauler operating hours for each scheduled period using the sources and destinations for that period from the mining schedule.

Both the loading and hauling units will be equipped with dispatching systems to minimize equipment delays by analyzing loading and travel times. Based on this analysis, the most efficient destination for each truck is determined, and this information is displayed on the screen installed in each truck. Dispatching systems also help reduce misdirected loads, as the truck driver has the correct destination visible on the screen at all times.

16.2.7.5 Pit Services

Pit services will include:

- Haul road development and maintenance
- Pit floor and ramp maintenance
- Stockpile maintenance
- Mobile fleet fuel and lube support
- Topsoil excavation
- Secondary blasting and rock breaking
- Lighting
- Transporting personnel and operating supplies
- Mine safety and rescue.

A fleet of mobile equipment will be required to handle these pit support activities. Activities will be directed by the mine supervisor. General pit labourers are also included under the GME department to help with these support services.

16.2.7.6 Maintenance

Mine fleet maintenance activities will generally be performed at the maintenance facilities located near the plant site. Mine fleet maintenance activities will be performed under the direction of the maintenance supervisor who will assume overall responsibility for mine maintenance and will report to the mine chief.

The mine maintenance department will perform breakdown maintenance, field maintenance and repairs, regular preventative maintenance (PM), component change-outs, and field fuel, lube, and tire change-outs. Fuel, lube, and maintenance support in the pit will be by a mobile service truck. The mobile maintenance fleet is tracked as a category under direct mining unit operations.

More extensive maintenance will be done in the maintenance facility. The maintenance facility is designed with a wash bay at the entrance of the working bay. The working bay is sized to accommodate the largest piece of equipment and measures 18 m x 13 m in size. It contains a 15-t overhead crane and space for electrical and mechanical storage, an office and parking space for light vehicles. The total dimensions of the maintenance facility are 55 m x 20 m.

16.2.7.7 GME and Technical

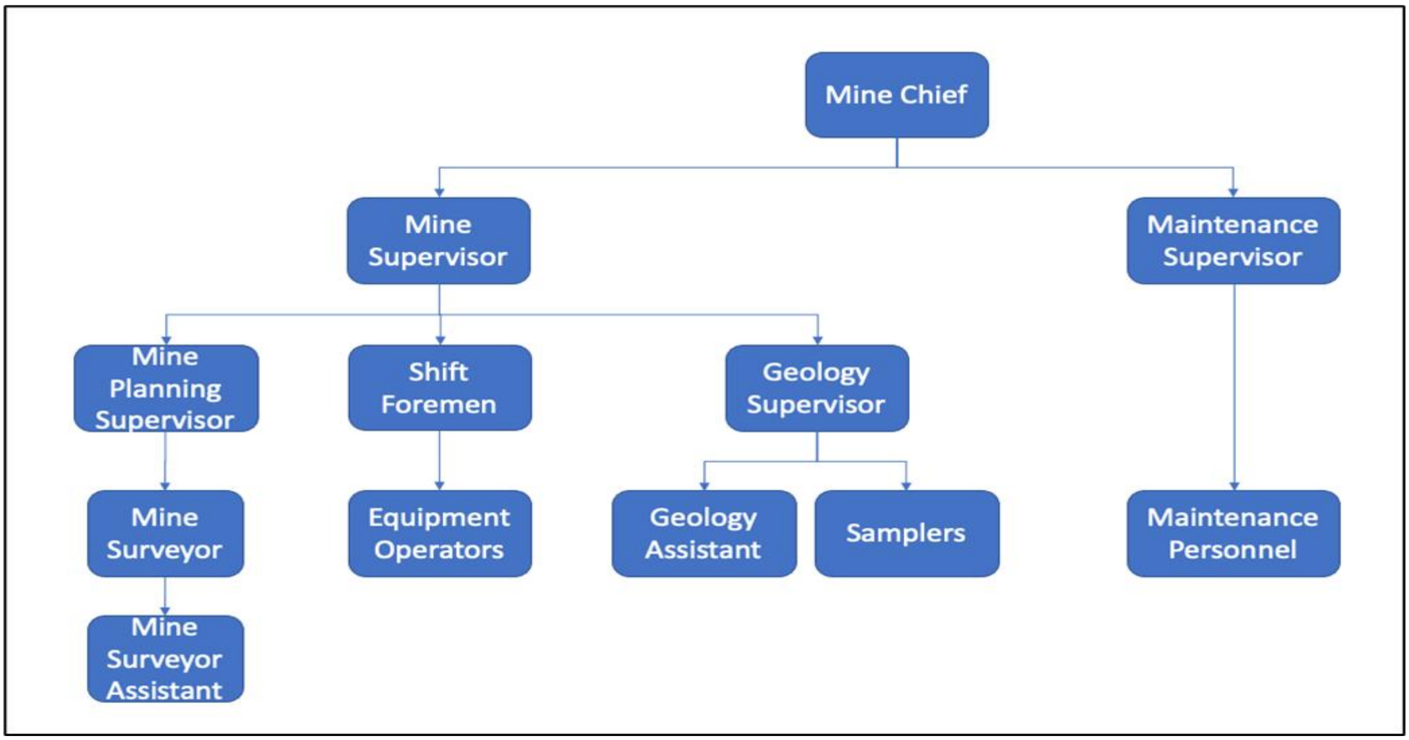
Mine GME includes mine operations and maintenance supervision. The mine chief will assume responsibility for the overall supervision of mine operations and maintenance.

The mine supervisor will direct the operations activities and report to the mine chief. Shift foremen will be responsible for overall open-pit supervision and equipment coordination and will be required on each 12-hour shift, with overall responsibility for shift operation. Shift foremen will be the most experienced equipment operators. The mine supervisor will also oversee mine planning and geology activities.

A maintenance supervisor will direct the maintenance activities and report to the mine chief. The maintenance supervisor will be responsible for overseeing the maintenance department for the open pit mine fleet. The maintenance supervisor will plan out all scheduled maintenance activities on the mobile mine fleet. Mine Maintenance shift foreman are assumed not to be required, with the responsibility for the shift activities falling on the maintenance personnel themselves and managed by the maintenance supervisor.

The proposed organization chart for Puquios is shown in Figure 16-23.

Figure 16-23: Organization Chart for the Mine



Note: Figure prepared by MMTS, 2022.

17 RECOVERY METHODS

17.1 Overview

Based on the metallurgical testing discussed in Section 13 and Ausenco's design expertise, the proposed process recovery methods, which is designed for the treatment of several ore types, is flexible and robust. The flowsheet is based in well-proven unit operations in the industry and there are no unique or novel processing methods required for copper extraction.

The key project design criteria for the plant are:

- The process is divided in three major areas. The first area is the dry area, which includes the crushing circuit, the agglomerator and stacker. It is followed by a wet area, which includes the heap leach, solvent extraction and electrowinning areas. A third area encompasses several ponds used in the process.
- The Process plant includes the unitary operations needed to achieve a production of 9,000 t of A-grade fine copper cathodes per year.
- A dry area availability of 65%, which considers an open crushing circuit, agglomerator, stacker and hopper trucks traveling to the leaching heap formation area.
- A solvent extraction plant and leaching solution management with an availability of 97%, and an electrowinning availability of 98%, to achieve the planned production of 9,000 t of fine copper cathodes per year.
- The key parameters used for the plant design are based on Year 8 of the mine plan; because that year represents the year with the highest production of fine copper cathodes, processing the greatest amount of mineral from the mine.
  - CWi of 11.8 (metric) and Ai of 0.19
  - Copper head grade of 0.542%
  - Copper recovery of 78.98%

The total operating power for the process plant will be 30,598 MWh per year. The water to be used for the process will be from a groundwater well, which is located in Punta Colorada, 38 km from the plant. Water will be transported by tanker trucks to the industrial water pond that will be located in the process plant sector. The process plant will have sulphuric acid and salt supply, as well as reagent dosing for the solvent extraction and electrowinning process, which will include diluents, and extractant.

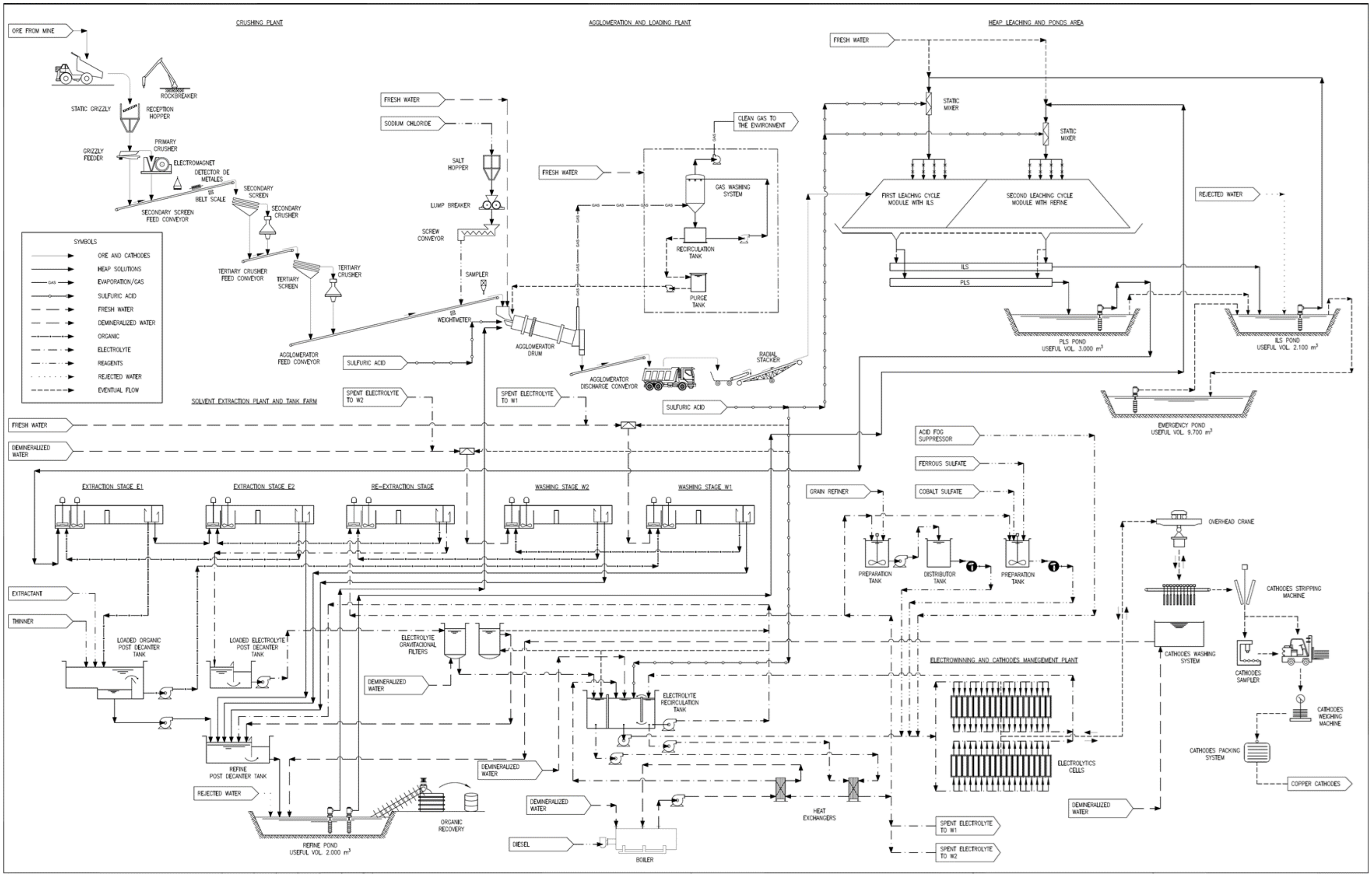
17.2 Process Flow Sheet

The overall flowsheet includes the following steps:

- Primary crushing
- Secondary crushing
- Tertiary crushing
- Agglomeration and stacking
- General leaching (PLS, ILS ponds)
- Heap leach pad
- SX plant
- EW plant - tank farm
- Cathode yard.

Figure 17-1 presents an overall process flow diagram.

Figure 17-1: Process Flowsheet



Note: Figure prepared by Ausenco, 2022.

17.3 Plant Design

Key process design criteria listed in Table 17-1 form the basis of the process flowsheet design and selection of mechanical equipment.

Table 17-1: Process Design Criteria

Parameter	Unit	Value
General Basis		
Plant throughput – nominal	t/d	5,735
Copper head grade – design	%	0.542
Copper recovery – design	%	78.98
Crushing Plant		
Crushing production rate – design	t/h	424
CWi (percentile 80) – design	(metric)	11.8
Ai (percentile 80) – design	-	0.19
Crushing circuit P_{80} product size – nominal	mm	12.1
Agglomeration		
Agglomeration drum capacity – design	t/h	424
Residence time	min	1
Drum capacity	m^3	50
Chloride dosage	kg/t	10–15
Acid dosage (98% w/w)	kg/t	10–15
Mill feed final moisture	%	10
Stacker		
Stacker capacity –- design	t/h	568
Maximal height per leaching module	m	5.5
Heap Leaching		
Heap capacity – design	t/h	424
Acid dosage –- total	kg/t	20
Acid dosage – ILS stage	kg/t	12
Acid dosage – raffinate stage	kg/t	8
Copper leaching cycle – total	d	90
Copper leaching cycle – ILS stage	d	33
Copper leaching cycle – raffinate stage	d	57
Irrigation rate	$L/h/m^2$	10
PLS – Copper concentration	g/L	6.0
PLS – Acid concentration	g/L	2.5–2.9
PLS – Chloride concentration	g/L	90–100

Parameter	Unit	Value
Solvent Extraction Plant		
Configuration	Stages	2 Extraction / 1 Stripping / 2 Scrubbing
Plant capacity – design	m^3/h	215
Extraction efficiency	%	92
Electro-wining Plant		
Copper fines cathodes production – nominal	t/a	9,000
Number of cells	Unit	56
Cathodes per cell	Unit	30
Anodes per cell	Unit	31
Current density	A/m^2	309–350
Ponds		
PLS pond - volume	m^3	3,000
ILS pond - volume	m^3	2,100
Raffinate pond - volume	m^3	2,000
Fresh water pond - volume	m^3	4,432
Emergency pond - volume	m^3	9,700

17.4 Unit Process Description

17.4.1 Crushing Plant

Size reduction will be performed in three crushing stages; primary jaw crusher (150 kW), secondary and tertiary cone crushers (326 kW each), configured in open circuit to achieve a final product that is 80% passing (k_{80}) 12.5 mm and 100% passing 19 mm.

ROM mill feed will be dumped into the receiving hopper which will feed the grizzly feeder. The oversize from the grizzly feeder will feed the primary jaw crusher (opening 1.2 x 0.87 m). The product generated by the primary crusher (k_{80} = 136 mm), along with grizzly feeder undersize, will be conveyed to the secondary screen.

Secondary screen oversize will feed the 330 kW secondary cone crusher operating with a closed side setting(CSS) of 36 mm . The product generated by the secondary crusher (k_{80} = 30.3 mm), together with undersizefrom the secondary screen, will be conveyed to the tertiary screen.

Tertiary screen oversize feeds the tertiary cone crusher (CSS 17 mm and 330 kW). Tertiary crusher discharge (k_{80} = 20.5 mm), together with tertiary screen undersize, will be conveyed to the agglomeration stage with a final product of 80% passing 12.5 mm and 100% passing 19 mm.

Crushed ore will be transported from the crushing and agglomeration areas by conveyors. The conveyors will be partially covered, with dust suppression installed at each transfer point to maintain adequate dust control .

17.4.2 Agglomeration

The final product from the crushing stage will be transported to the agglomeration stage, where it will be conditioned (cured) in an agglomeration drum with previously conditioned solid sodium chloride at a dosage between 10–15 kg/t of (industrial quality salt from salt mines smaller than 6 mm), sulphuric acid at 98 % weight/weight (% w/w) with a dosage between 10–15 kg/t and raffinate solution from the raffinate pond. The agglomerated mill feed will leave the agglomerator drum with a moisture content of around 10%.

The agglomerated ore will be transported to the heap leach formation area by means of conventional 30 t hopper trucks.

The agglomeration stage will have a scrubber system that allows the extraction and treatment of hydrochloric acid, generated by the reaction between sodium chloride and sulphuric acid inside the agglomeration drum. The scrubber discharge will be fed to the agglomerator drum.

17.4.3 Leaching

The trucks from the agglomeration stage will unload the agglomerated ore onto a stacker, which will place the ore on permanent heaps with maximum lift heights of 5 m each. Each leaching module will be arranged on a previously built platform in the Coloradito ravine, situated between the two hills where the Project will be located, so that the levels of the heap that will be formed will have an inverted truncated pyramid shape, considering slopes that rest inverted on the adjacent hillsides. A liner will be placed between each lift to facilitate solution flow and collection in the PLS pond.

The leaching process will be carried out by irrigation with acid-chloride solutions between ILS stage and raffinate stage at a total dosage of 20 kg/t, which will be applied by a dripper and/or sprinkler system. Copper recovery will be achieved in two leaching cycles. The first will be 33 days, where the heaps will be irrigated with an ILS to obtain the PLS, which will be sent to the SX. The second will be 57 days, where the heaps will be irrigated with raffinate solution, obtained from the SX stage, to obtain an ILS solution that will be sent to the irrigation of the first leaching cycle.

Heap irrigation will be carried out by means of an on-off mode in a rate of 10 L/hm^2, in other words, by means of intermittent irrigation. To avoid sulphation of the lines, drippers and/or sprinklers, they will be flushed with fresh acidified water for 15 minutes after the end of an irrigation period. In operation, the piping system for flushing lines, drippers and/or sprinklers could optionally be used for an eventual flushing cycle on the heap. This washing system will have independent water pumping from the process water pond.

The PLS solution produced in the first leach cycle will be sent to the PLS pond, from where it is sent to the SX-EW plant for the production of 9,000 t/a of fine copper cathodes. The ILS solution produced in the second leach cycle and the refining solution produced at the SX plant will be sent to the ILS and refining ponds, respectively.

17.4.4 Solvent Extraction Plant

The PLS solution collected in the PLS pond will be fed to a solvent extraction (SX) process consisting of two extraction stages in a series configuration: one stripping stage and two scrubbing stages. The SX plant will be designed to process a nominal PLS flow rate of 188 m^3/h.

The PLS sent to the SX plant will enter extraction stage 1 (E1) which is in series with extraction stage 2 (E2). In this configuration the PLS solution will be in countercurrent contact with the discharged organic stream from the re-extraction stage (S). The discharged solution or refining obtained from extraction stage 2 will be sent to the post decanter refining pond and then to the refining pond. From extraction stage 1 a flow of loaded organic will be obtained which will be sent to W1 and then to W2. In these washing stages the loaded organic will be washed in series with a flow of backwash water entering in parallel to each wash (mixture of fresh water and lean electrolyte from EW for W1 and mixture of demineralised water and lean electrolyte from EW for W2). The wash water from both stages will be sent to the post decanter refining pond. The loaded and washed organic will be sent to the re-extraction stage, where it will contact countercurrent with lean electrolyte solution coming from the EW stage. A rich electrolyte solution will be obtained from the stripping stage which will be directed.

17.4.5 Electrowinning Plant

The rich electrolyte produced in the SX stage will be processed in the electrowinning stage, which will have 30 permanent stainless-steel cathodes and 31 laminated Pb-Ca-Sn alloy anodes in its cells. The EW plant will have a washing station and a cathode stripping machine. The guar will be added to the process at the electrolyte recirculation tank discharge.

The electrolyte discharged in the re-extraction stage will pass through electrolyte filters and then through two types of plate heat exchangers, an electrolyte lean/electrolyte rich solution and a water/electrolyte rich solution and will then be sent to the circulating electrolyte pond and to the EW vessel by means of pumping. The circulating electrolyte will enter a distributor ring at two points that will feed the EW cells.

The lean electrolyte from the EW cells will be sent by gravity to the lean and circulating electrolyte pond, and then a flow of lean electrolyte will be sent to the re-extraction stage, which will have previously passed through the lean/rich electrolyte heat exchanger. The lean electrolyte for the organic wash loaded in W1 and W2 will be sent directly from the circulating electrolyte pond.

The Project design will consider the appropriate materials for handling acid-chloride solutions for all equipment and associated systems at all stages of the process.

17.5 Energy, Water, and Process Materials Requirements

17.5.1 Water

Fresh water will be delivered by trucks from the well water pond and will be stored in the process water pond from where it will be sent to the different operational points as required. The installation of a reverse osmosis (RO) plant will provide two streams: permeate that will be used both for road irrigation and process make-up water (ILS and refining pond) and reverse osmosis water (demineralised) that will be sent to the SX-EW stage. Both fresh water and demineralised water will be stored in ponds.

17.5.2 Acid

The 98% w/w sulphuric acid will be trucked in and will be stored in two acid storage facilities. The first corresponds to the dry area acid warehouse, which will have two acid storage tanks with a 220 m^3 capacity for each tank. The second is the wet area acid storage facility with one acid tank that will have a volume of 125 m^3. The storage systems will send the required acid to the different consumption points: agglomerate, ILS irrigation lines, and refining and SX-EW plant.

17.5.3 Sodium Chloride

Sodium chloride will arrive in trucks and will be stored in a covered shed. Sodium chloride will be added to the agglomerator drum feed conveyor.

17.5.4 Reverse Osmosis Plant

An RO plant is included in the process plant design, which will have a capacity to process 72.2 m^3/h of water, obtaining 16.7 m^3 of demineralized water and a permeate stream of 11.2 m^3/h.

17.5.5 Specific Reagents

Other reagents will be used in several parts of the process. The reagents will be:

- Extractant: will be provided by the supplier in 1-m^3 capacity IBC totes. This reagent will be manually dosed to the organic loaded post settling pond.
- Diluent: diluent will be provided by the supplier in trucks that will unload into the diluent pond (with a use volume of 40 m^3). The diluent will be pumped from the diluent tank to the organic loaded post settling tank.
- Guar: smoothing agent that allows the copper crystals grains to be refined as they are plated. It will be supplied by the supplier in 20-kg bags, which will be diluted to reach a guar concentration of 1.0 % w/w. The guar solution will be pumped to the electrolyte line entering the cells.
- Cobalt and ferrous sulphate: cobalt and ferrous sulphate will be provided by the supplier in 20-kg bags, which will be added to the sulphate preparation pond together with a flow of spent electrolyte from the electrolyte recirculation pond to achieve a sulphate concentration of 20% w/w. The diluted sulphate mixture is dosed by pump directly to the incoming electrolyte line to the cells. The diluted sulphate mixture is metred by pump directly into the electrolyte line entering the cells.
- Acid mist suppressant: the acid mist suppressant will be provided by the supplier in 1-m^3-capacity IBC totes. This reagent will be dosed by pump directly to the electrolyte line entering the cells.

- Diesel: diesel will be provided by the supplier in trucks, which will unload the fuel into the diesel storage tank from where it will be pumped to the hot water boilers.

17.5.6 Reagents and Consumable Consumption

The Table 17-2 summarizes the main reagents and consumables considered for this Project.

Table 17-2: Reagents and Consumption

Reagent	Unit	Consumption
Sulphuric acid	kg/t	10.61
NaCl	kg/t	13.00
Diesel for stacker	L/t	0.08
Extractant	kg/t Cu	2.41
Diluent	kg/t Cu	7.43
Clay for extractant	kg/t Cu	1
Guar	kg/t Cu	0.25
Ferrous sulphate	kg/t Cu	20.182
Cobalt sulphate	kg/t Cu	3.057
Diesel for EW	L/t Cu	197.9
Acid mist suppressor	kg/t Cu	0.128
Acid mist sphere	kg/t Cu	0.1

17.5.7 Electrical Power

Table 17-3 shows the forecast plant power consumption.

Table 17-3: Plant Power Consumption

Area	kWh/a
Primary crushing	1,616,466
Secondary crushing	2,520,574
Tertiary crushing	2,448,335
Agglomeration and stacking	1,080,079
Heap stack	1,365,322
SX plant	4,926,238
EW plant	16,177,781
General	463,518
Total	**30,598,313**

The main power consumption is in the EW plant with 16,177 MWh/a, followed by the SX plant with a power consumption of 4,926 MWh/a. The third major power consumer is the secondary crushing with 2,520 MWh/a. The total power consumption for the process plant is estimated at 30,598 MWh/a.

18 PROJECT INFRASTRUCTURE

18.1 Introduction

The Puquios infrastructure can be divided into three sectors:

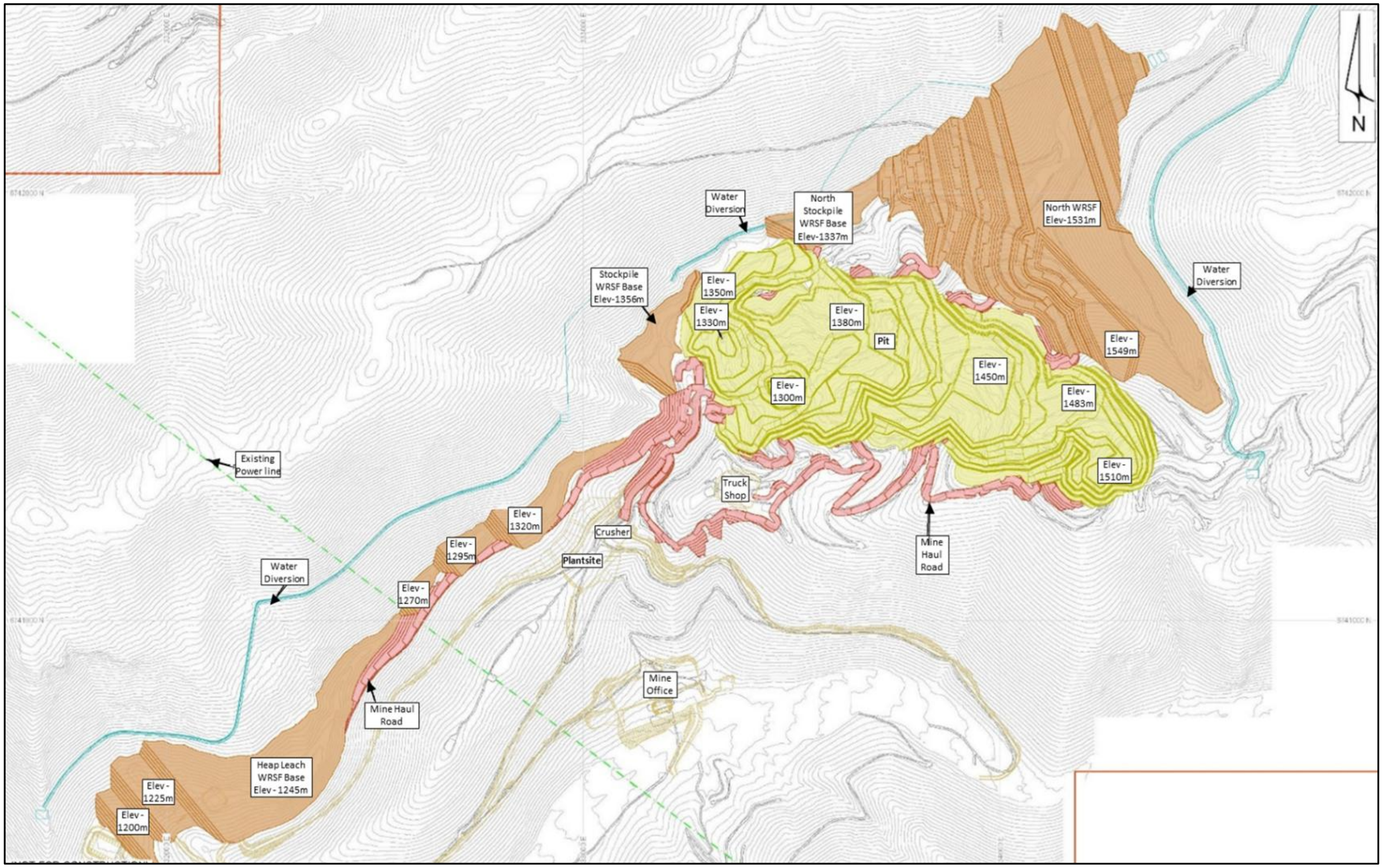
- Dry area: this area includes crushing processes, conveyor belts, agglomerate, salt addition, and heap leach pads.
- Wet area: this area includes a tank farm, and an SX-EW facility.
- Ponds area: this area includes the PLS, ILS and process water ponds. The area also includes electrical rooms and the 23 kV power line connection.

Infrastructure will also include the truck shop facilities and a general office and administrative facility.

The water extraction well for process water and the Punta Colorada electrical substation are located off-site.

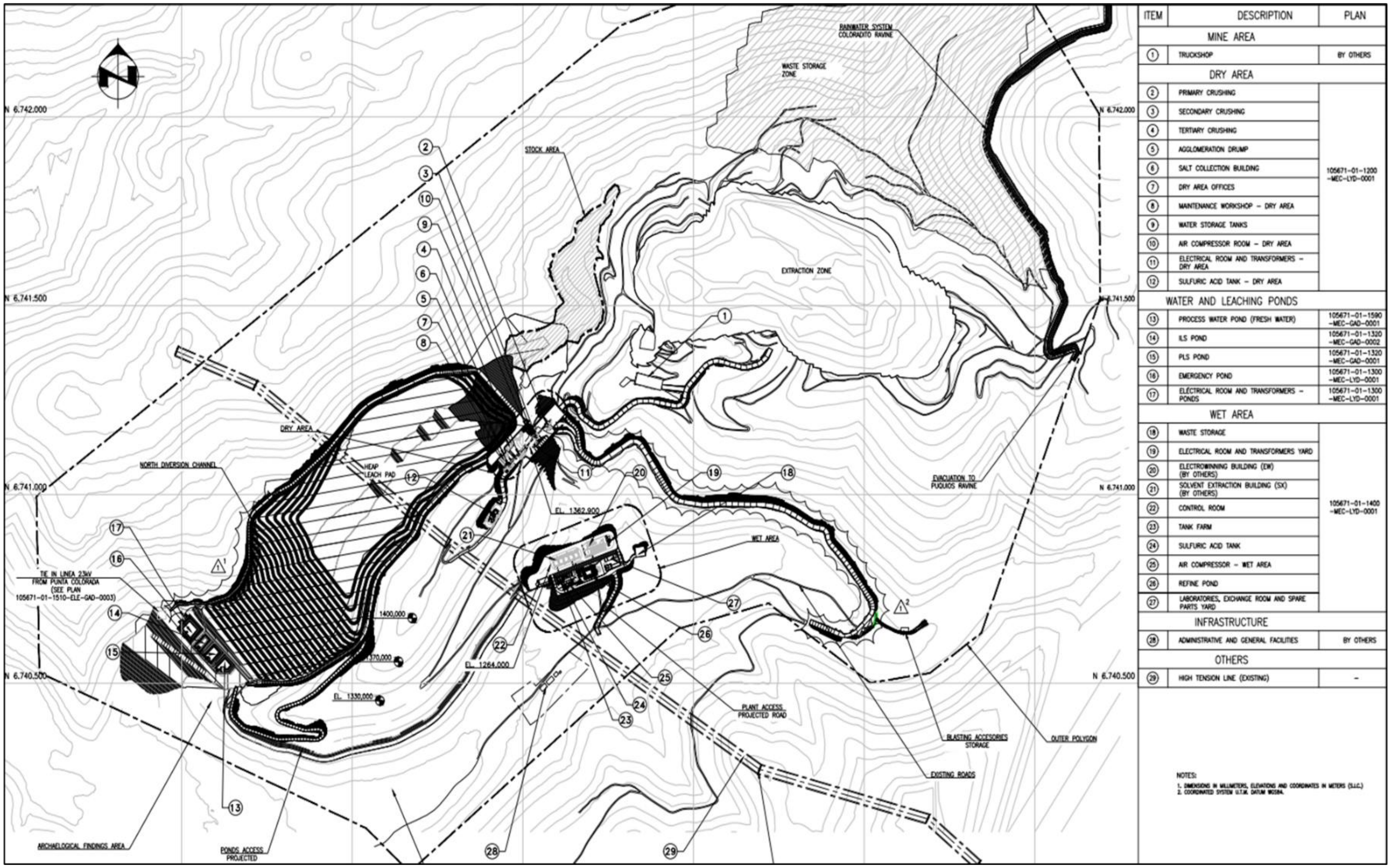
The overall site plan, included as Figure 18-1, shows the mine general layout, including the three main sectors, the main buildings in each area, and where they are positioned on the plan, while Figure 18-2 shows the general layout of the proposed process plant and major infrastructure.

Figure 18-1: Puquios Mine Site Plan



Note: Figure prepared by Moose Mountain, 2021.

Figure 18-2: Site Plan Puquios Process Plant



Note: Figure prepared by Ausenco, 2021.

18.2 Roads and Logistics

18.2.1 Roads

The location of the general road is shown in Figure 18-3. The Puquios property can be accessed from Route 5 via route D 115 or D-105.

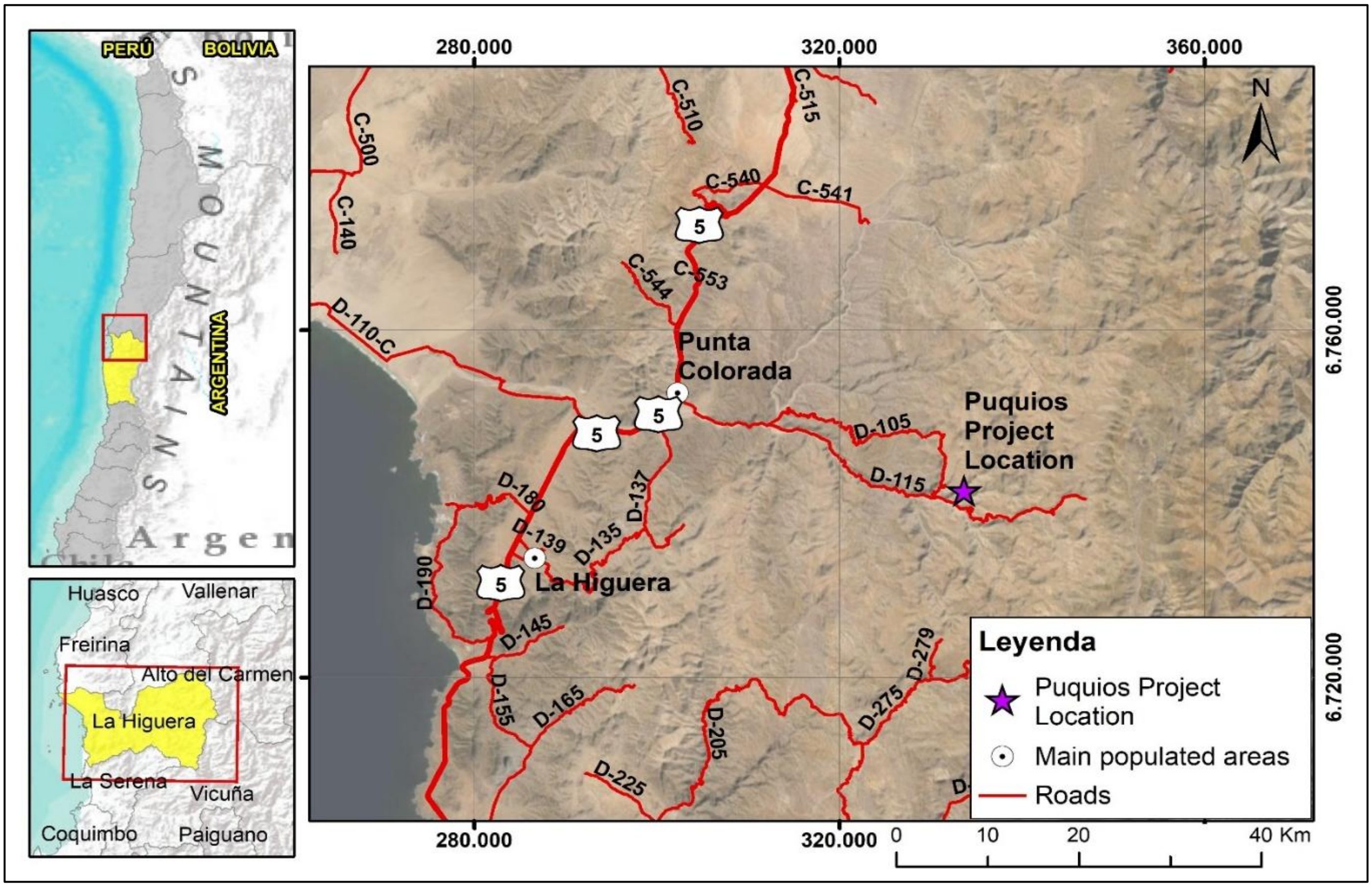
Route 5 is one of the main arteries in the country and the analyzed section of route is between km 461 and km 558, where D-115 connects to Route 5. The road is made of asphalt, and its general state of conservation is good, as are the vertical signs and observed demarcations. D-115 leads to the town of Punta Colorada and is a simple two-way road, with asphalt pavement and a moderately good conservation condition.

There are two alternatives to access the Project area: heading north from Coquimbo, the first is for non-heavy vehicles and is through the entrance to the Punta Colorada electrical substation area. On the other hand, any heavy and/or oversized vehicles, must use the bypass to access Route D-115, which located in the area of the Punta Colorada electrical substation at the wind farm section.

Two bypasses will be considered for access to the Project:

- Bypass – Town of Punta Colorada: this route starts approximately km 2 southwest of Route D-115. It is a simple two-way road with an initial gravel section and a final section of bischofite. It is approximately 1 km in length and its purpose is to avoid the town of Punta Colorada, mainly for larger and/or oversized vehicles, thus providing a connection between the Punta Colorada facilities and the Project.
- Bypass – Punta Colorada Wind Farm Road: this route starts at the Punta Colorada toll booth and connects with Route D-115 near km 3. It is a simple two-way bischofite road, approximately 5.5 km in length. The route was built by Barrick to access the thermoelectric plant and wind farm and should be used as a bypass for heavy and oversized vehicles coming from the south that go to the Puquios Project.

Figure 18-3: General Location of the Puquios Project and Access Road



Note: Figure prepared by Ausenco, 2022.

18.2.2 Port

The port located in the city of Coquimbo, Region IV, is approximately 135 km south of the Project. It is licensed by the Terminal Puerto Coquimbo (TPC) company whose exclusive purpose is the development, maintenance, and exploitation of the multipurpose dock at the Port of Coquimbo, including docking and storage services. The terminal has a 378-m-long dock made up of two sites with a length of 189 m and a draft of 9.3 m each. In addition, it has 11,487 m^2 for mineral storage and 40,000 m^2 for storage of different types of cargo. The total area of the Port is 14.5 ha, which is divided into 5 maritime hectares and 9.5 land hectares.

In this terminal, cargo transfer services are carried out for mining exporters of copper concentrate, shipping lines that mobilize fruit and vegetable production, industrial project warehouses, among others. In 2020, TPC operated with its two docks throughout the whole year, which allow nearly 500,000 t to be transferred. Of this amount, 71% corresponds to copper concentrate, 9% to fruit, 8% to iron, 3% to cement, 2% to corn and wheat, 4% to projects and 2% to ammonium nitrate.

Figure 18-4: Plan View of the Port of Coquimbo

Note: Image courtesy of Ausenco, 2021.

18.3 General Site Description

The Project site is located in the central depression of Chile, characterized by its transversal valleys with an average altitude between 1,200–1,400 masl. This area is surrounded by the Coloradito and Puquios streams, which feed into the Los Choros stream. Between these ravines there is a northeast oriented mountain range that constitutes the site area.

Topography consists of vertical cross-cutting valleys with small ravines. As a result of the geometry of the valleys and the steep slopes, gravitational processes such as rockfall and colluvial soil mass formations occur.

Water will accumulate in the sediments as temporary open aquifers. Rock fracturing and faulting plays a very important factor in the conduction and storage of water; springs or outcrops related to other streams or valleys may be found.

A summary of the site characteristics (ambient temperature, precipitation, wind, etc.) is presented in Table 18-1.

Table 18-1: Summary of Site Characteristics

Item	Unit of Measurement	Value
Elevation		
SX/EW plant sector	masl	1.260
Crushing and agglomeration plant sector	masl	1.360
Ponds sector	masl	1.225
Soil type	-	According to Geotechnical Report “105671-01-1300-GEO-RPT-0001” (Ausenco, 2021).
Seismic zone	-	3
Ambient temperature		
Maximum	°C	31
Minimum	°C	0
Precipitation		
Annual maximum	mm	178.5
Annual average	mm	46.9
Annual minimum	mm	0
Maximum (24 hour)	mm	56
Design (24 hour)	mm	56
Design storm (100 years)	mm	56
Snow		
Minimum basic snow load (NCh 431)	kgf/m^2	25
Wind		
Predominant direction	-	Southwest
Maximum velocity	m/s	8.5
Average velocity	m/s	2.9
Minimum velocity	m/s	0.6
Relative humidity (summer)		
Maximum	%	79
Average	%	44
Minimum	%	13

18.4 Waste Rock Storage Facilities

The NRSF (North Waste Rock Storage Facility) will be built top-down, in lifts, with each lift having a maximum placement height of 36 m and berm width of 26 m. The NRSF has a total capacity of 19.2 Mm^3. This design is in accordance with the LOM requirements. The design criteria are as follows:

- Geotechnical berms or highwall ramps — every 100 m elevation
- Ramp width — 13 m
- Ramp maximum grade — 12%

A description of the WRSFs and location plans is included in Section 16.2.5.

18.5 Stockpile Storage Configuration

The Puquios Project will use two stockpiles: one at the top end of the Heap Leach Pad and the largest at the base of the NRSF, as shown in Figure 18-1.

Stockpiles will be built in a top-down method in lifts, with each lift having a maximum placement height of 18 m and a berm width of 13 m. With the addition of ramps in the faces of the stockpile, the resulting average slope is 20° for the NRSF stockpile and 20–23° for the heap leach stockpile. The bases for the stockpiles will be built using rock from mining operations. This rock will be placed using mining haul trucks. Once stockpile base platforms are constructed, stockpile mill feed material will be placed on top. The flat waste platforms underneath the stockpiles will help to reduce dilution during stockpile reclamation activities. The NRSF stockpile will have a capacity 2.0 Mm^3 and the heap leach stockpile will have a capacity 0.6 Mm^3.

Stockpile designs are discussed in Section 16.2.6.

18.6 Heap Leach Pad

The heap leach process consists of stacking crushed ore feed on the heap leach pad in 5-m lifts and leaching each individual lift to extract copper. Barren leach solution containing dilute acid-chloride solution will be applied to the stacked ore surface using a combination of drip emitters and sprinklers at a design application rate of 10 $L/h/m^2$. After the completion of irrigating each lift, the surface will be prepared and an interlift liner and solution collection system will be installed prior to the next lift of ore being placed. The design leaching cycle is presented in Section 17.4.3.

The barren solution will percolate through the stacked ore to the collection system above the pad liner, where it will be collected in a network of perforated pipes above the liner. The solution will gravity flow to the process ponds.

The proposed heap will be located along the Coloradito ravine, approximately 1 km upstream of the intersection of the Coloradito and Puquios streams. This basin has an approximate area of 32 ha. The heap leach facility will be located between elevation 1,100–1,500 masl, along the Coloradito stream. Figure 18-5 shows a general layout plan.

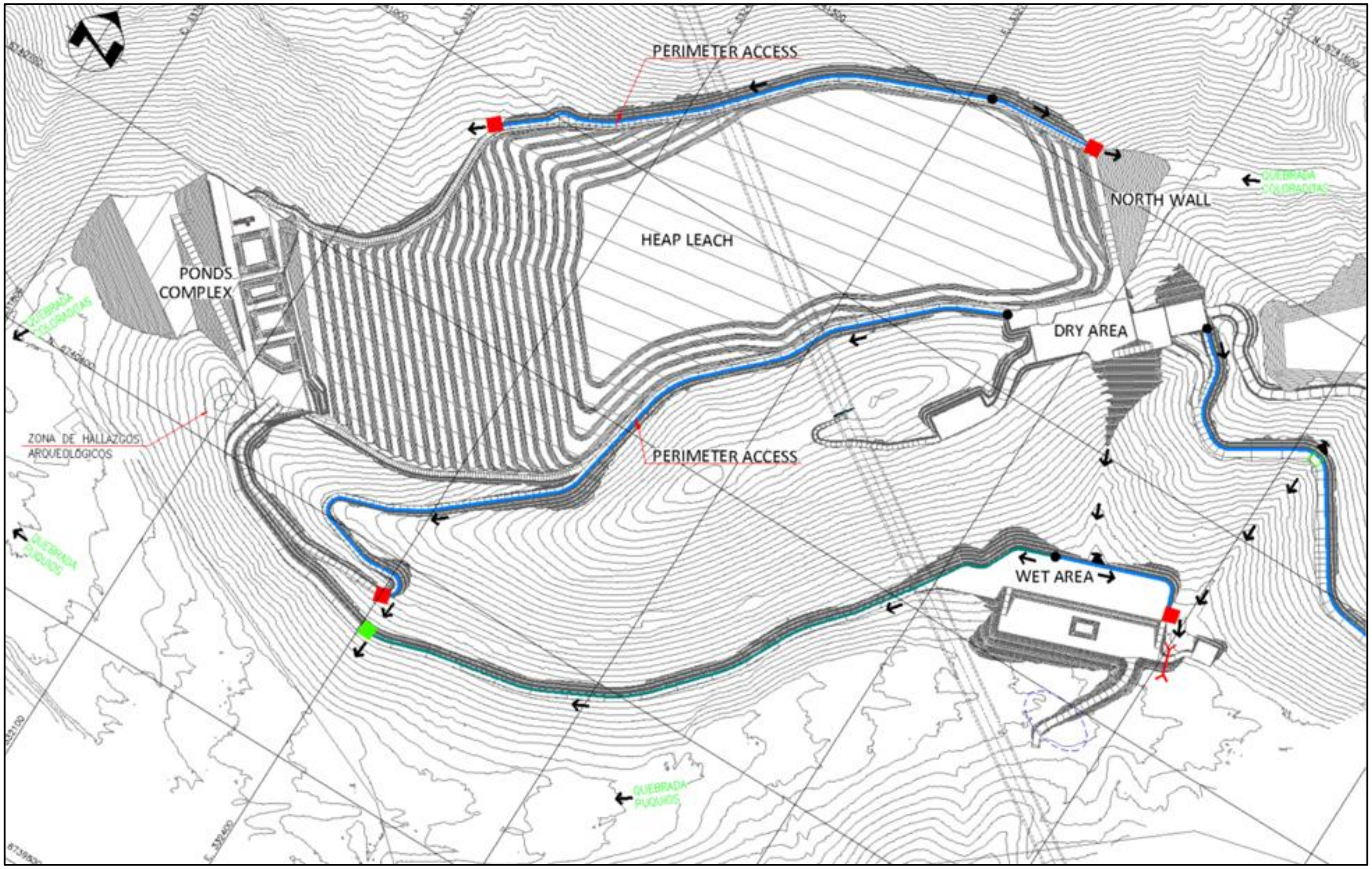
The pad will have a retaining wall at the north end, and at the southern end, downstream, the leach pad will be built on a waste rock platform that aids in the initial stacking of ore with a conveyor system. The heap will be constructed in 22 5 m lifts, with a global slope of 3.0H:1V, a local slope lift slopes of 1.4H:1V, and an 8.56-m-wide berm.

Each of the lift crests will be parallel to an inclined plane whose slopes are 1.5% lengthwise and 2.5% cross slope to the centre of the heap axis.

The foot of the heap slope will have a minimum 5-m safety buffer space with respect to the perimeter berm that will extend around the entire perimeter of the leach pad.

The elevation of the heap on the west side will be 1,245 masl, while the elevation on the east end will be 1,370 masl. The heap will have a maximum height of 110 m from the base. The average density of the mill feed is forecast to be 1.90 t/m^3.

Figure 18-5: Leach Pad General Plant



Note: Figure prepared by Ausenco, 2021.

18.6.1 Leach Pad Platform

The heap leach pad platform will consist of compacted waste rock from pre-stripping that will be laid to form four slopes or terraces with an approximate height of 10 m and exterior slopes of 2H:1V. The leach pad platform will be constructed in horizontal layers with a maximum thickness of 2 m in the first layers and compacted with the passage of equipment. The upper 2 m of the platform will be constructed using structural fill, which will be placed in 0.5 m horizontal layers and compacted to provide a surface to accept the pad liner system.

The platform will form a flat surface that will allow better stacking performance for the conveyor and radial stacking system for the initial lifts.

18.6.2 Leach Pad Liner System

The primary liner system will be installed over the structural fill, which will consist of LLDPE SST geomembrane. Prior to the installation of the primary liner, the finished surface will be inspected to ensure there are no protrusions that could puncture the geomembrane The geomembrane liner will allow the solution to be effectively captured and conveyed to the processing ponds at the west end of the facility. Based on laboratory tests, the mill feed's permeability is significantly reduced when mill feed is stacked greater then 5 m, due to consolidation. Therefore, interlift PVC liners will be installed after the completion of irrigating of each lift.

This leaching area is delimited by a perimeter construction road, which defines the extent of the lined area.

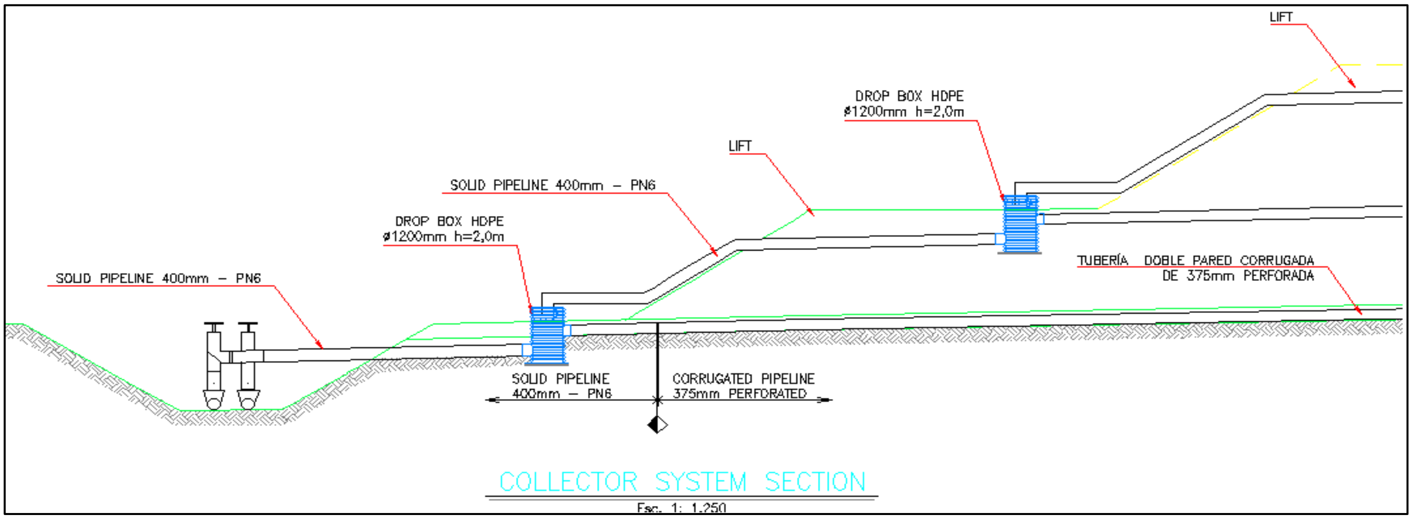
18.6.3 Interlift Liner System

The ore will be stacked on the pad using a radial stacker with crawler tracks and will be stacked in 5-m lifts. As stated above, after the completion of each lift, the surface will be compacted and lined with 0.5 mm thick PVC geomembrane before the next lift of mill feed is stacked. Overliner will be placed over the collection system's main pipeline trenches.

18.6.4 System Collection

The solution collection system is designed to collect and convey pregnant solution inside the leach pad and convey it to process ponds below the facility. The collection system consists of a series of primary and secondary dual-wall corrugated HDPE pipes. These will connect to the main header pipes that will direct the flow to discharge boxes for each lift. Subsequently, the solutions will be directed by gravity in smooth HDPE pipes to the processing ponds that will be located downstream of the leach platform.

Figure 18-6: Leach Pad Collection System



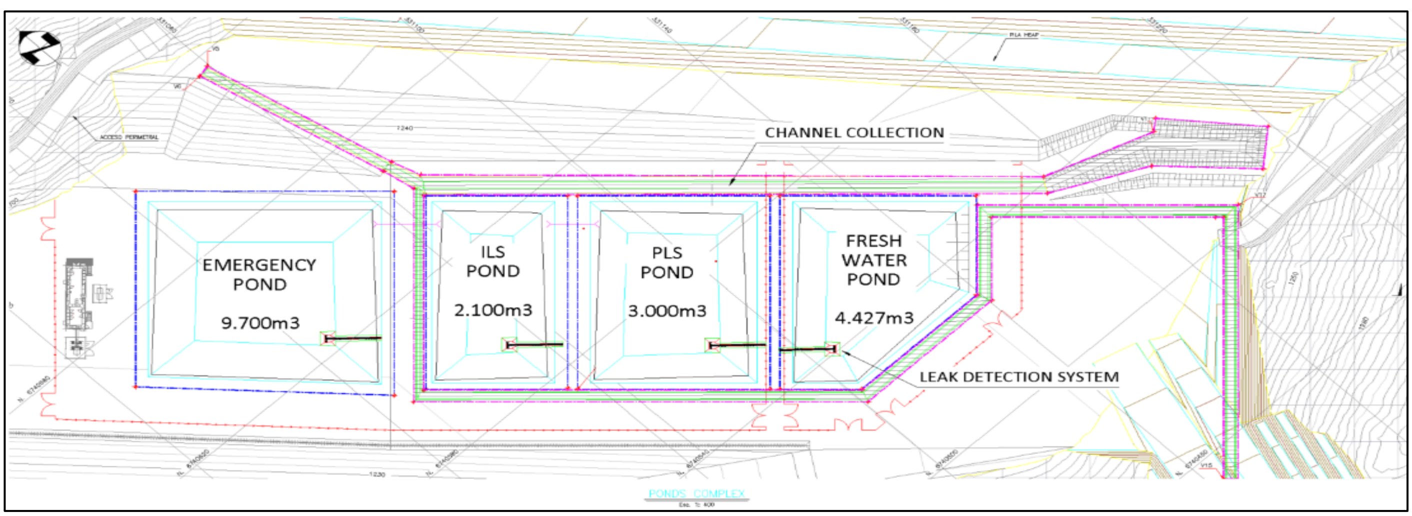
Note: Figure by Ausenco, 2021.

18.6.5 Pond Complex

The processing ponds consist of four ponds: raffinate ILS, PLS, emergency, and freshwater ponds.

The ponds will collect different grades of solutions according to the copper concentration, which will then be pumped to the SX-EW plant. Each pond has a composite liner system consisting of a conductive geomembrane, and leak detection system.

Figure 18-7: Pond Complex



Note: Figure prepared by Ausenco, 2021.

18.6.6 Non-Contact Water Diversion Channels

The hydraulic modelling of the non-contact surface water management structures was determined by calculating determining potential runoff, depths of flow, and velocities.

For the Project area, two micro-basins corresponding to the Coloradita and Puquios streams were defined. Meteorological conditions for the site were characterized from available stations in the area. The maximum precipitation was obtained for different return periods between 2 and 100 years.

According to this information, the diversion channels were designed to redirect surface runoff around facilities so not to have contact with the project facilities (Figure 18-5). The redirected runoff will dissipate at its final point through dissipator made mainly of stone masonry.

18.6.7 Foundation Soil

The foundation soils consist of a layer of silty sands with angular clasts of colluvial origin, with a maximum particle size of 5 m, medium density, low humidity, and no signs of organic matter.

The second layer consists of sandy gravels, with angular and sub-rounded pebble clasts with a maximum size of 0.4 m, high density, medium to high humidity, and no evidence of organic matter or cementation.

Triaxial tests were conducted as part of geotechnical test work, and the results of the geotechnical testing program are summarized in Table 18-2.

Table 18-2: Geotechnical Parameters – Leach Pad Area

Parameter	Unit	Horizon 1	Horizon 2
Depth	m	0 – 3	> 3
Dry unit weight	kN/m^3	17.45	16.37
Wet unit weight	kN/m^3	17.53	18.01
Internal friction angle	°	33.0	
Cohesion	kPa	0.0	
Poisson's modulus	-	0.03	
Static deformation modulus	kPa	-8.500 (0 – 5 m) -8.758 ln (20z) – 31.765 (5 – 10.8 m)	
Water table depth	m	2.0	

18.6.7.1 Structural Backfill Material

Structural backfill material that will be used to form platforms shall be obtained from an approved borrow source or be in-house material from excavations in competent materials.

Placement criteria include horizontal layers of either 0.3 m of 0.5 m thick, with a moisture content between -2% and +2% of the optimum value, with a relative density of 95% according to ASTM D-1557, or with an 85% relative density determined by ASTM D-4253 and D-4254 tests.

An internal friction angle of 37°, cohesion of 5 kPa and dry unit weight of 19 kN/m³ were used for designs using this material.

18.6.8 Heap Leach Pad Stability Studies

Ausenco (2021) reviewed the stability of the leach pad under static and pseudo-static conditions. Slide 2 9.0 software was used, using the Spencer method, to evaluate the potential for both circular and block-type failures. Results showed that block failures could occur at the liner interface between the base of the heap and the base of each lift.

The characteristics of the heap leach facility design and material geotechnical properties are presented in Table 18-3 and Table 18-4, respectively. The geotechnical investigation includes geophysical studies only on the platforms. Electrical resistivity studies were carried out in different sectors, including the pad sector. In addition, test pits were made in different sectors to characterize surface and subsurface soils. Triaxial tests were carried out on foundation soils in different sectors but without identifying the site. Boreholes were only drilled in the pit to obtain the resource estimate. Additional geotechnical laboratory work was performed after the completion of the geotechnical report.

Table 18-3: Heap Leach Characteristics

Characteristic	Unit	Value
Maximum height	m	110
Capacity (required volume)	m^3	15.278.082
Bench quantity	-	22
Heap (local slope)	H:V	1.4:1
Heap (global slope)	H:V	3.0:1
Bench height	m	5.00
Berm width	m	8.56
Base layer thickness	m	0.30

Table 18-4: Geotechnical Properties of the Materials

Material	Unit Weight(kN/m³)	Internal Friction Angle (°)	Cohesion (kPa)
Crushed mill feed	19.0	Minimum Leps*	
Base layer – geomembrane interface	-	Non-linear envelope	
LLDPE geomembrane and geotextile	-	18.0	0.0
PVC geomembrane	-	25.0	0.0
Structural fill	19.0	37.0	5.0
Massive fill with top ballast	20.0	36.0	5.0
Massive fill with bottom ballast	20.0	34.0	0.0
Foundation soil	18.0	33.0	0.0
Altered rock deposit	25.0	34.0	35.0
Crushed mill feed	19.0	Minimum Leps	

Note: *based on Leps' Geotechnical Investigation, 1970.

The water table depth in the foundation soils is approximately 2.0 m below the surface. The phreatic level due to irrigation in the leach pad is 1.0 m above the LLDPE geomembrane and 0.5 m in the lifts above the PVC geomembrane.

For the pseudo-static analyses, the seismicity was represented by the horizontal acceleration coefficient (kH), with values of 0.20 for the operational earthquake and 0.31 for the maximum credible earthquake, respectively. The design criteria for factors of safety (FoS) adopted were obtained from the recommendations of the British Columbia Mine Dump Committee: FoS>1.30 (static analysis); FoS>1.10 (pseudo-static analysis for operational earthquake) and FoS>1.00 (pseudo-static analysis for earthquake closure conditions).

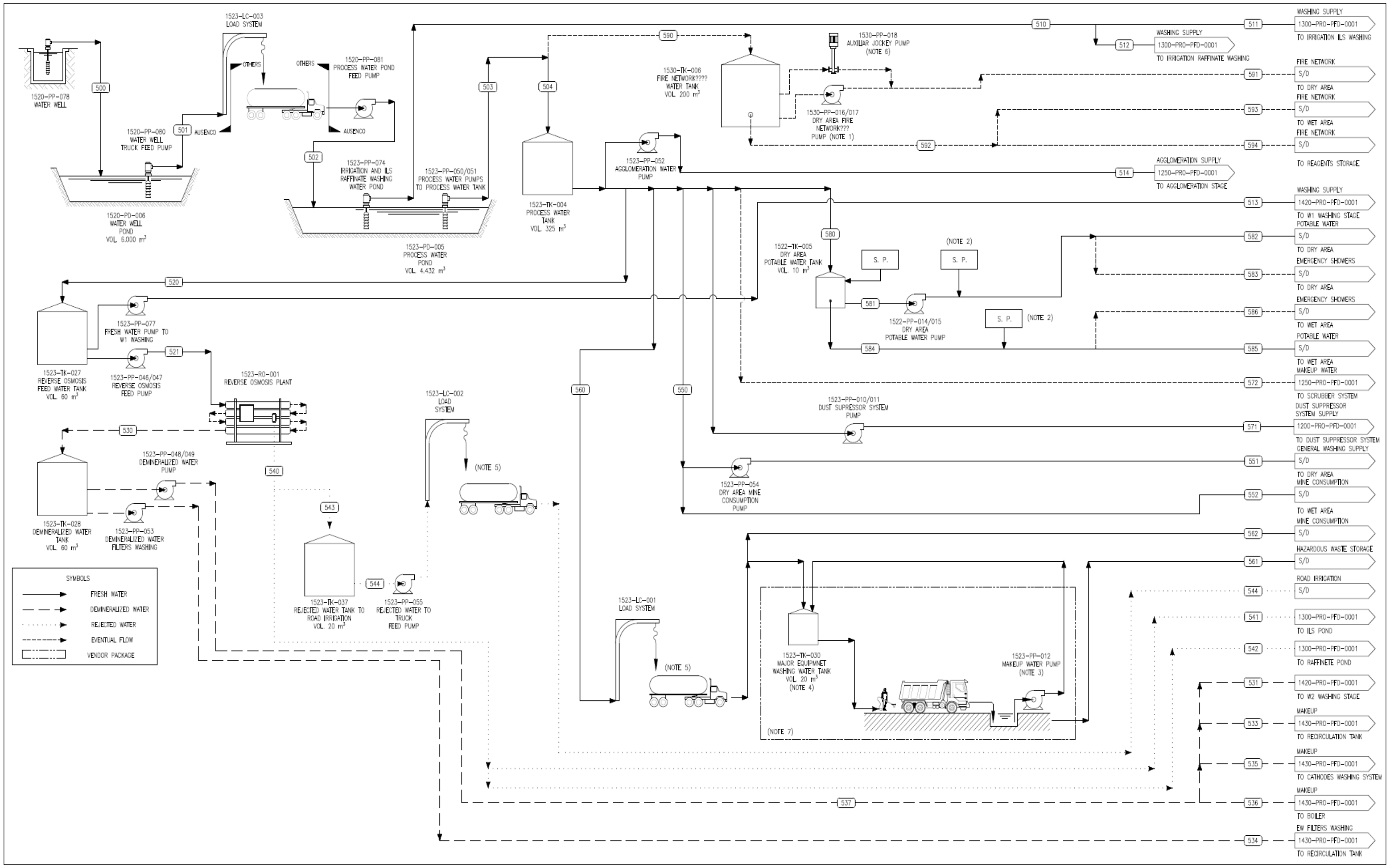
The heap dessign complies with established acceptability criteria and, therefore, under the established assumptions and calculations, is stable under international standards. As a result, the design of the lifts for the leach pad is 8.56 m benches with 5.0-m-high lifts and local slopes of 1.4:1 (H:V).

Pseudo-static stability analyses under seismic loading resulted in the facility having a FoS of less than 1.0 for global failure. However, a simplified displacement analysis was completed using the method developed by Bray, Macedo, and Travasarou (2018) to verify that these displacements are not significant and that the facility will be stable under earthquake loading. Based on the permanent displacements obtained using the above-mentioned method, which on average is less than 5 cm, it has been concluded that for both the design and the maximum earthquakes considered, the proposed heap leach facility, with an overall slope of 3.0:1 (H:V), is acceptable. A stability analysis of the upstream wall was also performed, and the proposed design was also found to be stable.

18.7 Site Water Balance

Figure 18-8 shows the water balance, and the process flow diagram considered for the Project. It was projected a water consumption of 47.9 m^3/h from the wells which will be storage in a water well pond and then move by track to the process water pond. The water consumption will have several consumption points such as washing in irrigation with 3.6 m^3/h, follow by 44.3 m^3/h for the mine and the process plant.

Figure 18-8: Site Water Diagram



Note: Figure prepared by Ausenco, 2021.

18.8 Water Management

Water Management is presented in Section 20.1.3.

18.9 Building Infrastructure

18.9.1 On-site

Infrastructure is separated into five areas:

- Mine infrastructure
- Dry area
- Pond area
- Wet area
- Administrative and general facilities.

18.9.1.1 Mine Infrastructure

The main maintenance facility is described in Section 16.2.8.6.

18.9.1.2 Dry Area

Facilities in this sector will include:

- Primary crushing: will have three levels accessible for maintenance through two lateral stairs. It will include a hydraulic rock chipper, grizzly vibrating feeder, primary jaw crusher, and electromagnet.
- Secondary crushing: will have three levels accessible for maintenance through a lateral staircase. It will include the secondary screener, secondary cone crusher, feed chute, discharge chute under secondary screen, feed chute to secondary crusher, and secondary crusher discharge chute.
- Tertiary crushing: will have three levels accessible for maintenance through a side ladder. It will include the tertiary screen, the tertiary cone crusher, the feed chute, the discharge chute below the tertiary screen, the feed chute to the tertiary crusher, and the discharge chute to the tertiary crusher.
- Agglomeration drum: will be approximately 3 m in diameter, 9 m in length, have an operating angle of 4.5° and a volume of 48.5 m^3.
- Salt collection building: will be an 11-m x 20-m steel structure, cover mounted on a 2.3 m high concrete structure; and will have an average height of 7.4 m on its support. It will consist of frames made up of columns and transverse trusses, braced longitudinally with diagonal profiles and lattice struts.

- Maintenance workshop: will be a metal structure building located in the dry area, and it will consist of three frames spaced.
- Water storage tank: will include the process water, potable water, and fire water tanks.
    - The process water tank will be steel, 8.7 m in diameter and 7.2 m high. The equipment will be anchored on an annular reinforced concrete foundation.
    - The potable water tank will be steel, 2.9 m in diameter and 2.7 m high. The equipment will be anchored on a circular reinforced concrete pedestal.
    - The fire water tank will be steel, 7.3 m in diameter and 7 m high. The equipment will be anchored on a reinforced concrete annular foundation.
- Air compressor room: will be 5 m wide and 13.2 m long and house three air compressors, three air dryers, and two air accumulators. Each piece of equipment will have its own foundation.
- Electrical room and transformers: there will be a fire wall between the room and the transformer, which will be 0.20 m thick, and 4.80 m in height. The electrical will be mounted on a slab.
- Sulphuric acid tank: will be two steel tanks that will be 7.0 m in diameter and 6.8 m high. The equipment will be anchored on an annular reinforced concrete foundation, and have a spill parapet, that will be approximately 28 m long and 15.3 m wide, with a depth of 1.0 m.

18.9.1.3 Ponds Area

The ponds area will include:

- Process water pond: will have a perimeter security fence that will limit access to the area. The pond will have a capacity of 4,432 m^3.
- ILS pond: will have a perimeter security fence that will limit access to the area. The pond will have a capacity of 2,100 m^3.
- Emergency pond: will have a perimeter security fence that will limit access to the area. The pond will have a capacity of 9,700 m^3.
- PLS pond: will have a perimeter security fence that will limit access to the area. The pond will have a capacity of 3,000 m^3.
- Electrical room and transformers: will have two entrances, one for personnel and the other dedicated to equipment entrance. The electrical transformer will be housed in a room. The 23-kV power line from Punta Colorada will be connected to this electrical room.

18.9.1.4 Wet Area

Infrastructure in this area will include:

- Waste storage: will be a prefabricated wire shed that will serve as a deposit for storage waste. It will be 15.5 m wide, 18 m long and 4 m high.
- Electrical room and transformers: will have a fire wall between the room and the transformer. The transformer will have a slab.
- Electrowinning (EW) building: this will be the structure that covers the copper electrolytic cell process. It will be an open shed made up of 11 frames.
- Solvent extraction (SX) building: this will cover the five fiber-reinforced polymer (FRP) sedimentation ponds located above ground level. The ponds will rest on a concrete slab supported on structural fill delimited by reinforced concrete walls around its perimeter. The cover structure will be a cabin-type steel structure with frames braced longitudinally.
- Control room: this room will house the operating stations and operating consoles.
- Tank farm: this will include the diluent and reagent tanks.
  - The diluent tank will be a cylindrical steel atmospheric tank and will measure 4.2 m in diameter and 3.8 m in height.
  - The reagent plant area will be made up of three cylindrical FRP tanks for refiners and sulphates, and a cubic acid mist IBC tote.
  - The tanks will have a reinforced concrete base and will have a spill containment parapet.
- Sulphuric acid tank: this will be a cylindrical steel atmospheric tank, that will be 6.0 m in diameter and 5.5 m high.
- Air compressor room: this will house and air compressor unit, two air dryers, and two air accumulators. Independent foundations will be considered for each piece of equipment.
- Raffinate pond: this will have a perimeter security fence to limit access to the area. The pond will have a 2,000 m^3 capacity.
- Workshop storage/storeroom: this will be a metal structure building located in the wet area, made up of four frames that are spaced apart.

18.9.1.5 Administrative and General Facilities

This sector will be located away from the Project's main plant. It will consist of five prefabricated container structures (42 modules), which will be supported by concrete posts on fill soil. The dimensions will vary from 29 m^2 to 268 m^2.

Electricity will be supplied from a generator with sufficient capacity to supply all the facilities.

There is no potable water in this area, and so potable water will need to be supplied through tanker trucks, which will fill the storage tanks daily. These tanks will be able to hold 60 m^3 of potable water, which would be a 2.3-day supply.

Water that accumulates in the process water pond will be sent to the process water tank. From there it will be distributed to several points, one of them being a potable water tank, in which the water will be treated to be used exclusively for safety showers, dishwashing, and general use.

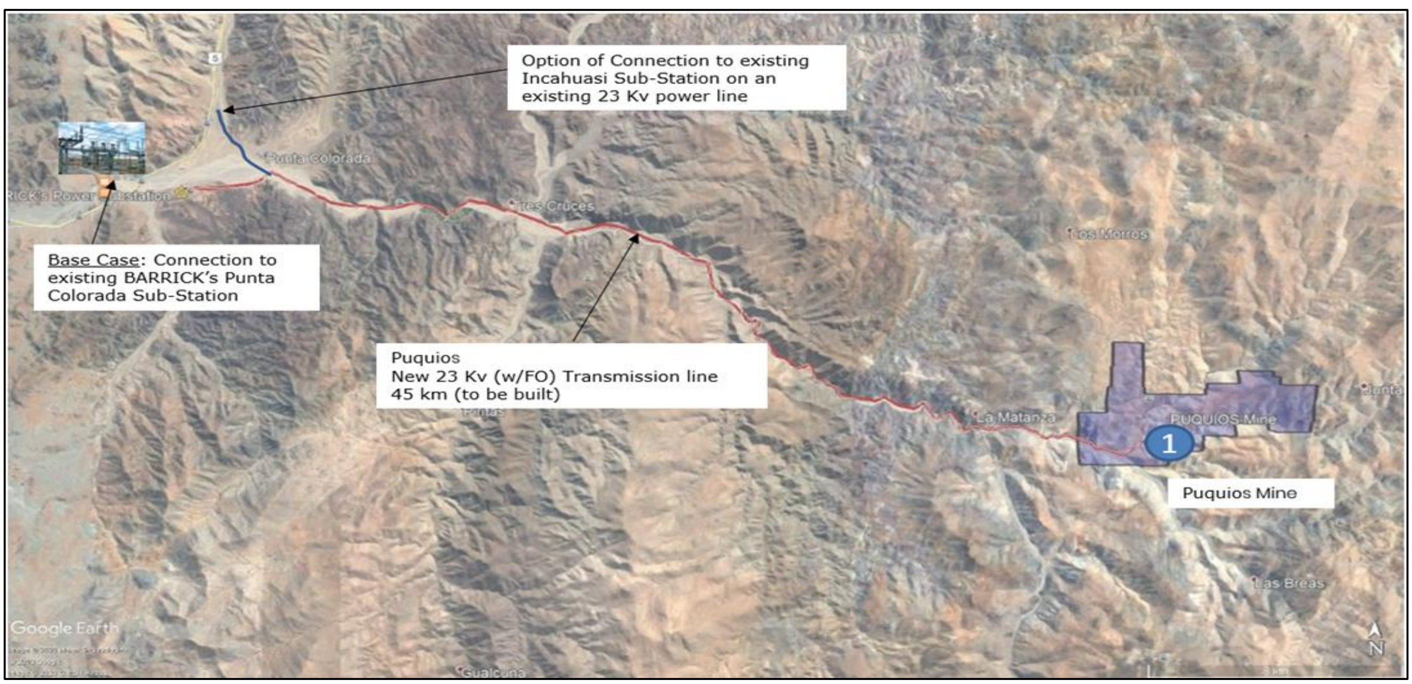
Potable water for human consumption will be through drums and/or water bottles that will be located in all work areas and accommodations.

18.9.2 Off-site

Off-site facilities will be located in the Punta Colorada area and the Las Tórtolas areas which is located east of Punta Colorada. Off-site facilities will include:

- Water well: will have a 20-hp submersible pump and facilities for water extraction and truck filling. Other infrastructure will include a precast concrete fence, an access gate to the sector, and electrical facility. Currently, the well has no permanent electricity supply and runs off a generator.
- Electrical substation and electrical transmission line: will be located in the Punta Colorada sector, 70 km north of La Serena. A 45-km-long 23 kV overhead powerline will run from the substation the Project site. A layout plan showing the proposed route is shown in Figure 18-9.

Figure 18-9: Electrical Substation Location Map



Note: Figure prepared by SML, 2021.

18.10 Power and Fuel

The electrical system for the Puquios Project will begin at the tie-in point with the 23 kV line coming from the Punta Colorada substation. A voltage regulator will be installed on the incoming line. The general electrical system will be 7.5 MVA.

Three main 23 kV distribution lines are planned from the line's connection point to the plant, to feed the Project's different facilities. These distribution lines are planned for the three main areas.

The electrical transformers to be used are rated for outdoor operation and can operate at ± 10% of nominal primary voltage. These transformers will reduce the voltage from 23 kV to 0.4 kV. To support the operation of the critical electrical systems consumptions, the use of emergency 'standby' equipment is considered.

Diesel fuel requirements for the mining equipment, process and ancillary facilities will be supplied by two diesel fuel storage tanks. Diesel fuel will be transported by trucks.

18.11 Plant Control System

The plant's control system will be based on distributed control system and programmable logic controller (DCS/PLC) technology. Each controller will have a redundant central processing unit (CPU), power supplies, and communications modules. Information collected by each PLC will be sent to a main control system through an ethernet network. The DCS will manage and send the information to the control room through a server network.

The control room will have control screens, engineering stations and operation stations that will connect the controllers to communication modules and corresponding interfaces.

The control system capacities as well as the input and output units will be sized to ensure that they meet process requirements for proper system operation.

The controllers will perform diagnostic checks to detect anomalies in the different communication links, memory errors, failures in the logic checks, the power sources, the input and output modules, and indicate the status on the corresponding operation consoles.

18.12 Fire Detection and Protection

The fire network is a system for detecting and extinguishing any fire at the Puquios Project facilities. The system will have a 200 m^3 pond for the fire network which will be fed from a process water pond. This stored water can be used in the dry area, wet area, and the chemical input warehouse.

The dry area will have an impulse pump and an auxiliary jockey pump in parallel to keep the entire facility pressurized. The jockey pump will be able to supply lower water demands. Water will be distributed by pressure to the required sector.

18.13 Hazard Considerations

18.13.1 Seismic Risk Background

The Project area is in a high seismicity zone. In accordance with the country's regulations, the site is in Seismic Zone 3, associated with a maximum effective acceleration of 0.40 g.

Based on the regulations and considering the construction of structures for the Project and for the design of foundations, Project structures are classified in Category C1, intended for critical works. All structures will be designed in accordance with standards requirements to resist horizontal and/or vertical seismic load.

The seismic design of the facilities must be developed considering the parameters indicated in the "Seismic Hazard Feasibility Study Puquios Project" (SML, 2021) and "Structural Design Criteria" reports.

The seismic hazard study developed by TNA Engineering considers the following seismic hazard scenarios:

- Design seism: corresponds to the seismic scenario that defines the level of intensity for the analysis and design of structures or other seismic resistant elements.
- Maximum Considered seismic: corresponds to the seismic scenario based on the expected tectonic potential of the seismogenic sources present in the study area.

The seismic horizontal deformation must be compatible with the admissible deformation of pipes, ducts, walls, partitions, and expansion joints. In particular, this must be considered for process and distillation buildings in order to establish the appropriate displacement limits.

In addition, seismic accelerations will be calculated for vertical seisms according to Points 5.1.1 and 5.5 of the NCh 2369 standard and the seismic hazard study for the design of hanging equipment suspension bars; beams in general with permanent loads greater than 75% of the total load; anchors of structures and equipment, ponds; cantilever structure support equipment; foundations; and in general, for all elements whose design is affected by vertical loads.

For vertical dynamic analysis, the acceleration spectrum with a damping ratio of 0.03 and a response reduction factor equal to 3 will be required. The spectral ordinate does not need to be greater than I A0.

19 MARKET STUDIES AND CONTRACTS

19.1 Market Studies

The Puquios Project will produce and commercialize copper cathodes for export. Accordingly, for the purposes of the PFS, it is appropriate to assume that the products can be sold freely at standard market rates.

The exchange rates and metal prices used for the financial analysis in this Report are provided in Table 19-1.

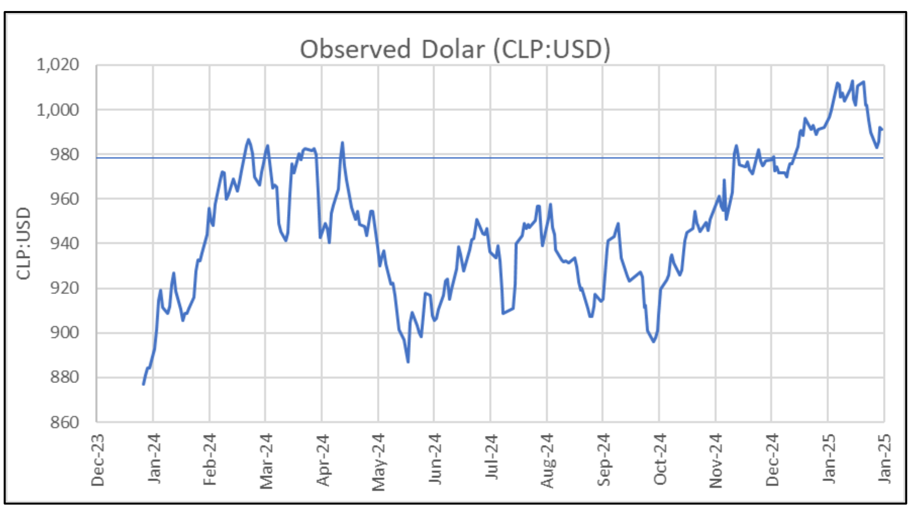
Table 19-1: Exchange Rates and Metal Price used in the Financial Analysis

Parameter	Value
Exchange rate (CLP/USD)	977.00
Copper price long term (US$/lb Cu)	4.25
Cathodes premium (US$/t Cu)	75.00

19.2 Exchange Rate

Exchange rates have recently been volatile worldwide due to multiple factors, including market disruptions and increased political and economic risks, among others. The main currency for the Puquios Project is the Chilean peso, making the Chilean peso–United States dollar exchange rate a critical factor. The study assumed an exchange rate of CLP 977: USD 1. This is the closing spot price as of November 29, 2024. Figure 19-1 shows the historical exchange rates for 2024 and 2025.

Figure 19-1: Chilean Peso to U.S. Dollar Exchange Rate



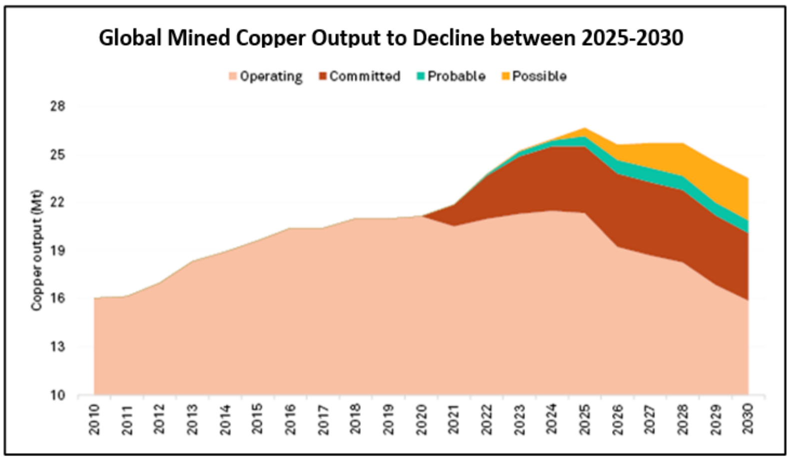
Note: Figure prepared by Ausenco with data form Banco Central de Chile, 2025.

19.3 Copper Metal and Market Outlook

For the Puquios PFS study, the Cu price was assumed to be US$4.25/lb, based on the Analyst Consensus Price Forecast from December 2024 (CIBC,2024).

The long-term outlook for the copper market is promising. On the supply side, investment has been limited due to a shortage of world-class projects, funding shortfalls, and increased environmental, social, and governance (ESG) requirements globally (e.g., water supply, environmental regulations, energy costs, and jurisdictional risks). However, global demand for copper is growing, mainly driven by the growth of the renewable energy sector and the rise of the electric vehicle industry. As shown in Figure 19-2, copper supply is expected to decline after 2025.

Figure 19-2: Global Mines Copper Output



Source: S&P Global Market Intelligence, 2021.

Copper demand is expected to increase in 2025 compared to 2024. However, this growth forecast has been revised downward from previous periods, primarily due to the downturn in manufacturing activity in China, the United States, and the Eurozone, as well as the contraction of China's real estate market, a major consumer of the metal. Table 19-2 illustrates the projected copper supply and demand for 2025.

Table 19-2: Copper Supply and Demand

Description	2024			2025 (expected forecast)		
	ktmf	Var.	Diff.	ktmf	Var.	Diff.
Production	22,131	1.8%	396	23,159	4.6%	1,028
Refined Copper Supply	25,953	1.6%	417	26,799	3.3%	846
Primary	21,623	1.0%	205	22,399	3.6%	776
Secondary	4,330	5.2%	213	4,400	1.6%	70
Refined Copper Demand	25,964	2.1%	523	0.786	3.2%	821
China	14,977	2.5%	365	15,262	1.9%	285
Rest of the world	10,987	1.5%	158	11,524	4.9%	537
Market Balance	-12			13		

Source: Cochilco, 2024.

19.3.1 Copper Price

In 2018, copper stocks began to decline, a trend that continued until the end of 2023. The scarcity of copper in metal exchanges during the 2021–2023 period helped moderate the decline in copper prices. However, the sharp increase in stocks recorded in 2024 raises concerns regarding the potential for significant price increases.

The ongoing trend toward vehicle electrification and the transition to renewable energy sources are expected to further increase the demand for strategic metals, including copper.

For the Puquios PFS study, the copper price was assumed to be US$4.25/lb, based on the December 2024 CIBC analyst consensus price forecast.

19.3.2 Cathode Premium

A cathode premium of US$75/t Cu for Grade A cathodes is included for the economic analysis. This value is based on current sales of cathodes from other operations in the region with the same characteristics as those forecast for the Puquios Project. Currently sales of copper cathode to end users, in most cases, are conducted under long-term off-take contracts.

19.4 Contracts

The Company has no contracts in place.

19.5 Comments on Market Studies and Contracts

The QP has reviewed the marketing studies and analyses, and, in the QP’s opinion, the results support the assumptions in this Technical Report.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental Considerations

This section provides an overview of the setting of the Puquios Project. It outlines existing biological and physical baseline conditions, socio-economic setting, predicted impacts and monitoring, community engagement existing permits, and future regulatory and permitting requirements, including management plans for water, site environmental monitoring, and waste disposal.

The Puquios Project was submitted to the Environmental Impact Assessment System (SEIA), in 2008, by means of an Environmental Impact Study (EIS) and application for the necessary Environmental License (RCA) to allow for the construction and operation of the Project. The EIS was granted through RCA N°30/2011. The Project was later modified by an Environmental Impact Declaration (EID), submitted in 2013 and approved through RCA N°76/2014 and six Pertinence Letters (Consulta de Pertinencia) that approved the addition, elimination, and/or modification of Project infrastructure and facilities. The pertinence consultation constitutes a voluntary process, prior to the eventual submission of a project or activity, or its modification, to the Environmental Impact Assessment System. The owners may contact the Regional Director or the Executive Director of the Service, as appropriate, in order to request a statement on whether, based on the background information provided for this purpose, a project should be submitted to the Environmental Impact Assessment System.

These changes included the location of process plants and ponds, the location of workshop and operational facilities, a modification of the bacterial leaching process and changes to the heap leach mineral transport and stockpiling methods.

In 2022, two Environmental Impact Declarations were submitted to the evaluation system, which were withdrawn due to lack of technical content in accordance with Article III of the SEIA regulations. The last pertinence letter submitted in 2023 covered the proposed amendments of the EIDs presented on 2022, the SEIA decided that the submitted modifications did not require the submission of a new EIS or EID.

Infrastructure for the Puquios Project PFS as envisaged in this Report will be contained almost entirely within the area that was the subject of the EIS and EID approvals (2008 and 2013, respectively) and subsequently received environmental licences. The exception is an additional 25.8 ha that will used for the expansion of the low-grade stockpile. This represents an overall increase of the Project area of 12.5%.

20.2 Baseline Studies and Impact Assessment

In accordance with Article 18, letter e) of the of the Environmental Impact Assessment System Regulation (D.S. N°40/2012, RSEIA), an EIS must present a baseline, which describes in detail the environmental characteristics of the area affected by the Project. This allows for subsequent assessment of the impacts to valued environmental components. Baseline studies in the original EIS (2008) included: climate and meteorology, air quality, noise, geology, geomorphology and natural risks, hydrography, hydrology, hydrogeology, water quality, edaphology, flora, terrestrial fauna, archaeology, landscape and human environment. From these studies, the EIS identified significant environmental impacts on soil, landscape, and terrestrial fauna and flora ecosystem components. These impacts are to be addressed by the Project through mitigation, reparation and/or compensation measures. Such measures include the creation of an Environmental Protection Zone for the rescue and relocation of protected species of flora and low mobility fauna, and the imposition of speed limit restrictions and signage along the access road. Monitoring and enforcement measures will be implemented to verify the measures are being applied correctly and that the results are achieving the expected mitigation of impacts and level of environmental compliance.

In 2013, an EID for the optimization of the Puquios Project was submitted to regulatory authorities for environmental approval. As part of that submission, additional baseline studies for flora and vegetation and fauna were conducted to update and complement the 2008 baseline studies. Additional baseline studies conducted in 2022 and 2023 to support a potential EID included the following: road capacity and traffic, landscape, noise and vibrations, human environment, flora, fauna, hydrogeology, paleontology, archaeology, air quality and natural risks, and chemical and physical stability. The results of those additional studies, intended to fill identified baseline data gaps indicated results that were generally in alignment with the 2008 and 2013 baselines studies. In 2023 it was determined by the authorities that the proposed project modifications did not need to be entered for assessment.

Regarding acid mine drainage (AMD), only preliminary testing has been conducted at this time. Initial testing has shown that the AMD potential is low; however, ongoing assessment and monitoring is planned to ensure minimal to no AMD impact to groundwater or surface water. This issue is discussed further in 20.5.

As a general rule, impacts on environmental components are categorized as “significant” or “non-significant”. Significant impacts are to be addressed by mitigation, reparation or compensation measures. The EIS indicates that significant Project impacts will affect flora, terrestrial fauna, soil, geomorphology and landscape, as a direct consequence of the mine footprint and consequent disturbance. The disturbance will result in reduction of soil availability, vegetation removal and ecosystem modification in Project areas where protected species of flora and fauna are present, and where permanent alterations to the landscape are caused by the remaining Project facilities (open pit, leach heap and WRSF).

Table 20-1 presents the EIS results of baseline and impact assessment studies for environmental components that are predicted to be subject to significant impacts during Project construction and operations.

Table 20-1: Main Baseline and Impact Assessment Results for Environmental Components with Significant Impacts

Component	Main Baseline and Impact Assessment
Soil	The Puquios Mining Project is located in the Puquios ravine in a highly mountainous landscape. The Project area is classified as Soil Class VI to VIII, corresponding to soils unsuitable for agricultural development due to severe physical and climatic restrictions. Soil Class VI and VII are suitable for forestry or livestock activities, but Soil Class VIII has no agricultural, livestock or forestry value, with limited use for wildlife, recreation or protection of hydrographic basins. Consequently, the area has a history of small, abandoned mining activities but is currently mostly used by locals for grazing activities (goats and donkeys) and harvesting firewood from local vegetation. Puquios Project will cause permanent loss of soil because of the open-pit excavation and occupation of areas for WRSFs, heap leaching and construction and operation of different Project areas. Although the

Component	Main Baseline and Impact Assessment
	alternative uses of the soil are limited to its ability to sustain ecosystems, the changes in morphology and soil structure could increase risks of erosion, compaction and/or degradation. The disturbed Project footprint will encompass an area of approximately 196 Ha where soils will be impacted due to the installation of temporary and permanent infrastructure, mainly consisting of the waste rock storage facility, mill feed stockpiles, leaching pads and the open pit.
Geomorphology and landscape	The Puquios Mining Project is located on the western side of the Cordillera de los Andes, in an area defined as a middle altitude mountain range, characterized by intense geological deformation including regional faults and folds. These deformational structures cause a series of ravines and gullies that characterize the Project area, the main ravines being the Los Choros, Puquios and Coloradito ravines. In terms of landscape, these mountain formations provide a low visibility area, provide few landscaping features and a low heterogeneity of natural elements that offer interest in terms of scenic resources. Therefore, the area where the Project infrastructure and facilities will be located has been assessed as being of low visual quality and with low potential for touristic development. Compounding this is the previous use of this area for localized mining activities, which has progressively decreased its value as a productive visual resource. On the other hand, the visual unit where the access road is located is predominately open and wide spaces, since the mountain ranges that frame this scenery appear in a third plane of observation, losing prominence in the scene. The Project will cause permanent modifications in the Puquios ravine because of the open pit and infrastructure locations and in the Coloradito ravine due to the WRSF and leach pile locations. At closure, non-permanent infrastructure and foundations will be removed and excavations will be backfilled to provide some degree of restoration of the local geomorphology. Physical stability of slopes and terraces of remaining facilities will also be assessed at the closure stage. The access road, which is developed along the Los Choros ravine, will sustain little modifications in terms of geomorphology and landscape since it is an existing infrastructure.
Flora and vegetation	The studied Project area is occupied by Mediterranean Desert Scrub vegetation. Baseline studies for the EIS identified 24 species (14 in the area directly occupied by the pit, heaps and infrastructure), all of them being endemic or native species. Of these, 4 species are under conservation status, with three of them classified as Vulnerable (VU), *Eriosyce aurata* (sandillón), *Dinemagonum gayanum* (retamo) and *Prosopis chilensis* (algarrobo), one species classified as Endangered (EN), *Balsamocarpon brevifolium* (algarrobilla), and the rest do not fall under any conservation status. *Prosopis chilensis* was only observed along access road D-115. The impacts on flora and vegetation are the loss of vegetation coverage, although this has not been considered as a relevant impact, and the loss of specimens of protected species. The Project construction and operation will require occupying approximately 196 ha of shrubland, where 17 specimens of *Eriosyce aurata* (identified during the EID baseline study in 2014) and 3 specimens of *Dinemagonum gayanum* will be directly affected. In order to minimize the effect on flora and vegetation, an Environmental Protection Zone has been established in the Puquios ravine. The 17 specimens of *Eriosyce aurata* (VU) will be rescued and relocated to this area. For *Prosopis chilensis* (VU) and *Balsamocarpon brevifolium* (EN), these species will be grown in a nursery and later relocated to the Environmental Protection Zone. No measure was indicated for *Dinemagonum gayanum.*

Component	Main Baseline and Impact Assessment
Terrestrial fauna	Within the Project development area, 47 species of fauna, 2 amphibians, 4 reptiles, 36 birds and 5 mammals, were identified in the desertic shrubland and ravine environments. Of these, both amphibians (*Pleurodema thaul* and *Bufo chilensis*), 3 reptiles (*Homonota gaudichaudi*, *Liolaemus nitidus* and *Callopistes palluma*), one bird (*Vultur gryphus*) and one mammal (*Lama guanicoe*) are classified as Vulnerable (VU), and one bird (*Cyanoliseus patagonus*) is classified as Endangered (EN). The remaining species are classified as Least Concern (LC) and one is an exotic species regarded as harmful for the ecosystems (*Lepus capensis*, rabbit). The presence of domestic animals such as donkeys and goats were recorded, but these are not relevant in the assessment of environmental impacts. Of these protected species, the most relevant corresponds to *Cyanoliseus patagonus* (loro Tricahue), an endemic parrot species classified as Endangered by Chilean legislation. Two nesting locations with approximately 200 parrots were recorded along the access road D-115. The significant impacts on terrestrial fauna are the possible loss of individuals from protected species and the loss and/or modification of the habitats occupied by these protected species or fauna with low mobility. The loss of individuals is particularly relevant in low mobility species, such as amphibians, reptiles and small mammals, but could also occur in larger mammals due to potential collisions with moving vehicles along the Project access and internal roads. The loss/modification of habitats is caused by the cutting of native vegetation in Project areas, which removes the available food and shelter for different species but also the impacts on the Tricahue parrot nesting places due to increased vehicular flows and noise. In order to minimize the effect on fauna, different measures will be implemented, such as speed limit restrictions, signage, visual barriers and 100 m restriction zones around Tricahue nesting places. For low mobility fauna, specimens of protected species will be rescued and relocated to the Environmental Protection Zone to be established in the Puquios ravine.

Source: Tommy, 2008 (Puquios Mining Project EIS Baseline); B&A, 2013 (Minor Modifications, Optimization of Puquios Mining Project baselines studies).

Other impacts were also predicted for the following environmental components: air quality, noise levels, hydrology, road infrastructure. All of these have been characterized as non-significant. For archaeology, no impacts were identified in the EIS since archaeological resources found during the baseline studies are remote from the Project area.

To maintain compliance with environmental regulations, significant environmental impacts must be addressed by implementing mitigation, reparation and/or compensation measures (in that order of preference), that need to be controlled by means of a monitoring plan. Table 20-2 summarizes the measures considered to address the significant impacts, with the main initiative being the creation of an Environmental Protection Zone in the Puquios ravine to address the impacts on the biotic components. Monitoring associated with these measures is detailed in Section 20.3. The environmental authority does not require Environmental Management Plans to be presented at this stage, but these will need to be developed once the Project goes into the execution phase.

Table 20-2: Main Mitigation, Reparation and Compensation Measures for Significant and Non-Significant Impacts

Component	Type of Measure	Measure Description
Fauna	Mitigation	• Rescue and relocation of protected species identified in baseline studies that are present in areas to be impacted by the Project. Individuals will be relocated to the Environmental Protection Zone defined for the Project (in the Puquios ravine). • Speed limit restrictions and signage for areas where there is the high potential for the presence of protected fauna and road crossing areas. • Speed limit restricted to 30 km/h within the exclusion zone for the Tricahue parrot and prohibition of honking in the nearby area. • Prohibition of introducing domestic animals to the Project area that could harm local fauna. • Prohibition of hunting and/or capturing local fauna or altering their habitat. • Improvement works on the access road will be undertaken outside the Tricahue parrot nesting season (October – December).
Flora and vegetation	Mitigation	• Rescue and relocation of sandillón (*Eriosyce* aurata) specimens identified in baseline studies that are present in areas to be impacted by the Project. Individuals will be relocated to the Environmental Protection Zone defined for the Project (in the Puquios ravine).
	Compensation	• Seed collection and replacement of specimens of *Balsamocarpon brevifolium* and *Dinemagonum gayanum.* These species will be grown in a nursery and later relocated to the Environmental Protection Zone at a ratio of 3:1 when compared with the number of affected specimens.
Water	Mitigation	• Recirculation and reuse of process water to the extent possible within the limitations of the production process. Wastewater from truck cleaning will be reused for the same purpose and the effluent from the wastewater treatment plant will be used for watering any landscape features or green space areas or other industrial uses, as limited by the Chilean Standard, Water Quality for Different Uses (NCh1.333).
Air quality	Mitigation	• Periodic watering of unpaved roads and speed limit restricted to 40 km/h for empty trucks and 35 km/h for loaded trucks inside the project area, to minimize particle resuspension. • Dust management measures in process areas to consist of: dust collection system for the mill feed hoppers; mist type dust suppressor system for the crushing, screening and stockpiling operations; covered conveyor belts for material without agglomeration transported between the crushing and screening stages. • Periodic removal of fugitive dust from the crushing area and conveyor belts to reduce wind exposure and resuspension.
Landscape	Mitigation	• Minimized slope cuts and excavations and follow the natural terrain morphology as much as possible. • Minimized impact to vegetated areas (only those areas necessary for carrying out the Project) to preserve as much as possible the natural scenery. • Structures, materials and elements that will be used for structures must take into account the textures, shapes, colors and tones found in the landscape, adapting to them and avoiding the use of elements that generate sparkles and/or are visible at great distances.
	Reparation	• For closure, a vegetation cover similar to the pre-existing one will be re-established on the impacted areas, emphasizing the selection of existing species with conservation problems and the potential for rapid establishment.

Source: Puquios Mining Project EIS, Chapter 7 (2011).

This protection zone will cover a 183-ha area. Its purpose is to ensure the conservation of the ravine ecosystem, protect relocated flora and fauna species and to protect a representative portion of the plant communities dominated by Balsamocarpon brevifolum, such as those present in the open pit, WRSF, leaching pad and other mine facility areas. The plant communities have already been impacted by the local communities' subsistence farming activities. This protection zone could also serve as study area for monitoring and research of conservation management measures.

In contrast to significant impacts, measures to address non-significant impacts are not mandatory but Camino through its subsidiary Cuprum is planning additional measures for air quality and water consumption as indicated below.

Additionally, the EIS (RCA N°30/2011) included the following measures regarding the Tricahue parrot:

- Exclusion zone of 100 m around the identified nesting locations adjacent to the access road for the Tricahue parrot (Cyanoliseus patagonus) and prohibition of entering these areas other than for monitoring purposes.
- Installation of a visual barrier between the Tricahue parrot nesting locations and the access road to avoid disturbances caused by the additional light and heavy weight traffic caused by the project.

These measures were eliminated by RCA N°76/2014 from the environmental commitments to be maintained by the Puquios Project since they were implemented as part of another mining project (Pascua-Lama) that uses access route D 115.

20.3 Environmental Monitoring

In accordance with letter f) of Article 12 of Law N° 19,300, letter k) of Article 18 and Article 105 of D.S. N° 40/2012 (SEIA Regulation), an EIS needs to present a Monitoring Plan, which aims to ensure that the relevant environmental components that were the subject of environmental assessment are routinely monitored to ensure that mitigation measures and controls are effective. For the Puquios Project this plan includes not only the environmental components associated with significant impacts, but also the monitoring of air quality and water quality parameters to confirm the absence of additional or unintended impacts not considered previously.

The Monitoring Plan specifies the environmental component that will be subject to measurement and control, the associated environmental impact and measures, the location of the control points, the parameters that will be used to characterize the current and future conditions, regulatory limits for measured parameters, the duration and frequency of the monitoring plan for each parameter, the method or procedure for measuring each parameter, and the deadline and frequency for the delivery of monitoring reports to the corresponding environmental authority. Table 20-3 summarizes the monitoring activities that are currently required, based on existing approvals.

Table 20-3: Monitoring Plan for Environmental Components (significant and non-significant environmental impacts)

Component	Impact	Mitigation, Reparation or Compensation Measure	Monitoring Description
Flora	Loss of individuals from threatened species	Rescue and relocation of *Eriosyce aurata* (sandillón)	Monitoring of relocated *Eriocyse aurata* specimens will be conducted for a period of two years: at 30 days, 6 months, 12 months, 18 months and 24 months after relocation. Parameters to be measured will be mortality and survival, coloring, phenological state, root development in randomly dug up individuals, predation, and parasitism, among others.
		Seed collection and replacement of specimens of *Balsamocarpon brevifolium* (algarrobilla) and *Dinemagonum gayanum* (retamo)	The planted shrubs of *Balsamocarpon brevifolium* and *Dinemagonum gayanum* will be monitored during the first 5 years with visits at 15 days, 1 month, 2 months, 6 months and 1, 2, 3, 4 and 5 years after the planting. Parameters to be measured will include plant health, survival percentage, and causes of mortality.
Terrestrial fauna	Possible loss of individuals from protected species	Rescue and relocation for amphibians and reptiles	Monitoring to detect the presence of rescued individuals in the relocation area and comparison with the relocated populations. Monitoring will take place every 3 months during the construction phase and every 6 months during the operation phase.
		Mitigation measures for the protection of larger mammals	Monitoring of *Lama guanicoe* populations every 6 months within a defined perimeter project to record presence, abundance, and location. Information will be georeferenced to map areas of displacement and the population growth or decrease trends over time.
		Mitigation measures for *Cyanoliseus patagonus* (Tricahue parrot),	Monitoring of Tricahue parrots nesting places will include: • Assessment of the state of the visual screens installed in the perimeter of nesting places at the beginning of the reproductive season, in order to coordinate the necessary repairs or improvements by the company's personnel. • Counting of individuals, pairs and active nests and documentation of observed mortality in September, December and March of each year during construction and operation phases. Historical records of populations will be kept to establish long-term trends and evaluate the effectiveness of the implemented measures or the need to establish new actions.
Air quality	Particulate material and gas emissions	All air quality mitigation measures	One point adjacent to the process areas for monitoring PM10 and comparison against the air quality standard. Monitoring will take place in Jan-Feb during construction and operation phases.

Component	Impact	Mitigation, Reparation or Compensation Measure	Monitoring Description
Water Quality	Not applicable	Not applicable	Monthly water quality monitoring of the following surface water and groundwater locations (7 points) and the effluent from the wastewater treatment plant (1 point) to verify the absence of impacts to the aquatic ecosystems: • Three surface water and four groundwater monitoring points characterized during baseline studies. Comparison against the water quality parameters registered during baseline characterization and statistical data obtained as a result of subsequent monitoring events. • Continuous monitoring of pH and conductivity to determine the presence of AMD at the well located at the foot of the waste rock dump and leaching pad. • Effluent from the wastewater treatment plant and comparison against the NCh 1.333/78 parameters. This effluent will be used as industrial water for the project. The location and description of these monitoring points is provided in Table 20-4.

Table 20-4: Water Quality Monitoring Points

Point No.	Monitoring point	Type	Description	UTM (WGS84, Zone 19S)	
				North	East
PM 1	Choros 1	Surface water	Upstream from the project	6.739.056	340.383
PM 2	Coloradito 1	Surface water	Upstream from the project	6.742.189	334.216
PM 3	Pajaritos	Groundwater	Background control point	6.739.560	328.479
PM 4	Martina	Groundwater	Downstream from the project	6.740.649	330.896
PM 5	Choros 2	Surface water	Downstream from the project	6.740.993	327.664
PM 6	Punta Colorada	Groundwater	Water source for the project	6.751.090	302.686
PM 7	Coloradito 2	Groundwater	Indicator well adjacent to leaching pad	6.740.514	331.868
PM 8	WWTP	Wastewater	Effluent from wastewater treatment plant	NA	NA

20.4 Water Management

20.4.1 Water Supply

Water will be sourced from a groundwater well located near Punta Colorada, where Cuprum has water rights for 22 L/s (22 L/s are environmentally approved out of the total granted water rights of 33 L/s). The Project's total water demand of 7,300 m^3/d will be made up of approximately 80% from recirculated process water and 20% from freshwater extraction (1,460 m^3/d). Water extraction will be based on operational needs to maintain a sufficient supply of water in the industrial water pond. It is estimated that the pump will operate around 18 hours/day at a rate of 22 L/s to meet the required demand. Water quality will be monitored at the extraction point.

According to the most recent modification submitted for environmental assessment, water will be extracted and transported by truck to the water storage tank located in the process plant area.

20.4.2 Surface Water, Runoff and Pit Water Management

The Project is located between two small seasonal watercourses, the Coloradito and Puquios ravines, both of which are usually dry and only run after seasonal rainfall events of a certain magnitude and discharge into the main local watercourse, Los Choros creek. Waste rock will be placed to fill part of Coloradito ravine to generate a platform for the leaching pad, effectively blocking the lower section of the ravine; the water in the ravine will need to be redirected. Hydraulic infrastructure is planned to prevent runoff from entering the mining facilities during construction, operation and closure phases, and to collect and dispose of runoff and contact water that could eventually accumulate within these areas. The main infrastructure includes:

- Contour channels: designed to prevent surface runoff from entering the mining facilities (pit, leaching pad, process areas, WRSF and stockpiles). These channels will be located upstream and bordering these areas, to receive runoff from surrounding slopes and nearby streams. These channels, designed for a return period of 100 years, will redirect rainfall water into the natural water courses and minimize water from entering the mining facilities. Restitution works will be in place for discharge into nearby ravines. The current location for these channels is shown in Figure 18 1.
- Containment wall: located in the Coloradito ravine, upstream from the WRSF and leach pad. The dam will be constructed using waste rock from the mine to contain the seasonal (sporadic) flow. The water evacuation system will be a 2.5 km of unlined channel that will transport the water from the Coloradito ravine to the Puquios ravine, and is designed to conduct 55 m^3/s, corresponding to a 100-year return period rainfall. Due to the presence of rocks and low flow speed at the outlet of the channel, no negative effects are expected from the discharge of this channel. However, protection measures will be included in the bed and bank designs, if necessary, to prevent channel erosion.
- Evacuation channels: these channels, together with the HDPE liners placed at the base of the leaching pad and WRSFs, will collect rainwater that falls on the surface or water that enters these areas and will drive it toward the Puquios ravine. These channels are designed for a return period of 100 years, will drive the collected water into the solution ponds (or the emergency pond) to be incorporated as process water, preventing infiltration and lowering the pressure and saturation in order to ensure the stability of the heaps and WRSFs.

Figure 18-1 shows, in blue, the contour channels that will be located around the operational areas. The yellow area corresponds to the open pit area and the orange areas are the stockpiles and leaching pad. Additional details on the infrastructure design criteria and construction are provided in Section 18.

Based on the information collected during the exploration phase, it is not expected that the pit will have groundwater inflow. However, in the event that that happens, water will be pumped and taken to the industrial water tank to be used as process water.

20.5 Emissions and Wastes

The activities that will take place during the construction, operation and closure phases of the Puquios Project will generate different wastes and emissions. Table 20-5 presents a summary of these wastes and emissions and the proposed management measures at this stage, as approved by the current environmental licences. The environmental authority does not require an Environmental Management Plans to be presented at this stage, but these will need to be developed once the Project goes into the execution phase.

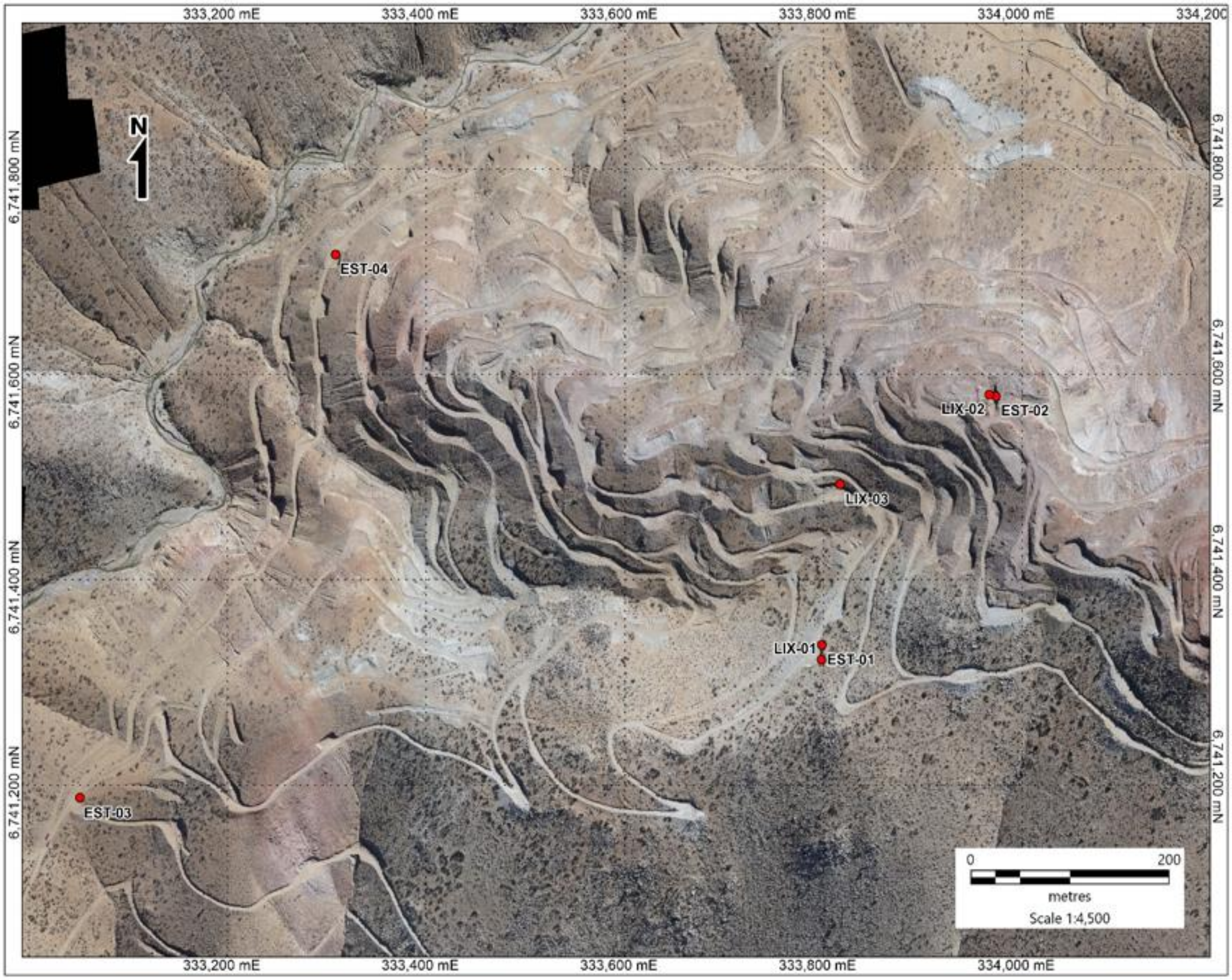
Table 20-5: Wastes and Emissions of the Puquios Project

Type of Waste/Emission	Management
Atmospheric Emissions	The main emissions are particulate matter (SPM, PM10 and PM2.5), mainly from excavation activities, the extraction process and transport activities along unpaved roads during the construction, and operation and closure phases of the Project. In order to minimize these emissions, internal roads will be watered frequently (hoping to achieve an 80% reduction), access road D-115 will be improved and/or a dust suppressant will be applied, conveyor belts will be covered, and material at the crushing plant will be watered to avoid dust migration. Other atmospheric emissions are combustion gases from the operation of vehicles and machinery and the acid mist generated during the EW process. Acid mist generation and accumulation will be controlled through the use of polyethylene balls on the EW cells and a natural ventilation system for the EW building (open area). According to the RCA N°76/2014, atmospheric emissions during the construction phase will be approximately 604 t/a of PM10, 78 t/a of PM2.5 and 427 t/a of combustion gases. During the operation phase these will be 915 t/a of PM10, 100 t/a of PM2.5 and 288 t/a of combustion gases. These emissions were analyzed by atmospheric modelling (CALPUFF), using the highest emission year, to assess the potential impact on the surrounding population, particularly in two different populated areas (Los Morros and Punta Colorada). According to the atmospheric emissions modelling results, none of these receptors will have significant impacts on the air quality because the increases in particulate material and gases concentrations are considerably lower than the maximum limits established in the applicable air quality regulations. The analyzed emissions will also be managed and minimized mainly by the application of a dust suppressant and road watering, which will lower the calculated emissions.

Type of Waste/Emission	Management
Liquid Waste	Sewage coming from sanitary facilities will be managed by means of portable toilets during construction and closure phases, which will be maintained by an authorized contractor. During the operation phase, sewage will be managed by means of a wastewater treatment plant (WWTP) and the resulting effluent will be used as industrial water or for irrigation (dust control on unpaved roads) but will not be discharged into water ecosystems. As part of the upcoming EID to be presented for environmental approval, the WWTP will be replaced by a sewage system comprising a septic tank and effluent disposal through infiltration drains. Sewage generation during the construction phase was not estimated, but according to RCA N°76/2014, for the operation phase the amount will be 20 m^3/d, or 7,300 m^3/a. In terms of industrial liquid wastes, vehicles and/or equipment washing will take place in a washing area sealed by a concrete slab or other material that prevents infiltration to the ground. The recovered water will be sent to a phase separation tank (hydrocarbons and water), in order to recover water for different uses, such as washing vehicles and facilities, irrigation of roads for dust control, etc. Aqueous mixtures with hydrocarbons will be handled as hazardous waste and will be handled separately, in accordance with the provisions of D.S. N°148/2003 (Sanitary Regulation for Hazardous Waste Management), for off-site disposal by an authorized contractor in an external authorized facility. An estimate of the amounts of these liquid wastes generated was not provided in any of the environmental licences. The production process is a closed process; therefore, it does not generate any liquid waste or discharge to the environment; any recovered aqueous solutions will be recirculated into the production process. Effluents with high salt concentrations coming from the reverse osmosis units will be used as industrial water or for irrigation, as limited by the Water Quality for Different Uses Chilean Standard (NCh1.333). Any liquid chemical waste coming from the laboratory (chemicals used for the analysis of process solutions and minerals) will be evacuated to the ILS solution ponds to be used for heap leaching irrigation.
Solid Waste	Municipal and industrial solid wastes produced during the construction, operation and closure phases will be stored in appropriate containers or stockpiled in specially designated areas within the temporary construction facilities or the process plant (that will later require a sanitary permit), to be periodically picked up by authorized contractors and subsequent disposal in authorized landfills. According to the RCA N°76/2014, the estimated amounts of municipal solid wastes generated will be 5 t/a during the construction phase and 6 t/a during the operation phase; industrial solid wastes generated will be 236 t/a for each phase.

Type of Waste/Emission	Management
Hazardous waste	Hazardous wastes generated during the construction and operation phases (used paints, thinners and solvents, used motor oils, contaminated cloths and containers) will be stored in the hazardous wastes storage, a separate facility that will comply with special regulatory requirements to minimize volatilization, mobilization, leaching, or any other transport mechanism that could cause contamination or a health hazard. These wastes will be stored for a maximum period of 6 months and will be disposed of off-site by an authorized contractor to an authorized final disposal facility. According to RCA N°76/2014, the estimated amount of hazardous waste generated will be 151 t/a during the construction phase and 151 t/a during the operation phase. The electrowinning (EW) process generates anodic sludge which is hazardous in nature and could pose a risk for contamination. Sludge will be collected during EW cell cleaning and stored separately in the hazardous wastes storage and will be disposed off-site by an authorized contractor to an authorized final disposal facility.
Mining wastes	Mining waste will be mainly waste rock from the open pit generated during the extraction process, estimated to be approximately 37 Mt. Approximately 65% of this material will be deposited in the Coloradito ravine to be used for the platform for the leaching pad and the remaining amount will be used to construct other platforms for stockpiles and project areas. The remaining material will be deposited in the waste rock storage facility located adjacent to the open pit.
Acid Mine Drainage (AMD)	At the time of the EIS, the results of two ABA tests were provided, for two samples from the open pit and the leach pad area, both of which indicated a low potential for AMD generation. Based on the limited historical data available at the time, AMD was not expected in consideration that the sulphide minerals associated with the deposit would be extracted and sent to the process and the minimized amount of water that will drain from the leaching pad to dump areas. Most recently, SML conducted additional sampling and testing to assess the potential for AMD at 7 locations in the open pit and surrounding areas, 5 of them being new samples and 2 from previously collected material during drilling activities (EST-03 and EST-04) which may represent future waste rock and leach material. All 7 samples were tested for ABA, paste pH, and the 5 new samples were tested also for NAG. Results indicated that the two older samples (EST-03 and EST-04) had a sulphide content and a corresponding high acid generation potential. From the other 5 samples, 3 of them were classified as having a low acid generation potential (EST-02, LIX-02, LIX, 03) and 2 as having no to low acid generation potential (EST-01 and LIX-01). Figure 20.1 shows the location of the sampling points. The limited static test results to date indicate that waste rock may be potentially acid-generating, and that additional testing work and studies are required. The results of these studies will support additional Project design considerations and procedures for effectively managing waste rock and mill feed and minimize the potential for AMD during mine operations and closure phases. A monitoring program for the regular observation of the groundwater quality parameters within the Project's area of influence will be implemented to verify predictions for AMD. As indicated in Table 20-3, the main monitoring point for AMD will be a groundwater well located at the foot of the waste rock dump and leaching pad. Ongoing geochemical studies and field monitoring during operations and closure will verify ARD predictions and potentially trigger the implementation of additional waste rock management controls and measures. If the potential for AMD is verified, the Mine Closure Plan will need to be updated on that basis with the proposed technical options to minimize, control, and monitor AMD.

Figure 20-1: Sampling Locations for AMD Testing



Note: Figure prepared by SML, 2021.

20.6 Closure and Reclamation Considerations

Law 20.551 for Closure of Mines and Mining Facilities (Ley 20.551, Regula el Cierre de Faenas e Instalaciones Mineras) is the law that regulates mine closure in Chile. The objectives of this law are:

- To protect the life, health and safety of people and the environment (Art. 2)
- To mitigate the negative environmental effects of the industry (Art. 2)

- To ensure the physical and chemical stability of the places or areas in which mining is developed (Art. 2)
- To establish guarantees for the effective closure of mining facilities (Title XIII)
- To create a post-closure fund to monitor and control closed operations (Title XIV).

Law 20.551 also states that every mining project must have a Closure Plan approved by SERNAGEOMIN. The Puquios Project has a current Mine Closure Plan, approved by Exempt Resolution No 1991/2020. Each plan will require an update every 5 years. SERNAGEOMIN has issued technical guidelines for mining companies preparing closure plans so that the plans comply with the requirements. These guidelines are classified in three groups:

- Closure Plan Guidelines:
  - Closure Plan for Exploration and Prospecting
  - Closure Plan for Mine Facilities under 5,000 t/m
  - Closure Plan for Mine Facilities between 5,000 t/m and 10,000 t/m
  - Closure Plan for Mine Facilities over 10,000 t/m.
- Technical Criteria Guidelines:
  - Risk Assessment for Mine Closure
  - Physical Stability for Mine Closure
  - Chemical Stability for Mine Closure.
- Financial Criteria Guideline:
  - Estimation, Determination and Provision of the Financial Guarantee.

SERNAGEOMIN guidelines are not mandatory requirements, but they do define the technical standards that will be used by reviewers and assessors.

20.6.1 Closure and Reclamation Plans

As general criteria, closure measures will prioritize the dismantling of facilities. Recoverable equipment will be disposed of in the event it poses a risk to people, and foundations will be demolished or covered. Closure measures for remaining facilities will focus on slope stabilization, surface compaction, levelling, land profiling, and rainwater management.

The Puquios Project has a Mine Closure Plan approved by Exempt Resolution N°719/2014 and updated by Exempt Resolution N°1991/2020 and by Exempt Resolution N°1990/2024. The closure measures approved in the current Closure Plan are indicated in the sections below.

20.6.1.1 Overall Closure Measures

In order to limit the risk of unauthorized access to the site, access road controls and signage will be put in place. Other measures include:

- Signage: informative and preventative signage will be placed to advise of closed areas and associated risks, in particular for any remaining facilities; and
- General cleaning: A general cleaning of the facilities will be carried out. Possible contaminated sites will be assessed and depending on the results, remediation measures will be proposed.

20.6.1.2 Plant Decommissioning (Non-permanent facilities)

The closure plan considers decommissioning, dismantling and removal of facilities, pumps, piping and other non-permanent structures on the site. Dismantling activities includes the following:

- Ground levelling: after dismantling the infrastructure and equipment, any civil works, structures and foundations will be removed before ground levelling. Revegetation in process plant area is also considered.
- Construction of gabions between the heap leach and the ravine in order to ensure long term physical stability.
- Dismantling and removal of the equipment inside the processing buildings, will be carried out. The equipment will be dismantled after de-energizing and disposed in an authorized site, as appropriate.
- Metallic structures that make up the facilities will be disassembled and destined for final disposal in an authorized site.
- For process ponds all remaining solutions will be removed, geomembranes and other sealing elements will be removed and disposed of at authorized waste disposal sites and ponds will be backfilled with inert fill material from the area.

20.6.1.3 Remaining Facilities

The closure plan aims at ensuring the physical and chemical stability of the remaining areas and facilities, which are the open pit, leach pads and WRSFs. Closure activities include the following:

- Installation of warning signage and closure of access to the remaining facilities. Contour berms will be built around the pit and WRSFs.
- Actions aimed at ensuring the physical stability of the slope angles and structure of the banks or terraces will be implemented.
- Heap leach will be subjected to a cleaning and washing process to neutralize the acidity.
- If it is needed, treatment and neutralization of the water from the pit.

- A Chemical Stability Control Program will be developed to ensure chemical stability of the open pit and heap leach piles on the long term.
- Activities to ensure the functionality of the infrastructure for the collection and management of surface runoff and contact water.

20.6.1.4 Monitoring and Maintenance Activities

After closure, a monitoring program will be developed in order to visually detect any anomaly or deterioration, cracks, leaks, deformations or erosion of slopes in the disposal and extraction areas.

Groundwater quality monitoring will be carried out for 3 years with an annual frequency at the wells near the areas where the remaining facilities are located.

Finally, long-term maintenance of signage, roads closure and water channels are also considered.

20.6.2 Closure Cost Estimate

As informed by Camino, the closure costs related to the execution of the measures described in Section 20.6.1 are estimated at US$7.9M. This closure cost must be reviewed during the detailed engineering phase.

It should be noted, that according to Chilean law, a bond to cover this cost must be provided to the State.

20.7 Permitting Considerations

Permits required by any project in Chile are classified in two categories: Environmental Permits and Sectoral Permits. The Environmental Permits are granted for any project approved within the SEIA and comprise the Environmental Licence (RCA for its abbreviation in Spanish) and the Sectoral Environmental Permits (PAS for its abbreviation in Spanish). All applicable PASs must be presented along with the Environmental Impact Study or Declaration and cover the environmental aspects of matters such as water discharge, waste storage facilities, relevant mining and hydraulic infrastructure, forest management plans, among others. On the other hand, Sectoral Permits (PS) cover non-environmental topics and need to be applied for separately with the corresponding government authority. Some of these PS are an extension of a PAS and need to be applied for after the RCA and the PAS have been granted.

The following subsections outline the Environmental Permits (Section 20.7.1) and Sectoral Permits (Sections 20.7.2 and 20.7.3) required for the execution of the Project, in its construction, operation and closure phases. The identification of the applicable permits from the lists presented in Sections 20.7.2 and 20.7.3, are part of the Permit Master Plan, containing the technical requirements and schedule for each permit.

20.7.1 Environmental Permits

The Environmental Licenses and other Resolutions that apply to the Puquios Mining Project are presented in Table 20-6.

Table 20-6: Environmental Licences and Resolutions for the Puquios Project

Resolution or Legal Document	Description
Environmental Licence RCA N°030/2011 (03 Mar 2011)	Originally, the Puquios Mining Project was submitted through an EIS and approved by RCA N°30/2011. The original project considered a production of 15,000 t/a of fine copper cathodes by means of open-pit mining and copper bioleaching, for a project lifespan of 8 years (initially presented for 15 years but reduced to 8 years during the approval process) for a total extraction of 21.5 Mt.
Pertinence Letter Ruling Letter N°0262/2012 (05 Sep 2012)	Reply from the environmental authority to the Pertinence Letter submitted by Minera Las Pascualas regarding a change in the location of the plant nursery indicated in the EIS as part of a compensation measure. SEA indicated that the change did not require submittal in SEIA for an additional RCA.
Pertinence Letter Ruling Letter N°0299/2012 (19 Oct 2012)	Reply from the environmental authority to the Pertinence Letter submitted by Minera Las Pascualas regarding the exclusion of the mitigation measures regarding the Tricahue parrot planned for the access road, which had already been implemented by another mining project located in the same area. SEA indicated that the change did not require submittal in SEIA for an additional RCA.
Environmental Licence RCA N°0076/2014 (13 Jun 2014)	The Puquios Mining Project was modified through the submission of an EID, approved by RCA N°0076/2014, to improve the process efficiency and relocate some of the infrastructure following the latest engineering developments. This optimization included modifying the location and design of all ponds, the location of the SX-EW plant, workshop and operation facilities, the stockpiling method (from conveyor belts to trucks) as well as other infrastructure changes.
Pertinence Letter Ruling Exempt Resolution N°087/2015 (01 Jun 2015)	Reply from the environmental authority to the Pertinence Letter submitted by Cuprum Resources (B&A) regarding several changes to the project description approved by RCA N°030/2011 and RCA N°0076/2014. The most important modifications were: a change in the location of the groundwater well (closer to the mining operation), changes to the leaching heap height, and a change in energy sourcing from a 45-km high voltage transmission line to a tap-off system and a 570-m transmission line. Additionally, the project lifespan was extended to 11 years to include additional mineral reserves (by reducing waste rock) and the waste rock disposal to be used as a platform for the leach pad was reduced to 65% of the original amount (consistent with the modifications to the leach pad design); the other 35% will be disposed in the open pit from the third year of operation, thus reducing transport requirements. SEA indicated that the change did not require submittal in SEIA for an additional RCA.
Pertinence Letter Ruling Digital Document N°20200410130 (28 Jul 2020)	Reply from the environmental authority to the Pertinence Letter submitted by Cuprum Resources (SML) regarding modifications to the facilities and equipment and their locations within the process areas from the ones approved by RCA N°030/2011 and RCA N°0076/2014, as a result of the progress of the engineering design. SEA indicated that the change did not require submittal in SEIA for an additional RCA.
Pertinence Letter Ruling Digital Document N°20200410173 (26 Oct 2020)	Reply from the environmental authority to the Pertinence Letter submitted by Cuprum Resources (SML) regarding the change of the wastewater treatment plant to be installed during the operation phase to a private sewage collection and treatment system based on septic tanks and final disposal through infiltration drains. SEA indicated that the change required submittal in SEIA for an additional RCA, since the change in the sewage treatment system implies a new liquid emission into the environment and, therefore,

Resolution or Legal Document	Description
	an additional environmental impact that needed to be assessed and environmentally approved before its construction.
Environmental Impact Declaration Digital Document N°20220400153 (24 May 2022)	On 19 May 2022 Cuprum Resources Chile S.p.A. submitted the Environmental Impact Declaration 'Optimisation of the Puquios Mining Project', which did not have the minimum technical and formal contents required by Title III of the SEIA Regulations. The evaluation service decided not to accept the Environmental Impact Declaration submitted, not admitting it for processing.
Environmental Impact Declaration Digital Document N°20220400187 (16 Aug 2022)	On 08 August 2022 Cuprum Resources Chile S.p.A. submitted the Environmental Impact Declaration 'Operational adjustments Puquios mining project', which did not have the minimum technical and formal contents required by Title III of the SEIA Regulations. The evaluation service decided not to accept the Environmental Impact Declaration submitted, not admitting it for processing.
Pertinence Letter Ruling Digital Document N°202304101104 (30 Aug 2023)	Reply from the environmental authority to the Pertinence Letter submitted by Cuprum Resources (SML) regarding a modification of the bacterial leaching process to a chloride acid leaching with salt addition and a restructuring of the interior of the dry area, relocating the facilities within the area approved and environmentally assessed in the original project's RCAs. SEA indicated that the change did not require submittal in SEIA for an additional RCA.

In accordance with the requirements of Article 18 letter l) of the SEIA Regulation (D.S. N°40/2012), an EIS or EID must contain the list of Sectoral Environmental Permits (PAS) and pronouncements applicable to the project or activity, as well as the technical and formal contents to comply with the requirements for each permit, in accordance with the provisions of Title VII of the SEIA Regulation. Each PAS is associated with a particular article of the SEIA Regulation.

For the Puquios Project, these PAS have been granted with the environmental licences, RCA N°030/2011 and RCA N°0076/2014, although these were granted under the previous SEIA Regulation and, therefore, the articles that establish each PAS have changed and new PAS have been added since to the list of articles. Table 20 7 presents the PAS already granted or applicable to the Project, indicating the corresponding Environmental Licence in which each was granted and if the permit requires a subsequent application for a Sectoral Permit with a different government authority.

Table 20-7 : Applicable Environmental Sectoral Permits (PAS)

Environmental Sectoral Permit (PAS) under D.S. N° 40/2012	Environmental Sectoral Permit (PAS) under D.S. N° 95/2001	Applicability	Approval status	Requires later request for a PS?
Article 136 – Permission to establish a mineral waste dump or mineral accumulation.	**Article 88** – Permission to establish a mining waste stockpile	The Project will include areas of WRSF and mineral stockpiling.	Granted with RCA N°30/2011	Yes

Environmental Sectoral Permit (PAS) under D.S. N° 40/2012	Environmental Sectoral Permit (PAS) under D.S. N° 95/2001	Applicability	Approval status	Requires later request for a PS?
Article 137 – Permission for approval of the closure plan for a mining site.	Not listed	The Project corresponds to a mining operation and under regulatory compliance, the project must submit a closure plan to SERNAGEOMIN for the final phase of its operation.	Granted Exempt Resolution N°1991/2020 SERNAGEOMIN	Yes
Article 138 – Permission for the construction, repair, modification and expansion of any public or private work for the evacuation, treatment or final disposal of drains, sewage of any nature.	**Article 91** – Permission for the construction, repair, modification and expansion of any public or private work for the evacuation, treatment or final disposal of drains, sewage of any nature.	The Project will use a wastewater treatment plant in the operation phase to treat and dispose household sewage and reuse the effluent as industrial water.	Granted with RCA N°30/2011	Yes
Article 140 – Permission for the construction, repair, modification and expansion of any garbage and waste treatment plant or the installation of any place intended for the accumulation, selection, industrialization, trade or final disposal of garbage and waste of any kind.	**Article 93** – Permission for the construction, repair, modification and expansion of any garbage and waste treatment plant or the installation of any place intended for the accumulation, selection, industrialization, trade or final disposal of garbage and waste of any kind.	The Project includes, in its different phases, areas enabled for the temporary disposal of household solid waste and non-hazardous industrial waste.	Granted with RCA N°30/2011	Yes
Article 142 – Permit for any site for the storage of hazardous waste.	Not listed	The Project contemplates an area enabled for the temporary storage of hazardous waste in each phase.	Not granted.	Yes
Article 146 – Permission to hunt or capture specimens of animals of protected species for research purposes, for the establishment of breeding centres or hatcheries and for the sustainable use of the resource.	**Article 99** – Permission to hunt or capture specimens of animals of protected species.	As part of a mitigation measure, the project requires conducting rescue and relocation of low mobility fauna that include some protected species.	Granted with RCA N°30/2011	Yes

Environmental Sectoral Permit (PAS) under D.S. N° 40/2012	Environmental Sectoral Permit (PAS) under D.S. N° 95/2001	Applicability	Approval status	Requires later request for a PS?
Article 155 – Permit for the construction of certain hydraulic works (Article 294 of the Water Code)	**Article 101** – Permit for the construction of certain hydraulic works (Article 294 of the Water Code)	Channels that transport more than 2 m^3/s are required to apply for this permit. The channel that discharges water from the containment dam in the Coloradito ravine in the Puquios ravine is designed for a maximum capacity of 55 m^3/s.	Granted with RCA N°30/2011	Yes
Article 156 – Permission to make channel modifications.	Not listed	The Project will have to modify natural channels for the construction of hydraulic works related to contour channels that will be enabled in the different process areas.	Not granted.	Yes
Article 157 – Permission to carry out regularization or defense works of natural channels.	**Article 106** – Permission to carry out regularization or defense works of natural channels.	The Project will intervene in natural channels due to the creation of an intake in the Penco Creek.	Granted with RCA N°30/2011 and RCA N°76/2014	Yes
Article 160 – Permission to subdivide and urbanize rural land.	**Article 96** – Permission to subdivide and urbanize rural land.	The Project considers the construction of habitable facilities on rural lands.	Granted with RCA N°30/2011 and RCA N°76/2014	Yes
Article 161 – Permission for industrial or warehousing facilities.	**Article 94** – Permission for industrial or warehousing facilities.	The Project is located in a rural area regulated by a Planning Instrument	Granted with RCA N°30/2011	Yes

20.7.2 Mining Permits

Sectoral Permits associated with mining operations are granted by SERNAGEOMIN. At this stage, several permits are considered applicable to the Project, but the most relevant ones, based on the engineering requirements and processing times, are:

- Authorization to establish a WRSF or mineral stockpile (related to PAS 136)
- Authorization of open-pit exploitation method
- Mineral Treatment or Benefit Plants Project Approval
- Authorization of the Project's Mine Closure Plan (related to PAS 137).

Other permits and notifications are also required to be presented at the beginning of the construction or operation phases, such as the notification for starting the construction works on the deposit or the approval for the Occupational Accident and Illness Prevention Program, among others, but none of them relate to the design of infrastructure, deposits or the mining process.

As indicated by Camino, at this stage the following mining permits have been obtained by the Project, all granted by SERNAGEOMIN:

- Exempt Resolution N°197/2014, approval for the Mineral Treatment Plant.
- Exempt Resolution N°198/2014, approval for the Open Pit Exploitation Method.
- Exempt Resolution N°198/2014, approval to establish a mineral waste dump or mineral accumulation[2].
- Exempt Resolution N°719/2014, approval for the Mine Closure Plan.
- Exempt Resolution N°1269/2020, approval for the Temporary Mine Closure Plan.
- Exempt Resolution N°1991/2020, approval for the updated Mine Closure Plan.
- Exempt Resolution N°1502/2021, approval for the extension of the Temporary Mine Closure Plan.

20.7.3 Additional Permits and Authorizations

Other PS are granted by different government authorities, the following permits are considered applicable to the Project, with the most relevant ones, based on their engineering requirements and processing times, listed below:

- Project approval for the Construction, Repair, Modification and Expansion of any Public or Private Work Designed for the Management of Sludge from Sewage Treatment Plants, the Evacuation, Treatment or Final Disposal of Drainage, Sewage of Any Nature and Waste Industrial or Mining (related to PAS 138)
- Approval for the Project for the Accumulation or Treatment of Industrial Waste (related to PAS 140)
- Approval for the Hazardous Waste Storage Facility Project (related to PAS 142)
- Authorization of Intervention of Species Classified as Endangered, Vulnerable, Rare, Insufficiently Known or Out of Danger (related to PAS 146)
- Approval for the water intake hydraulic works project and construction (related to PAS 155)
- Authorization of Channel Modification and Regularization Works (related to PAS 156)
- Authorization to Carry out Regularization or Defense Works of Natural Channels (related to PAS 157)
- Favourable Report for Construction (IFC) (related to PAS 160)

[2] This permit appears listed by SML as the same Exempt Resolution granted for the exploitation method but should be two different permits.

- Authorization of a Favourable Health Report (related to PAS 161)
- Authorization for the Project Design of a Private Drinking Water Supply System
- Building Permit.

The approval times for these permits vary, but they all need to be obtained before construction starts. Several other permits are also required but need to be presented during construction or at the start of the operation. Most of these additional permits relate to the authorization for the operation of waste storage, wastewater and drinking water facilities, waste transport, permits for minor support infrastructure like fuel tanks, electric systems, gas systems and roads.

Some of these permits have already been obtained by Camino but will need to be reapplied in the event of changes to the design and locations of the installations.

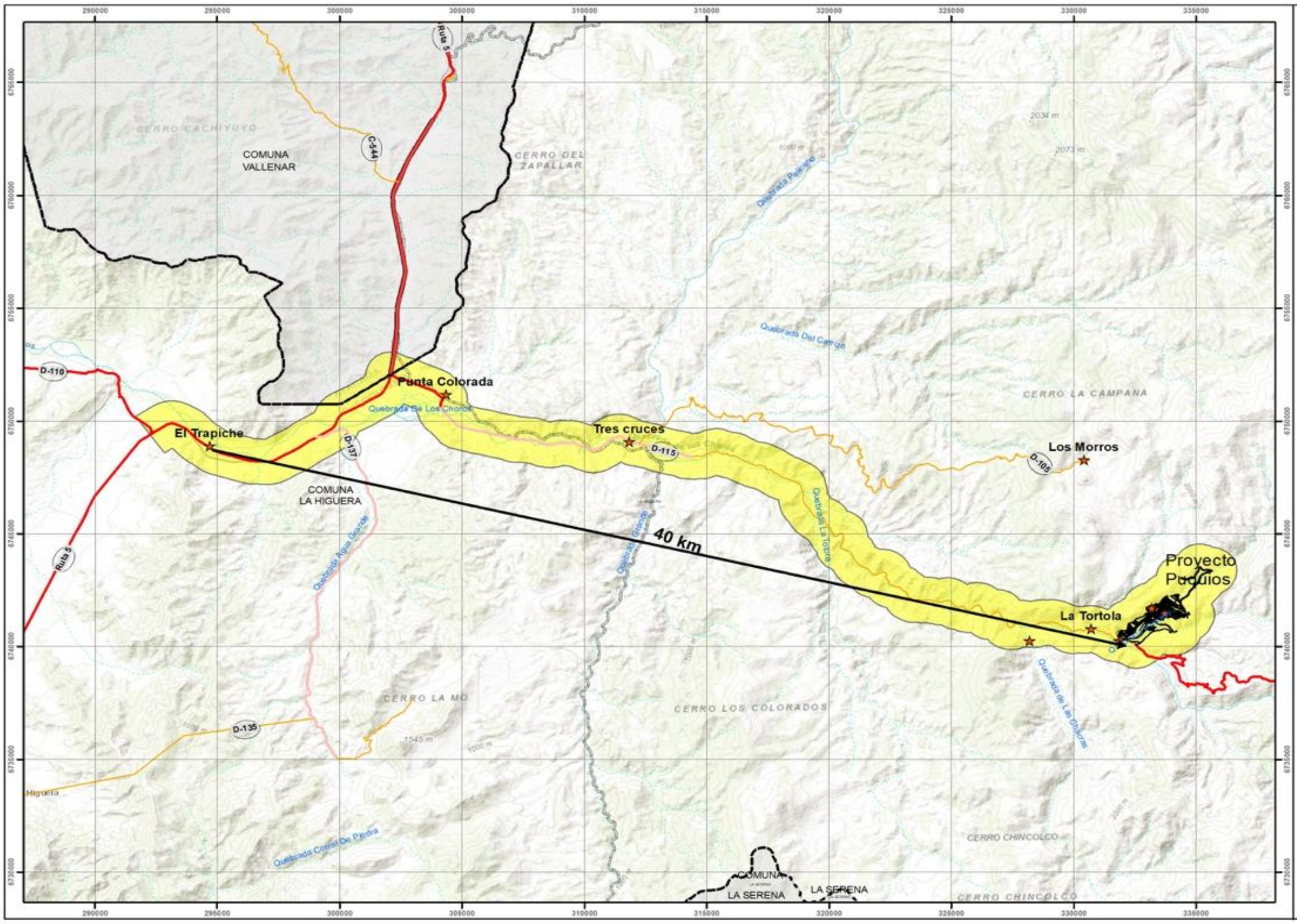
20.8 Social Considerations

20.8.1 Human Environment

In accordance with the provisions of Article 18 letter e.10) of the SEIA Regulation, as part of the baseline studies for the EIS, the Human Environment was characterized according to the five dimensions of analysis: geographical, demographic, anthropological, socioeconomic and social welfare. Camino, through its subsidiary Cuprum, carried out an additional characterization in August 2021, that will be presented with the EID for environmental assessment. The characterization methodology used both a quantitative and qualitative approach, using descriptive statistical tools based on secondary information sources, such as the 2017 Census (INE), and primary information from field surveys and interviews with local population.

The main populated areas in the vicinity of the Project are Tres Cruces (22 km), Punta Colorada (30 km) and El Trapiche (40 km). Punta Colorada is the largest settlement with approximately 320 residents. Smaller settlements exist in the Project vicinity, such as La Tórtola (1.5 km) and Los Morros (12 km) and consist of individual dwellings. Occupants are either engaged in sporadic artisanal mining or subsistence livestock and agriculture. In general, most of the surrounding settlements are not occupied year-round. Figure 20-2 shows the location of these settlements with respect to Puquios Project. In general, most of the surrounding settlements are sporadically occupied in which some of its former inhabitants return from time to time for the mining activity. Several other dispersed dwellings follow the same occupation pattern.

Figure 20-2: Human Environment around the Puquios Project



Note: Social Characterization for the Puquios Project Optimization EID, SML, 2021

During the 2008 EIS process, a Community Consultation Process (PAC) was carried out. The issues raised by the local community included effects on protected fauna, the possibility of groundwater contamination caused by AMD or other chemical releases, and the increased atmospheric emissions. The critical community concern was in relation to Project water usage and how it would affect the availability of the resource for the local community. The environmental authority considered that the measures determined by the Project were sufficient to address the environmental impacts identified by the communities and did not request additional measures to be implemented. The environmental authority pointed out that water extraction rights for the Los Choros basin (where the extraction well for the Puquios Project is located) had already been restricted, therefore, there it was not possible for the Puquios Project to extract more than the 22 L/s already approved.

20.8.2 Indigenous Communities and Indigenous Consultation

The Project is not located on indigenous lands or in areas of indigenous development. There are no registered indigenous, groups, associations or communities that conduct any traditional activities within the La Higuera municipality that could be affected by the Puquios Project.

20.8.3 Community Relations Plan (CRP) and Stakeholder Communications Strategy

As part of the EIS, the Project Owner at that time indicated that, upon obtaining the Environmental Licence for the Project, two stages of stakeholder communication would be carried out, during the construction and operation phases, to continue with the implementation of the Community Information and Stakeholder Participation Plan.

These communications considered meetings with the community at the beginning of construction to publicize the stages of the construction process, the characteristics of the project, emergency, contingency and risk management measures considered during the construction process and subsequent operation. During the construction phase, meetings would have the objective of informing the progress of the adopted safety and mitigation measures to reduce the inconvenience caused during construction activities (fundamentally referring to emissions of particulate matter and truck traffic).

Although not a legal requirement, as part of this upcoming environmental approval process for the Puquios Project, Camino will need to update its Stakeholder Communications Strategy and Community Relations Plan (CRP) to reflect the results of the environmental assessment process and any new concerns that may arise from the community. Additionally, the Mine Closure Plan Communications Program will also need to be updated.

It should also be noted that, as indicated by Camino, the company is part of the Rural Drinking Water Committee of Punta Colorada and also participates in the Strategic Water Management Plan (PEGH) for the Los Choros River basin along with the rest of the community.

20.9 Comments on Environmental Studies, Permitting and Social or Community Impact

The Puquios Project is well advanced in permitting. The most recent changes to the proposed Project as outlined in this report were approved by means of a pertinence letter submitted in 2023, where the environmental authorities (the SEIA) decided that the submitted modifications did not require the submission of a new EIS or EID.

In terms of environmental impacts, the most relevant issue is the impact that the permanent location of the open pit, waste dump, leaching pad and mineral stockpiles (including the obstruction of Coloradito ravine) could have on the ecosystem and the protected species habitat present in the area. To address this impact, Camino has established a 183 ha Protection Zone for the relocation of protected species of flora and fauna and for conservation, with monitoring to be continued during the operation phase of the project. Also relevant is the effect the increased traffic and mining operations could have on the Tricahue parrot population, an endemic endangered species with a strong presence and relevant nesting places along the Project access road (D-115). Although some of the mitigation measures have already been implemented by Barrick's Pascua-Lama mining project, which uses D-115 (therefore, these measures were eliminated as an enforceable commitment for Camino), the Puquios Project should still be committed to maintaining the other measures related to the protection of the Tricahue parrot populations. The fact that the Pascua-Lama mining project is currently facing legal challenges that could result in an early closure of that project, means that Puquios Project may need to consider additional measures in the near future regarding the Tricahue parrot.

The impact on water ecosystems is expected to be low, since the project is located in non-permanent ravines that flow under intense rainfall events. In order to prevent any potential impacts, surface runoff will be diverted away from the project areas and redirected downstream, and the potential and presence of AMD will be further studied and frequently monitored. The current design also incorporates measures to minimize infiltration that could promote AMD, such as liners and collection drain systems, that will divert any contacted water away from the water ecosystems.

Regarding the human environment, there is a sparce and seasonal population in the immediate vicinity of the isolated Puquios Project. This local population in the immediate surroundings are, characterized as territorially dispersed individual dwellings, or very small communities, mostly dedicated to subsistence livestock and agricultural activities but also linked to past small-scale mining activities. Larger populated areas are located further to the west along the access road. The main concern of the surrounding community seems to be the water to be used by the project and how it will affect the availability of the resource. This concern has been addressed by the fact that current water rights held by the project were existing rights, and that the restrictions currently in place prevent any increases to the permitted water extraction amounts.

The Puquios Project has a current Mine Closure Plan that considers standard industry practice measures to remove all plant infrastructure to the extent practicable and to ensure the physical and chemical stability of the remaining facilities, as well as post-closure monitoring measures.

21 CAPITAL AND OPERATING COSTS

21.1 Capital Costs

21.1.1 Overview

The capital cost estimates include mine initial capital, process plant initial capital and sustaining capital costs.

The mine initial capital included provisions for mining equipment, capitalized mining pre-production costs, fleet lease payments, and other mine capital costs. Mine cost data were provided by Camino through it subsidiary Cuprum. Cost input data included information on equipment capital and operating costs, and labor rates. An internal database maintained by MMTS was used for operator efficiency, availability, and equipment utilization rates. MMTS input the extraction schedule results (tonnes, grades, and hours of operation per year) to calculate extraction costs per schedule period. Some components of the mining capital cost were based on MMTS' experience with other Projects.

Process plant initial capital included direct equipment costs, earthwork quantities, equipment supply prices, and installation costs. Indirect costs were considered to be costs incurred during the Project delivery period to enable and support the construction activities.

Owner's costs were provided by Camino. Contingency was estimated using a deterministic factor that evaluated the uncertainty in relation to price and quantity for each package of the estimate.

The estimate conforms to AACE Class 4 guidelines for a pre-feasibility Study Cost Estimate with an expected accuracy range of -15% to -30% on the low side of the range and +20% to +50% on the high side of the range.

The initial capital costs total US$141.92M.

Sustaining capital costs include items such as purchase of new equipment, replacement of old equipment, lease payments, and clearing and grubbing. Sustaining capital costs total US$20.67M.

The next Table 21-1 provides a summary of the estimate for the overall initial and sustaining capital cost. The costs are expressed in Q1 2025 are in USD, and include all mining, process plant, infrastructure, project indirect, project delivery, owner costs and contingency.

Table 21-1: Summary of Capital Costs

WBS Level 1	Initial Capital (US$M)	Sustaining Capital (US$M)
Mining	22.95	20.67
Processing	54.91	-
On site infrastructure	14.73	-
Off site infrastructure	3.18	-
Project indirect costs	12.14	-
Project delivery	11.73	-
Owner's costs	4.69	-
Contingency	17.59	-
Total Initial Capital	**141.92**	**20.67**

The economic indexes and exchange rates used are presented in Table 21-2.

Table 21-2: Exchange Rates Used for Capital Cost Estimates

Base Currency	Exchange Rate
USD 1.00	USD 1.00
USD 1.00	EUR 0.95
USD 1.00	CLP 977
USD 1.00	CLF 0.03

21.1.2 Mine Capital Costs

Mine cost inputs were provided by Camino. The cost inputs included information for equipment capital and operating costs, and labour rates. An internal database was used for operator efficiencies, equipment availability and utilization. The results from the mining schedule (tonnes, grades, and operating hours by year) were input to calculate the mining costs by scheduling period.

21.1.2.1 Mine Initial Capital Cost

Equipment capital costs use vendor quotations provided to Camino which included quotations, and actual cost from analogue operations, among others. The mining equipment requirements are derived from the mining schedule. A summary of the mining capital costs is shown in Table 21-3. Operating costs that occur during pre-production or pre-stripping period are capitalized. Initial capital costs assume leasing. Leasing payment terms have been provided by Camino and are based on quotations.

Table 21-3: Mining Initial Capital Costs

Description	US$M
Mining equipment	1.33
Capitalized mining pre-production costs	15.90
Fleet lease payments	4.34
Other mine capital	1.37
Total Mining Initial Capital	**22.95**

There are three months of available time in the first year of pre-production (Y-2) when the mining equipment can be brought in early and used as needed for pre-production mining activities. Bulk earthworks in other areas of the project are planned to be conducted with this available mining equipment. The costs for these activities are not included as mining costs but are included in the earthwork activities.

A breakdown of the "Other Mine Capital" initial capital item is shown in Table 21-4.

Table 21-4: Other Mine Capital — Initial Capital Details

Description	US$M
Spare parts and tools	0.50
Software licenses	0.15
High precision GPS and guidance on mine fleet	0.20
Communication systems (radios)	0.08
Survey GPS, survey hardware and supplies	0.25
Mine rescue gear	0.15
Clearing and grubbing	0.05
Total Other Mine Capital	**1.37**

21.1.2.2 Mine Sustaining Capital

Sustaining capital costs include purchase of new equipment, replacement of old equipment, lease payments, clearing and grubbing, etc. The mining sustaining capital costs are shown in Table 21-5.

Table 21-5: Mining Sustaining Capital Costs

Description	US$M
New fleet	2.22
Lease payments	18.06
Clearing and grubbing	0.39
Total Sustaining Capital	**20.67**

Total initial plus sustaining capital costs (mining) for the Puquios Project are US$43.6M.

The components of the mining capital cost are estimated using MMTS' database and their experience with other projects.

21.1.3 Process Plant and Infrastructure

21.1.3.1 Process Plant and infrastructure Cost Summary

Process plant, on-site and off-site infrastructure initial capital cost are presented in Table 21-6 Table 21-7 and Table 21-8 Table 21-8.

Table 21-6: Process Plant Capital Costs

Description	US$M
Dry area	15.17
Leaching	9.70
Wet Area	30.04
Total Capital Cost Process Plant	**54.91**

Table 21-7: On-Site Infrastructure Capital Costs

Description	US$M
Site offices, storage & yards	1.33
Process/potable/sewage water	2.62
Control / communications	1.57
Electrical distribution in 23 kV	0.30
Water Well	0.21
Firefighting water	1.31
Internal roads	3.42
Sulphuric Acid	1.10
Compressed air	0.26
Salt Plant	0.48
Reagents	0.19
Contour channels	1.93
Total On-Site Infrastructure	**14.73**

Note: Totals may vary slightly due to rounding.

Table 21-8: Off-Site Infrastructure Capital Costs

Description	US$M
Electrical supply	2.26
Main Access Road	0.92
Total Off-Site Infrastructure	**3. 18**

21.1.3.2 Quantity Basis

The quantities of the physical works to be executed in the process plant and infrastructure were estimated by Ausenco. These quantities were incorporated in the equipment list and material take off (MTO) documents and cost estimates considers growth allowances.

All quantities included in the MTO's were taken off as neat quantities and do not incorporate any material take-off allowances, or growth factors which were included separately. Table 21-9 presents the main quantities.

Table 21-9: Main Quantities

Item	Unit	Quantity
Common Excavation	m^3	518,049
Rock Excavation	m^3	557,358
Massive Backfill	m^3	289,795
Concrete	m^3	3,326
Structural Steel	t	498
Carbon Steel Pipes	m	14,601
HDPE pipes	m	9,708
Cables	m	49,700
Conduit	m	10,379
Raceways	m	6,663

21.1.3.3 Procurement Pricing Basis

All major processing equipment and material were sized based upon process design criteria. Once the main equipment and materials were outlined, the package information (requisition, technical specifications) were derived and sent to Camino for a budgetary pricing process for major equipment and to Ausenco for minor equipment and materials.

All critical materials and equipment were considered as procured by Owner. The price included in the Capex corresponds to the lowest cost that meets the technical evaluation.

Equipment supply cost, equipment engineering, and factory tests were incorporated as direct costs. The costs of freight, vendor representatives, and spare parts were included in the project indirect costs.

Table 21-10: Procurement Package

Package No.	Package Name
PQ-C-001	Crusher and Conveyors
PQ-C-002	Agglomerator
PQ-C-003	Radial Stacker
PQ-C-023	Vertical Pumps
PQ-C-16	Process Pumps
PQ6	SX Plants

Package No.	Package Name
PQ-C-020	EW Plants
PQ-C-017	FRP Tanks
PQ-C-011	Carbon Steel Tanks
PQ-C-008	Compressed Air
PQ11	Hot Water System
PQ-C-006	Salt
PQ-C-021	Osmosis Plant
PQ-C-004	Scrubber
PQ16	Diesel System
PQ18	Power Transformers
PQ19	Control System
PQ20	Geosynthetics
PQ21	Plastic Pipes
PQ24	Valves
PQ32	Anode and Cathode
PQ34	Variable speed drive
PQ35	Switchgear

The source of procurement package prices is presented in Table 21-11.

Table 21-11: Price Origin by Commodity

Description	Budget Quotation (US$M)	Database (US$M)	Factored (US$M)	Allowances (US$M)	Total Procurement (US$M)
Geosynthetics	0.1	1.9	0.1	-	2.0
Massive earthworks	-	0.2	0.0	-	0.2
Local earthworks	-	0.0	0.0	-	0.0
Concrete	-	-	-	-	0.0
Metal Structures	1.5	1.3	0.2	0.0	3.0
Architecture	-	0.2	0.0	0.0	0.2
Mechanical	18.3	1.3	0.6	0.0	20.2
Piping	0.2	1.4	0.1	-	1.6
Electrical	2.8	4.7	0.1	-	7.5
Instrumentation	0.7	0.7	0.0	-	1.4
Total Procurement Prices	**23.6**	**11.5**	**1.0**	**0.1**	**36.1**
Percent (%)	**65**	**32**	**3**	**0.1**	**100**

For this study, the quotation percentage for material and equipment packages is 65%.

21.1.3.4 Construction and Installation Costs

The construction contracts defined in this stage are presented in Table 21-12. Construction and installation costs were estimated by first principles methodology. Camino provided the construction and installation cost for massive earthworks and the 23-kV line.

Table 21-12: Construction Contracts

Package No.	Package Name
CC001	Earthworks
CC002	SMP Installation
SC001	Cover Fill (Collection Trenches)
SC002	Geosynthetic and Drainage
SC003	Pre-stripping Disposal
SC004	Site Offices
SC005	Water Well
SC006	Water Transport
SC007	Firefighting Network
SC008	23-kV Line
SC009	Communications

The following information was used to determine the direct hours required for project execution:

- Information from the Ausenco database, which contains labor productivities for different disciplines and types of items in construction and industrial assembly projects in Chile.
- The direct hours that conform the base productivities are neutral with respect to climatic conditions, geographic location, and times of internal transport. These base productivities were adjusted by a correction factor to reflect the specific characteristics of the project.

Installation hours assume the following:

- Construction/installation will be performed by a construction contractor familiar with the type of project.
- The construction contractor has skilled construction labor and technology available.
- The engineering information and construction supplies (equipment and materials) are available in a timely manner.

The calculation of the productivity factor is based on specific assumptions and considers the following variables:

- Weather (days lost due to seasonal weather conditions).
- Applicable ground conditions (i.e., interferences due to physical spaces, Brownfield conditions).

- Distances and transport times to the construction site (from the change house to the work site, extra time from the work site to the canteen).
- HSE talks (daily, weekly).
- HSE courses (courses and talks for specific personnel that are not included in the workforce certification process).
- Time out (Consider one day per season, due to work-related events).

The calculated productivity factor is 1.16 which means 9.5 effective hours/day of a total of 12 available hours (11 hours of work + 1 hour lunch).

The direct labor cost was estimated using the following relevant information:

- Base rates
- Information on current or recently completed projects
- Current legislation
- Work week of 5 x 2 - No camp
- 12 hours/day (11 available hours + 1 hour lunch time)
- 165 hours of work monthly (available)
- Rotation considered was 10 days on/10 days off.

The base labor cost corresponds to an average crew cost by discipline including up to the foreman category.

The base cost of labor was estimated for the crews from each discipline required for the execution of the direct works of the project. This cost is made up of the following elements:

- Direct labor cost plus benefits: base wage, site allowance, bonuses and incentives, annual leave, statutory holidays overtime, life insurance, mutual security, sick leave, health and welfare, security induction, hiring cost, union agreements and any other component that the law indicates.
- Indirect labor cost: internal and external transport to the work area (direct labor), PPE equipment and clothes, minor tools, and consumables.

The base direct labor cost is summarized in Table 21-13.

Table 21-13: Base Direct Labour Costs

Crew	US$/h
Massive Earthworks	16.22
Local Earthworks	16.30
Concrete	17.57
Structural Steel	18.54
Architectural	17.88
Mechanical	18.65
Piping	19.11
Electrical	17.96
Instrumentation	17.91

Construction equipment was estimated at a rate of US$/direct hours (Table 21-14). This rate includes depreciation, fuel, lubricants, maintenance, operation, overhead and profit.

Table 21-14: Construction Equipment Rate

Construction Equipment Crew	US$/h
Massive earthworks	57.55
Local earthworks	19.25
Concrete	6.67
Structural steel	7.38
Architectural	6.87
Mechanical	7.05
Piping	6.62
Electrical	6.31
Instrumentation	6.31

Contractor distributable costs include contractor supervision, mobilization and demobilization, contractor temporary facilities, support equipment, contractor site services, overhead, financial cost and profit, and were estimated in detail and based on the execution schedule by contract. Contractor distributable cost includes the following:

- Temporary construction facilities which include the cost of the contractor temporary offices on site, warehouse, other minor facilities and mobilization and demobilization costs
- Cost of operation and maintenance of temporary facilities
- Contractor indirect staff (administration and supervision) which includes the monthly salaries in accordance with the construction schedule

- Expenses associated to staff cost external and internal travel, computers, PPE equipment, induction, training, medical exams
- Certification cost of indirect and direct contractor personnel
- Indirect equipment, which includes the cost of warehouse support equipment, scaffolding, surveying equipment, radios, lighting towers, etc.
- Home office, financial costs, and corporate overhead
- Profit and fees.

21.1.4 Project Indirect Costs

21.1.4.1 Project Indirect Cost Summary

Indirect costs are those that are required during the project delivery period to enable and support construction activities. Table 21-15 presents the Project indirect costs summary.

Table 21-15: Project Indirect Costs Summary

Description	US$M
Temporary facilities & services	0.35
Catering and lodging for indirect personnel	0.77
Third party services	2.62
Freights & logistics	2.97
Vendor representatives	1.28
Spares	1.41
Commissioning & start-up	1.65
First fills	1.09
Total Project Indirect Costs for Owner	**12.14**

The basis of estimate for each major Project indirect cost item is presented in the following sections. Project indirect costs were estimated based on experience with similar-sized projects and under an EPCM execution strategy for plant construction.

21.1.4.2 Temporary Facilities

This item considered the cost for offices and warehouse during the construction. This cost includes the operations of this facilities.

21.1.4.3 Temporary Services

This item considered the costs associated with the services required for the construction that are not included in the contractor costs; therefore, the cost of industrial water and electric generator for the temporary installations was included here.

21.1.4.4 Catering and Lodging

The cost area includes catering and lodging costs for indirect personnel. Catering and lodging for direct labour were included in the direct costs.

21.1.4.5 Third-Party Services

Construction support services by third parties were defined based on the project execution plan and the cost estimate was developed through a detailed estimate for each service which considers the project schedule. The rates used were estimated from benchmark prices. Third-parties services included are:

- Logistics and custom broker services
- Factory inspection
- Security services
- Testing, including tests for soil, concrete, x-rays for pipes and structures
- Geomechanical services
- Surveying
- Warehouse operation
- Road maintenance
- Induction and training courses
- Operation and maintenance of potable water plant
- Operation and maintenance of sewage water plant
- Portable toilets for indirect personnel
- Offices clean up.

The following services were included as Owner costs:

- Management of hazardous and non-hazardous waste
- First aid medical services

- Certification services (equipment & personnel)
- Internet & communications.

21.1.4.6 Freight and Logistics

This includes the cost of freight and logistics required to transport equipment or materials, from local origins as international origin to project warehouses,

21.1.4.7 Vendor Representatives

This item considers the cost of vendor personnel required for the supervision of installation, commissioning, start-up and testing of electromechanical equipment. Training services for operation and maintenance personnel are also included in this cost. h.

21.1.4.8 Spare Parts

This includes the spare parts required for start-up and for one year of operation. Operation manuals are also included. Capital spare parts are not included (estimate exclusion).

21.1.4.9 Commissioning and Start-up

This considers the costs of the direct crews, as well as the construction equipment and materials required for commissioning and start-up activities.

21.1.4.10 First Fills

This includes the items required for the initial fills and lubricants required in the start-up stage of the project.

21.1.4.11 Site Camp

This is not required. The Project is located close to an urban centre and employees will reside in that city.

21.1.5 Project Delivery

21.1.5.1 Project Delivery Cost Summary

Table 21-16 presents the Project delivery cost summary. Project delivery costs were estimated based on experience with similar-sized projects and following an EPCM execution strategy for plant construction.

Table 21-16: Project Indirect Costs Summary

Description	US$M
Engineering and procurement management	5.16
Construction management	6.57
Total Project Indirect Costs for Owner	**11.73**

21.1.5.2 Engineering and Procurement Support Services

The engineering and procurement support services were estimated based on a deliverable list of estimated hours required which were costed at an average market rate. These hours would cover the following activities:

- Detail engineering
- Support for procurement activities (requisitions, technical evaluations)
- Support to prepare bidding documentation for construction contracts
- Field visits (engineering personnel and contracts).

21.1.5.3 Construction Management Services

Construction management services include the staff, and all the expenses required for the proper supervision of the execution of the project. Vehicles, transportation, equipment, safety consumables, IT and communications expenses, and other minor items are included.

The staff includes the positions of project administration, project services (scheduling, cost control, change management), field engineering, procurement support, contracts, site services (logistics, IT, human resources, industrial relations, finance), quality assurance, HSE, field construction supervision, commissioning and start-up.

This service was estimated based on a staffing plan, the project schedule plan, and average market rates.

21.1.6 Owner (Corporate) Capital Costs

This cost covers Project staff costs (salaries and expenses) and HSEC and was estimated at US$4.69M by Camino.

21.1.7 Contingency

Contingency for the capital cost estimates was estimated through a deterministic factor which evaluates the uncertainty in relation to price and quantity for each package of the estimate. For this stage, the AACE recommended 15% of the base estimate as contingency, for Class 4.

21.2 Operating Costs

21.2.1 Overview

This section presents the operating expenditures (OPEX) cost estimate that was developed as part of the economic evaluation for the Puquios Project. The OPEX captures costs associated with the mine, process plant and general and administrative (G&A) facilities during the LOM.

The major areas are defined by Project scope division limits between MMTS, Ausenco, and Camino. The areas and parties responsible for developing the operating costs in each area are shown in Table 21-17.

Table 21-17: Operating Cost Estimate of Responsibility

Area	Responsible Party
Mine	MMTS
Process Plant and Heap Leach	Ausenco
G&A	Ausenco with support from Camino

The LOM forecast operating costs are summarized in Table 21-18.

Table 21-18: Life of Mine Operating Costs

Area	US$/t Processed	US$M/a
Mining costs	4.95	9.08
Processing cost	8.94	16.40
G&A cost	1.24	2.28
Total Operating Costs	**15.1**	**27.76**

21.2.2 Basis of Estimate

The operating cost estimate was developed using AACE criteria. The accuracy range of this study is -15% to -30% on the low side of the range and +20% to +50% on the high side of the range, which corresponds to an AACE Class 4 estimate.

Costs are presented in USD for Q1 2025.

21.2.2.1 Exchange Rate

For the exchange rate, the values as of November 2024, as defined by the Central Bank of Chile were considered, which are detailed in Table 21-19.

Table 21-19: Exchange Rates Used for Operating Cost Estimates

Base Currency	FOREX Rate
USD 1.00	USD 1.00
USD 1.00	EUR 0.95
USD 1.00	CLP 977
USD 1.00	CLF 0.03

21.2.2.1.1 Main Consumables and Reagents Prices

Main consumables and reagent prices and their source are presented in Table 21-20. Prices that were not directly quoted by vendors were benchmarked from nearby Projects.

Table 21-20: Main Consumable and Reagent Prices

Input	Units	Price	Source
Sulphuric acid	US$/kg	0.14	Ausenco database
Diesel	US$/L	0.79	Ausenco database
Electric power	US$/MWh	85.0	Ausenco database
Solvent SX	US$/kg	1.14	Ausenco database
Cobalt sulphate	US$/kg	17.40	Ausenco database
Salt	US$/t	50	Ausenco database

21.2.2.2 Exclusions

The following costs are not part of the operating cost estimate:

- Staff accommodation costs
- High voltage line maintenance costs
- Corporate expenses
- Insurance expenses.

21.2.3 Mine Operating Costs

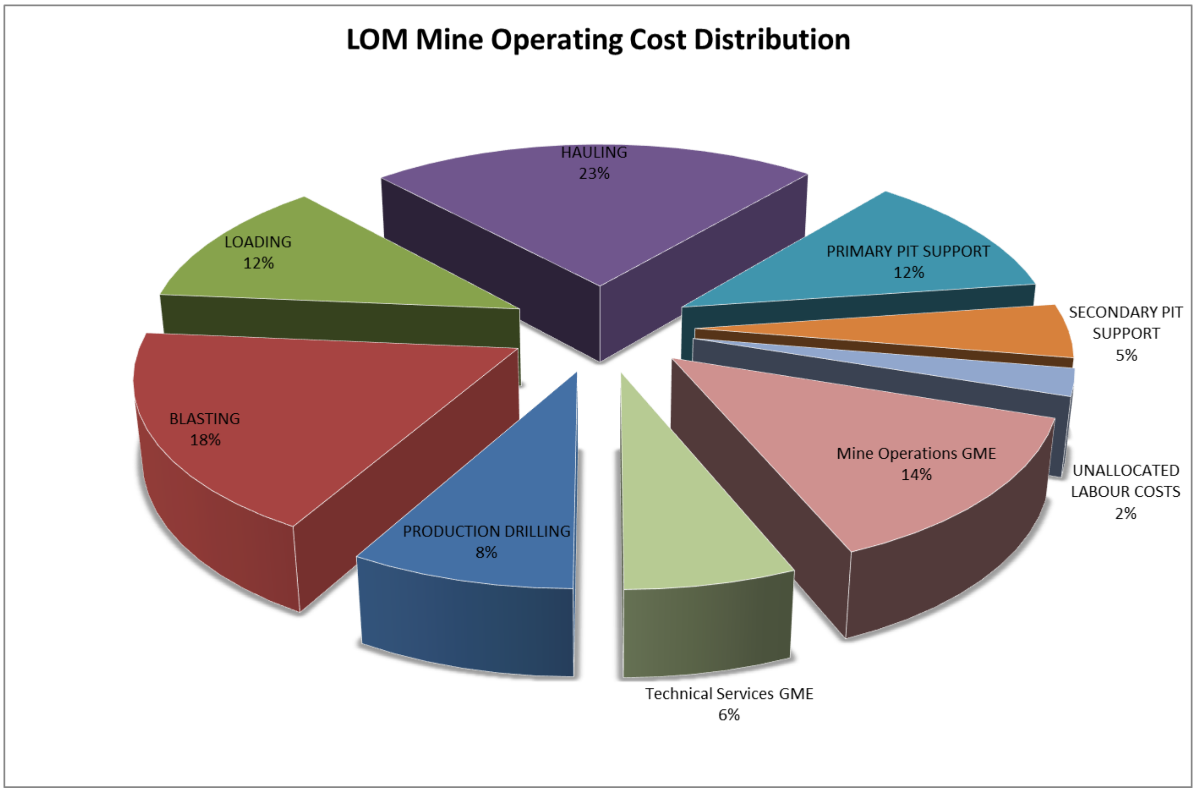
Operating costs for mining are derived from first principles using Camino provided labour rates, fuel costs, equipment productivities, and maintenance requirements. Mining operating costs also account for varying truck productivities by period which come from the detailed mining schedule. Average LOM operating costs of US$2.27/t mined also include GME costs for owner supervision and technical services. Average LOM mining operating costs (US$/t mined, do not include stockpile rehandle material) are summarized in Table 21-21 and Figure 21-1.

Table 21-21: Life-of-Mine Operating Costs

Area	US$/t mined*	US$/t milled	US$M LOM
Drilling	0.18	0.40	10.37
Blasting	0.41	0.89	23.12
Loading	0.28	0.60	15.69
Hauling	0.51	1.11	28.89
Pit support + unallocated labour	0.44	0.97	25.07
GME	0.45	0.98	25.52
Total Mining Operating Cost	**2.27**	**4.95**	**128.66**

* Tonnes mined do not include rehandle material, only tonnes directly mined from the pit.

Figure 21-1: Breakdown of Mining Operating Costs



Note: Figure prepared by MMTS, 2024.

21.2.3.1 Labour

Labour rates and salaries are provided by Camino and are shown in Table 21-22 and Table 21-23.

Table 21-22: Hourly Rates

Position	Base Rate (US$/h)	Annual @ 2,000 hours
Mine operations		
Drill Operator	9.60	19,200
Blasters	9.60	19,200
Excavator Operator	8.95	17,900
Loader Operator	8.95	17,900
Haul Truck Driver	9.60	19,200
Primary Support Operator	8.35	16,700
Secondary Support Operator	8.35	16,700
Pit Labourer	6.90	13,800
Mine Maintenance		
Drill Maintenance	11.85	23,700
Excavator Maintenance	10.35	20,700
Loader Maintenance	10.35	20,700
Hauler Maintenance	8.35	16,700
Support Maintenance	8.35	16,700
Labourer Service man	8.35	16,700

Table 21-23: Salaried Employees

Position	Base Salary (US$)	# of Employees
Mine Ops		
Mine Chief	129,500	2
Mine Supervisor	79,800	4
Mine Maintenance		
Maintenance Supervisor	60,700	1
Technical Services		
Mine Planning Supervisor	60,700	1
Mine Surveyor	16,700	1
Mine Surveyor Assistant	13,800	1
Geology Supervisor	60,700	1
Geology Assistant	19,200	1
Samplers	13,800	2

21.2.4 Process Operating Costs

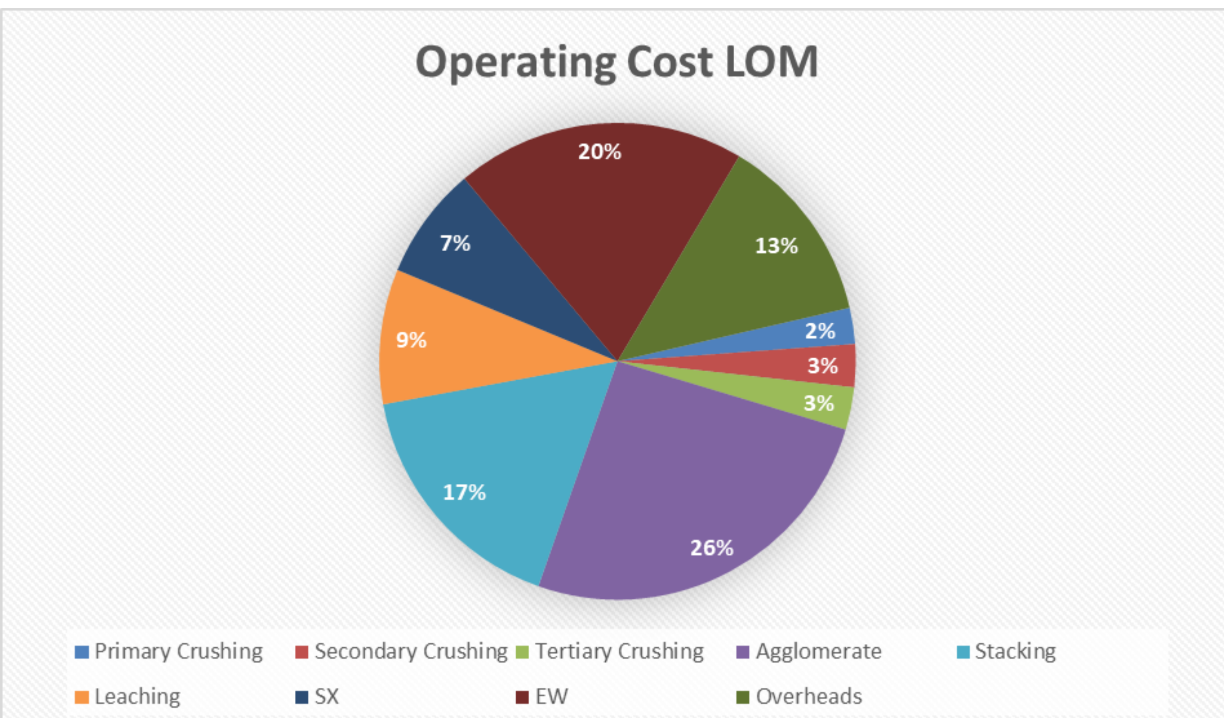
Operating costs for the process plant are derived from first principles using Camino provided labour rates, fuel costs, equipment energy consumptions, consumables and reagents process consumptions, maintenance requirements and other services provided to the operation. Average LOM operating costs of $8.43/t processed and are summarized in Table 21-24 and Table 21-25 are shown graphically in Figure 21-2 and Figure 21-3.

Table 21-24: Process Operating Cost by Area - LOM

Area	US$/a	US$/t	US¢/lb Cu
Primary Crushing	402,636	0.22	2.56
Secondary Crushing	477,405	0.26	3.04
Tertiary Crushing	472,044	0.26	3.00
Agglomerate	4,225,045	2.30	26.88
Stacking	2,741,857	1.50	17.45
Leaching	1,501,608	0.82	9.56
SX	1,251,717	0.68	7.96
EW	3,223,729	1.76	20.51
Overhead	2,107,550	1.15	13.41
Total Cost	**16,403,592**	**8.95**	**104.38**

Note: ¢ = cents.

Figure 21-2: Breakdown of Process Operating Cost by Area - LOM



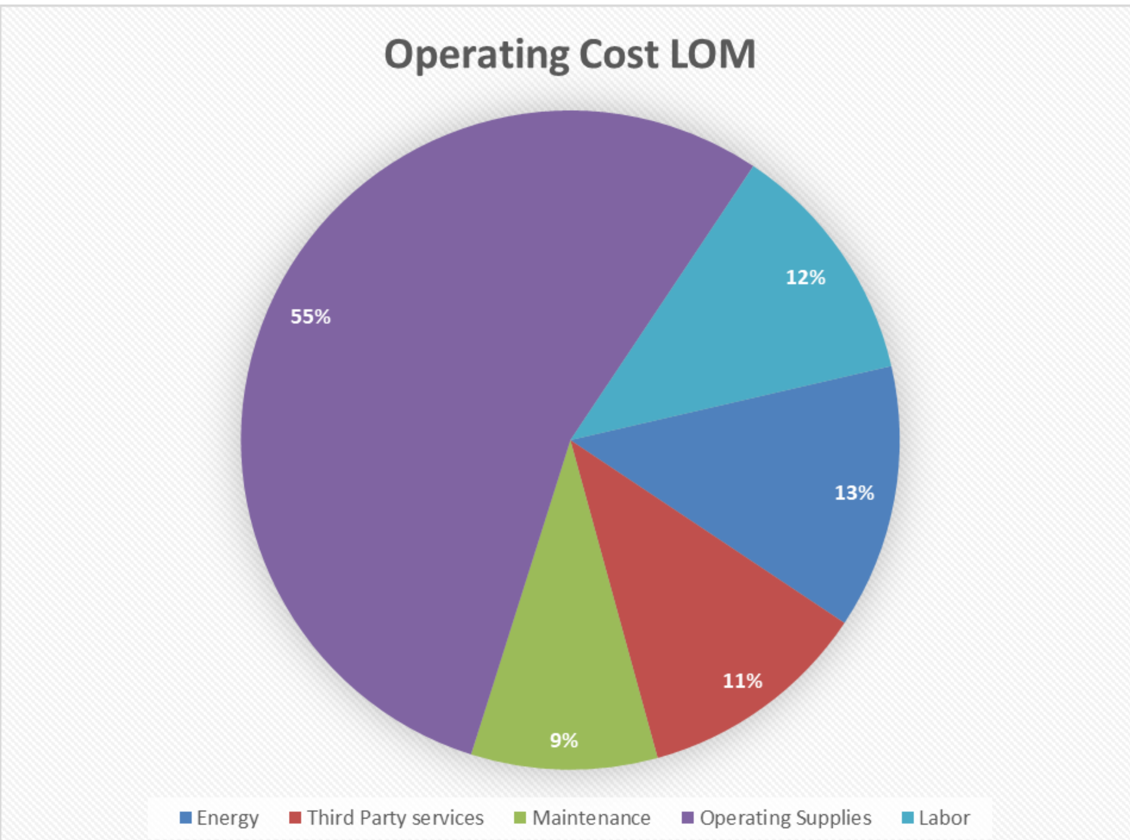
Note: Figure prepared by Ausenco, 2024.

Table 21-25: Process Operating Cost by Cost Item - LOM

Cost Item	US$/a	US$/t	US¢/lb Cu
Energy	2,127,138	1.16	13.54
Plant services	1,865,890	1.02	11.87
Maintenance	1,500,155	0.82	9.55
Consumables and reagents	8,939,794	4.88	56.89
Labor	1,970,615	1.07	12.54
Total Cost	**16,403,592**	**8.95**	**104.38**

Note: ¢ = cents.

Figure 21-3: Breakdown of Process Operating Cost by Item - LOM



Note: Figure prepared by Ausenco, 2024.

Table 21-26: Total Annual Cost by Area

Area	Units	LOM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Primary crushing cost	US$M/a	5.7	0.3	0.3	0.2	0.3	0.5	0.4	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1
Secondary crushing cost	US$M/a	6.8	0.4	0.4	0.3	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1
Tertiary crushing cost	US$M/a	6.7	0.4	0.4	0.3	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1
Agglomerate cost	US$M/a	59.9	3.3	3.4	2.0	3.4	4.9	3.8	3.3	4.7	5.1	4.6	5.1	5.4	5.3	4.9	0.6
Stacking cost	US$M/a	38.8	2.2	2.3	1.6	2.4	3.1	2.6	2.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	0.4
Leaching cost	US$M/a	21.3	1.2	1.3	0.8	1.3	1.7	1.4	1.2	1.7	1.8	1.6	1.8	1.8	1.8	1.7	0.2
SX cost	US$M/a	17.7	1.3	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.0	1.5	0.9	0.6	0.6	0.9	0.1
EW cost	US$M/a	45.7	3.5	4.0	4.0	4.0	3.7	4.0	4.0	4.0	2.4	4.0	2.2	1.6	1.6	2.2	0.2
General Expenses Cost	US$M/a	29.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.3
Total Cost	**US$M/a**	**232.4**	**14.7**	**15.8**	**12.9**	**15.9**	**18.6**	**16.8**	**15.7**	**18.8**	**17.0**	**18.5**	**16.7**	**16.2**	**16.1**	**16.5**	**2.0**

Table 21-27: Total Annual Cost by Cost Item

Item	Units	LOM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Energy	US$M/a	30.13	2.1	2.4	2.2	2.4	2.5	2.5	2.4	2.6	1.9	2.6	1.8	1.5	1.5	1.8	0.2
Plant Services	US$M/a	26.4	1.6	1.6	1.2	1.7	2.1	1.8	1.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.3
Maintenance	US$M/a	21.3	1.3	1.4	1.1	1.4	1.7	1.5	1.4	1.7	1.6	1.7	1.6	1.5	1.5	1.6	0.2
Consumables & reagents	US$M/a	126.6	7.8	8.4	6.5	8.5	10.4	9.0	8.3	10.4	9.5	10.2	9.3	9.1	9.1	9.1	1.0
Labor	US$M/a	27.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.3
Total Cost	**US$M/a**	**232.4**	**14.7**	**15.8**	**12.9**	**15.9**	**18.6**	**16.8**	**15.7**	**18.8**	**17.0**	**18.5**	**16.7**	**16.2**	**16.1**	**16.5**	**2.0**

The estimate of operating costs is based on unit rates for the various cost elements and their respective prices, including:

21.2.4.1 Labour

Costs were estimated from a breakdown of staffing positions including 84 workers at the process plant as shown in Table 21-28. Costs consider salary and company cost.

Table 21-28: Process Plant Labour Cost

Worker Cost	Plant Operations	Monthly Wages (US$)
Management Op.	1	10,788
Superintendencies	2	13,289
Supervisors A	2	10,103
Supervisors B	4	12,443
Supervisors C	5	13,043
Operators A	8	12,778
Operators B	16	23,795
Operators C	17	23,625
Operators D	14	15,993
Maintainers A	9	17,771
Maintainers B	5	8,615
Administrative C	1	1,975
Total	**84**	**164,218**

21.2.4.2 Energy

Estimated energy consumption was considered based on mechanical equipment and energy consumption in the Electrowinning (EW) area. Energy costs include operation in the process plant and ancillary buildings. The energy costs comprise 14% of the overall processing operating cost.

Table 21-29: Energy Consumption per Area

Area	kWh/a
Primary crushing	1,616,466
Secondary crushing	2,520,574
Tertiary crushing	2,448,335
Agglomeration and stacking	1,080,079
Heap stack	1,365,322
SX Plant	4,926,238
EW Plant	16,177,781
General	463,518
Total	**30,598,313**

21.2.4.3 Maintenance Inputs

This was estimated based on unit rates considering materials and contracts for mechanical, piping, electrical, civil and structural instrumentation maintenance. The unit maintenance cost is estimated at US$0.82/t processed and comprises 9.15% of the overall process operating cost.

21.2.4.4 Consumables and Reagents

Individual reagent and consumable consumption rates were estimated from metallurgical testwork results, Ausenco's in house database, and Ausenco's experience. The unit consumables and reagents cost are estimated at US$4.88/t processed and comprises 54.5% of the overall process operating cost.

Acid consumption represents 36.5% of the total consumables and reagents cost. Consumption has been determined using regression models for oxides, primary sulphides, and secondary sulphides from column test results, which are presented in Table 21-30. The distribution of acid consumption cost has been defined as 80% of the cost to agglomeration and 20% to the SX plant.

Table 21-30: Acid Consumption

Acid Consumption (kg/t) mineral by year		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Pit	Oxide	16	16	17	16	16	15	17	15	16	15	15	16	16	16	17
	Primary sulphide	17	16	19	14	14	14	19	15	15	15	16	19	14	16	19
	Secondary sulphide	11	11	10	11	11	12	12	12	12	12	13	14	13	13	14
Stockpile	Oxide	16	15	17	15	15	17	17	15	16	17	16	16	16	16	16
	Primary sulphide	17	12	19	14	15	19	19	14	14	19	15	16	17	19	16
	Secondary sulphide	12	10	10	11	11	14	14	14	14	14	14	14	12	14	14
Annual sum (kg/t)		**13**	**12**	**10**	**12**	**14**	**12**	**12**	**13**	**15**	**13**	**15**	**16**	**16**	**14**	**16**

Other main consumables are NaCl and diesel which represent 13.9% and 12.6% of the total consumables and reagents total cost.

21.2.4.5 Third Party Services

Estimated based on unit rates. Services such as the transport of agglomerated feed, surface preparation for the leach pads, industrial cleaning, installation of irrigation and grills, among others, are included. The unit plant services cost is estimated at US$1.02/t processed and comprises 11.4% of the overall process operating cost.

21.2.5 General and Administrative Operating Costs

G&A costs cover the expenses of the service departments starting with the operation of the Process Plant. Operating departments (mine, geology, mine engineering, plant operation/maintenance) were covered in the plant and mine operating costs. The Puquios Project considers 20 persons for their G&A personnel. Overall, the G&A costs include labour for HSEC and administration, office supplies materials, services such as catering and security, environmental and permitting related costs, closure costs, occupational safety and health and other community expenses. As shown in Table 21-31, the unit G&A cost is estimated at US$1.24/t processed.

Table 21-31: G&A Cost - LOM

Cost Item	US$/a	US$/t	US$/lb Cu
Labor	852,146	0.46	5.42
General services	186,013	0.10	1.18
Services	561,707	0.31	3.57
Office supplies	25,781	0.01	0.16
Environmental	227,868	0.12	1.45
Permitting	58,333	0.03	0.37
Closure costs	117,756	0.06	0.74
Occupational health and safety	160,564	0.09	1.02
Communities	87,154	0.05	0.55
Total Cost G&A	**2,277,321**	**1.24**	**14.48**

Manpower in G&A includes the general manager and staffing in community relations, government relations, accounting, purchasing, environmental, health and safety, security, human resources, information technology and site services. Labour considered for G&A is detailed in Table 21-32.

Table 21-32: G&A Labour

Worker Cost	G&A	Monthly Wages (US$)
General Management	1	15,721
Superintendencies	2	13,289
Administrative A	2	10,103
Administrative B	4	12,443
Administrative C	5	9,873
Administrative D	6	9,583
Total	**20**	**71,012**

21.3 Comments on Capital and Operating Costs

21.3.1 Comments on Capital Costs

The following assumptions and qualifications were considered in developing the estimate:

- Qualified personnel are available at the time of construction.
- The Project will be constructed by one or more local contractors with an approved track record in the construction of similar projects.

- Engineering information is available in a timely manner.
- It is considered that both the equipment to be installed and construction materials are available in a timely manner.
- All permits that are necessary for the execution of the project are the responsibility of the owner and do not hinder the normal execution of the project.
- Site land acquisition, access land, and right-of-way will be provided for the entire project and have no imputed costs in the capital cost estimate.
- Benefits and labour charges are based on current Chilean legislation.
- It is assumed that existing roads in the vicinity of the facilities can be used to transport construction materials and equipment without restrictions.
- Lunch for personnel involved in construction will be provided near the work area so that there are no significant impacts on project productivity.
- The Capex assumes that workers can be accommodated in the Project vicinity (Punta Colorada), where hosting services or rental houses will be available.
- The site area is free of archaeological finds and hazardous materials.
- Excavated material from site excavation works must be deposited within 5 km of the excavation. The same applies to borrow and quarry sites.
- Capex does not consider incentive bonuses for construction contractors.
- The Project's indirect cost estimate is based on the project execution strategy and execution schedule used to develop the estimate. Any changes in these considerations could impact the project costs and therefore the estimate should be re-evaluated under those new considerations.
- The estimate for the following items was provided by Camino and incorporated into the Capex:
  - Pre-stripping
  - Contour channels (diversion channels)
  - Civic quarter (Main Office, flat pack modules at site)
  - 23-kV power line
  - Initial mine equipment investment
  - Initial investment HSEC - Camino.
- The access road to the mine has no separated cost in the Capex as it will be done by the pre-stripping contractor, and it is incorporated into their costs.
- 35% of the total base of the heap pad will be sealed with weatherproofing.
- The early works contract (earthworks and roads) will be managed and supervised directly by Camino, so the estimate of indirect construction costs for these works does not incorporate costs associated with guarantees, head office and profit.

- The estimate for Construction Management services does not incorporate the construction management costs associated with mine works, early works, infrastructure, and roads. These construction management costs are part of the Owner's costs.
- The quantities (tonnes) of pre-stripping and its unit price were indicated by Camino (US$1.62/t) based on work carried out by MMTS.
- Camino indicated to use a unit price of US$1.62/t for earthworks for platforms, roads, and contour channels, under the assumption that the execution strategy defined by Camino considers that these works will be executed with mine equipment and supervised directly by Camino.
- This cost estimate was developed under an EPCM execution approach. Any other execution modality (e.g., Engineering Procurement Construction [EPC]) will impact the estimate; therefore, in the event of variations to the strategy, the cost estimate must be recalculated.

21.3.2 Capital Cost Exclusions

The following items are specifically excluded from the capital cost estimate:

- Major changes to the planned project schedule
- Value added tax (VAT)
- Any additional cost required due to external funding conditions
- Special incentives (accelerated schedule, environmental, safety)
- Costs associated with program acceleration/deceleration
- Fluctuations between the Chilean peso and other currencies
- Escalation of subcontracts/procurement during project execution
- Removal and disposal of hazardous materials encountered during construction and/or closure
- Relationship with the community and social costs beyond what was included in Owner costs
- Land acquisition, permits
- Licenses, patents, royalties
- Legal costs
- Force majeure events
- Extraordinary occupational health and safety requirements

22 ECONOMIC ANALYSIS

22.1 Cautionary Statement

The results of the economic analyses discussed in this section represent forward-looking information as the results depend on inputs that are subject to known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those presented here. Forward-looking information includes:

- Mineral Reserve estimates
- Assumed copper prices and exchange rates
- The proposed mine production plan
- Projected mining and process recovery rates
- Assumptions as to mining dilution and ability to mine using open-pit mining methods as envisaged
- Sustaining costs and proposed operating costs
- Assumptions as to closure costs and requirements
- Assumptions as to environmental, permitting, and social risks.

Additional risks to the forward-looking information include:

- Changes to costs of production from what was assumed
- Unrecognized environmental risks
- Unanticipated reclamation expenses
- Unexpected variations in the quantity of mineralized material, grade, or recovery rates
- Geotechnical or hydrogeological considerations during mining being different from what was assumed
- Failure of mining methods to operate as anticipated
- Failure of plant, equipment, or processes to operate as anticipated
- Changes to assumptions in the availability of electrical power, and the power rates used in the operating cost estimates and financial analysis
- Ability to maintain the social licence to operate
- Accidents, labour disputes, and other mining industry risks
- Changes to interest rates
- Changes to tax rates.

Calendar years used in the financial analysis are provided for conceptual purposes only.

22.2 Methodologies Used

An engineering economic model was developed to estimate annual pre-tax and post-tax cash flows and sensitivities of the Project based on an 8% discount rate. It must be noted, however, that tax estimates involve many complex variables that can only be accurately calculated during operations and, as such, the after-tax results are only approximations. A sensitivity analysis was performed to assess the impact on metal price, mill recovery, initial capital costs, and operating costs. The capital and operating cost estimates were developed specifically for this Project (presented in USD for Q1 2025). The economic analysis was run with no inflation (constant dollar basis).

22.3 Financial Model Parameters

The economic analysis was performed using the following assumptions:

- construction starts on January 1, 2026. All cash flows discounted to beginning of construction;
- ramp-up production start-up in Q1 2028;
- cost estimates are constant in Q1 2025;
- mine life of 14.2 years
- no price inflation or escalation factors were considered;
- results are based on 100% ownership;
- capital costs funded with 100% equity (i.e., unlevered with no project debt or associated financing costs assumed);
- all copper cathodes are assumed sold in the same period they are produced;
- project revenue is derived from the sale of copper cathodes;
- no contractual arrangements currently in place;
- the copper price is based on the consensus copper price and assuming a constant price of US$4.25/lb Cu for the long term;
- a cathode premium of US$75/t Cu is assumed;
- No contractual arrangements currently in place; and
- a NSR Royalty payment equivalent to 3.25% on net smelter return is considered. 2% is payable to SLM Las Pascualas and 1.25% to Santiago Metals.

22.3.1 Copper Price Forecast

As stated in Section 19, the copper price is based on the analyst consensus copper price and assuming a constant price of US$4.25/lb Cu for the long term.

A cathode premium of US$75/t Cu was assumed.

22.3.2 Taxes

The Project was evaluated on an after-tax basis to estimate the value of the potential economics. Ausenco compiled the tax model, reviewed by Camino, based on the tax regime as of the date of the PFS. Calculations include estimated Camino expenditures and related impacts on various tax pool balances from PFS date until construction begins.

As of the effective date of this report, the Project was assumed to be subject to the following tax regime:

- The Chilean corporate income tax system consists of 27% income tax.
- The opening balance of US$20.8M tax losses carried forward corresponds to the estimated closing balance for December 2024.
- Accumulated input VAT as of March 2021 of US$1.5M.
- The opening balance of US$27.8M of undepreciated capital costs corresponds to the closing balance to date.
- The economic model assumed an accelerated depreciation schedule.
- Total undiscounted total tax payments are estimated to be US$83M over the LOM.

22.3.3 Working Capital

A high-level estimation of working capital was incorporated into the cash flow based on accounts receivable (30 days), Inventories (45 days), and accounts payable (15 days).

22.3.4 Salvage Value

The mine fleet and process plant salvages values ware included as shown in Table 22-1.

Table 22-1: Mine Fleet Salvage Value

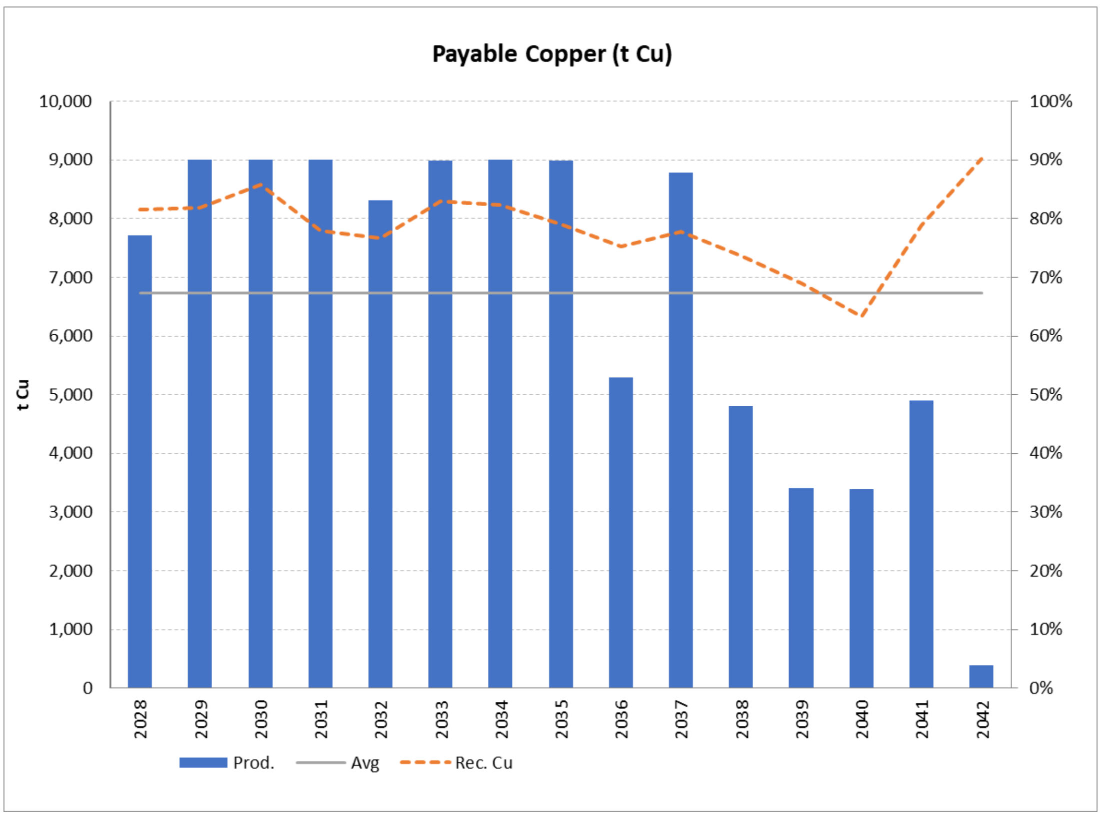
Year	Mine Fleet Salvage Value (US$M)
1	--
2	--
3	--
4	1.2
5	1.2
6	--
7	0.5

Year	Mine Fleet Salvage Value (US$M)
8	0.4
9	0.1
10	1.5
11	1.3
12	0.8
13	1.0
14	--
15	5.1
Total	**13.1**

22.3.5 Copper Production

Project revenue is derived from the sale of copper cathodes. Copper cathode production profile is shown in Figure 22-1. Payability has been assumed as 100%.

Figure 22-1: Payable Copper



Note: Figure prepared by Ausenco, 2025.

22.4 Economic Analysis

The economic analysis was performed assuming an 8% discount rate. Cash flows have been discounted to the beginning of construction on January 1, 2026, assuming that the project execution decision will be made, and major project financing will be carried out at this time.

The pre-tax net present value (NPV) discounted at 8% (NPV8%) is US$161M, the internal rate of return (IRR) is 26.7%, and payback is 3.1 years. On an after-tax basis, the NPV8% is US$118M, the IRR is 23.4%, and the payback period is 3.1 years.

A summary of the Project economics is included in Table 22-2 and is shown graphically in Figure 22-2. The cashflow on an annualized basis is provided in Table 22-3.

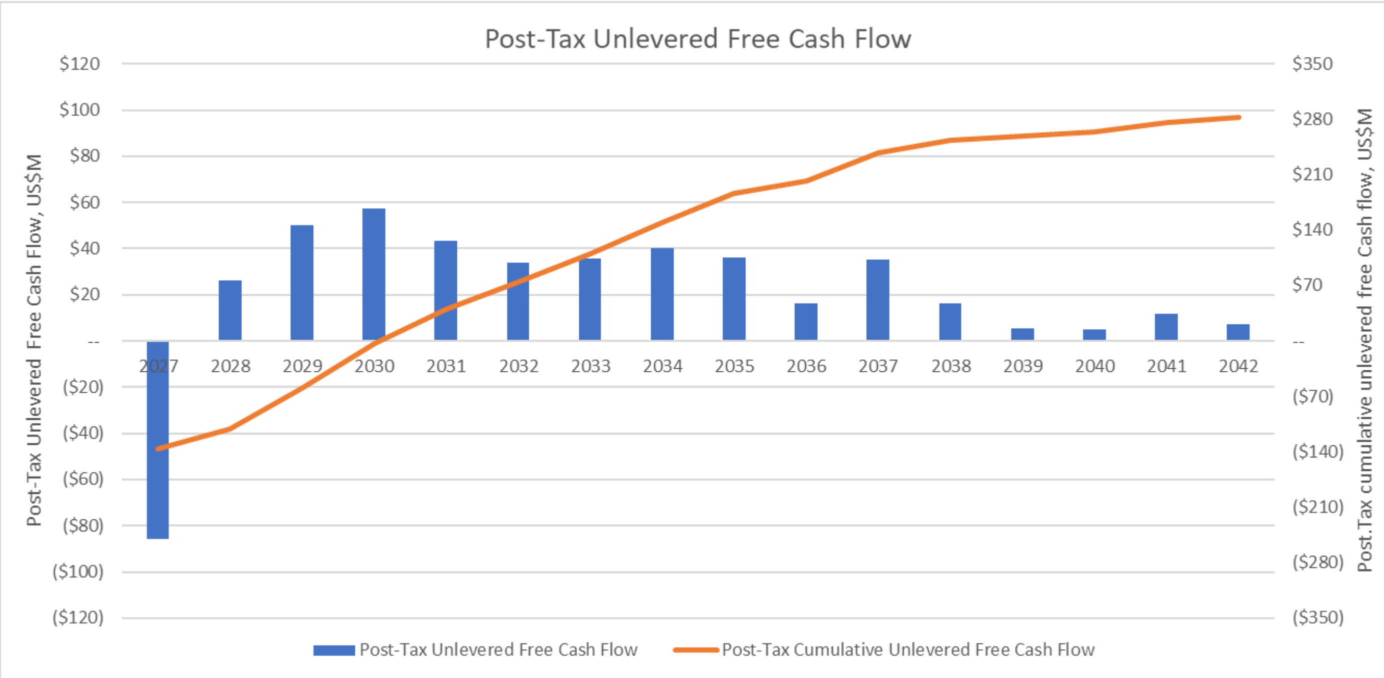
Table 22-2: Summary Economics

General	LOM Total / Avg.
Copper Realization Price (US$/lb)	4.28
Mine Life (year)	14.2
Production	**LOM Total / Avg.**
Total Mill Feed Tonnes (kt)	25,973
Mill Head Grade Cu (%)	0.49%
Mill Recovery Rate (%)	78.8%
Total Copper Recovered (M lb)	223
Operating Costs	**LOM Total / Avg.**
Mining Cost (US$/t Mined)	$2.27
Processing Cost (US$/t Milled)	$8.94
G&A Cost (US$/t Milled)	$1.24
Total Operating Costs (US$/t Milled)	$15.14
Cash Costs* (US$/lb Cu)	$1.95
AISC** (US$/lb Cu)	$2.00
Capital Costs	**LOM Total / Avg.**
Initial Capital (US$M)	$141.9
Sustaining Capital (US$M)	$20.7
Closure Costs (US$M)	$7.9
Salvage Value (US$M)	$16.8
Financials – Pre-Tax	**LOM Total / Avg.**
NPV (8%) (US$M)	$161
IRR (%)	26.7%
Payback (year)	3.1
Financials – Post-Tax	**LOM Total / Avg.**
NPV (8%) (US$M)	$118
IRR (%)	23.4%
Payback (year)	3.1

* Cash costs consist of mining costs, processing costs, mine-level G&A, sales & marketing charges and royalties.

** All-in Sustaining Cost (AISC) includes cash costs plus sustaining capital, closure cost and salvage value.

Figure 22-2: Post-tax Unlevered Frees Cash Flow



Note: Figure prepared by Ausenco, 2025.

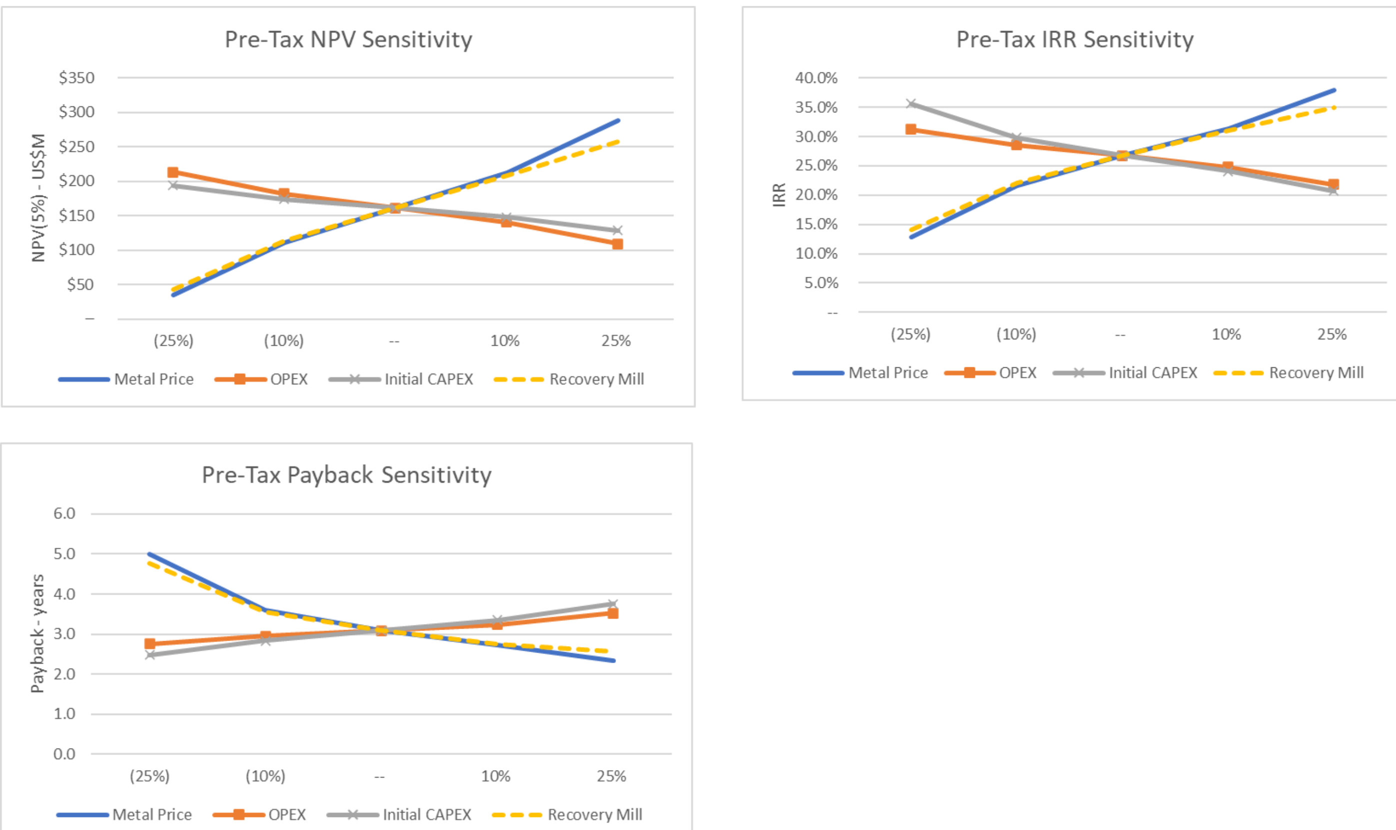
Table 22-3: Project LOM Post-Tax Unlevered Free Cash Flow

	Unit	LOM	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Mining Summary																			
Total Resource Mined	kt	25,973	477	618	2,669	818	1,879	1,511	1,395	2,902	2,859	2,509	1,927	3,273	988	16	313	1,819	--
Total Waste Mined	kt	40,396	3,821	4,894	2,552	4,268	1,428	1,549	3,001	3,198	1,933	3,540	2,839	1,227	1,532	1,384	1,426	1,804	--
Strip Ratio	w:o	1.56x	8.01x	7.92x	0.96x	5.22x	0.76x	1.02x	2.15x	1.10x	0.68x	1.41x	1.47x	0.38x	1.55x	88.59x	4.56x	0.99x	--
Production Summary																			
Ore leached	kt	25,973	--	--	1,472	1,544	1,034	1,577	2,100	1,750	1,560	2,100	2,100	2,100	2,100	2,100	2,100	2,100	236
Cu Contained in Feed	t	128,234	--	--	9,463	10,985	10,494	11,546	10,839	10,830	10,925	11,382	7,030	11,282	6,513	4,932	5,366	6,212	434
Head Grade (Cu Diluted)	%	0.49%	--	--	0.64%	0.71%	1.02%	0.73%	0.52%	0.62%	0.70%	0.54%	0.33%	0.54%	0.31%	0.23%	0.26%	0.30%	0.18%
Cu Recovery	%	78.75%	--	--	81.52%	81.92%	85.77%	77.95%	76.75%	83.03%	82.38%	78.97%	75.32%	77.83%	73.77%	68.93%	63.33%	78.89%	90.16%
Cu Recovered	t	100,985	--	--	7,714	8,999	9,001	9,000	8,319	8,993	9,000	8,989	5,295	8,781	4,804	3,400	3,398	4,901	391
Cu Recovered	M lbs	222.6	--	--	17.0	19.8	19.8	19.8	18.3	19.8	19.8	19.8	11.7	19.4	10.6	7.5	7.5	10.8	0.9
Macro Assumptions																			
Cu Realization Price	US$/lb	$4.27	--	--	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28	$4.28
Revenue																			
Gross Revenue	US$M	$950	--	--	$73	$85	$85	$85	$79	$85	$85	$85	$50	$83	$45	$32	$32	$46	$4
Operating Costs																			
Total Operating Costs	US$M	($393)	--	--	($28)	($28)	($24)	($26)	($31)	($31)	($27)	($32)	($30)	($30)	($27)	($26)	($25)	($26)	($3)
Mine Operating Costs	US$M	($129)	--	--	($11)	($10)	($8)	($8)	($10)	($12)	($9)	($11)	($11)	($9)	($8)	($7)	($7)	($8)	($0)
Processing Costs	US$M	($232)	--	--	($15)	($16)	($13)	($16)	($19)	($17)	($16)	($19)	($17)	($19)	($17)	($16)	($16)	($17)	($2)
G&A Costs	US$M	($32)	--	--	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($2)	($0)
Sales & Marketing																			
Sales & Marketing	US$M	($9)	--	--	($1)	($1)	($1)	($1)	($1)	($1)	($1)	($1)	($0)	($1)	($0)	($0)	($0)	($0)	($0)
Royalty																			
Royalty	US$M	($31)	--	--	($2)	($3)	($3)	($3)	($3)	($3)	($3)	($3)	($2)	($3)	($1)	($1)	($1)	($2)	($0)
Capital Expenditures																			
Initial Capital	US$M	($142)	($51)	($87)	($4)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sustaining Capital	US$M	($21)	--	--	($3)	($3)	($1)	($0)	($1)	($2)	($1)	($2)	($1)	($1)	($2)	($1)	($2)	($1)	($0)
Closure Cost	US$M	($8)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	($8)
Salvage Value	US$M	$17	--	--	--	--	--	$1	$1	--	$1	$0	$0	$2	$1	$1	$1	--	$9
Change in Working Capital																			
Change in Working Capital	US$M	--	--	--	($9)	($0)	$0	($0)	$0	($1)	$0	($0)	$3	($3)	$3	$1	$0	($1)	$6
Pre-Tax Unlevered Free Cash Flow																			
Pre-Tax Unlevered Free Cash Flow	US$M	$366	($51)	($87)	$25	$50	$57	$56	$45	$48	$54	$48	$20	$48	$19	$5	$5	$16	$7
Pre-Tax Cum. Unlevered Free Cash Flow	US$M	$366	($51)	($138)	($112)	($62)	($5)	$51	$96	$144	$198	$246	$266	$314	$333	$338	$344	$359	$366
Unlevered Cash Taxes																			
Cash Taxes	US$M	($85)	--	--	--	--	--	($13)	($11)	($12)	($13)	($12)	($4)	($12)	($3)	($0)	($0)	($4)	--
VAT	US$M	$2	$0	$1	$1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Post-Tax Unlevered Free Cash Flow																			
Post-Tax Unlevered Free Cash Flow	US$M	$283	($51)	($86)	$26	$50	$57	$43	$34	$36	$40	$36	$16	$35	$16	$5	$5	$12	$7
Post-Tax Cum. Unlevered Free Cash Flow	US$M	$283	($51)	($137)	($111)	($60)	($3)	$40	$74	$110	$150	$186	$202	$238	$254	$259	$264	$276	$283

22.5 Sensitivity Analysis

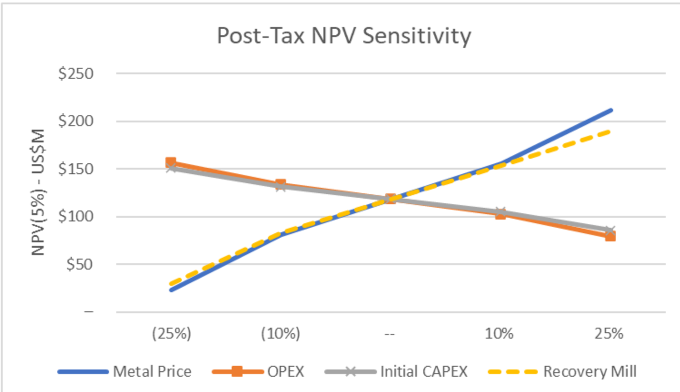
A sensitivity analysis was conducted on the base case pre-tax and after-tax NPV, IRR, and Payback of the Project, using the following variables: metal price, mill recovery, initial capital costs, and operating costs. Analysis revealed that the Project is most sensitive to changes in metal price and leach recovery, then, to a lesser extent, to operating costs and initial capital costs. Figure 22-3 shows the pre-tax sensitivity analysis findings, and Figure 22-4 shows the post-tax results.

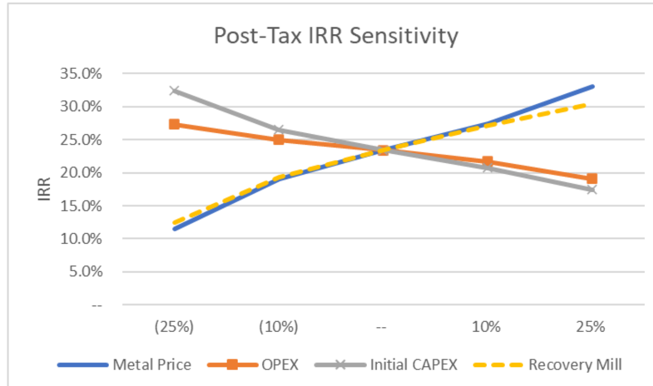
Figure 22-3: Pre-Tax Sensitivity Analysis

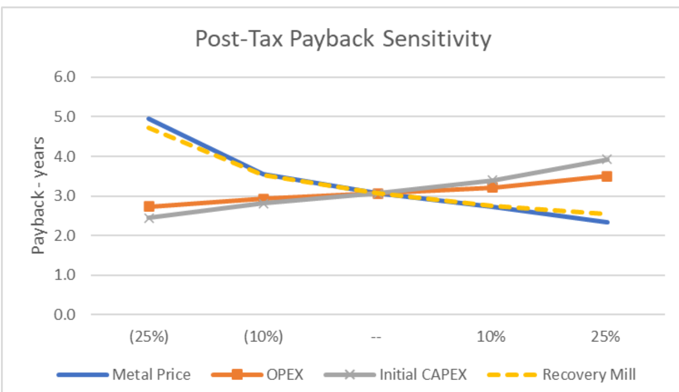


Note: Figure prepared by Ausenco, 2025.

Figure 22-4: Post-Tax Sensitivity Analysis







Note: Figure prepared by Ausenco, 2025.

23 ADJACENT PROPERTIES

This section is not relevant to this Report.

24 OTHER RELEVANT DATA AND INFORMATION

This section is not relevant to this Report.

25 INTERPRETATION AND CONCLUSIONS

25.1 Introduction

The QPS have provided the following interpretations and conclusions in their respective areas of expertise based on the review of data available for this report.

25.2 Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

The Project is located in the Coquimbo Region, Chile, approximately 130 km northeast of La Serena, at latitude 29°26′38″ S and longitude 70°42′46″ W.

Camino announced that it entered into a definitive share purchase agreement dated October 4, 2024 with Nittetsu Mining Co., Ltd. (Nittetsu) and Santiago Metals Investment Holdings II SL and Santiago Metals Investment Holdings II-A LLC, pursuant to which Camino and Nittetsu will jointly acquire (through a Chilean entity co-owned 50/50 by Camino and Nittetsu) all of the issued and outstanding shares of Cuprum Resources Chile SpA (Cuprum), a Chilean incorporated company and the owner of the Puquios Project. The Vendors are companies owned by a fund advised by Denham Capital Management LP (Denham). Camino and Nittetsu have agreed to enter into a shareholder agreement with respect to their 50/50 investment in the Project.

Closing is conditional upon obtaining (i) disinterested Camino shareholder approval in respect of the Transaction and (ii) Exchange approval of the Transaction.

The Puquios mining project consists of a group of 64 mining concessions, as listed in section I below, of which: 40 are mining exploration concessions already granted and 24 are mining exploitation concessions already granted. The total area covered by the Puquios Properties considers approximately 11,385 hectares.

Based on ownership certificates issued by the La Serena Water Rights Registry, Cuprum holds four water rights, for a collective 65 L/s extraction rate, which are in La Higuera borough, Coquimbo Region. The water rights are not subject to any mortgages, liens, encumbrances, or litigation, based on certificates issued by the La Serena Water Rights Registry in May 2017 and April 2018. The Water Rights are registered in the Dirección General de Aguas (DGA) Public Water Registry.

A mining tax is payable to the Chilean government based on the production rate. Article 64 bis of the Income Tax Act applies a specific tax to mining operations. Rates are sliding scale and based on sales amounts. These range from 0.5 – 5% of operating taxable income for taxpayers having annual sales over 12,000 t of refined copper or its equivalent (Law 20026). The Project has an annual cathode production rate estimate of 9,000 t; hence, the Project will not be affected by the Chilean mining tax.

Cuprum entered into an option agreement with SLM Las Pascualas Uno de Estancia de Chingoles (Las Pascualas) to purchase mining concessions. In 2013, Cuprum exercised this option and agreed to pay Las Pascualas a 2% Net Smelter Return (NSR) royalty on minerals extracted from these concessions.

Cuprum will pay Santiago Metals II Upper Holdco LLC a 1.25% Net Smelter Return (NSR) royalty quarterly on all sales of products derived from minerals extracted from Cuprum's concessions, regardless of processing location. This royalty is not limited by time, commodity, production amount, or royalty paid, and it can be freely transferred or sold by the vendors.

25.3 Geology and Mineralization

The Puquios deposit is an example of a copper–molybdenum porphyry system that has been weathered. Copper oxides outcrop on the surface and are underlain by a zone of copper enrichment.

Three mineralization zones have been defined the leached and oxides zone, secondary enrichment zone, and primary sulphides zone. The oxide zone ranges in thickness from 0–80 m and contains black or green copper oxides. the secondary enrichment zone is typically about 40 m in thickness and underlies the leached and oxides zone. the main alteration style is intense quartz–sericite. the lowermost zone is the primary sulphides zone, consisting of pyrite and chalcopyrite mineralization. transitional material can occur between the secondary enrichment zone and the primary sulphides zone.

25.4 Exploration, Drilling, and Analytical Data Collection in Support of Mineral Resource Estimation

Between 2006 and 2008, Tommy carried out a geological mapping campaign that included core and RC logging, as well as tunnel and surface geological mapping.

Between 2012 and 2013, B&A performed core and chip logging and 1:4,000-scale surface geological mapping.

In 2014, Cuprum Resources Chile Ltda. (B&A) logged RC chip samples.

In 2018, Cuprum (SML) completed core and chip logging. Additionally, all the legacy core and a selected portion of the RC chip samples were re-logged.

In 2020, SML conducted RC chip re-logging.

Minera Cielo Azul undertook a geochemical program of 214 samples collected on 50 x 50-m grid spacing.

Ground geophysical surveys were completed in 2012, consisting of IP/resistivity and ground magnetic surveys.

The exploration programs conducted to date are suitable for the deposit area and overall Project setting.

From 1988 to 2021, four companies conducted drilling programs in the Project area, completing a total of 47,860 m of core and RC drilling. No drilling was conducted between 1988 and 2006.

A total of 58 core holes (11,371 m) and 332 RC holes (36,489 m) were drilled from the surface. The 2021 drilling campaign was not considered in the geological model update or the current Mineral Resource model.

No recovery information is available for the legacy drill campaigns. The average recovery for the 2018 drill program was 89% for RC holes and 97% for core holes. The average recovery for the 2021 drilling program was 97%. A total of 220 historical drill holes were reconciled to the WGS84 datum, and an additional 87 drill holes were validated using their original topographic certificates. Topographical surveying for all 2018-2021 drill holes was carried out using WGS84 datum, resulting in a consolidated header database of 390 drill holes in WGS84.

Downhole surveying data is available for 151 out of a total of 390 drill holes.

The Puquios deposit was drilled along sections located 50 m apart, with north–northeast or south–southwest azimuths, which are acceptable given the main mineralization orientation.

The average dip for the drill holes is -67°, ranging from 50–90°. This pattern generated complete coverage of the main mineralization directions and avoided biased sampling.

The core drill holes up to 2018 had an average sample length of 2.26 m, based on 2,237 core samples, and 1 m for a total of 4,124 RC samples. Core drilling was sampled at either 1-m (89%) or 2-m (11%) intervals. All cores were oriented before splitting and were cut in half longitudinally. For the 2021 core drill holes, the average sample length was 1 m from a total 1,095 samples.

RC samples range in weight from 37–39 kg. After drilling, the samples were split on the drill platform using a riffle splitter to obtain a 9 kg subsample. The rejected material from the samples was stored at the Project facilities.

There is no twin drilling campaign in the Project, but the comparison of CuT for RC and core samples closer than 10 m, shows acceptable results. Eighteen drill holes from the Tommy campaign were excluded from the estimation database.

There are 370 validated density data measurements.

Except for the 1988 drilling campaign, QA/QC reports were completed for the different campaigns, evaluating the analytical accuracy and precision. No significant QA/QC issues were noted.

A digital database is hosted on an on-site server, while backups are available in the Cuprum Santiago office. A physical database backup is on site.

Drill cores, pulps envelopes and RC rejects are stored at a core shack on site.

Cuprum has formal documentation that describes the sample security procedures. The procedures, as set out in the documents, meet industry-accepted protocols.

In 2019, SML performed an internal data verification of the Project history which consisted of a topographic review, downhole surveys check, geological mapping review (including tunnel and surface mapping and drill hole logging), and assay checks (including sampling and analysis procedures and review of the assay database).

In 2017, AMC reviewed the B&A resource model for JORC Code compliance, including geology, data used, modelling, estimation methodology, and estimate reporting, additional drilling and exploration potential, to provide an opinion on the suitability of the Mineral Resource model for mine planning and pit optimization purposes. AMC concluded that the model did not meet the requirements of Table 1 of the 2012 JORC Code.

Between 2019 to 2020, the QP undertook a high-level review, focused on the geology and Mineral Resource estimate for the Project, to identify any issues and propose remediation such that the resulting resource estimate would be of sufficient quality to support a pre feasibility study and Mineral Resource reporting under CIM/ NI 43-101 Following the review, the QP verified the database, performed an update of the geological model and constructed a new Mineral Resource block model. In 2021, the QP undertook a high-level review that focused on the latest activities conducted and results obtained by SML, particularly on the drill hole database administration, geological logging, structural model, and new geometallurgical tests, to confirm whether the estimate could support a FS. An update of the Mineral Resource block model was also performed, including construction of a pit shell to support reasonable prospects for eventual economic extraction for the Mineral Resource estimate.

In 2024, the QP performed a high-level review and confirmed no changes have been carried out regarding exploration, drilling, and analytical data collection in support of a Mineral Resource Estimation.

25.5 Metallurgical Testwork

Initial metallurgical testwork focused on bacterial leaching of copper mineralization. A combination of the long leaching cycles required and the rugged topography that limited where infrastructure could be located made this an unattractive option.

From 2018 to 2020, eight test campaigns were carried out to define parameters for the leaching process: acid dose, salt dose, leaching cycle and particle size, which support the saline chlorine leaching process.

Representative samples were selected using historical and current database information, based primarily on mineral zone, secondarily on lithology and alteration, and thirdly on the average grade ranges.

The mine’s three main geometallurgical units defined in coordination with the geological model were tested.

A geometallurgical variability program was carried out to develop a model of Cu recovery and acid consumption as a function of the content of CuS, CuCN and Cu Ins with a high degree of correlation. For this study, 77 samples were used, distributed in proportion to the tonnes of reserves of the geometallurgical units.

To estimate metallurgical recovery, a leaching test program was designed using sulphuric acid and sodium chloride as leaching agents in short columns of 0.3 m height and 0.1 m diameter. Samples were agglomerated with 20 kg/t of sulphuric acid, water, and 20 kg/t of sodium chloride.

Design tests were carried out on columns of different dimensions and the scaling parameters were established between columns of 0.3 m, 1.0 m diameter, and 5.0 m.

Total copper recovery as a function of the mineral zone was obtained for variability tests. The median recovery in secondary sulphides is 87.5%, 77.1% in oxides, and 16.9% for primary sulphides and 56.7% for lower grade. To obtain the predictive model of copper recovery, a multiple regression model for each zone was defined.

In conclusion, there is strong metallurgical support for the process design, metallurgical recoveries, and the consumption of key reagents, such as acid and salt, for the different minerals that make up this deposit.

25.6 Mineral Resources Estimates

The assay database used for the estimation model consisted in 35,430 for CuT, 20,024 for CuS and 20,070 for CuCN.All of the Placer Dome and 18 Tommy core drill holes were excluded from estimation support. The cut-off for assay data for the Mineral Resource estimate presented in this Report was May 22, 2020. The 2021 drillingcampaign was not considered in the geological model update or in the current Mineral Resources model.

A complete exploratory data analysis on the geology and copper grades was executed to define estimation units. Three-dimensional wireframes of nine mineralized zones (minzones), four alteration and three lithology domains support the geological model. These geological units were interpreted using the implicit modelling method.

The main unit is the SSF with approximately 56% of the contained metal.

Isolated bodies of green and/or black copper oxides are present.

Assay intervals were composited in downhole intervals of 2.5 m. Composites for each zone or lithological feature were assigned unique numeric codes to differentiate them from the surrounding material.

Grades for CuT, CuS and CuCN were interpolated into each block using OK. Block estimates for each EU were constrained to use only composites from that EU.

The density database contains 370 samples. Three EUs were defined by a grouping of mineral zones.

Based on results from a drill hole spacing study, a nominal drill spacing was determined to be 47 x 47 m for Measured, 67 m x 67 m for Indicated, and >67 x 67 m for Inferred.

Post processing, which was executed on initial results, considers (for each block) the category of blocks around and according to that can modify the category in order to eliminate isolated “spotted dog effect” and smooth the results between categories.

An open-pit shell for the deposit constrains the block model for resource reporting purposes.

Mineral Resources are reported above a cut-off grade of 0.15% CuT.

Mineral Resources are reported using the 2014 CIM Definition Standards. Factors that may affect the Mineral Resource estimates include:

- changes in local interpretations of mineralization geometry, structures, and continuity of mineralised zones;
- changes to geological and grade shape and geological and grade continuity assumptions; and
- assumptions used to generate the conceptual data for consideration of reasonable prospects of economic extraction including:
  - commodity price assumptions, exchange rate assumptions, geotechnical and hydrogeological assumptions, metallurgical recovery assumptions, operating and capital cost assumptions;
  - delays or other issues in reaching agreements with local communities; and
  - changes in land tenure or permitting requirements, and changes to the regulatory regime assumed to apply to the Project.

The RPEEE in the current Mineral Resources statement considered a metal price of US$3.45/lb Cu. The QP opinion is that this price is conservative regarding the metal price in 2024. This is an opportunity for the next RPEEE update of the Project.

25.7 Mineral Reserve Estimates

Heap Leach tonnages are calculated by applying the appropriate modifying factors to the Mineral Resource and supported by an economic mining plan based on the open pit mine designs.

The cut-off grade for mill feed/waste determination is NSR >= $5.59/t.

A total of 25,973,000 t of mill feed was calculated as being delivered to the crusher, which considers a Measured Mill Feed of 21,805,000 t and an Indicated Mill Feed of 4,168,000 t.

The total average Cu grade was 0.49%.

A total NSR of US$23.92/t was used to develop the mine plan.

25.8 Mining Methods

A total of 25,972,740 t of mill feed it is expected to be processed. The distribution corresponds to 10,473,792 t of oxides, 1,889,420 t of primary sulphides and 13,593,520 t of secondary sulphides.

The average LOM grade is 0.49%. An average grade of 0.25% for oxides, 0.39% for primary sulphides and 0.69% for secondary sulphides is expected.

A total of 100,985 t of cathode cells is expected to be produced over the LOM.

25.9 Recovery Methods

The process consists of three major areas; the dry area, which includes the crushing circuit, agglomerator and stacker, follow by a wet area, which includes solvent extraction and electrowinning. A third area was considered which encompasses the various ponds used for the process.

Ore will be transported by 40-ton haul trucks.

ROM production will be processed in a crushing circuit which achieve a final product that is 80% under ½ inch (≈12.5 mm) and 100% under ¾ inch.

The final product of the crushing stage will be agglomerated using a dosage between 10–15 kg/t of industrial salt and an acid consumption of 10–15 kg/t. The agglomerated ore will be transported by conventional 30-ton hopper trucks, to the leach heap formation area.

The trucks coming from the agglomeration stage will unload the mill feed into a stacker, which will place the ore on permanent heap leach pads with maximum lift heights of 5 m.

The leaching process will be carried out via irrigation with acid-chloride solutions between the ILS stage and the Raffinate stage in a total dosage of 20 kg/t.

Copper recovery will be achieved in two leaching cycles; the first of these will be 33 days, where the heaps will be irrigated with an intermediate leaching solution and the second of these will be 57 days, where the heaps will be irrigated with a refining solution, obtained from the SX stage.

The PLS solution produced in the first leach cycle will be sent to the PLS pond, from where it will be sent to the SX-EW plant. The ILS solution produced in the second leach cycle and the refining solution produced at the SX plant will be sent respectively to the ILS and refining ponds.

The PLS solution collected in the PLS pond will be fed to a solvent extraction process consisting of two extraction stages in a serial configuration, one re-extraction stage and two washing stages. The SX plant will be designed to process a nominal PLS flow rate of 188 m^3/h.

The rich electrolyte produced in the SX stage will be taken to the electrowinning stage, which will have 30 permanent stainless-steel cathodes and 31 permanent laminated Pb-Ca-Sn alloy anodes in its cells. The EW plant will have a washing station and a cathode stripping machine.

The complete process will achieve a fine copper cathodes production of 9,000 t/a.

The CWi, copper head grade, and copper recovery used for the plant design are based in Year 8 of the mine plan; the reason is that this year represents the greatest production of fine copper cathodes, processing the greatest amount of mineral from the mine.

25.10 Infrastructure

The main activities of the Puquios Project will be carried out in the Coquimbo region, Elqui Province, commune of La Higuera, approximately 130 km northeast of the city of La Serena and 40 km east of La Higuera. The Project has access roads that connect to other cities. The access routes are Route D-115 and Route 5.

The Project infrastructure consists mainly of the processing plant, divided into a dry area, a wet area, and a pond area, where the different buildings are located according to the sector. In addition, there is a sector for administrative and general facilities.

In the dry area, there are facilities for mill feed crushing, agglomeration, conveyor belts, and the addition of salt to the heap leach pad. In the wet area, facilities are provided for acid tanks, a general tank farm, and the solvent extraction and electrowinning plant. Similarly, the main facilities, including the process water pond, emergency pond, ILS and PLS ponds will be located in the ponds area.

The leach pad will have a finished surface composed of waste rock and structural fill materials, with a final surface free of protrusions that could puncture the primary geomembrane. The heap is designed according to international standards, with stability analysis results confirming that the facility is stable under both static and pseudo-static conditions. Additionally, this sector will also contain two stockpiles: one at the top end of the heap leach pad, and the larger stockpile at the base of the NRSF.

In structural terms, foundations have been designed for the facilities to elevate the structures and/or buildings, taking into account the soil characteristics and the seismic conditions of the area, in compliance with national standards.

Electrical and control rooms will be provided to house equipment, cabinets, and the various communication and control units for the different sectors of the Project, according to the process requirements.

The Project also includes a sector of general and administrative buildings, which will feature facilities such as access control, a cafeteria, changing rooms, restrooms, offices, an infirmary, laboratories, a storage facility, and other essential amenities.

In terms of water management, facilities will be in place to manage surface runoff and prevent its entry into project areas. Additionally, wastewater will be treated and discharged to authorized sectors.

Process water will be sourced from a well located outside the project area, transported by truck, and stored in a pond before being distributed to the different areas. A reverse osmosis plant will also produce demineralized water for the process. Reject water will be repurposed for irrigation.

Electric power will be supplied to the site from the Punta Colorada electrical substation, located outside the plant, via a 45-km overhead power line delivering 23 kV to the plant.

25.11 Environmental, Permitting, and Social Considerations

The Puquios Project was submitted to the Environmental Impact Assessment System (SEIA), in 2008, by an Environmental Impact Study (EIS) and application for the necessary Environmental License (RCA) to allow for the construction and operation of the Project. The EIS was granted through RCA N°30/2011. The Project was later modified by an Environmental Impact Declaration (EID), submitted in 2013 and approved through RCA N°76/2014. The Puquios Project is well advanced in permitting. The most recent changes to the proposed Project as outlined in this report were approved by means of a pertinence letter submitted in 2023, where the environmental authorities (the SEIA) decided that the submitted modifications did not require the submission of a new EIS or EID. The Project has established a 183-ha Protection Zone for the relocation of protected species of flora and fauna and for conservation in order to address the impacts on the ecosystem and the habitat of the protected species present in the area. This impact is caused by the loss of approximately 196 ha of shrubland due to the permanent occupation of areas for the open pit, waste dump, leaching pad and mineral stockpiles, including the obstruction of the Coloradito ravine. The implementation of this area and execution of the rescue and relocation measures have associated monitoring measures during construction and operation phases.

Another impact on the local fauna is the effect the increased traffic and mining operations could have on the Tricahue parrot population, an endemic endangered species with a strong presence and relevant nesting places along the project access road (D-115). Although works and modifications to the access road are no longer a part of Puquios Project, other protection measures are still in place to protect the species, and any possible impacts should be closely monitored.

Water management is also an important part of the Project, with measures being taken to ensure minimal impact to the Project areas and water ecosystems. The current design incorporates measures to minimize infiltration that could constitute AMD, such as liners and collection drainage systems that will divert mine contact water away from aquatic ecosystems. Surface runoff will be diverted away from the Project areas and redirected downstream to the natural course of Puquios ravine. Initial geochemical ABA and NAG testing based on limited number of mineralized samples has indicated that the generation potential for AMD ranges from none to high, however, additional test work and studies prior to the commencement of open pit excavation are recommended (refer to Section 26.2).

The population surrounding the Puquios Project is scarce and characterized as being territorially dispersed individual dwellings, or very small communities, mostly dedicated to subsistence livestock and agricultural activities. The Project is not located on indigenous lands or in areas of indigenous development or traditional indigenous activities. The main concern of the surrounding community during the EIS process was the project's water usage and how it could affect the availability of the resource for the community. This concern has been addressed by the fact that current water rights held by the project were existing rights and restrictions are in place prevent the definition of additional extraction volumes.

The Puquios Project has a current Mine Closure Plan that considers standard industry practice measures to remove all plant infrastructure to the extent practicable and to ensure the physical and chemical stability of the remanent facilities, as well as post-closure monitoring measures.

25.12 Markets Studies

The Puquios Project will produce and commercialize copper cathodes for export. Accordingly, for the purposes of the PFS, it is appropriate to assume that the products can be sold freely at standard market rates.

The Prefeasibility Study assumed a fixed copper price of US$4.25/lb for the entire lifetime based on the Analyst Consensus Price Forecast from December 2024.

Exchange rates have recently been volatile worldwide due to multiple factors, including market disruptions and increased political and economic risks, among others. The main currency for the Puquios Project is the Chilean peso, making the Chilean peso–United States dollar exchange rate a critical factor. The study assumed an exchange rate of CLP 977: USD 1. This is the closing spot price as of November 29, 2024.

A cathode premium of US$75/t Cu for Grade A cathodes is included int the economic analysis of the PFS. This value is based on current sales of cathodes from operations in the region with the same characteristics as those forecast for the Puquios Project.

25.13 Capital Cost Estimates

Capital cost is defined as the capital expenditure required to engineer, design, procure, construct and commission the works required for the Project Scope within its defined battery limits. The capital cost includes initial and sustaining costs and is split into Mine direct costs and Plant directs costs, inclusive of Project Indirect costs and contingency.

The estimate conforms to AACE Class 4 guidelines for a Prefeasibility Estimate with an expected accuracy range of -15% to -30% on the low side of the range and +20% to +50% on the high side of the range.

The costs are expressed in Q1 2025, American dollars and include all mining, process plant, infrastructure, project indirect, project delivery, owner costs and contingency.

The initial capital costs total US$141.9M

Sustaining capital costs include items such as purchase of new equipment, replacement of old equipment, lease payments, and clearing and grubbing. Sustaining capital costs total US$20.67M.

25.14 Operating Cost Estimates

The OPEX captures costs associated with the mine, process plant and general and administrative (G&A) facilities during the LOM. It was developed using AACE criteria. The accuracy range of this study is -15% to -30% on the low side of the range and +20% to +50% on the high side of the range, which corresponds to an AACE Class 4 estimate. Costs are presented in US Dollars (US$) for Q1 2025.

A total of US$27.76M per year was calculated for the total operating costs, with US$9.08M allocated to mining costs, US$16.40M for processing costs, and US$2.28M for G&A costs. The LOM operating cost is estimated at US$15.1/t processed.

Staff accommodation costs, high-voltage line maintenance costs, as well as corporate and insurance expenses are not included in the estimate associated with the Puquios Project.

25.15 Economic Analysis

Based on the assumptions in this report, the Project has a positive cash flow. The pre-tax net present value discounted at 8% (NPV8%) is US$161M, the IRR is 26.7%, and the payback period is 3.1 years. On an after-tax basis, the NPV8% is US$118M, the IRR is 23.4%, and the payback period remains 3.1 years.

A sensitivity analysis was conducted on the base case pre-tax and after-tax NPV, IRR, and Payback of the Project, using the following variables: metal price, mill recovery, initial capital costs, and operating costs. The analysis revealed that the Project is most sensitive to changes in metal price, and mill recovery, followed by, to a lesser extent, operating costs and initial capital costs.

25.16 Risks and Opportunities

25.16.1 Risks

25.16.1.1 Mineral Resource Estimate

A decline in copper prices could shorten the mine life. Additionally, the assumptions used in the current RPEEE may require revision in future updates to reflect market conditions.

25.16.1.2 Mining Methods

Improper maintenance of mining equipment may shorten its lifespan, increasing mining and sustaining capital costs.

Limitations on crusher throughput or cathode output extend mine life, preventing quicker extraction of economic material and maintaining a higher economic cut-off grade.

The current phase sequence may limit backfill opportunities, leading to higher haulage costs.

The cut-off grade is not aligned with the processing costs, posing a financial risk.

25.16.1.3 Mineral Processing and Metallurgical Testwork

During detail engineering, selecting appropriate materials of construction to provide corrosion resistance against acidic and chloride solutions is key to ensuring plant’s design availability and achieving the expected equipment lifespan.

25.16.1.4 Infrastructure

25.16.1.4.1 Geotechnical Studies

There was a limited geotechnical investigation for the heap leach pad. If conditions are different than those developed in this study. The cost of constructing the heap leach pad could be higher.

The design of the lifts, inter-lift liner, irrigation system and collection system, as well as the leach pad are based on a mineralogical testing program. If the actual operation of the heap leach pad is different than this model, the construction and operating costs could be higher.

25.16.1.5 Market Studies

Commodity prices can be volatile, and there is the potential for deviation from the forecast.

25.16.1.6 Environmental, Permitting and Social Considerations

The potential onset of AMD may result in additional costs related to mine water treatment during operations and closure/post-closure phases.

There is some uncertainty regarding terms and conditions in new environmental permits that are not yet received that could lead to additional monitoring and management costs.

25.16.2 Opportunities

25.16.2.1 Exploration Potential

The Puquios deposit remains open at depth. A recent independent study (AsGeoMin, 2021) has indicated the presence of a primary mineralization potential as an exploration target. The genetic model, similar to other porphyry deposits, suggests there is potential to continue to expand the deposit at depth, in this case, up to 200 to 300 m deep. Chalcopyrite orebodies interpretation have been also supported by approximately 8,170 m of drill holes, which include the extension of 361 m from two old drill holes. Those extensions were drilled during April and May 2021 (SML, 2021a), with an adequate QA/QC program (SML, 2021b). This primary sulphide target is interesting in terms of volume although with relatively low Cu and Mo grades.

Between May and July 2019, an independent consultant (Arévalo C., 2019) carried out a structural-geological study on surface to define exploration targets. This study considered an area of 60 km^2 (10 km east—west and 6 km north—south) around Puquios Project, defining eight priority targets, mainly located in the western structural domain.

25.16.2.2 Mineral Resource Estimate

The QP considers the metal price assumption of US$3.45/lb Cu to be conservative relative to the price in 2024. This presents an opportunity for the next RPEEE update of the Project.

25.16.2.3 Mining Methods

Expanding crusher throughput or cathode output would enable quicker extraction of economic material and reduce the economic cut-off grade.

There is material below the heap leach pit could be extracted using a “long leach” method with a higher recovery, potentially adding up to 16 Mt of heap leach material.

Adjusting the phase sequence could create greater backfill opportunities, reducing haulage costs.

The NSR grade is based on a lower copper price than the financial model, presenting a potential economic upside.

25.16.2.4 Mineral Processing and Metallurgical Testwork

There is material below the heap leach pit that could be extracted using a “long leach” method with a higher recovery. This has the potential to add up to 16 Mt of heap leach material. Samples from this area should be tested to determine if they can be processed with the flowsheet defined in this study.

26 RECOMMENDATIONS

The results presented in this technical report demonstrate that the Puquios Project is technically and economically viable. It is recommended to continue developing the project through additional studies. The recommendations and budget estimates are summarized in Table 26-1, and are divided into a two-phase approach.

The Phase 2 budget described in Table 26-1 is contingent on the successful completion of Phase 1 and the availability of funding for a decision to proceed to construction of the Puquios Project, as well as any other matters which may cause the objectives to be altered in the normal course of business activities.

Table 26-1: Summary of Recommendations and Costs

Description	Cost (US$ '000)
Phase 1: Initial Expenditures	
Mining Studies	85
Mineral processing and metallurgical testwork	105
Update of Mineral Resources statement	30
Subtotal Phase 1	220
Phase 2: Expenditures prior to construction	
Environmental Studies	220
Geotechnical field and laboratory, seismic hazard and updated design of HLP	450
Subtotal Phase 2	670
Total	**890**

26.1 Mineral Resource Estimates

The RPEEE in the current Mineral Resources statement (declared in 2021) considered a metal price of US$3.45/lb Cu. In this sense, the QP opinion is that this price is conservative regarding the metal price in 2024. This is an opportunity for the next RPEEE update of the Project to potentially expand the pit volume. For this reason, it is recommended that a new Mineral Resource pit should be performed considering a higher metal price, and consequently an update of the Mineral Resources statement.

26.2 Mining Studies

The following mining studies are recommended:

- Obtain firm quotes with leasing terms for all mining equipment.

- Complete a haulage study, to confirm the operating capacities of the proposed haul fleet. The haulage study should include a fuel burn analysis.
- Conduct a throughput optimization to examine Project economic benefits.
- Revise the currently high safety stability factors to determine if Mineral Reserves estimates can be increased or the volume of waste material can be lowered.
- A detailed drilling and blasting study should be done to optimize the burden and the spacing of the powder factor.
- Update the NSR and cut-off grade to match current metal prices and processing operating costs. Update the mine schedule with the new NSR and cut-off grades.

Mining studies work is estimated at US$85,000.

26.3 Mineral Processing and Metallurgical Testwork

The following mineral processing studies and metallurgical testwork are recommended:

- Revise the placement of the industrial water pond to a higher elevation to reduce pumping costs.
- Complete a heap leach dynamic simulation study to prepare the ramp-up stage and simulate the stationary period.
- Conduct metallurgical tests to increase the salt concentration up to 100 g/L to determine if this can potentially increase recovery.
- Study the use of brine agglomeration instead of solid salt crystals.
- Evaluate whether a heap final wash should be incorporated. If so, update the water balance.
- Perform a study for an alternative water pumping system from the Punta Colorada wells to the site to replace water trucks.

Mineral processing and metallurgical testwork activities cost is estimated at US$105,000.

26.4 Infrastructure

26.4.1 Geotechnical Studies

Additional studies and data collection will be required to advance project development beyond the pre-feasibility level. Some, but not all, existing data gaps that need to be addressed in future studies include the following:

- Geological and geotechnical site investigations, along with a laboratory program, should be conducted for the infrastructure, process plant, WRSF, and HLP. This should include test pitting, drilling, and laboratory testing to understand subsurface soil and rock characteristics, construction material properties, and groundwater levels.

- Irrigation and recovery, stability, and deformation analyses for the TWMF needs to be carried out based on geotechnical field and laboratory, seismic hazard study, hydrological programs.
- Develop site specific geohazard and seismic hazard studies.
- Hydrological information should be gathered from site-specific climate studies to design ponds, diversion channels, and spillways along with the development of TWMF water balance.
- Updated design of the heap leach pad operations, including stacking plan.

As more information becomes available, the assumptions made in this study can be verified or updated to support the Project's advancement to the next design stage. The estimated cost of implementing the above recommendations, including drilling and test pitting equipment, is US$450,000.

26.5 Environmental Studies

Additional geochemical test work is recommended. This work should include the selection of a representative collection of mine rock samples (obtained from cores and/or chips) for additional ABA static test analyses. The geochemical testing program should be designed and conducted under the direction of a qualified geochemist with experience in AMD and mine rock management. The results of this test work and any further recommendations should be used to develop a mine rock management plan that would identify further measures to be implemented related to the design of mine rock and ore storage infrastructure, waste rock and ore handling procedures, and operational geochemical and wastewater testing. This work will support the development of an overall waste rock and ore management plan that will help to minimize the risk associated with the potential onset of AMD and will also inform any potential water management requirements throughout operations and at closure/post-closure.

Conduct a review of available baseline data for all potentially impacted valued environmental components to ensure adequacy of baseline data for the purpose of ongoing effects monitoring during construction and operations (based on a comparison to relevant standards) and to make recommendations as warranted for the collection of additional baseline data.

Complete a surface and groundwater modelling scoping study that utilizes existing baseline data, available geochemical and ore processing data, and the site water balance for the purpose of confirming the predictions of no significant impacts to downstream surface or groundwater resources and to potential downstream receivers.

Prior to the commencement of construction and operations, consideration should be given to developing environmental management plans (EMPs) and procedures that integrate engineering design and environmental planning to maximize the mitigation of potential environmental impacts of the Project and promote the protection of the environment, and worker and public health and safety. Management plans should be developed by qualified professionals and subject matter experts, with each management plan consisting of the following components:

- Identification of the plan purpose, objectives and company roles and responsibilities.
- Reference to applicable legislation, regulations, permit requirements, standards and guidelines.

- Description of the required monitoring plans, training, record keeping and reporting.
- Adaptive management and trigger response plans in the case that modifications in mitigation measures are required to meet regulatory targets.
- Assess and/or test the possibility of using chemical or physical dust suppressants instead of watering as atmospheric emissions control method, considering the limited water availability that might result from the ongoing drought condition in the project area and the limitations to further acquire additional water rights.

Environmental studies are estimated at US$220,000.

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