# Cerro Las Minitas Project

## NI 43-101 Technical Report Preliminary Economic Assessment

**Effective Date: June 04, 2024**
**Report Date: July 23, 2024**

Durango State, Mexico

Prepared for:

Southern Silver Exploration Corp.
Suite 1100, 1199 West Hastings St.
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Prepared by:

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Jason Allen, P.Eng., Entech Mining Ltd.
Garth David Kirkham, P.Geo., Kirkham Geosystems Ltd.
Arthur Robert Barnes, P.Eng; FSAIMM, MPC Metallurgical Process Consultants Ltd.

# CERTIFICATE OF QUALIFIED PERSON
## Erin Lynn Patterson, P.E.

I, Erin Lynn Patterson, P.E., certify that I am employed as Director of Technical Services with Ausenco Engineering USA South Inc. ("Ausenco"), with an office address of 595 S. Meyer Avenue, Tucson, Arizona, USA.

1. This certificate applies to the technical report titled "Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico" that has an effective report date of June 04, 2024 (the "Technical Report").

2. I graduated from the University of Arizona with a Bachelor of Science degree in Chemical Engineering.

3. I am a registered professional engineer in the state of Arizona, USA, license #54243.

4. I have practiced my profession for a total of 19 years since my graduation from university. My relevant experience includes involvement in all levels of engineering studies from conceptual studies to feasibility as well as mineral projects in the construction and operation stages. The works that I have been directly involved in include the mineral commodities copper, nickel, gold, and silver. I have been directly involved with process design, including testwork interpretation and flowsheet development, design specifications, cost estimating, and execution of mineral projects.

5. 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.

6. I visited the Cerro Las Minitas Project on March 11, 2024.

7. I am responsible for Sections 1.1, 1.9, 1.10, 1.11, 1.13, 1.14, 1.15, 1.16, 2.1, 2.2, 2.3, 2.4.1, 2.4.2, 2.5, 2.6, 2.7, 2.8, 3.1, 3.4, 17, 18.1, 18.2, 18.3.1, 18.3.2, 18.3.3, 18.3.4, 18.3.5, 18.3.6, 18.3.7, 19, 21.1, 21.2.1, 21.2.2, 21.2.4, 21.2.5, 21.2.6, 21.2.7, 21.2.8, 21.2.9, 21.2.10, 21.3.1, 21.3.3, 21.4, 21.5.1, 21.5.3, 21.5.4, 22, 24, 25.1, 25.8, 25.9, 25.10, 25.12, 25.13, 25.14, 25.15.1.4, 25.15.1.5, 25.15.1.7, 25.15.2.4, 26.1, 26.5, and 27 of the Technical Report.

8. I am independent of Southern Silver Exploration Corp. as independence is defined in Section 1.5 of NI 43-101.

9. I have no previous involvement with the Cerro Las Minitas Project.

10. 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: July 23, 2024

"Signed and sealed"

Erin Lynn Patterson, P.E.

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

I, Scott C. Elfen, P.E., certify that I am employed as a Global Lead Geotechnical and Civil Services within Ausenco Sustainability ULC ("Ausenco"), with an office address of 1050 West Pender Street, Suite 1200, Vancouver, BC V6E 3S7, Canada.

1. This certificate applies to the technical report titled "Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico" that has an effective report date of June 04,2024 (the "Technical Report").
2. I graduated from the University of California, Davis, California, in 1991 with Bachelor of Science degree in Civil Engineering (Geotechnical).
3. I am a Registered Civil Engineer in the State of California (license no. C056527) by exam since 1996 and I am also a member in good standing of the American Society of Civil Engineers (ASCE), and the Society for Mining, Metallurgy & Exploration (SME).
4. I have practiced my profession for 28 years, with experience in the development, design, construction and operations of mine waste storage facilities, such as waste rock storage facilities and tailings storage facilities ranging from slurry to dry stack facilities, focusing on precious and base metals, both domestic and international. In addition, I have developed geotechnical design parameters for pit slope design, plant foundation design, and other supporting infrastructure. Examples of detail engineering heap leach projects I have worked on include: Minera Escondida's Escondida Norte Mine, Barrick Gold's Pierina Mine, Barrick Gold's Lagunas Norte Mine.
5. 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.
6. I visited the Cerro Las Minitas Project on March 11, 2024.
7. I am responsible for Sections 2.4.3, 18.3.8, 18.3.9, 18.3.10, 25.15.1.6, 26.6, and 27 of the Technical Report.
8. I am independent of Southern Silver Exploration Corp. as independence is defined in Section 1.5 of NI 43-101.
9. I have had no previous involvement with Cerro Las Minitas Project.
10. 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: July 23, 2024

"Signed and sealed"

Scott C. Elfen, P.E

# CERTIFICATE OF QUALIFIED PERSON

## James Millard, M. Sc, P. Geo.

I, James Millard, P. Geo., certify that I am employed as a Director, Strategic Projects with Ausenco Sustainability ULC, a wholly owned subsidiary of Ausenco Engineering Canada ULC ("Ausenco"), with an office address of Suite 100, 2 Ralston Avenue, Dartmouth, NS, B3B 1H7, Canada.

1. This certificate applies to the technical report titled "Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico" that has an effective report date of June 04,2024 (the "Technical Report").
2. 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.
3. I am a member (P. Geo.) of the Association of Professional Geoscientists of Nova Scotia, Membership No. 021.
4. I have practiced my profession 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".
5. 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.
6. I have not visited the Cerro Las Minitas Project.
7. I am responsible for Sections 1.12, 3.3, 4.3, 4.4, 20, 25.11, 25.15.1.8, 25.15.2.5, 26.7, and 27 of the Technical Report.
8. I am independent of Southern Silver Exploration Corp. as independence is defined in Section 1.5 of NI 43-101.
9. I have had no previous involvement with Cerro Las Minitas Project.
10. 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: July 23, 2024

"Signed and sealed"

James Millard, M. Sc, P. Geo.

# CERTIFICATE OF QUALIFIED PERSON
## Jason Allen, P.Eng.

I, Jason Allen P.Eng., certify that I am a Director with Entech Mining Ltd. (“Entech Mining”), with an office address of *Suite 1125, 510 Burrard St., Vancouver, British Columbia*.

1. This certificate applies to the technical report titled “Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico” that has an effective date of June 04, 2024 and a report date of July 22, 2024 (the “Technical Report”).
2. I graduated with a Bachelor of Engineering Degree in Mining Engineering in 2001 from Western Australian School of Mines, and also obtained a Master of Engineering Science (Mining Geomechanics) in 2013 from the Western Australian School of Mines.
3. I am a registered professional engineer in good standing in British Columbia, Canada (No. 39170) and registered in Yukon, Canada, (No 2439). I am also registered as a chartered professional in Western Australia, Australia (MAusIMM (CP) 225796).
4. I have practiced my profession for 23 years. I have worked continuously as a miner, mining engineer, senior mining engineer, technical services manager, alternate underground manager, senior mining consultant, and as a director of a consultancy since 2000. Various roles include drill and blast, mine design, short-term and long-term planning, ventilation, capital projects, and project evaluations (preliminary, prefeasibility, and feasibility studies).
5. 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.
6. I visited the property on July 06, 2022, and visited the core facility located in Guadalupe Victoria located adjacent to the property. I also visited the project site reviewing potential portal locations, general layout, and the historic La Bacona workings.
7. I am responsible for Sections 1.8, 2.4.4, 16, 21.2.3. 21.3.2, 21.5.2, 25.7, 25.15.1.3, 25.15.2.3, 26.4, and 27 of the Technical Report
8. I am independent of Southern Silver Exploration Corporation as independence is defined in Section 1.5 of NI 43-101.
9. I have been involved with the Project with contributing to the prior Preliminary Economic Assessment issued on August 29 2022.
10. 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: July 23, 2024

“*Jason Allen*” “Signed and sealed”

Jason Allen, P.Eng

# CERTIFICATE OF QUALIFIED PERSON
## Garth David Kirkham, P.Geo.

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

1. I am a consulting geoscientist with an office at 6331 Palace Place, Burnaby, British Columbia.
2. This certificate applies to the technical report titled, “Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico” prepared for Southern Silver Exploration Corp. (“Southern Silver”) with an effective date of June 4, 2024 (the “Technical Report”).
3. I am a graduate of the University of Alberta, Edmonton, Alberta in 1983 with a BSc. I have continuously practiced my profession since 1983. I have worked on and been involved with NI43-101 studies on the Esperanza, Las Minas, Cerro Blanco, Kutcho Creek and Debarwa poly-metallic deposits along with multiple technical reports and resource estimates on the Cerro Las Minitas Project.
4. I am a member in good standing of Engineers and Geoscientists BC (EGBC) (#30043).
5. I have visited the property on March 31 through April 2, 2015, January 14 through 19, 2019 and most recently on August 16, 2021.
6. In the independent report titled entitled “Cerro Las Minitas Project Preliminary Economic Assessment” prepared for Southern Silver Exploration Corp. (“Southern Silver”) with an effective date of June 4, 2024, I am responsible for Sections 4 through 12 and Section 14, and corresponding sections of 1.2, 1.3, 1.4, 1.5, 1.7, 2.4.5, 3.2, 4.1, 4.2, 5, 6.1, 6.4, 7, 8, 9, 10 ,11, 12, 14, 15, 23, 25.2, 25.3, 25.4, 25.6, 25.15.1.2, 25.15.2.2, 26.2, and 27 of the Technical Report.
7. I had prior involvement with the property and was the author of the independent technical reports with effective dates of 21st of March 2016, 22nd of February 2018, 9th of May 2019, 27th of October 27th 2021 and 29th of August 2022.
8. I am independent of Southern Silver Exploration Corporation as defined in Section 1.5 of National Instrument 43-101.
9. I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
10. I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report and that, at the effective date of the Technical Report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
11. I have read National Instrument 43-101, Standards for Disclosure of Mineral Projects and Form 43-101F1. This technical report has been prepared in compliance with that instrument and form.

Dated: July 23, 2024

“Garth Kirkham” {signed and sealed}

Garth Kirkham, P.Geo.

# CERTIFICATE OF QUALIFIED PERSON
## Arthur Robert Barnes, P.Eng ; FSAIMM; M.Sc.(Eng.)

I, Arthur Robert Barnes, P.Eng ; FSAIMM; M.Sc.(Eng.) do hereby certify that:

1. I am President and Principal Consultant of:

   MPC Metallurgical Process Consultants Limited situated at

   Unit 90-2400 Oakdale Way, Kamloops, British Columbia, Canada
2. This certificate applies to the technical report entitled, "Cerro Las Minitas Project, NI 43-101 Technical Report Preliminary Economic Assessment, Durango State, Mexico" prepared for Southern Silver Exploration Corp. ("Southern Silver") with an effective date of June 04, 2024.
3. I graduated with a B.Sc (Metallurgy)(Honours) from the University of Pretoria in 1974 and an M.Sc. (Metallurgical Engineering) degree from the University of the Witwatersrand in 1981
4. I am a Professional Engineer in good standing in Ontario (license #100501305) and British Columbia (license # 209871) in the areas of Process Metallurgy. I am a Fellow of the Southern African Institute of Mining and Metallurgy (license # 18967)
5. I have worked as a professional process metallurgist in the extractive industry for a total of 41 years. Previous relevant QP level experience includes, but is not limited to:
   - Avalloy Superalloy Facility Feasibility Study, June 2001.
   - Technical Audit of SA Chrome Assets for Johannesburg Stock Exchange Sept 2005.
   - Independent Technical Review of Falcon Gold Mineral Assets Dec 2006
   - Abante Nickel Preliminary Economic Assessment Jan 2007
   - Technical Review of the Trepca Lead Zinc Assets for United Resources Sept 2007
   - NI 43-101 Mineral Resource Estimate for the Whistler Project June 2021
   - Technical Report on the Silver Queen Au-Ag-Zn Project Jan 2023
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
7. I am responsible for Sections 1.6, 6.2, 6.3, 13, 25.5, 25.15.1.1, 25.15.2.1, 26.3, and 27 of the Technical Report.
8. I have prior involvement with the property that is the subject of the Technical Report. I contributed to the "Updated Mineral Resource Estimate for the Cerro Las Minitas Project, Durango State, Mexico", with effective date of 9th May, 2019. ("Technical Report") and the Cerro Las Minitas Project, Form 43-101F1 Technical Report, Preliminary Economic Assessment, Durango, Mexico" prepared for Southern Silver Exploration Corp. ("Southern Silver") with an effective date of August 29, 2022. I have not visited the project site.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.
11. I have read NI 43-101 and Form 43-101F1. The sections of the Technical Report that I am responsible for have been prepared in compliance with that instrument and form.

Dated: July 23, 2024

Signature of Qualified Person<br>
ARTHUR ROBERT BARNES<br>
Print Name of Qualified Person

## Important Notice

This report was prepared as National Instrument 43-101 Technical Report for *Southern Silver Exploration Corp. (Southern Silver)* by *Ausenco Engineering USA South Inc., Ausenco Engineering Canada ULC, and Ausenco Sustainability ULC (collectively, "Ausenco")*, *Entech Mining Ltd.(Entech), Kirkham Geosystems Ltd. (KGL), MPC Metallurgical Process Consultants Ltd. (MPC)*, 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 is intended for use by *Southern Silver* subject to terms and conditions of its contracts with each of the Report Authors. Except for the purposed legislated under Canadian provincial and territorial securities law, any other uses of this report by any third party are at that party's sole risk.

Ausenco

SouthernSilver EXPLORATION CORP

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# 1 SUMMARY

## 1.1 Introduction

This Technical Report presents an updated Preliminary Economic Assessment (PEA) for the Cerro Las Minitas project owned by Southern Silver Exploration Corp. (Southern Silver). Southern Silver is a precious and base metal exploration company based in Vancouver, Canada and a member of the Manex Resource Group, and it is listed on the TSX-V (trading symbol: SSV), SSEV (trading symbol: SSVCL) and on OTCQX (trading symbol: SSVFF).

This PEA was developed by Ausenco Engineering USA South Inc., Ausenco Engineering Canada ULC, and Ausenco Sustainability ULC collectively known as “Ausenco”, Kirkham Geosystems Ltd. (KGL), Entech Mining Limited (Entech), and MPC Metallurgical Process Consultants Limited (MPC).

## 1.2 Property Description

The Cerro Las Minitas property is located 70 km northeast of the City of Durango, the capital of the state of Durango, and 6 km north of the town of Guadalupe Victoria, in the municipality of Guadalupe Victoria, Durango, Mexico. The claims are located in the Minitas mining district in the Guadalupe Victoria mining region. The property consists of 26 mining concessions encompassing 31,716 ha. Southern Silver Exploration Corp. currently retains 100% working interest in the Cerro Las Minitas Property.

## 1.3 History

Cerro Las Minitas has a rich yet sparsely documented history of silver mineralization. Believed to be initially discovered by Spaniards from Victoria de Durango, the area has seen intermittent mining activity since the early 1960s. The primary areas of exploitation have been Santo Niño-Puro Corazón and Mina Piña-La Bocona, yielding an estimated 1.2 million tonnes of mineralized material between 1970 and 1981.

Over the years, ownership of the properties has changed hands frequently, with varying levels of exploration and development. Significant efforts were made by Carlos Villaseñor in the Santo Niño-Puro Corazón area, followed by exploration by Minera Real Victoria and subsequent acquisition by Silver Dragon Resources Inc. in 2005. Silver Dragon conducted extensive sampling, mapping, and drilling, revealing potential for high-grade silver deposits.

However, legal challenges arose in 2010 regarding land title issues, leading to a dispute over property ownership that was eventually resolved through an option agreement with Southern Silver.

## 1.4 Geology and Mineralization

From 2010-2022 Southern Silver completed programs of geological mapping, surface geochemical sampling and airborne and ground geophysical surveys in support of 93,494 m of core drilling in 218 holes resulting in the delineation of seven mineral deposits: the Blind; El Sol, Las Victorias, Skarn Front, South Skarn, North Felsite and Mina La Bocona deposits on the Cerro Las Minitas Property.

The Blind, El Sol and Las Victorias deposits comprise multiple sub-vertical northwest-southeast trending zones of semi-massive to massive sulphide mineralization. Mineralization is hosted in the skarnoid- and hornfels-altered margins of monzonite and felsite dykes and may be localized along through-going structures or occur as replacements within stratigraphic units. The mineralized zones can be traced for up to 1000 m along strike and up to 800 m down dip.

Sulphide mineralization in the Skarn Front deposit is localized at the outer boundary of the skarnoid alteration zone surrounding the Central Monzonite Intrusion at or near the transition to the recrystallized/marbleized carbonate sediments (marmorized zone). The Skarn Front deposit can be traced for up to 1,100 m along strike and up to 1,000 metres depth. Geological modelling suggests that intersections between the sub-vertical, northwest-trending Blind and El Sol mineralized zones and the generally more shallowly dipping Skarn Front may localize higher-grade shoots of mineralization.

Drilling in 2020-22 confirmed laterally extensive skarnoid-style mineralization within the altered halo around the central intrusion in the South Skarn, La Bocona and North Felsite deposits. Mineralization occurs adjacent to the central intrusion and features similar replacement styles as is observed in the Skarn Front deposit. The skarnoid-style mineralization in the La Bocona and South Skarn deposits show a similar variability in metal assemblages as is identified in the Skarn Front deposit, but tends to be more galena biased and is generally associated with elevated silver values when compared to the Skarn Front mineralization. Mineralization in the North Felsite also show a similar variability in metal assemblage, but drilling to date has not been sufficient to define the mineral zonation accurately.

Drilling also identified manto-styled mineralization within the La Bocona deposit which occurs as replacements in the hanging wall of the skarnoid mineralized zone within variably altered marble-skarn-hornfels. The mineralization is strongly silver enriched with elevated lead, arsenic, and gold values. The upper portion of the mineralized zone is strongly oxidized and makes up in part the small oxide resource identified in the current mineral resource update.

## 1.5 Exploration and Drilling

Since acquisition of the property in 2010, Southern Silver, has completed diamond drilling; geological mapping; geochemical rock, soil and acacia sampling; shallow and deep-seeing IP surveys; a ground gravity survey; and an airborne magnetic survey.

Core drilling has taken place between 2011 through 2022 and was contracted out to BD Drilling Mexico, S.A. de C.V. (BDD) of EL Salto, Jalisco up to 2018 and by Intercore Operaciones, S de RL de CV (Intercore) of Tlajomulco de Zuniga, Jalisco Mexico during 2020 through 2022. Drilling was completed using both NQ and HQ coring equipment capable of recovering a core 45.1 to 61.1 mm in diameter. The 218 drill holes and seven (7) trenches in the database were supplied in electronic format by Southern Silver. This included collars, downhole surveys, lithology data and assay data (i.e., Ag g/t, Au g/t, Cu%, Pb%, Zn%).

## 1.6 Mineral Processing and Metallurgical Testing

The testwork performed is more than adequate for recovery plant design purposes and estimation of grades and recoveries. No further flotation work is envisaged. Further recovery efforts will focus on preconcentration options. Table 1-1 presents a summary of the estimated grades and recoveries per concentrate and doré.

**Table 1-1: Metal Recoveries to Final Concentrates**

| Item | Pb Concentrate (%) | Zn Concentrate (%) | Cu Concentrate (%) | Doré |
|---|---|---|---|---|
| Pb Recovery | 87.0 | - | - | - |
| Zn Recovery | - | 93.2 | - | - |
| Cu Recovery | - | - | 70.0 | - |
| Ag Recovery | 77.0 | 7.3 | 6.0 | 3.0 |
| Au Recovery | - | - | 20.0 | 28.6 |
| Concentrate Grade (Primary Base Metal) | 65 | 54 | 27 | - |

## 1.7 Mineral Resource

The updated Mineral Resource estimate features multiple sulphide resources from seven mineral deposits and a small oxide resource. These resources serve as an update of the previously reported deposits utilizing current metal pricing and metallurgical recoveries. The resource statement is reported using a Net Smelter Royalty (NSR) cut-off, as detailed in Table 1-2, and reports average grades on a silver equivalent (AgEq) and $US/t NSR basis. Note that mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. In addition, these resource statements include inferred resources that have a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

**Table 1-2: Base-Case Sulphide Mineral Resources at a US$60 NSR Cut-Off (effective date March 20, 2024)**

| Indicated Resources | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|
| Blind Zone | 2,614 | 112.93 | 92.22 | 2.02 | 1.84 | 0.04 | 0.10 |
| El Sol | 1,252 | 105.52 | 77.05 | 1.94 | 2.07 | 0.04 | 0.08 |
| Skarn Front | 7,626 | 142.83 | 104.24 | 4.12 | 0.76 | 0.06 | 0.19 |
| North Felsite/La Bocona | 1,807 | 134.60 | 121.19 | 1.49 | 2.06 | 0.19 | 0.23 |
| **Total** | **13,299** | **132.32** | **101.62** | **3.14** | **1.27** | **0.07** | **0.17** |
| **Inferred Resources** | **Tonnes (kt)** | **NSR (US$/t)** | **Ag (g/t)** | **Zn (%)** | **Pb (%)** | **Au (g/t)** | **Cu (%)** |
| Blind Zone | 1,697 | 94.93 | 73.83 | 1.78 | 1.22 | 0.20 | 0.08 |
| Las Victorias | 1,417 | 155.21 | 123.60 | 2.20 | 1.86 | 0.65 | 0.12 |
| El Sol | 1,168 | 89.80 | 57.24 | 2.07 | 1.68 | 0.03 | 0.06 |
| Skarn Front | 12,444 | 126.29 | 109.56 | 2.59 | 0.66 | 0.05 | 0.32 |
| North Felsite/La Bocona | 2,666 | 123.90 | 120.48 | 1.61 | 1.44 | 0.22 | 0.13 |
| South Skarn | 4,036 | 128.91 | 134.04 | 1.25 | 1.91 | 0.19 | 0.08 |
| **Total** | **23,428** | **124.13** | **110.67** | **2.14** | **1.13** | **0.14** | **0.21** |

Notes: **1.** The current Resource Estimate was prepared by Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd. **2.** All mineral resources have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum ("CIM") definitions, as required under National Instrument 43-101 ("NI43-101"). **3.** Mineral resources were constrained using continuous mining units demonstrating reasonable prospects of eventual economic extraction. **4.** NSR values were calculated from the interpolated block values using relative recoveries and prices between the component metals depending of concentrate to which they are reporting to. **5.** Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. **6.** An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. **7.** The $60/t NSR cut-off value was calculated using average long-term prices of $22.50/oz. silver, $1,850/oz. gold, $3.78/lb. copper, $0.94/lb. lead and $1.25/lb. zinc. Metallurgical work from locked cycle testwork produced three saleable concentrates for the Skarn zone and testwork on a composite of the Blind, El Sol and Las Victorias Zones produced two saleable concentrates. This work, along with marketing studies were used to decide the NSR cut-off value. **8.** All figures are rounded to reflect the relative accuracy of the estimate and therefore numbers may not add precisely.

**Table 1-3: Oxide Mineral Resource Estimate for CLM Project Utilizing a US$60/t NSR Cut-off Value**

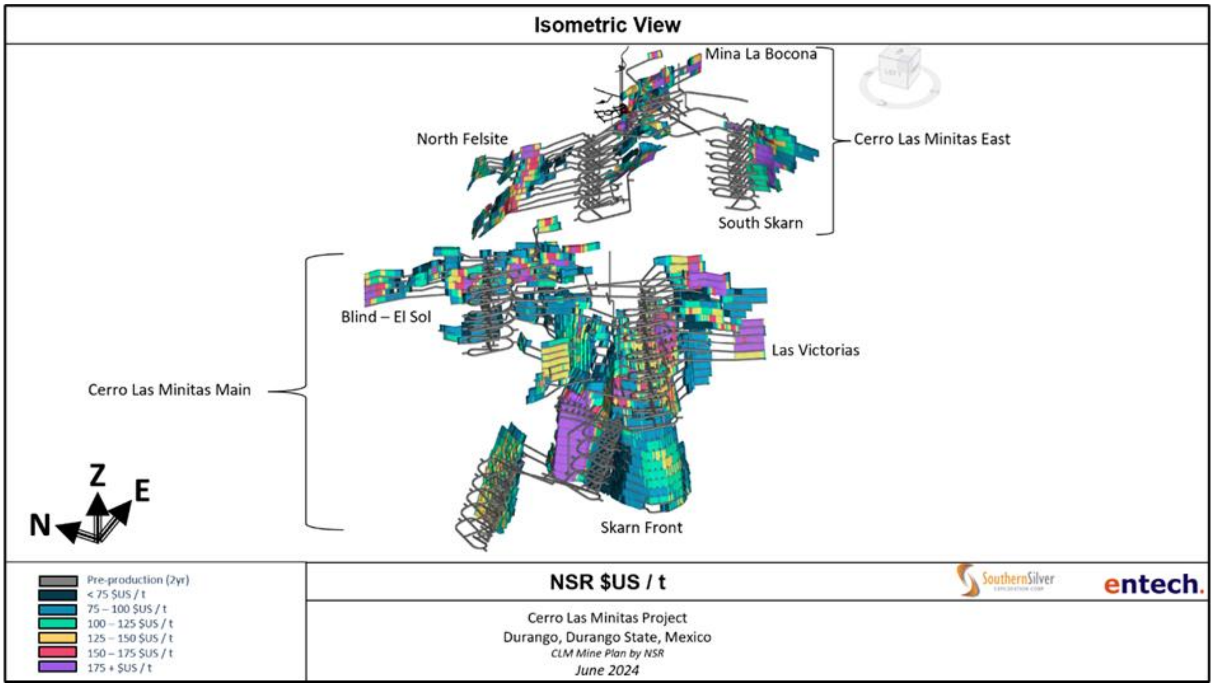
| La Bocona Oxide | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Au (g/t) |
|---|---|---|---|---|
| Inferred | 139 | 103.41 | 111.61 | 1.37 |

Notes: The $60/t NSR cut-off value was calculated using average long-term prices of $20/oz. silver, $1,850/oz. gold. Base metals were not recovered in the leach circuit. Metallurgical work from batch test work recovered 74% silver from oxidized composites from the Blind – El Sol zones. Gold recovery was not assessed and is estimated at 70% for the purposes of this report. This work, along with marketing studies were used to decide the NSR cut-off value. All prices are stated in $USD. Effective date is March 20, 2024.

## 1.8 Mining Methods

The mineral resources considered in the mine plan support a bulk, productive project and preliminary schedules indicate that a mining rate of 6,500 to 7,000 tonnes per day (t/d) of total material (mineralised and unmineralised) is achievable contributed from two mines as illustrated in Figure 1-1. Production levels are proposed to be spaced at 25 metre (m) intervals with stoping panels 20 m long and up to 20 m wide. Material is proposed to be mined using a large and modern fleet consisting of 63-t trucks and 21-t loaders. A contractor model was selected for the study to minimise upfront capital and the improve financial metrics due to the changes in the tax code in Mexico.

**Figure 1-1: Mining Locations for Cerro Las Minitas**




Source: Entech, 2024.

Datamine Mineable Stope Optimiser® (MSO) was used to create stope shapes for mine planning purposes and stope that were above the estimated cut-off value (COV) of US$60/t. Unplanned dilution in rock was included in the MSO analysis (0.5 m from hangingwall and footwall contacts), with additional dilution from backfill. The dilution and recovery values used in the mine plan are summarised in Table 1-4 and summarised by resource category in Table 1-5.

**Table 1-4: Dilution and Recovery Summary**

| Description | Value |
|---|---|
| Total Rock Dilution - Stoping[1] | 24.6% |
| Total Rock Dilution - Development[2] | 5% |
| Fill Dilution – Top Down[3] | 4.5% |
| Fill Dilution – Bottom Up[3] | 4.5% |
| Development Recovery | 97% |
| Stoping Recovery | 93% |

Notes: **1.** Included in MSO Shape as Planned and Unplanned Dilution (stoping only). **2.** Applied to Development only (mineralisation only). **3.** Applied as Factor to the volume of the shape (assumed density of backfill 2.0 t/m³).

**Table 1-5: Mining Resource Category Summary**

| Classification | % | Tonnes (kt) | Ag (g/t) | Zn (%) | Pb (%) | Cu (%) | Au (g/t) |
|---|---|---|---|---|---|---|---|
| Measured | 0.0 | - | - | - | - | - | - |
| Indicated | 33.1 | 9,759.0 | 107.5 | 3.35 | 1.21 | 0.18 | 0.08 |
| Inferred | 56.7 | 16,695.8 | 120.7 | 2.29 | 1.16 | 0.23 | 0.14 |
| Dilution[1] | 10.2 | 3,001.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **100** | **29,457** | **104.06** | **2.41** | **1.06** | **0.19** | **0.11** |

Note: **1.** Dilution is non-mineralised material outside of the proposed stopes that already include planned and unplanned dilution.

## 1.9 Recovery Methods

The process plant design is based on an average daily mill feed rate of 5,300 t/d and an average Life of Mine (LOM) head grade of 0.19% Cu, 1.06% Pb, 2.41% Zn, 0.11 g/t Au, and 104 g/t Ag. The plant feed characteristics and metallurgical performance is summarized in Table 1-6.

**Table 1-6: Plant Feed Characteristics and Metallurgical Performance**

| Criteria | Units | Value | |
|---|---|---|---|
| | | Range | Design |
| Mineralized Solids Specific Gravity | dimensionless | 2.35 to 4.15 | 2.96 |
| Cu Design Mill Head Grade | % | 0.07 to 0.35 | 0.18 |
| Pb Design Mill Head Grade | % | 0.25 to 1.73 | 1.57 |
| Zn Design Mill Head Grade | % | 1.60 to 5.18 | 3.10 |
| Au Design Mill Head Grade | g/t | 0.02 - 0.28 | 0.19 |
| Ag Design Mill Head Grade | g/t | 57 to 150 | 111 |
| Mill Treatment Capacity | t/y | - | 1,934,500 |

The metallurgical process consists of a two-stage crushing circuit followed by a single stage ball mill grinding circuit followed by sequential, selective copper, lead, and zinc flotation circuits. The process generates separate copper, lead/silver, and zinc concentrates. The copper, lead/silver, and zinc concentrates will be shipped off site for sale to market. A pyrite concentrate will also be produced which will be further processed in the hydrometallurgical process.

The hydrometallurgical process plant (hydroplant) begins with an ultrafine grind of the pyrite concentrate, cyanide leaching, counter current decantation (CCD), Merrill Crowe process, refinery, and cyanide destruction. The final tailings will be dewatered and filtered, and stockpiled separately from the plant tailing. Filter cake will discharge to a conveyor and will be transported using a series of conveyors to the tailing storage facility or to the tailing paste backfill plant.

The equipment that was selected for the processing plant represents well established technology, such as crushers, ball mills, flotation cells, thickeners, and filters. Initial dewatering is performed in high-rate thickeners followed by filter presses for the flotation concentrates and for the final tailing stream.

The concentrator plant will employ a standard reagent suite consisting of sulphide collectors/promoters, dialkyl thionocarbamate (A-3894), dialkyl dithiophosphinate (Aerophine 3418A), and sodium isopropyl xanthate (SIPX). The frother will be methyl isobutyl carbinol (MIBC). Depressants will be Sodium Metabisulfite (SMBS), zinc sulfate ($ZnSO_4 \cdot H_2O$), and sodium cyanide (NaCN). The activator, copper sulfate ($CuSO_4$) and pH modifier, lime are also utilized. Flocculants will be employed to assist in the dewatering of the concentrate and tailing streams. Antiscalant will be employed to inhibit scaling.

The hydroplant will employ sodium cyanide as a gold lixiviant, lime as a pH modifier, SMBS and air for cyanide destruction, and flocculant to assist in solid settling. In the Merrill Crowe process and refinery, zinc powder will be used for gold precipitation, diatomaceous earth as a filter aid, and refinery flux in doré smelting.

The total connected power is 21.1 MW with 16.8 MW total demand. It is assumed at this time that electrical power will be supplied through the electrical grid.

## 1.10 Infrastructure

The Cerro Las Minitas project is located about 70 km to the northeast of the city of Durango in Durango State, Mexico, approximately 6 km from Guadalupe Victoria, a city of 36,695 people. The project site is 1 km alongside Federal Highway 40D, a four-lane divided paved toll highway. In the project vicinity, paved Federal Highway 40 runs through Guadalupe Victoria and parallel to Highway 40D. There is a road from Guadalupe Victoria to the site with a bridge over 40D. There is also Ferrocarriles Nacionales de Mexico (FFCC) rail service to Guadalupe Victoria operated by Linea Coahuila Durango, S.A. de C.V. which feeds into or from the Ferromex network.

The Cerro Las Minitas process plant and mine has a 16.8 MW demand load and 21.1 MW installed power. A 115 kV overhead electrical power transmission line, will run 10.4 km in length on self-supported steel towers to site from the Comisión Federal de Electricidad (CFE) Substation Guadalupe Victoria.

Process make-up and domestic water will be supplied from the underground dewatering flows. The project requires a water supply of approximately 38 $m^3/h$. The amount of aquifer water available for the project is presently unknown. Preliminary studies are ongoing to identify the hydrogeological availability and characteristics of the water aquifers in the region.

The port infrastructure and roads leading to the project are currently in good condition to handle the volumes and types of shipments needed. Because of its proximity to the project, transportation by rail may also be an option for the project.

On-site infrastructure will include: light vehicle on-site roads, haul roads, ROM stockpile area, waste rock storage facility, dry stack tailings storage facility, and surface water management facilities. Other support infrastructure include truck shop, truck wash, mne offices, plant warehouse, assay laboratory, medical facilities, truck scale and administration building.

The Cerro Las Minitas tailings facility is designed and operated as a dry-stack, in which dewatered tailings are spread, compacted and graded for erosion control and stability. Dry-stacking of tailings was selected and is implemented as an effective way to create a safe facility that will, upon closure, become a long-term stable geomorphic form in the landscape.

## 1.11 Market Studies

Project economics were estimated based on long-term flat metal prices of US$23.00/oz Ag, US$1,850/oz Au, US$4.00/lb Cu, US$1.00/lb Pb, and US$1.25/lb Zn. These metal prices are in accordance with consensus market forecasts from various financial institutions and are consistent with historic prices for this commodity.

No market studies or product valuations were completed as part of the 2024 PEA. Market price assumptions were based on a review of public information, industry consensus, standard practices, and specific information from comparable operations in the region.

## 1.12 Environmental, Permitting and Community

### 1.12.1 Environmental Considerations

The baseline environmental information provided in this report have been gathered mainly from publicly available sources as well as two key reports that were commissioned by Southern Silver to support the exploration phases of the Project. Currently, data is available on meteorology and climate, hydrology, groundwater, flora, and fauna in the Project area and vicinity. There is currently no data available from public or other sources for the subject areas of geochemistry, archaeology, air quality, and noise for the Project site. To support the next stage of the Project design work and to support future environmental assessment and permitting activities, site based environmental and local socioeconomic studies will need to be initiated. With regard to archaeological resources, a survey will need to be conducted and findings registered with the INAH (Instituto Nacional de Antropologia e Historia, National Institute of Anthropology and History).

The Project is not located within any Protected Natural Areas based on the government information reviewed. The nearest Priority Terrestrial Regions (PTRs) are located more than 55 km from the Project. Therefore, there are no restrictions related to protected areas that could inherently limit the development of the project or require additional activities related to the principles established for PTRs.

Currently, the only known environmental liabilities are associated with the exploration site activities and access roads and existing underground workings. Remediation of surface disturbances and removal of wastes will be mitigated by compliance with applicable Mexican regulatory requirements.

The aquifers in the Project area are currently not well defined and require additional site investigation. Water sources for the Project that can be used for operational purposes are assumed to be derived from dewatering the underground workings, although there is the potential to purchase water rights from existing water rights holders or potentially negotiate an extraction concession in the unlikely event that evaluation of the aquifers indicates a surplus.

Currently water extraction from dewatering the workings is considered as the base case for the project and an extraction rate of 38 m3/hr has been assumed for the purpose of mineral processing and other uses. This extraction rate will need to be verified. Effective water conservation measures will need to be considered for the site, including recirculation of contact water to the degree practicable, and the use of available surface water collected during seasonal rains, as permitted by regulation.

Operations will generate different types of waste that will be managed and disposed in accordance with applicable management plans that adhere to environmental laws. These management plans will include procedures for identifying, collecting, managing, storing and disposing of each type of waste, including waste rock, tailings, metallurgical waste, hazardous and non-hazardous residues, domestic waste and biological infectious waste. During the exploration stage, the company has applied to the Ministry of the Environment SEMARNAT to be registered as a "small quantity hazardous waste generator".

### 1.12.2 Permitting Considerations

Mining in Mexico is subject to a well-developed system of environmental regulation that applies from the exploration stage to mine development, operation, and ultimately through mine closure. There are environmental permits and approvals required for the construction and operation of the Project. Most of the mining regulations are at a federal level, but there are also a number of permits regulated and approved at state and local levels. A detailed presentation of permitting requirements for the Project is provided in Table 20-4.

### 1.12.3 Social and Community Considerations

The Cerro Las Minitas project is located within the town of Guadalupe Victoria (Guadalupe Victoria Ejido & Ignacio Ramirez Ejido), in the municipality of Guadalupe Victoria, in the State of Durango. The Cerro Las Minitas Project will offer over 380 potential temporary and permanent jobs to the region. Special effort will be taken during the Project to provide support to the local communities, including assisting with introducing and improving basic services and educational institutions.

The Company has reported that, over the years, it has fulfilled its social commitment with the community of the Guadalupe Victoria Ejido and Ignacio Ramirez Ejido, by developing a series of activities and programs that maintainins a healthy and pleasant relationship with the residents of the ejido. The company maintains regular contact with the population and community which allows for the identification of community needs and community projects that are good candidates for Company support in the form of economic aid and other resources.

### 1.12.4 Closure and Reclamation

In accordance with the general work schedule of the Cerro Las Minitas Project, the abandonment phase will commence after Year 17 from the start of operations. As part of the permitting requirements, Southern Silver will prepare a detailed Closure and Reclamation Plan, which will be concurrently executed from the operation phase of the Project and will be completed in the closure phase.

Conditions of the final closure and reclamation plan will depend on land use after the mining operations and proposed designated uses. The post-closure land use for the Project is anticipated to involve a combination of natural habitat, livestock activities and seasonal agriculture.

A conceptual closure plan has been developed for the Project that involves identification of risks and associated mitigation measures for waste rock dumps, tailings facility and dam, process plant and service facilities, and roads. An environmental monitoring plan will need to be developed once closure measures are implemented. The associated cost of reclamation and closure has been preliminarily estimated at US$17M.

## 1.13 Capital and Operation Costs

Table 1-7 summarizes the initial capital costs. The total initial capital cost for the Cerro Las Minitas Project is US$387.8M, and the LOM sustaining cost including financing is US$176.7M.

**Table 1-7: Initial Capital Cost Summary**

| WBS | WBS Description | Initial Capital (US$M) | Sustaining Capital (US$M) LOM | Total Cost (US$M) |
|---|---|---|---|---|
| 1000 | Mining | 131.0 | 160.1 | 291.1 |
| 2000 | Process Plant | 117.9 | - | 117.9 |
| 3000 | Additional Process Facilities | 13.6 | - | 13.6 |
| 4000 | On Site Infrastructure | 11.9 | - | 11.9 |
| 5000 | Off Site Infrastructure | 16.3 | - | 16.3 |
| **Total Directs** | | **290.7** | **160.1** | **450.8** |
| 6000 | Project Preliminaries | 13.1 | - | 13.1 |
| 7000 | EPCM | 25.9 | - | 25.9 |
| **Total Indirects** | | **38.9** | **-** | **38.9** |
| 8000 | Owner's Costs | 8.0 | - | 8.0 |
| 9000 | Contingency | 50.1 | - | 50.1 |
| - | Closure and Reclamation | - | 16.6 | 16.6 |
| **Project Total** | | **387.8** | **176.7** | **564.5** |

The operating costs for the Cerro Las Minitas project are comprised of the following components: mining, process plant, and general & administration (G&A). An operating cost summary is shown in Table 1-8.

**Table 1-8: Operating Cost Summary**

| | Average Annual Cost (US$M) | US$/t processed | LOM Operating Cost (US$M) |
|---|---|---|---|
| Mine | $67.5 | $41.22 | $1,214 |
| Process | $28.9 | $15.82 | $466 |
| General & Administration | $8.2 | $4.33 | $128 |
| **Total (US$)** | **$104.6** | **$61.37** | **$1,808** |

## 1.14 Economic Analysis

### 1.14.1 Economic Summary

The economic analysis was performed assuming a 5% discount rate. On a post-tax basis, the Net Present Value NPV5% is US$501M, the internal rate of return (IRR) is 21.2%, and the payback period is 4.0 years. Table 1-9 below summarizes the economic results. The preliminary economic assessment is preliminary in nature, that it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized.

**Table 1-9: Summary of Economic Analysis**

| General | Units | LOM Total / Avg. | |
|---|---|---|---|
| Silver Price | US$/oz | 23.00 | |
| Gold Price | US$/oz | 1,850 | |
| Copper Price | US$/lb | 4.00 | |
| Lead Price | US$/lb | 1.00 | |
| Zinc Price | US$/lb | 1.25 | |
| Mine Life | Years | 17.1 | |
| Total Mineralized Material Processed | Mt | 29.46 | |
| Total Waste | Mt | 4.65 | |
| Avg. AgEq Head Grade | g/t | 256.8 | |
| **Production** | **Units** | **LOM Total / Avg.** | |
| Avg. Head Grade – Ag | g/t | 104.1 | |
| Avg. Head Grade – Au | g/t | 0.11 | |
| Avg. Head Grade – Cu | % | 0.19 | |
| Avg. Head Grade – Pb | % | 1.06 | |
| Avg. Head Grade – Zn | % | 2.41 | |
| Avg. Recovery Rate – Ag | % | 93.3 | |
| Avg. Recovery Rate – Au | % | 48.6 | |
| Avg. Recovery Rate – Cu | % | 70.0 | |
| Avg. Recovery Rate – Pb | % | 87.0 | |
| Avg. Recovery Rate – Zn | % | 93.2 | |
| Total Payable Metal – Ag | M oz | 83.9 | |
| Annual Payable Metal – Ag | M oz/a | 4.9 | |
| Total Payable Metal – Au | k oz | 47.1 | |
| Annual Payable Metal – Au | k oz/a | 2.8 | |
| Total Payable Metal – Cu | M lbs | 83.3 | |
| Annual Payable Metal – Cu | M lbs/a | 4.9 | |
| Total Payable Metal – Pb | M lbs | 570 | |
| Annual Payable Metal – Pb | M lbs/a | 33.4 | |
| Total Payable Metal – Zn | M lbs | 1,240 | |
| Annual Payable Metal – Zn | M lbs/a | 72.7 | |
| **Operating Costs** | **Units** | **LOM Total / Avg.** | |
| Mining Cost | US$/t mined | 37.32 | |
| Mining Cost | US$/t milled | 41.22 | |
| Processing Cost | US$/t milled | 15.82 | |
| G&A Cost | US$/t milled | 4.33 | |
| Operating Cash Costs*, co-product basis | US$/oz AgEq | 9.30 | |
| Total Cash Costs**, co-product basis | US$/oz AgEq | 12.32 | |
| All-in Sustaining Costs (AISC)***, co-product basis | US$/oz AgEq | 13.23 | |
| **Capital Costs** | **Units** | **LOM Total / Avg.** | |
| Initial Capital (Incl. Capitalized Opex) | US$M | 387.8 | |
| Sustaining Capital | US$M | 160.1 | |
| Closure Costs | US$M | 16.6 | |
| **Financials** | **Units** | **Pre-Tax** | **Post-Tax** |
| NPV (Discounted at 5%) | US$M | 887.5 | 501.1 |
| IRR | % | 30.0 | 21.2 |
| Payback | Years | 3.2 | 4.0 |

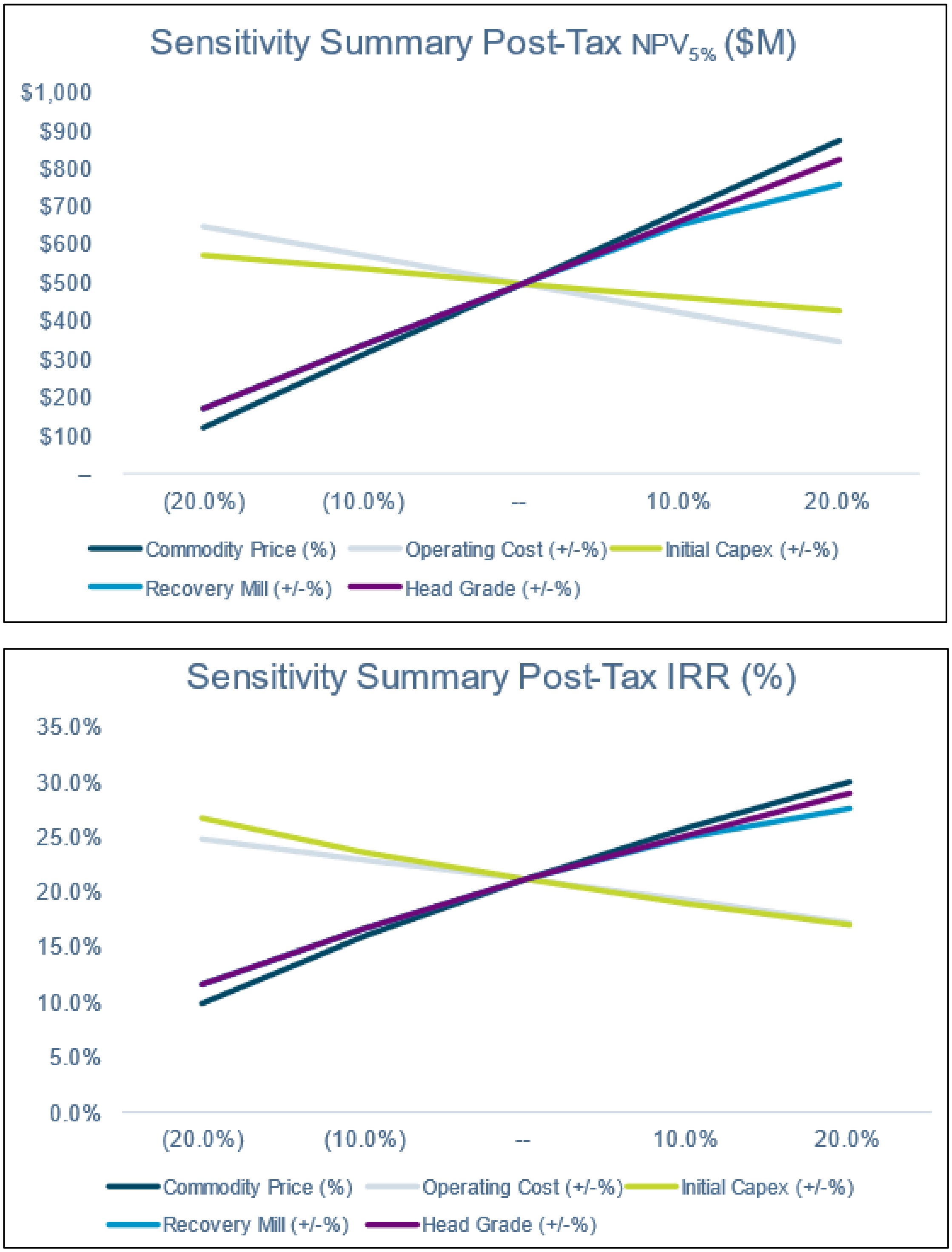
*****Operating cash costs consist of mining costs, processing costs, and G&A. ******Total cash costs consist of operating cash costs plus transportation cost, and off-site treatment & refining, transport costs. *******AISC consists of total cash costs plus sustaining capital, and closure cost.

### 1.14.2 Sensitivity Analysis

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV5% and IRR of the Project using the following variables: metal price, discount rate, total operating cost, and initial capital cost.

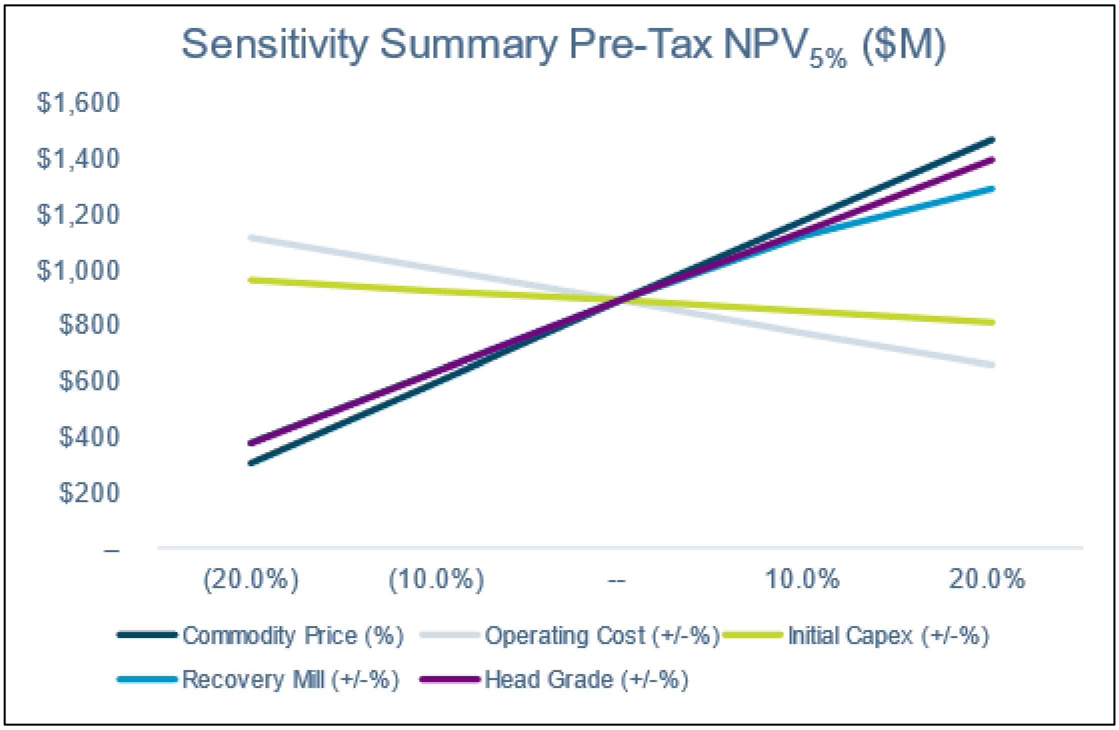
As shown in Figure 1-2 and Figure 1-3, the sensitivity analysis revealed that the Project is most sensitive to commodity price, head grade, and operating cost and less sensitive to initial capital cost.

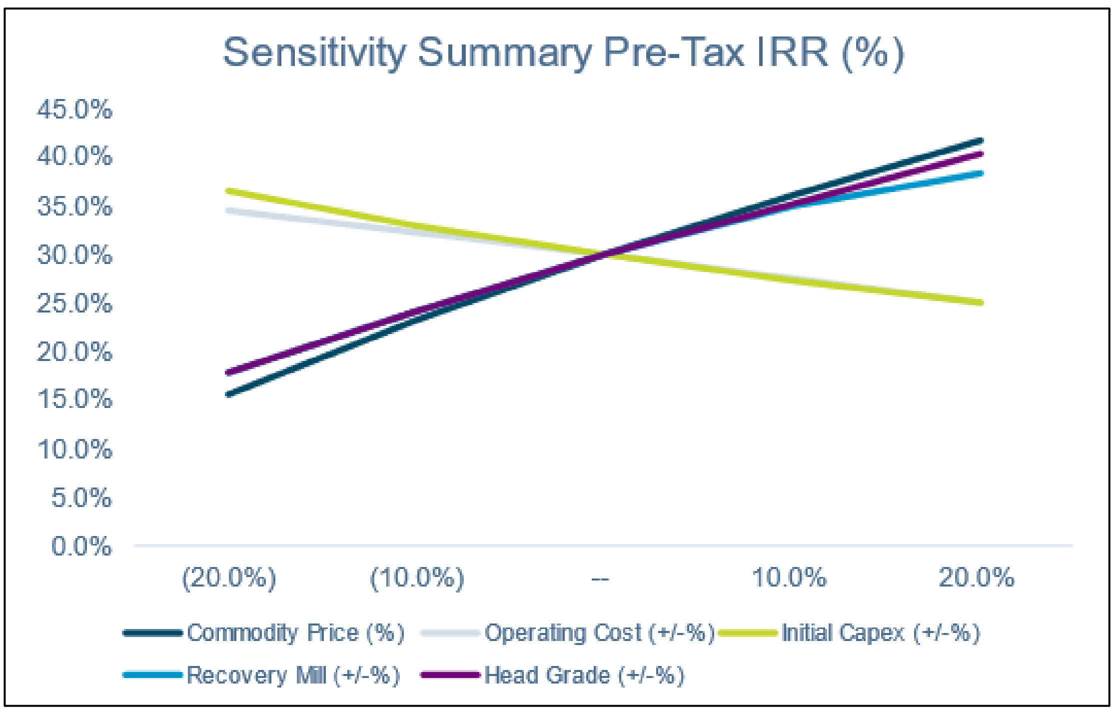
**Figure 1-2: Post-Tax NPV and IRR Sensitivity Results**




Source: Ausenco, 2024.

**Figure 1-3: Pre-Tax NPV and IRR Sensitivity Results**




Source: Ausenco, 2024.

## 1.15 Interpretations and Conclusions

The mineral resource estimate includes combined Measured & Indicated resource of 13.3 Mt grading 0.17% copper, 3.14% zinc, 1.27% lead, 101.62 g/t silver, and 0.07 g/t gold, plus an additional 23.4 Mt of material in the Inferred category grading 0.21% copper, 2.14% zinc, 1.13% lead, 110.67 g/t silver, and 0.14 g/t gold. The metallurgical testing completed on drill samples suggests that the mineralized material is amenable to processing by conventional froth flotation techniques for base metals and cyanide leaching with a Merrill-crowe plant for precious metals.

Contract mining was selected due to the benefit of deferring of capital and the higher NPV (after tax) estimated due to the current tax regime in Mexico. Mining at the Cerro Las Minitas deposit is proposed to use longhole stoping over 25 m sublevels in predicted good ground conditions. The mine plan considers paste backfill and a modern fleet of 21-t loaders and 63-t trucks. The mine plan is estimated to produce upwards of 6,900 tpd (waste and plant feed) sourced from CLM Main and CLM East. With a 2-year ramp up, the mine plan meets the targeted plant feed of 5,300 tpd and can sustain that production for a period of 14 years.

The flowsheet was designed for a nameplate capacity throughput of 5,300 t/d (1,934,500 t/a). Conventional mineral processing technologies were selected to produce copper, lead/silver, and zinc concentrates as well as a pyrite concentrate for concentrate leaching to extract precious metal. The LOM concentrate recoveries for Cu, Pb, and Zn are estimated at 70%, 87%, and 93% respectively. The gold and silver recovery to doré is 28.6% and 3.0% respectively. The concentrate grades are projected to be 27% Cu, 65% Pb, and 54% Zn.

Based on the assumptions and parameters in this report, the preliminary economic assessment shows positive economics including a post tax NPV5% of US$501.1M and 21.2% post-tax IRR. This PEA supports a decision to carry out additional detailed studies.

## 1.16 Recommendations

### 1.16.1 Overall Recommendations

The Cerro Las Minitas Project demonstrates positive economics, as shown by the results presented in this technical report. Continuing to develop the project toward to pre-feasibility study is recommended. Table 1-10 summarizes the proposed budget to advance the project through the pre-feasibility stage. Additional details on recommendations are included in Section 26.

**Table 1-10: Recommended Work Program**

| Item | Budget (US$M) |
|---|---|
| Exploration and drilling | 9.00 |
| Metallurgical testwork | 0.17 |
| Mining and UG Geotechnical Investigations | 2.00 |
| Process and Infrastructure engineering | 0.70 |
| Site-wide assessment and geotechnical studies | 0.65 |
| Environmental, permitting, social and community recommendations | 1.01 |
| **Total** | **13.53** |

# 2 INTRODUCTION

## 2.1 Introduction

The Cerro Las Minitas Project is an exploration and resource development project located in Mexico, 70 km northeast of the City of Durango, capital of the state of Durango, and 6 km northwest of the town of Guadalupe Victoria, in the municipality of Guadalupe Victoria, Durango. The project encompasses several prospects on a 31,716 ha property that is owned and operated by Southern Silver Exploration Corp. (Southern Silver).

Southern Silver commissioned Ausenco Engineering USA South Inc. to compile a preliminary economic assessment (PEA) of the Cerro Las Minitas Project. The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

The responsibilities of the engineering consultants and firms who are providing qualified persons are as follows:

- Ausenco Engineering USA South Inc., Ausenco Engineering Canada ULC, and Ausenco Sustainability ULC (collectively, “Ausenco”) managed and coordinated the work related to the report. Ausenco developed the PEA-level design and cost estimate for the process plant, general site infrastructure, site water management infrastructure, tailings facility and environmental studies and permitting. Ausenco also compiled the overall cost estimate and completed the economic analysis.
- Entech Mining Ltd. (Entech) prepared the mine plan, including underground designs, the mine productions schedule, and mine capital and operating cost estimates.
- Kirkham Geosystems Ltd. (KGL) completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis, data verification, and mineral resource estimate.
- MPC Metallurgical Process Consultants Ltd. (MPC) completed the work related to mineral processing and metallurgical testing.

## 2.2 Terms of Reference

The purpose of this report is to present the results of the PEA and to support the disclosures by Southern Silver Exploration Corp. in a news release dated June 10, 2024, and titled “Southern Silver Announces Updated PEA on Cerro Las Minitas: US$501M After-tax NPV5%; 21% IRR; 48 Month payback”.

All measurement units used in this technical report are metric unless otherwise noted. Currency is expressed in United States dollars (US$). This technical report uses English.

Mineral resources 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).

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

## 2.3 Qualified Persons

The qualified persons (QPs) for this technical report are listed in Table 2-1. By virtue of their education, experience and professional association, the individuals presented are each considered to be a "qualified person" 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 Southern Silver Exploration Corp. | Report Section |
|---|---|---|---|---|---|
| Erin Lynn Patterson | P.E. | Director, Technical Services | Ausenco Engineering USA South Inc. | Yes | 1.1, 1.9, 1.10, 1.11, 1.13, 1.14, 1.15, 1.16, 2.1, 2.2, 2.3, 2.4.1, 2.4.2, 2.5, 2.6, 2.7, 2.8, 3.1, 3.4, 17, 18.1, 18.2, 18.3.1, 18.3.2, 18.3.3, 18.3.4, 18.3.5, 18.3.6, 18.3.7, 19, 21.1, 21.2.1, 21.2.2, 21.2.4, 21.2.5, 21.2.6, 21.2.7, 21.2.8, 21.2.9, 21.2.10, 21.3.1, 21.3.3, 21.4, 21.5.1, 21.5.3, 21.5.4, 22, 24, 25.1, 25.8, 25.9, 25.10, 25.12, 25.13, 25.14, 25.15.1.4, 25.15.1.5, 25.15.1.7, 25.15.2.4, 26.1, 26.5, 27 |
| Scott C. Elfen | P.E. | Global Lead Geotechnical and Civil Services | Ausenco Sustainability ULC | Yes | 2.4.3, 18.3.8, 18.3.9, 18.3.10, 25.15.1.6, 26.6, 27 |
| James Millard | P. Geo. | Director, Strategic Projects | Ausenco Sustainability ULC | Yes | 1.12, 3.3, 4.3, 4.4, 20, 25.11, 25.15.1.8, 25.15.2.5, 26.7, 27 |
| Jason Allen | P.Eng. | Director | Entech Mining Ltd. | Yes | 1.8, 2.4.4, 16, 21.2.3, 21.3.2, 21.5.2, 25.7, 25.15.1.3, 25.15.2.3, 26.4, 27 |
| Garth David Kirkham | P.Geo. | President | Kirkham Geosystems Ltd. | Yes | 1.2, 1.3, 1.4, 1.5, 1.7, 2.4.5, 3.2, 4.1, 4.2, 5, 6.1, 6.4, 7, 8, 9, 10, 11, 12, 14, 15, 23, 25.2, 25.3, 25.4, 25.6, 25.15.1.2, 25.15.2.2, 26.2, 27 |
| Arthur Robert Barnes | P.Eng; FSAIMM | President | MPC Metallurgical Process Consultants Ltd. | Yes | 1.6, 6.2, 6.3, 13, 25.5, 25.15.1.1, 25.15.2.1, 26.3, 27 |

## 2.4 Site Visits and Scope of Personal Inspection

### 2.4.1 Site Visits Summary

A summary of the site visits completed by the QPs is presented in Table 2-2.

**Table 2-2: Site Visits**

| Qualified Person | Date of Site Visit(s) |
|---|---|
| Erin Lynn Patterson, P.E. | March 11, 2024 |
| Scott C. Elfen, P.E. | March 11, 2024 |
| James Millard, P. Geo. | Has not visited the site |
| Jason Allen, P.Eng. | July 6, 2022 |
| Garth David Kirkham, P.Geo. | March 31 through April 2, 2015, then again on January 14 through January 19, 2019, and most recently on August 16, 2021 |
| Arthur Robert Barnes, P.Eng, FSAIMM | Has not visited the site |

### 2.4.2 Site Inspection by Erin Lynn Patterson, P.E.

Erin Patterson, P.E., with Ausenco, visited the site on March 11, 2024. This field visit allowed independent observation of the available resources and infrastructure within proximity of the property, the nature of the terrain/lay of the land for facilities siting, site accessibility, drilling activities, drill core collection and storage, historical mine features, existing monitoring wells, historical mine features and previous reclamation activities.

### 2.4.3 Site Inspection by Scott Elfen, P.E.

Scott Elfen, P.E., with Ausenco, visited the site on March 11, 2024. This field visit allowed independent observation of the available resources and infrastructure within proximity of the property, the nature of the terrain/lay of the land for facilities siting, site accessibility, drilling activities, drill core collection and storage, historical mine features, existing monitoring wells, historical mine features and previous reclamation activities.

### 2.4.4 Site Inspection by Jason Allen, P.Eng.

Jason Allen, P.Eng. with Entech Mining, visited the project site on July 6, 2022, and visited the core facility located in Guadalupe Victoria located adjacent to the property. He also visited the project site reviewing potential portal locations, general layout, and the historic La Bacona workings.

### 2.4.5 Site Inspection Garth David Kirkham, P.Geo.

Garth David Kirkham, P. Geo., with Kirkham Geosystems Ltd., visited the property several times between March 31 through April 2, 2015, then again on January 14 through January 19, 2019, and most recently on August 16, 2021. The site visits included an inspection of the property, offices, drill sites, outcrops, trenches, drill collars, core storage facilities, core receiving area, and tours of major centers and surrounding villages most likely to be affected by any potential mining operation. In addition, the January 2019 site visit included a tour of the Puro Corazon site and processing facilities.

In 2015, Garth David Kirkham selected four complete drill holes at random from the database and they were laid out at the core storage area. Site staff supplied the logs and assay sheets for verification against the core and the logged intervals. The data correlated with the physical core and no issues were identified. In addition, the QP toured the complete core storage facilities, selecting and reviewing core throughout. No issues were identified, and recoveries appeared to be very good. For the 2019 site visit, all significant intersections encountered in the 2017 and 2018 drill programs were laid out, inspected, and compared against drill logs and assay sheets. For the 2021 site visit, all significant intersections encountered in the 2021 drill programs were laid out, inspected, and compared against drill logs and assay sheets. In addition, the methods and procedures for specific gravity measurements were reviewed and approved.

## 2.5 Effective Dates

The effective date of the overall report is June 04, 2024.

## 2.6 Sources of Information

Reports and documents listed in Section 3 and Section 27 of this technical report were used to support preparation of the technical report. The authors are not experts with respect to legal, socio-economic, land title, or political issues, and are therefore not qualified to comment on issues related to the status of permitting, legal agreements, and royalties. The sources of information include historical data and reports compiled by previous consultants and researchers of the project and supplied by Southern Silver personnel, as well as other documents cited throughout the report and referenced in Section 27 previously completed reports filed on System for Electronic Document Analysis and Retrieval (SEDAR) by previous owners. The QP's opinions contained herein are based on information provided to the QPs by Southern Silver throughout the course of the investigations.

The QPs have relied on Southern Silver's internal experts and legal counsel for details on project history, regional geology, geological interpretations, and information related to ownership and environmental permitting status.

The QPs have also relied on publicly available information accessed between April and May 2024. Websites utilized are as follows:

- Archeological and Historic Federal Institute (https://www.inah.gob.mx/).
- Category A, PR in NOM-059-SEMARNAT-2010 and APII of CITE El portal único del gobierno. | gob.mx (www.gob.mx).
- Category9-SEMARNAT-2010 https://smn.conagua.gob.mx/es/observando-el-tiempo/estaciones-meteorologicas-automaticas-ema-s El portal único del gobierno. | gob.mx (www.gob.mx).
- CNA (National Water Commission) (https://www.cna.gob.mx).

- Comisión Nacional de Áreas Naturales Protegidas (National Commission of Natural Protected Areas)| Gobierno | gob.mx (www.gob.mx).
- Instituto Nacional de Estadística y Geografía (National Institue of Statistics and Geography) (https://en.www.inegi.org.mx/).
- Natural Protected Areas | National Commission of Natural Protected Areas | Government | (https://www.gob.mx/conanp).
- OFFICIAL Mexican Standard NOM-059-SEMARNAT-2010, Protection Environmental-Native Mexican Species of Wild Flora and Fauna-Categories of risk and specifications for inclusion, exclusion or change-List of Species at risk dof.gob.mx. (https://www.dof.gob.mx/normasOficiales/4254/semarnat/semarnat.htm).
- SEDENA (National Secretary of Defense (https:// www.gob.mx/sedena).
- SEMARNAT (Federal Office of Environmental Protection) El portal único del gobierno. | gob.mx (www.gob.mx).
- SENER (National Secretary of Energy) El portal único del gobierno. | gob.mx (www.gob.mx).

This report has been prepared using the documents noted in Section 27 References. The QPs used their experience to determine if the information from previous reports was suitable for inclusion in this technical report and adjusted information that required amending. This report includes technical information that required subsequent calculations to derive subtotals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs do not consider them to be material.

## 2.7 Previous Technical Reports

The Cerro Las Minitas Project has been the subject of previous technical reports, as summarized in Table 2-3.

**Table 2-3: Summary of Previous Technical Reports**

| Reference | Company | Effective Date | Name |
|---|---|---|---|
| Kirkham Geosystems Ltd. | Southern Silver Exploration Corp. | October 27, 2021 | NI 43-101 Technical Report, Mineral Resource Estimate for Cerro Las Minitas Project, Durango State, Mexico |
| M3 Engineering and Technology Corp. | Southern Silver Exploration Corp. | October 13, 2022 | Preliminary Economic Assessment of the Cerro Las Minitas Project, Durango State, Mexico |

## 2.8 Currency, Units, Abbreviations and Definitions

All units of measurement in this report are metric and all currencies are expressed in US dollars (US$ or USD) unless otherwise stated. Contained silver and gold metal is expressed as troy ounces (oz), where 1 oz = 31.1035 g. All material tons are expressed as dry tons (t) unless stated otherwise. A list of abbreviations and acronyms is provided in Table 2-4, and units of measurement are listed in Table 2-5.

**Table 2-4: Abbreviations and Acronyms**

| Abbreviation/Acronym | Definition |
|---|---|
| 2D | two-dimensional |
| 3D | three-dimensional |
| A 3894 | dialkyl thionocarbamate |
| AAS | atomic absorption spectrometry |
| Aerophine 3418A | dialkyl dithiophosphinate |
| AES | atomic emission spectroscopy |
| Ag | silver |
| AI | artificial intelligence |
| Ai | Bond abrasion index |
| Al | aluminum |
| AMA | Active Management Area |
| ANFO | ammonium nitrate fuel oil |
| As | arsenic |
| ASTER | Advanced Spaceborne Thermal Emission and Reflection Radiometer |
| Au | gold |
| Ausenco | Ausenco Engineering USA South Inc. |
| Ba | barium |
| BDD | BD Drilling Mexico, S.A. de C.V. |
| Be | beryllium |
| Bi | bismuth |
| BRE | Big Rock Exploration |
| BWi | Bond work index |
| Ca | calcium |
| CA | Childs-Aldwinkle |
| Cd | cadmium |
| CDN | CDN Resource Laboratories Ltd. |
| Ce | cerium |
| CFE | Comisión Federal de Electricidad |
| CIM | Canadian Institute of Mining, Metallurgy and Petroleum |
| CLM | Cerro Las Minitas |
| Co | cobalt |
| CoG | cut-off grade |
| COMEX | The Commodity Exchange Inc. |
| Company | Southern Silver Exploration Corp. |
| Cr | chromium |
| CRIRSCO | Committee for Mineral Reserves International Reporting Standards |
| CRM | Consejo de Recursos Minerales |
| Cs | caesium |
| Cu | copper |
| CuEq | copper equivalent |
| CuSO4 | copper sulfate |

| Abbreviation/Acronym | Definition |
|---|---|
| CV | coefficient of variation |
| CWi | Bond crushing work index |
| DSLR | digital single-lens reflex |
| DSTF | Dry stack tailings facility |
| EDM | early dark micaceous |
| EH | early halo |
| Electrum | The Electrum Group LLC |
| Entech | Entech Mining Limited |
| EPO | exploration drilling program plan of operation |
| ESA | Endangered Species Act |
| Fe | iron |
| FMEC | Freeport-McMoRan Exploration Corporation |
| G&A | general and administrative |
| GAII | Geochemical Applications International, Inc. |
| gdp | granodiorite porphyry |
| Ge | germanium |
| GPS | global positioning system |
| Hf | hafnium |
| HS | high sulfide sulfur |
| ICP-AES | Inductively coupled plasma atomic emission spectroscopy |
| In | indium |
| ISL | in situ leach |
| ISO | International Organization for Standardization |
| K | potassium |
| La | lanthanum |
| LA | laser ablation |
| Li | lithium |
| LLDL | lower laboratory detection limit |
| LOM | Life of Mine |
| M&I | Measured and indicated |
| MDRU | Mineral Deposit Research Unit |
| Mg | magnesium |
| mgp | monzogranite porphyry |
| MPC | Metallurgical Process Consultants Ltd. |
| MPO | Mine Plan of Operations |
| MRE | mineral resource estimate |
| MRV | Minera Real Victoria |
| MS | mass spectrometry |
| MSGP | multi-sector general permit |
| MSRDI | Mountain States R&D International, Inc. |
| Na | sodium |
| NaCN | sodium cyanide |

| Abbreviation/Acronym | Definition |
|---|---|
| NAG | non acid-generating |
| NaHS | sodium hydrosulphide |
| Nb | niobium |
| Ni | nickel |
| NI 43-101 | Canadian National Instrument 43-101 |
| NN | nearest neighbor |
| Noranda | Minerales Noranda, S.A. de C.V. |
| NPV | Net Present Value |
| NSR | Net Smelter Return |
| OP | open pit |
| opt | ounces per short ton |
| OR | Old Reliable |
| Oxymin | Occidental Minerals Corporation |
| P | phosphorus |
| $P_{80}$ | 80% passing size |
| Pb | lead |
| PEA | preliminary economic assessment |
| PFS | prefeasibility study |
| Project | Cerro Las Minitas project |
| QA/QC | quality assurance/quality control |
| QP | Qualified Person |
| Rb | rubidium |
| RC | reverse circulation |
| Re | rhenium |
| RPEEE | reasonable prospects for eventual economic extraction |
| RQD | rock quality designation |
| RSD | relative standard deviation |
| RTP | reduced to pole |
| RWi | Bond rod mill work index |
| S | sulphur |
| SAG | semi-autogenous |
| Sb | antimony |
| Sc | scandium |
| SD | standard deviation |
| Se | selenium |
| SEDAR | System for Electronic Document Analysis and Retrieval |
| SG | specific gravity |
| SGS | SGS Canada Inc. |
| SIPX | sodium isopropyl xanthate |
| SMBS | Sodium Metabisulfite |
| SMC | SAG mill comminution |
| Sn | tin |

| Abbreviation/Acronym | Definition |
|---|---|
| Southern Silver | Southern Silver Exploration Corp. |
| Sr | strontium |
| SRU | solids removal unit |
| SWPPP | stormwater pollution prevention plan |
| Ta | tantalum |
| TCRC | treatment charges and refining charges |
| Te | tellurium |
| Th | thorium |
| Ti | titanium |
| Tl | thallium |
| TMI | total magnetic intensity |
| U | uranium |
| UG | underground |
| UST | unidirectional solidification texture |
| UTM | Universal Transverse Mercator |
| V | vanadium |
| VTEM | Versatile Time Domain Electromagnetic |
| W | tungsten |
| WGS-84 | World Geodetic System 1984 |
| X10 | Phinar Software's X10-Geo |
| Y | yttrium |
| Zn | zinc |
| ZnEq | Zinc Equivalent |
| $ZnSO_4 \cdot 7H_2O$ | zinc sulfate |
| Zr | zirconium |
| ZTEM | Z-Axis Tipper Electromagnetic |

**Table 2-5: Unit of Measurement**

| Abbreviation | Description |
|---|---|
| $ | United States dollars |
| $/lb | dollars per pound |
| $/oz | dollars per ounce |
| $/t | US dollars per metric ton |
| $M US | million US dollars |
| % | percent |
| .csv | comma-separated value |
| < | less than |
| > | greater than |
| ° | degree |
| °C | degrees Celsius |
| µm | micron |
| cm | centimeter |

| Abbreviation | Description |
| --- | --- |
| dmt | dry metric ton |
| ft | foot |
| $ft^3$/ton | cubic feet per short ton |
| g | gram |
| $g/cm^3$ | grams per cubic centimeter |
| g/t | grams per ton |
| Ga | billion years ago |
| ha | hectares |
| ID10 | inverse distance to the tenth power |
| ID4 | inverse distance to the fourth power |
| IDW3 | inverse distance weighting cubed |
| kg | kilograms |
| kg/t | kilogram per ton |
| km | kilometer |
| $km^2$ | square kilometer |
| kt | thousand tons |
| ktpd | thousand tons per day |
| kV | kilovolt |
| kWh/st | kilowatt-hour per ton |
| kWh/t | kilowatt-hour per ton |
| lb | pound |
| m | meter |
| M | million |
| m RL | meters elevation |
| $m^3$ | cubic meter |
| Ma | million years ago |
| masl | meters above sea level |
| $mi^2$ | square mile |
| MIBC | methyl isobutyl carbinol |
| Mlb | million pounds |
| mm | millimeter |
| Moz | million troy ounces |
| Mt | million tons |
| MW | megawatt |
| oz | troy ounce |
| ppm | parts per million |
| t | ton (metric ton) (2,204.6 pounds) |
| t/d | metric tons per day |
| $t/m^3$ | metric tons per cubic meter |
| TrOz | Troy Ounce |

# 3 RELIANCE ON OTHER EXPERTS

## 3.1 Introduction

The QPs have relied on other expert reports which provided information regarding permitting, social and community impacts, taxation, and marketing for sections of this report.

## 3.2 Property Agreements, Mineral Tenure, Surface Rights and Royalties

The qualified persons (QPs) are not qualified to provide an opinion or comment on issues related to legal agreements, royalties, permitting, or environmental matters. The QPs have relied upon the following reports by other experts, which provided information regarding mineral rights, surface rights, property agreements, royalties, environmental, permitting, social license, closure, taxation, and marketing for sections of this report:

- J. Alfredo Pérez Rascón (APR Consultores Mineros). March 26, 2017. Informe de Concesiones Mineras Proyecto “Cerro Las Minitas”, Ubicado en el Municipio de Guadalupe Victoria, en el Estado de Durango, Mexico.
- Mauricio Heiras Garibay attorney at law in Mexico. April 12, 2017. Letter of current legal status of 19 mining concessions that cover the Cerro Minitas Project, and the plan for Lots C Las Minitas titled, Plano de Concesiones Mineras.

This information was relied upon in Sections 1.2, 1.3, 4 and 25.2.

## 3.3 Environmental, Permitting, Closure, and Social and Community Impacts

The QPs have fully relied upon, and disclaim responsibility for, information supplied by Southern Silver and experts retained by Southern Silver for information related to environment, permitting, closure planning and related cost estimation, and social and community impacts as follows:

- Delegación Federal de la SEMARNAT en el Estado de Durango. October 8, 2020. Notificación en material de impacto ambiental. Issued to Minera Plata del Sur, S.A. de C.V.
- Investigación y Desarrollo de Acuíferos y Ambiente IDEAS. May 2022. Hydrological and hydrogeological characterization for the Cerro Las Minitas Project, Durango. Prepared for Southern Silver.

This information was relied upon in Sections 1.12, 20, and 25.11.

## 3.4 Taxation

The QPs have not independently reviewed the taxation information. The QPs have fully relied upon, and disclaim responsibility for, taxation information and guidance supplied by Southern Silver’s private tax consultant Mr. Lincoln Schreiner and external tax consulting firm Ernst and Young Ltd. who have reviewed the tax model as confirmed via email:

- *Fwd: Southern Silver Tax Model* From: Martha.Resendiz@mx.ey.com Received 2:28PM PST, 31/05/2024.

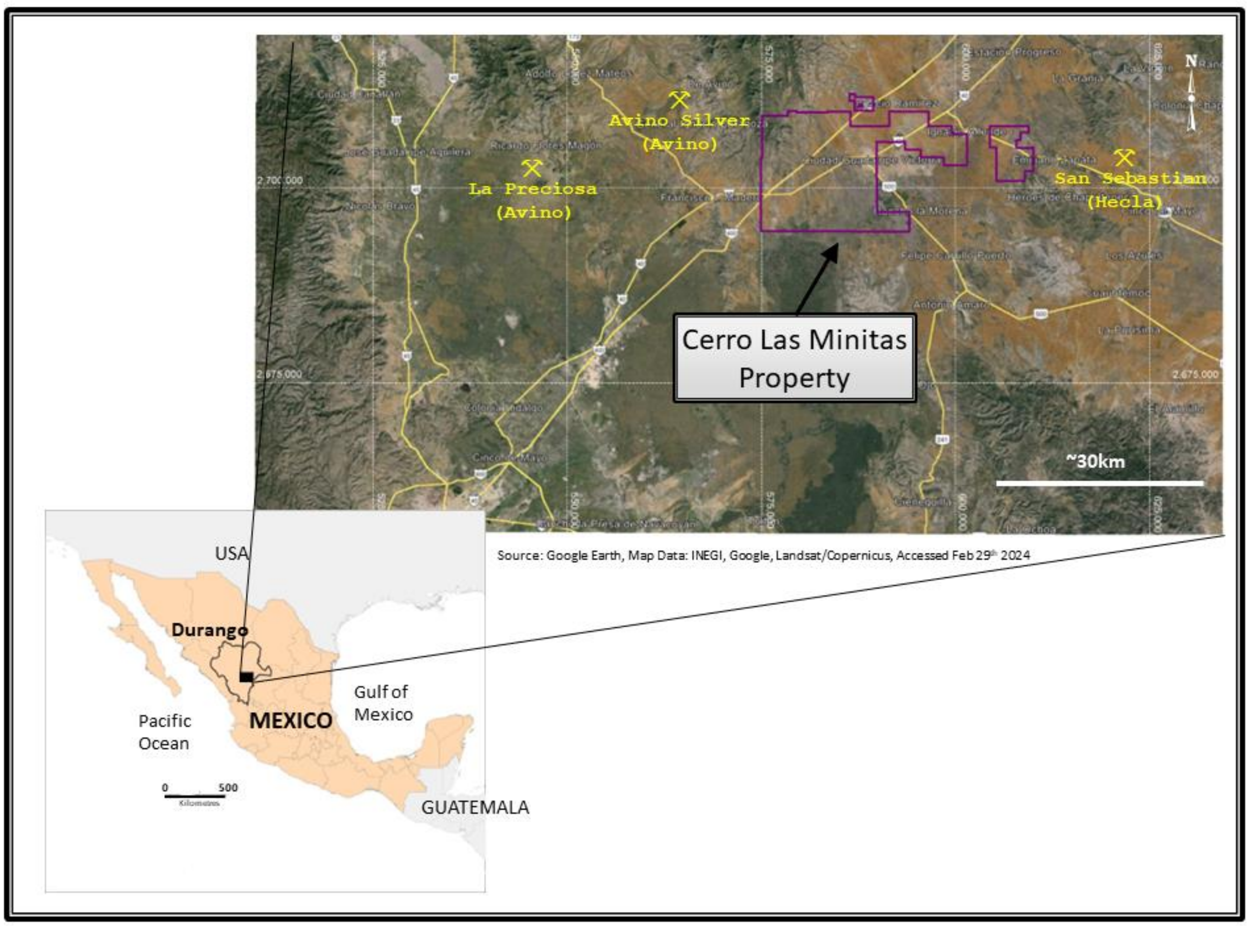
This information was relied upon in Sections 1.20, 22, and 25.15.

# 4 PROPERTY DESCRIPTION AND LOCATION

## 4.1 Property Location

The Cerro Las Minitas property is located 70 km northeast of the City of Durango, the capital of the state of Durango, and 6 km northwest of the town of Guadalupe Victoria, in the municipality of Guadalupe Victoria, Durango, Mexico (Figure 4-1). The claims are located in the Minitas mining district in the Guadalupe Victoria mining region. The property consists of 26 mining concessions encompassing 31,716 ha (Figure 4-2). The centre of the Cerro Las Minitas property lies at 24° 30' 33.36"N, and 104° 8' 5.49"W, or 2,710,886 mN and 587,647 mE, UTM Zone 13, WGS 84. Table 4-1 shows the details of the 26 concessions.

**Figure 4-1: Cerro Las Minitas Location Map**




Source: Southern Silver, 2024.

## 4.2 Mineral Tenure

In December 2010, Southern Silver announced its agreement with a private vendor that granted Southern Silver the right to acquire 100% interest in the project by making scheduled payments totaling US$4 million over a three-year period. Initial consideration was a US$300,000 cash payment with escalating payments every six months for the term of the option.

In December 2012, the Company re-negotiated the option to extend certain payments to November 2013 and also to reduce total payment to US$3,600,000 in the event that the optionor fails to deliver registered title to a claim adjacent to the core group of claims. To date, title to that claim has not been delivered.

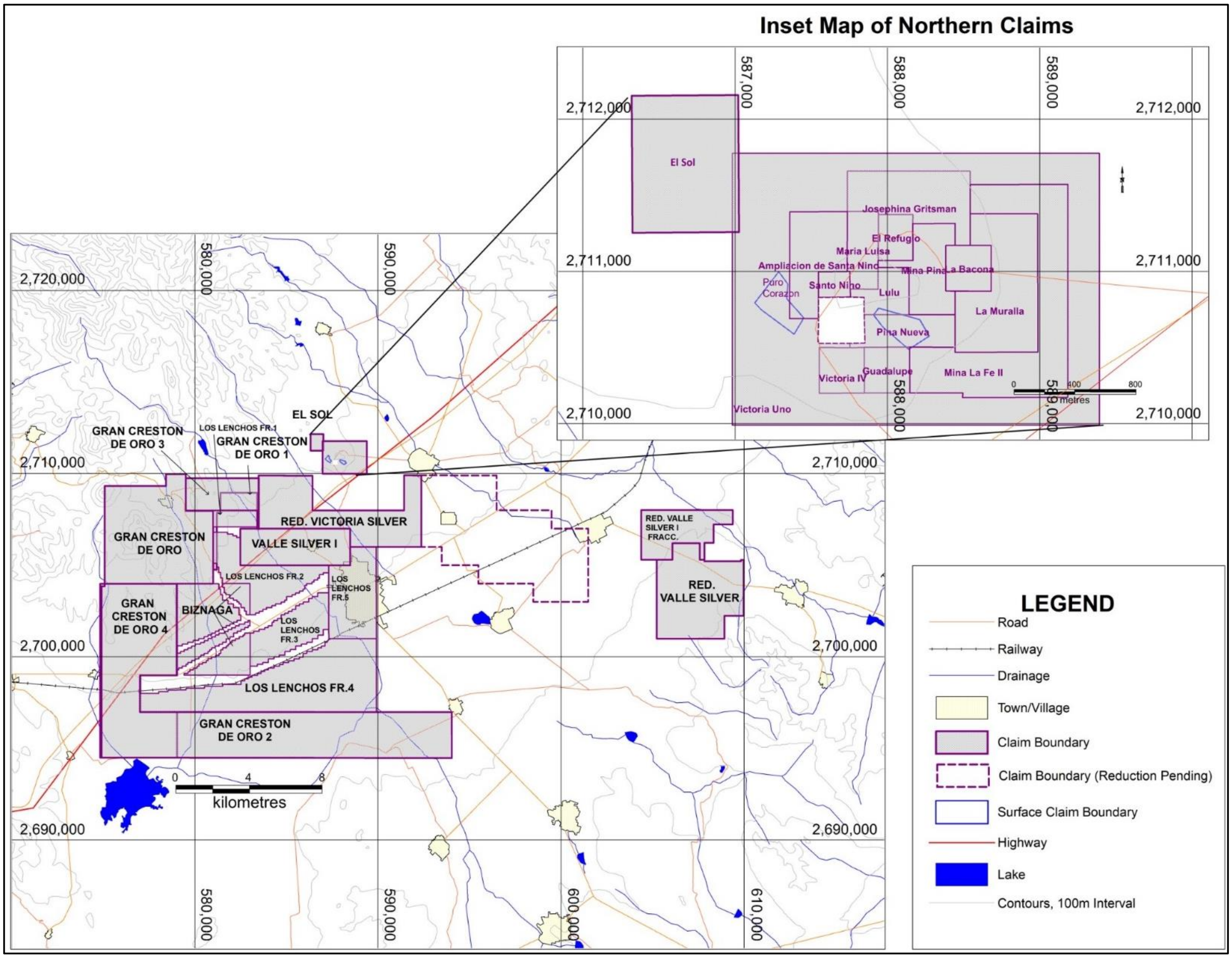
In November 2014, the Company announced that, through its subsidiary Minera Plata del Sur, S.A. de C.V. ("MPS"), it had completed the final payment to acquire a 100% interest in the claims. MPS is now the registered title holder of the claims.

In a letter dated April 12, 2017, Maurico Heiras Garibay, attorney -at-law registration number 3733123 provided a legal opinion regarding the 19 mining concessions (Table 4-1) that comprise the core of the Cerro Las Minitas holdings. He states, "The records of the Mining Public Registry in Mexico show that Mineral Plata del Sur, S.A. de C.V., is registered as the title holder of said Mining Concessions. Minera Plata del Sur, S.A. de C.V. is the owner of the Mining Concessions, without reservation or limitation of any kind, free and clear of liens, encumbrances."

In 2017/18, the company acquired seven contiguous concessions by staking. One of these claims is subject to a finder's fee whereby minimum payments are due on a semi-annual basis accelerating from US$5,000 to US$25,000 over a ninety-six-month period and a 1% NSR with such periodic payments being credited to NSR payments. After payment of US$5,000,000 in NSR payments the royalty is reduced to 0.5%. These claims are in the process of being registered and do not yet have title numbers. Note that the out-going Federal government in Mexico is not registering new titles at this time. A new government has been elected and which may result in a change of policy and the registration of these titles in due course.

The individual claims are summarized in Table 4-1.

**Figure 4-2: Cerro Las Minitas Concession Map**




Source: Southern Silver, 2022.

**Table 4-1: Concession Summary**

| Title # | Type | File # | Claim Name | Area (Ha) | Date Issued | Expiry Date |
|---|---|---|---|---|---|---|
| 196064 | EXPLOIT. | 2/1.10/969 | EL SOL | 63.14 | 22/08/1992 | 21/08/2042 |
| 164061 | EXPLOIT. | 09/4375 | LA BOCONA | 9.00 | 21/02/1979 | 20/02/2029 |
| 191775 | EXPLOIT. | 321.1/2-602 | MINA PIÑA | 17.02 | 19/12/1991 | 18/12/2041 |
| 186434 | EXPLOIT. | 321.1/2-603 | PIÑA NUEVA | 12.73 | 30/03/1990 | 29/03/2040 |
| 193482 | EXPLOIT. | 321.1/2-482 | LULU | 8.36 | 19/12/1991 | 18/12/2041 |

| Title # | Type | File # | Claim Name | Area (Ha) | Date Issued | Expiry Date |
|---|---|---|---|---|---|---|
| 193483 | EXPLOIT. | 321.1/2-472 | VICTORIA UNO | 189.33 | 19/12/1991 | 18/12/2041 |
| 213288 | EXPLOR. | 025/25591 | VICTORIA IV | 9.00 | 10/04/2001 | 09/04/2051 |
| 214313 | EXPLOR. | 025/25543 | LA MURALLA | 39.10 | 06/09/2001 | 05/09/2051 |
| 196146 | EXPLOIT. | 321.1/2-069 | JOSEFINA GRISSTMAN | 26.44 | 16/07/1993 | 15/07/2043 |
| 209851 | EXPLOR. | 025/23151 | MINA LA FE II | 61.67 | 17/08/1999 | 16/08/2049 |
| 227317 | MINING | 025/32609 | GUADALUPE | 9.00 | 09/06/2006 | 08/06/2056 |
| 167210 | EXPLOIT. | 025/4133 | EL SANTO NIÑO | 3.32 | 22/10/1980 | 21/10/2030 |
| 167906 | EXPLOIT. | 09/14559 | EL REFUGIO | 6.95 | 16/12/1980 | 15/12/2030 |
| 167212 | EXPLOIT. | 025/4374 | AMPLIACION DE SANTO NIÑO | 21.36 | 22/10/1980 | 21/10/2030 |
| 167211 | EXPLOIT. | 025/4134 | MARIA LUISA | 9.85 | 22/10/1980 | 21/10/2030 |
| 233341 | MINING | 025/33338 | VICTORIA SILVER | 6171.62 | 13/02/2009 | 12/02/2059 |
| 247131 | MINING | 2/002-00352 | REDUCCIÓN VALLE SILVER | 2077.10 | 11/10/2022 | 12/02/2059 |
| 241477 | MINING | 025/38052 | VALLE SILVER - I | 1200.00 | 19/12/2012 | 18/12/2062 |
| 247202 | MINING | 2/002-00351 | RED. VALLE SILVER - I FRACC. | 971.41 | 30/03/2023 | 29/01/2063 |
| PENDING | MINING | 025/39062 | LA BIZNAGA | 2000.00 | PENDING | PENDING |
| PENDING | MINING | 025/39063 | LOS LENCHOS | 7600.00 | PENDING | PENDING |
| PENDING | MINING | 025/39112 | GRAN CRESTON DE ORO | 2966.40 | PENDING | PENDING |
| PENDING | MINING | 025/39149 | GRAN CRESTON DE ORO 1 | 194.20 | PENDING | PENDING |
| PENDING | MINING | 025/39150 | GRAN CRESTON DE ORO 2 | 3800.00 | PENDING | PENDING |
| PENDING | MINING | 025/39158 | GRAN CRESTON DE ORO 3 | 596.00 | PENDING | PENDING |
| PENDING | MINING | 025/39157 | GRAN CRESTON DE ORO 4 | 3590.00 | PENDING | PENDING |
| **Total** | | | | **31716.01** | **-** | **-** |

Source: Southern Silver, 2024.

A small inlying claim known as the Puro Corazon claim (9 ha) is not owned or controlled by Southern Silver (see inset map of the Northern claims in Figure 4-2). This is the site of the historic small-scale Puro Corazon mine.

On October 24, 2011, Minera Plata del Sur, S.A. de C.V., entered into a Property Purchase Agreement with Mr. Julio Cesar Rosales Badillo to acquire a 100% interest in a 5-hectare surface lot which overlies a portion of the mineral claims. The property was acquired to provide a site for construction of a mill or other facilities if warranted and was acquired in consideration for a cash payment of $US40,000 and issuance of 50,000 common shares of the company. Title to this property is now registered in Southern Silver's name.

In October 2012, Southern Silver granted Freeport-McMoRan Exploration Corporation ("FMEC") the right to earn an indirect 70% interest in the property.

FMEC had the option to earn respective 51% and 19% indirect interests in the property through the acquisition of common shares of a subsidiary of the Company which has the right to purchase a 100% interest in the property.

On September 11, 2014, Southern Silver received notice from FMEC of termination of the earn-in agreement. As part of the termination, FMEC assigned to the Company, for no consideration, its option to acquire a 100% interest in the El Sol Concession, which is situated contiguous to the northwest boundary of Cerro Las Minitas. On July 20, 2015, the Company relinquished its interest in the option of the El Sol concession. During April 2020, the Company entered into an agreement to again purchase the El Sol Claim. The claim totals 63 ha and is situated contiguous with Cerro Las Minitas to the Northwest (Figure 4 2 and Table 4 1) Total acquisition cost was US$300,000, plus applicable local taxes of 16%, which is fully paid. The property is subject to a 2% NSR payable to the optionor who has granted the Company an option to purchase the NSR at any time for US$1,000,000.

Pursuant to agreements dated July 7 and July 8, 2015, Southern Silver through its Mexican subsidiary, Minera Plata del Sur, S.A. de C.V., signed an Equipment and Property Purchase Agreement with Sr. Jaime Muguiro Peña to acquire 100% interest in a 5.9 ha surface lot partially covering the Blind and El Sol Deposits for staged payments totaling US$200,000. The final Payment has been made and the deed registered with the Mexican authorities.

In April 2015, Southern Silver granted The Electrum Group LLC (“Electrum”) the right to earn an indirect 60% interest in the Cerro Las Minitas property by funding exploration and development expenditures of US$5 million on the Property over a maximum four-year period. Electrum would earn indirect interests in the Property through the acquisition of common shares of a Southern Silver subsidiary company which owns the Mexican company (“MPS”) holding a 100% interest in the Property.

Electrum completed their earn-in in October 2016 and the project operated as a joint venture with Southern Silver Exploration Corp. (“Southern Silver”) at 40% interest and Electrum Global Holdings LP (“Electrum”) at a 60% interest with Southern Silver acting as operator of the project.

In 2017/2018, seven additional claims were staked totaling 20,746.60 ha to the south and west of the existing claims to cover prospective, gravel-covered ground discovered by local prospectors. These claims are collectively called the CLM West claims and are composed of the Las Biznagas claim, the Los Lenchos claim and the Gran Creston de Oro claims.

In June 2020, Southern Silver announced an agreement to purchase Electrum’s 60% indirect working interest in the CLM project for payment of US$15M, payable in cash and Southern Silver common shares. Payments were in three tranches as follows:

- At closing (on or about September 9, 2020): US$5.0M in cash and US$2.0M (based on the greater of the prior 20-day VWAP and the DMP).
- Six months from closing: US$2.0M in cash and US$2.0M in shares (based on the greater of the prior 20-day VWAP and the DMP).
- 12 months from closing: US$2.0M in cash and US$2.0M in shares (based on the greater of the prior 20-day VWAP and the DMP).

In September 2021, the company announced that it had completed final payment to Electrum and therefore increased its working interest in the Project from 40% to 100%.

### 4.3 Permitting

Throughout the exploration process, Minera Plata del Sur (MPS) has negotiated and executed Exploration Access agreements with Ejidos having jurisdiction over lands contained within the original Cerro Las Minitas claim group and the newly staked CLM West Claim Group. This is a time-consuming process requiring strict adherence to Mexican Law pertaining to the manner of conduct of a series of meetings allowing the respective populace to give informed consent to access and use of the surface of Ejido lands for exploration purposes of the underlying mineral claims. The Consent Agreements are submitted, together with other information and documents such as an Environmental Report (re: Permit application) to SEMARNAT, the relevant Mexican permitting authority.

Exploration on the original Cerro las Minitas claim group operated under a four-year SEMARNAT permit. The permit was issued on October 20, 2016, and allowed for 150 drill holes and 40 trenches.

Exploration on the Cerro las Minitas claim group now operates under an eight-year SEMARNAT permit. The permit was issued on October 8, 2020 and allows for 155 core holes, 74 RC holes and 68 trenches and covers exploration activities on the original Cerro las Minitas claims and two more recently staked claims from the CLM West group known as El Gran Creston De Oro 1 and Gran Creston de Oro 3 claims. The project remains in good standing and continues to follow the reclamation and environmental plan laid out in the permit.

Exploration on the CLM West claim group initially operated under two four-year SEMARNAT permits. The permits were issued in March and April of 2018.

The CLM West permits lapsed in early 2022 with work on the two most prospective claims from the CLM West group are now authorized under the Cerro Las Minitas permit effective October 8, 2020.

### 4.4 Environmental and Socioeconomic

The surface access to the area of the mineral resource is controlled by the Ejidos of Guadalupe Victoria and Ignacio Ramirez. Southern Silver's Mexican subsidiary Minera Plata del Sur S.V. has 20-year surface access exploration agreements covering the common ground of the Guadalupe Victoria Ejido and the Ignacio Ramirez Ejido that lies within the Cerro Las Minitas concessions. Agreements with individual Ejido landowners are negotiated as needed to cover deeded lands.

On the CLM West claims, surface rights are owned by the Ejido communities of Francisco I Madero, Geronimo Hernandez, Librado Rivera and Guadalupe Victoria. Exploration agreements with these Ejido communities have been finalized and are summarized below. Similarly, agreements with individual Ejido landowners are negotiated as needed to cover deeded lands.

The status of the agreements with each relevant stakeholder is as follow:

- **Guadalupe Victoria**: Signed and registered 20-year Exploration Access Agreement, June 18, 2005. This was completed as part of permitting for core drilling in the Area of the Cerro Las Minitas Project.
- **Ignacio Ramirez**: Signed and registered 20-year Exploration Access Agreement, May 29, 2018. This was completed as part of permitting for core drilling in the Area of the Cerro Las Minitas Project.

- **Librado Rivera**: Signed and registered for an 8-year Exploration Access Agreement, Dec 2, 2017.
- **Francisco I Madero**: Signed and registered for an 8-year Exploration Access Agreement, Feb 2, 2018.
- **Geronimo Hernandez**: Signed and registered for an 8-year Exploration Access Agreement, Feb 3,2018.
- Discussions with the private ranch owners are ongoing. Exploration activity is approved in most cases.

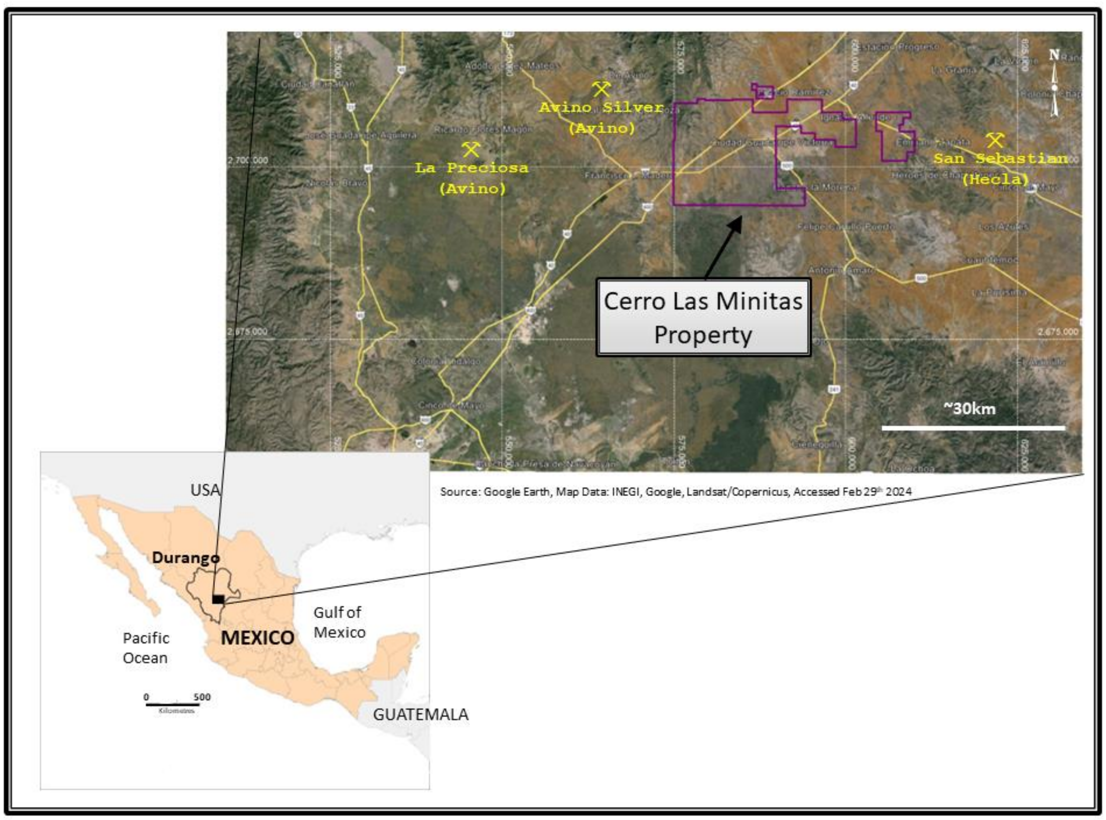
The Qualified Person is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.

# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 Accessibility

The Cerro Las Minitas property is located in the Minitas mining district, approximately 6 km northwest of the town of Guadalupe Victoria, Durango and 70 km northeast of the City of Durango, the capital of the state of Durango. The property can be reached from the City of Durango via Interstate Highway 40D (toll road) and Highway 40 (free access), the road from Francisco I. Madero to Cuencamé (Figure 5-1). There is no access to Interstate Highway 40D from Cerro Las Minitas, although the highway bisects the property. A small overpass affords access between the northern and southern portions of the property. A graded dirt road leads from Guadalupe Victoria north to the area of the Cerro and affords easy access to the location of the mineral deposits currently identified on the property and the subject of this report.

**Figure 5-1: Cerro Las Minitas Location**




Source: Southern Silver, 2024.

## 5.2 Climate

The climate is generally dry with sporadic, occasionally violent rainstorms in the hot summer months (between June and September). The average precipitation in the property area between May and October is about 600 mm. The winter months are cool and dry, and snow is rare, but nighttime temperatures below the freezing mark are common in December and January. The average annual temperature is about 25°C.

## 5.3 Local Resources and Infrastructure

The broad valley south of the Cerro Las Minitas property is relatively densely populated and well developed. The town of Guadalupe Victoria is a growing farm community (population of about 35,000) that offers most basic services. The quality of infrastructure improves, and the population density increases towards the City of Durango, 70 km to the southwest.

The nearby towns of Guadalupe Victoria and Ignacio Ramirez are serviced by the commercial electrical grid and a regional transmission line of the Comisión Federal de Electricidad (CFE) follows Interstate Highway 40. A 33,000-kVA power drop has been extended from the CFE line to the Mina Piña shaft, and it is serviceable but in need of minor repair.

Any of the materials, supplies, and labour required to support exploration and mining activities are available in the City of Durango and the surrounding region. Telephone service, Internet access, and necessities are available in Guadalupe Victoria.

## 5.4 Physiography

The Cerro Las Minitas property lies near the western edge of the Mexican Altiplano, an extensive volcanic plateau characterized by narrow, northwest-trending fault-controlled ranges separated by wide flat-floored basins. In the Durango area, the basins have elevations of 1,900 m to 2,100 m, and the higher peaks rise to 3,000 m. Grasses, small trees and shrubs, and several varieties of cacti make up most of the vegetation on the steep hillsides, and larger trees are found near springs and streams.

## 5.5 Water Resources

Potable water is readily available in nearby towns, and water for drilling and other exploration activities can be obtained from old workings on the property.

# 6 HISTORY

## 6.1 District and Early Property History

Minimal documentation exists regarding the history and production at Cerro Las Minitas; however, the local legend is that Spaniards from the city of Victoria de Durango (now the City of Durango) originally discovered the silver mineralization at Cerro Las Minitas. The historical information presented herein has been gleaned from discussions with local miners and operators and information found in existing reports relating to the property (Minas de Bacis, 1995; Enriquez, 2005; Proyectos Mineros y Topografía, 2001).

No reliable record of historical production has been found, but local miners and operators report that the mines have been intermittently active since the early 1960s. The properties have passed from hand to hand without documentation. However, concessions that cover the properties have been maintained in good standing since the early 1960s.

The only two areas with significant exploitation in the district are the Santo Niño-Puro Corazón and Mina Piña-La Bocona areas. Of these areas, the Puro Corazón shafts are off the property and are located within the internal Puro Corazón claim where rights are not owned by Minera Plate del Sur (wholly owned subsidiary of Southern Silver). The Santo Niño, Mina Piña and La Bocona shafts and associated workings are on the property (Figure 6-1). Informal estimates have been made based on historical and non-verifiable information so they are not included here.

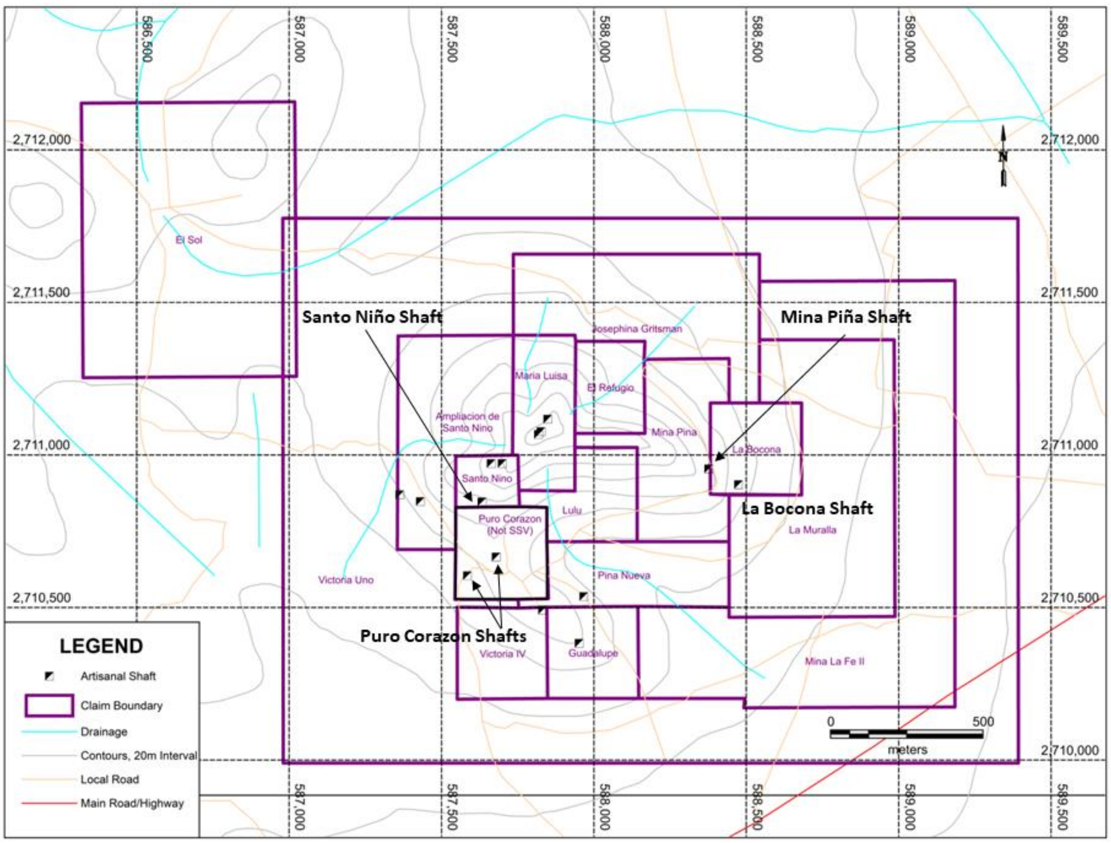
In 1960, Carlos Villaseñor discovered silver-lead-zinc-copper mineralization in the Santo Niño-Puro Corazón area. He explored the deposits and conducted minor exploitation until 1971 when he built a small mill in the Velardeña district. When the mill became operational, mining efforts were stepped up and mineralized material was shipped to the Velardeña mill to be processed. The operations at Villaseñor generated interest in the area, resulting in the discovery of the deposits in the Mina Piña-La Bocona area to the east.

The majority of the mining at Cerro Las Minitas is reported to have occurred between 1970 and 1981, but intermittent artisanal mining continues to this day on the Puro Corazon claim which is not part of the Minera Plata del Sur claim group. From 1997 to 2002, the mines were idle due to problems with mine water and a drop in metal prices. Intermittent, small-scale exploitation of the deposits in the Santo Niño-Puro Corazón area continued until 2005 and operations in the Mina Piña-La Bocona area continued into late 2006. Based on the size of the mine workings and the limited sampling, Enriquez (2005) estimated that 0.7 million tonnes were produced from the Santo Niño-Puro Corazón area, and 0.5 million tonnes were produced from the Mina Piña-La Bocona area, for a total production of 1.2 million tonnes.

Since 1977, the Consejo de Recursos Minerales (CRM) has supported artisanal miners in the area. In 1979, CRM completed 834.55 m of diamond drilling in seven holes in the Mina Piña area, which belonged, at that time, to Santiago Valdez. Valdez exploited the mine until 1997, when he suspended operations due to a drop in metal prices. CRM discovered additional mineralization in its drilling, but no further exploration or development was completed. CRM delivered drilling and assay data to the operators in the district without interpretation.

In 1981, CRM continued to support the development of the district, completing 77 m of shaft and 80 m of crosscut to cut the upper, oxidized portion of the La Bocona deposit. Following that work, Jaime Muguiro deepened the Mina Piña shaft by 59 m to reach the 210 m level. A 140 m crosscut was driven, encountering a number of thin mineralized horizons and the Huisache mineralized chimney. Muguiro then suspended operations due to problems with water inflow.

**Figure 6-1: Artisanal Workings on and Around the Property**




Source: Southern Silver, 2024.

From 1999 to 2000, Minerales Noranda, S.A. de C.V. (Noranda) optioned for the properties and completed an exploration program, including 861 soil and rock samples, an aeromagnetic survey covering the entire district, and seven widely spaced diamond drill holes (3,886 m in total) within the Cerro Las Minitas dome. Results were encouraging but fell short of Noranda's expectations, so it abandoned the property. Unfortunately, none of the original Noranda data have been found, except for fragmented data presented in a summary report by Proyectos Minerales y Topografia, S.A. de C.V. (2001).

In 2005, Minera Real Victoria (MRV) acquired leases on concessions in the Santo Niño-Puro Corazón area and began an exploration and development program. In May 2005, MRV began driving a 2.5 m × 2.5 m decline into the old Santo Niño-Puro Corazón workings to develop the expected resources. MRV drove 170 m of workings to connect to Level 2 of the Puro Corazón workings and conduct a preliminary exploration of the near-surface portion of the La Chiva mineralized zone (also on the Puro Corazon Claim.) That work was halted in November 2005 when MRV entered into negotiations with Silver Dragon Resources Inc. (Silver Dragon) to acquire the property.

In December 13, 2005, Silver Dragon announced that it had entered into agreements to purchase 100% interest in the Cerro Las Minitas property. In March 2006, Silver Dragon consolidated landholdings in the district, and the claims were held by Silver Dragon Mining de Mexico, S.A. de C.V., a wholly owned Mexican subsidiary of Silver Dragon Resources Inc. by virtue of the fifteen mining concession "Agreements to Purchase."

Work by Silver Dragon in 2006-07 consisted of sampling and mapping of the old workings in the Santo Niño – Puro Corazón area, as well as limited diamond drilling to test the continuity at depth of the mineralized contact zone that historically has hosted the bulk of the known deposits around the Cerro Las Minitas Dome. Eleven holes were drilled for an approximate total depth of 2,915 metres. Reconnaissance mapping revealed evidence of both contact metasomatic and manto mineralization in a number of areas surrounding the central intrusive complex. The work concluded that the newly discovered manto mineralization may offer substantial potential for high-grade Ag production in the district and that further work was required to delineate that style of mineralization on the property. Furthermore, the work concluded that additional skarnoid and chimney deposits remain to be discovered in the contact skarn zone surrounding the Cerro Las Minitas Dome.

In June 2009, Silver Dragon signed a toll-milling agreement with Besmer S.A. de C.V. of Mexico to process up to 12,000 tonnes of mineralized material over 12 months from Cerro las Minitas. During the first two months of toll-milling, 790 tons of material was processed, yielding 28.382 tons of silver/lead concentrates and 15.618 tons of zinc concentrates.

In October 2010 Silver Dragon was made aware of land title issues regarding the Cerro las Minitas project and related concessions. In December 2010, Silver Dragon Mining de Mexico S.A. de C.V. counsel filed motions with a tribunal in Durango State court to unseal the judicial file of the foreclosure proceedings initiated by Mr. Jaime Muguiro Pena. SDMM instructed its counsel to assert a Constitutional Rights Claim before the Federal Court in the City of Durango, premised on procedural irregularities in the foreclosure proceedings, for the purposes of re-opening the case. As a result of the foreclosure proceedings, Mr. Muguiro obtained rights to the concessions.

On December 1, 2010, Southern Silver Exploration Corp. announced that it had entered into an option agreement to acquire the mining concessions with Mr. Muguiro.

## 6.2 Historical Metallurgy

Although artisanal miners have been producing mineralized material from Cerro Las Minitas since the early 1960s, no reliable records of either production or mineral processing data have been found. Enriquez (2005) reported that historical recoveries from sulfide ores treated by flotation are on the order of 85% for silver, 75% for gold, 65% for lead, and 75% for zinc. Enriquez did not present any supporting data for the recoveries.

In 1995, Minas de Bacis completed a 30-day review of available data. It reported metal recovery data for sulfides from the La Bocona Mine, and sulfides and oxides from the Puro Corazón Mine. It is uncertain how they obtained this data, but local operators say it was obtained from the artisanal mills that were treating the mineralized material in the Velardeña district. These data are not considered reliable and are reported as historical data (Table 6-1).

**Table 6-1: Historical Metal Recovery Data for Selected Mines at Cerro Las Minitas**

| | La Bocona Mine Sulfide Ores | Puro Corazón Mine Sulfide Ores | Puro Corazón Mine Oxide Ores |
|---|---|---|---|
| | % Recovery | | |
| Au | 51 | - | - |
| Ag | 80 | 75 | 70 |
| Pb | 65 | 75 | 91 |
| Cu | 82 | 77 | 44 |
| Zn | 88 | 92 | 68 |

Source: Minas de Bacis, 1995.

Silver Dragon commissioned a metallurgical testing program to support the decision to purchase a crushing and flotation plant (see details below). The report reindicates over 70% recovery for sulfide silver using a conventional two-stage crushing and flotation facility. The report indicated that cyanide extraction will yield similar recoveries for oxide ore.

## 6.3 SGS Metallurgical Report

Silver Dragon Mining de Mexico, S.A. de C.V. commissioned the metallurgical laboratory, SGS de Mexico, S.A. de C.V., to perform metallurgical testing on samples from the Cerro Las Minitas property. Six drill samples were received from Silver Dragon de Mexico, S.A. of C.V. at the laboratory facility in Durango, Mexico. The samples were dried at 50°C and crushed to approximately 80% passing -¼-in. in a two-stage process using a jaw crusher and a cone crusher. Two composites were formed, one sulfide and one oxide. Samples were reduced to -10 mesh (SGS de Mexico S.A. de C.V., 2007).

Silver head assays for both composites were greater than 300 g/t, with very little gold, which is representative of Cerro Las Minitas mineralization.

Results for the sulfide flotation were much more favourable than the oxide flotation. Recoveries for the sulfide flotation were 75% for silver, 84% for lead, and 76% for zinc. Recoveries for the oxide cyanide leach were moderately favourable, with silver recovery of 73% with reagent consumption of 8.25 kg/t sodium cyanide and 1.05 kg/t for lime.

The QP has not reviewed the report referenced above as it is in Spanish, and although relevant has not been validated. Sufficient subsequent testwork and reporting has been performed such that this work is not being relied upon and is referenced here for historical purposes only.

## 6.4 Historical Resources

There are no historical resource estimates for the property.

# 7 GEOLOGICAL SETTING AND MINERALIZATION

## 7.1 Regional Geology

Cerro Las Minitas Property straddles the geomorphic provinces of the Sierra Madre Occidental and the Mesa Central (Altiplano) of Mexico in the State of Durango. In Durango, the Mesa Central is an elevated plateau at about 2,000 metres elevation traversed by NW-trending mountain ranges and separated by broad NW-trending valleys. Within this province, Cerro Las Minitas occurs within a belt of prolific Au, Ag, Pb, Zn and Cu deposits that stretches from the highly productive vein deposits of Fresnillo in Zacatecas in the south, to the massive manto deposits of Santa Eulalia in Chihuahua to the north. This belt includes the productive replacement deposits of San Martin, Valerdena, Santa Eulalia and Naica as well as the rich vein deposits of Fresnillo, El Bote, San Jose, Cerro Los Gatos and various others.

Terrane terminology in Mexico has evolved over the last several decades. Recent interpretations as adopted by the Servicio Geologico Mexicano (in the Geological-Mining Monograph of the State of Durango, 2013) have the Cerro Las Minitas property located within the Guerrero Terrane near the regional fault which marks its eastern boundary with the Sierra Madre Occidental Terrane. Basement rocks are not exposed in the area, but are now known to be composed of an assemblage of tectono-stratigraphic terranes derived from the Paleozoic Appalachian orogeny and the Mesozoic of the Atlantic and Gulf of Mexico combined with basement rocks of the North American Cordillera (Campa & Coney, 1983, 1987; Figure 7-1). The assemblage includes deformed Pre-Cambrian intrusive and sediments, deformed Lower to Middle Paleozoic sediments and Lower Mesozoic sediments which are all covered with a thick succession of Mesozoic-Cenozoic sedimentary and volcanic strata.

The Tertiary rocks are considered a shared cover (overlapping the Guerrero Terrane) and includes continental sedimentary sequences, rocks associated with the Sierra Madre Occidental magmatism and later Quaternary Magmatism (SGM Monograph of Durango, 2013).

The Guerrero Terrane is the largest exposed in the state of Durango and is considered a tectono- stratigraphic element that was part of a series of Mesozoic inter-oceanic island arcs. The Terrane is characterized by a thick Cenozoic sequence of continental volcanics and related sediments, overlying an Upper Mesozoic platformal carbonate sequence deposited on Lower Mesozoic, (arc-related) sedimentary and volcanic strata and is host to some of Mexico’s more significant Au, Ag, Pb, Zn and Cu replacement deposits/districts, including San Martin, Velardena and La Parilla. Geological evidence suggests that the arc was accreted to the continent during the Laramide Orogeny.

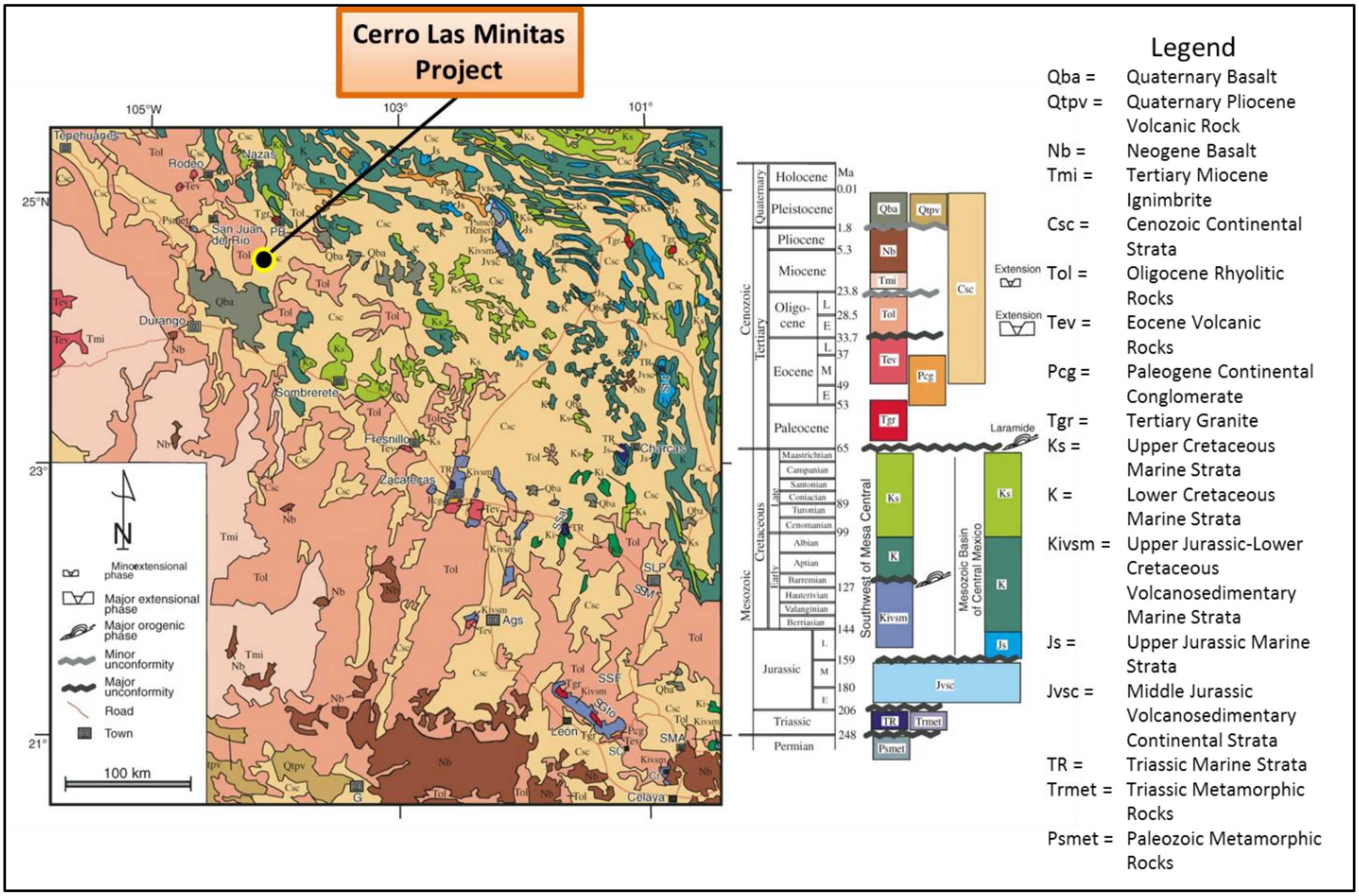
**Figure 7-1: Tectono-Stratigraphic Terranes of Mexico**


Source: Campa and Coney, 1983, 1987.

The Cerro Las Minitas project is located within the Guadalupe Victoria Mining Region, which includes the districts of Avino (Avino Gold and Silver Mines Ltd.), San Sebastian (Hecla Mining Ltd.) and Cerro Las Minitas that constitute a trend of deposits and workings along a 50-kilometre northwest trend. The Cerro Las Minitas property lies within the Minitas Mining District.

The Cerro Las Minitas property sits within a broad W-NW–trending valley and is covered with a thick succession of Tertiary continental deposits and gravel. The valley is flanked on the north and south by Eocene andesite flows and Oligocene to Miocene felsic volcanic rocks and to the southwest by Miocene – Pliocene basalt flows. Except for the later basalt flows, the volcanic rocks consist principally of dacites, rhyolites and various volcanic breccias and ash flows with minor andesite units (Figure 7-2).

**Figure 7-2: Regional Geologic Map**

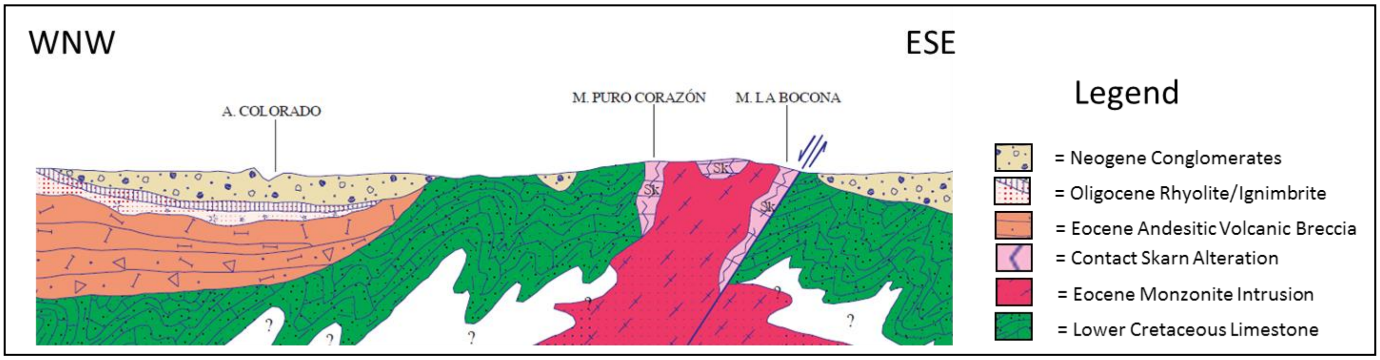



Source: Nieto-Samaniego Et Al., 2007.

Within the valley, marine sediments of the Lower to Mid Cretaceous Mezcalera and Baluarte Formations crop out locally. Calcareous and clastic rocks of the Baluarte Formation have been structurally uplifted around a central intrusive neck at Cerro Las Minitas that rises about 150 metres above the surrounding plain. The intrusive consists of an unknown number of phases that range in composition from diorite to quartz-monzonite, associated with numerous dykes that range in composition from andesite to rhyolite (Figure 7-3).

An aureole of contact metasomatic and replacement deposits of Ag, Pb, Zn, Au and Cu was produced during the emplacement of the intrusives and is the subject of past mining activities and exploration currently underway at the Cerro Las Minitas Project.

**Figure 7-3: Geological Cross-Section Across the Northern Part of the Property**




Source: Modified from Bañales Et Al, 2003.

## 7.2 Minitas Mining District Geology

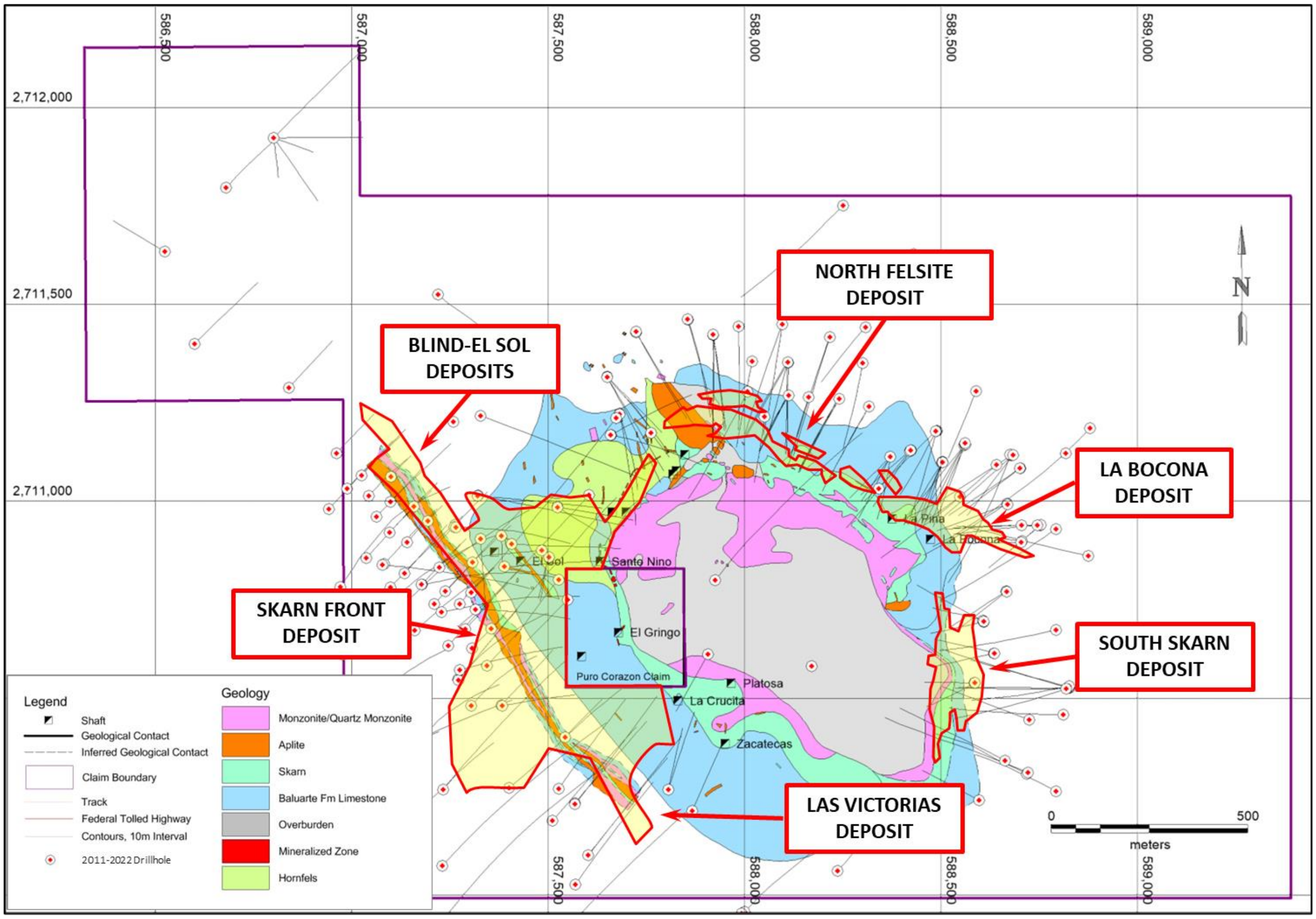
Portions of the geology of the northern portion of the Cerro Las Minitas concessions were mapped by the Consejo de Recursos Minerales (CRM) in 1988 and Noranda in 1999 and modified by Erme Enriquez in 2005 and Southern Silver's consultants from 2011-22 (Figure 7-4). The geological setting and stratigraphy were originally defined by the Consejo de Recursos Minerales (1993) and later modified when the distinctions within the Cretaceous sedimentary stratigraphy became better defined (Consejo de Recursos Minerales, 1998).

No outcrops are known in the much larger southern portion of the property and the claims in this area covers fields under cultivation that are part of the Guadalupe Victoria Ejido. Prospecting following biogeochemical sampling conducted by Freeport MacMoran, identified significant volcanic float in both the western and eastern portions of the claims likely related to Cenozoic cover rocks. Drilling in 2018 identified Eocene Andesitic volcanic rocks and Oligocene rhyolites and ignimbrites underlying between 10-250 metres of quaternary alluvium in the western part of the claims and Neogene conglomerates underneath 100 metres of quaternary alluvium in the eastern part of the claims.

The northern portion of the property is dominated by a NW-SE elongated domal uplift of Cretaceous marine sediments cored by an intrusive porphyry complex. Contact metasomatic (skarnoid) deposits of Au, Ag, Zn, Pb, Cu and W are known to occur at various locations in the contact zone around the central intrusive complex, as well as at the margins of some dikes that emanate from the main intrusive complex. More distal from the main intrusive contact, manto-style Ag, Pb, Zn deposits have been discovered replacing recrystallized carbonate strata.

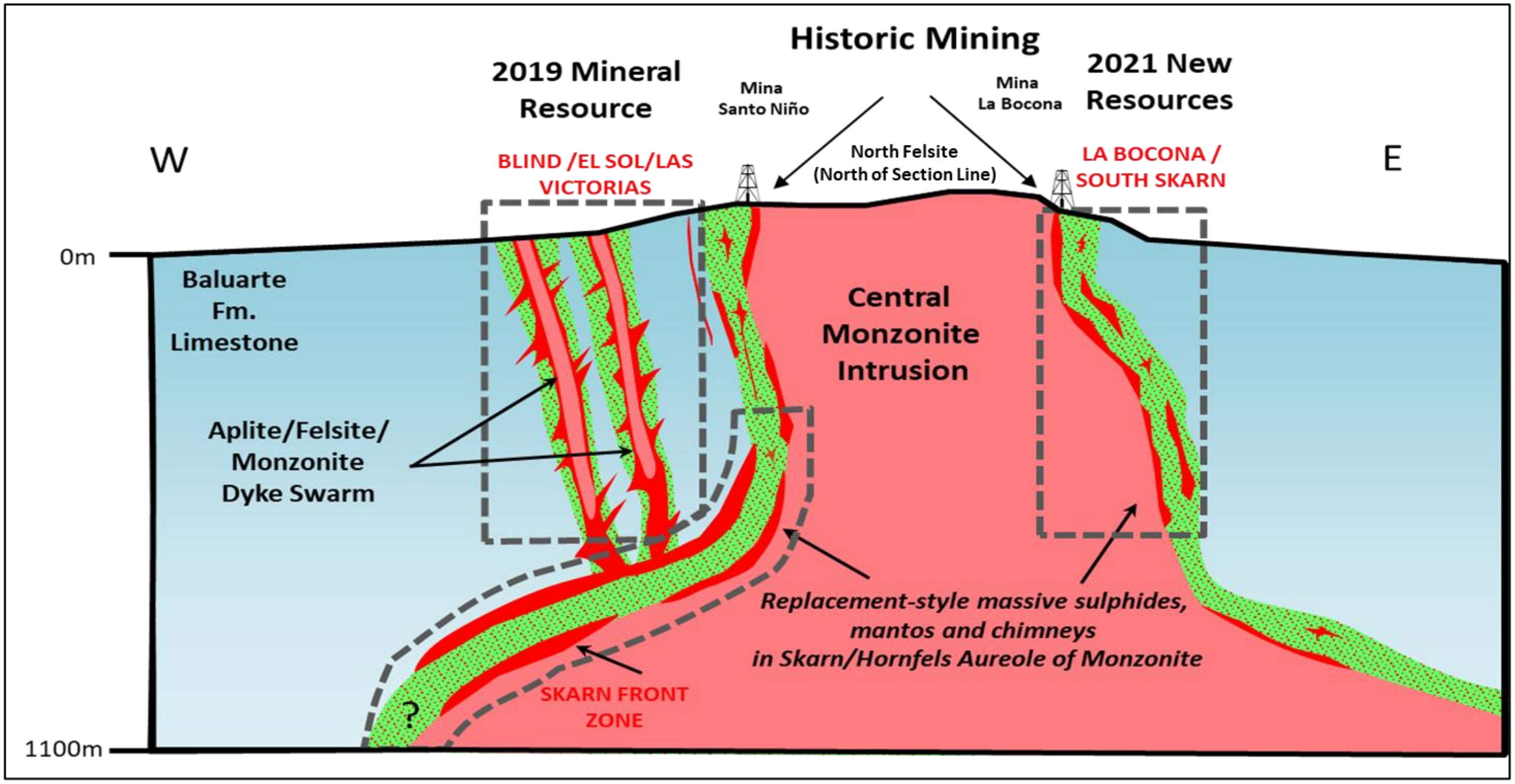
The domal uplift of Cretaceous sediments is the principal topographic feature on the property and has been the focus of all previous exploration and production there. Past production has occurred principally from contact deposits in the Puro Corazón – Santo Niño and Mina Piña – La Bocona areas. The stratigraphic units in the region of Cerro Las Minitas are described below (see Figure 7-6).

**Figure 7-4: Geologic Map of the North Portion of Cerro Las Minitas Property, Durango, Mexico with Mineralized Surface Traces Overlain**




Source: Southern Silver, 2023.

**Figure 7-5: Schematic Geologic Cross-Section of the North Portion of the Cerro Las Minitas Property, Durango, Mexico**

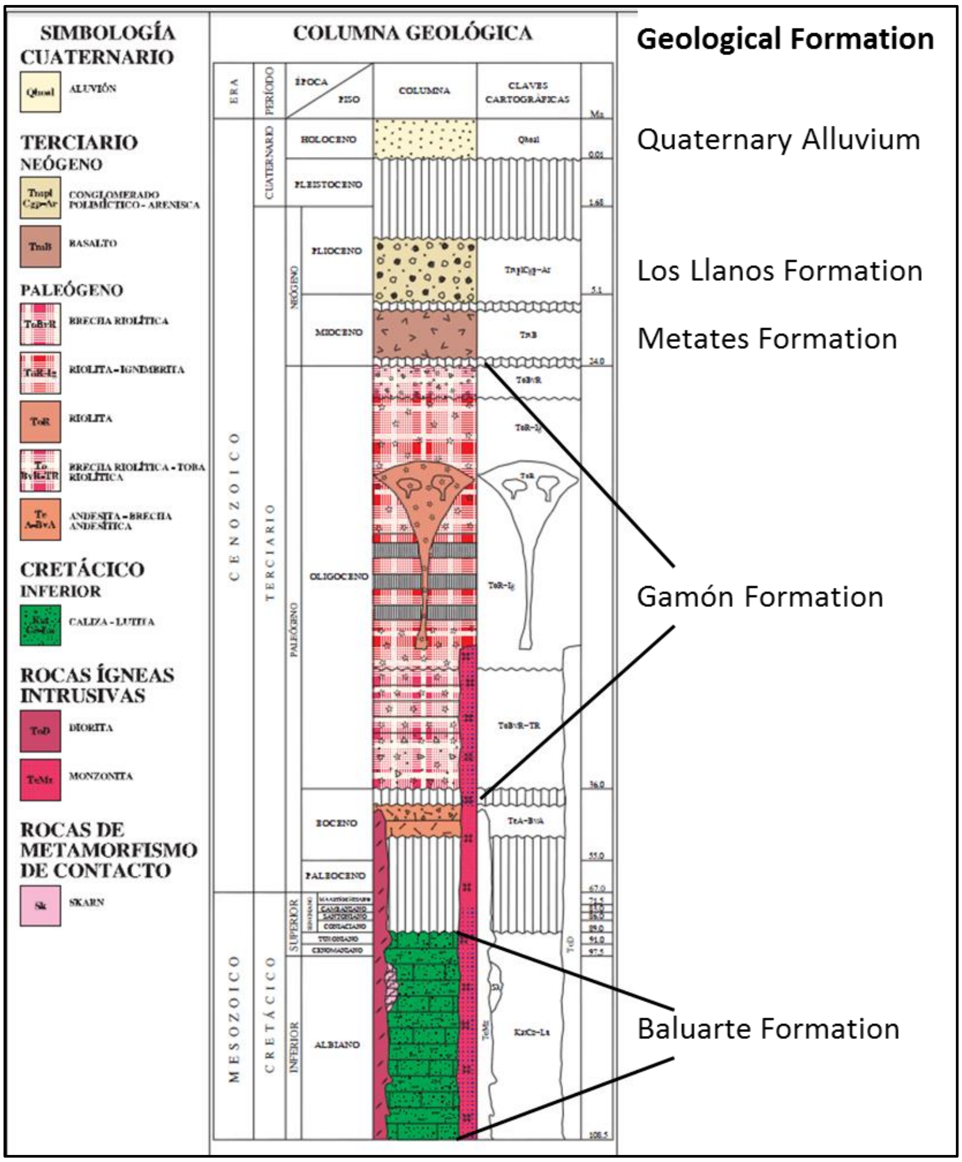



Source: Southern Silver, 2023.

## 7.3 Property Geology

Stratigraphy in the Cerro Las Minitas property has not been defined in detail. Detailed mapping, as well as detailed study of drill cores available, will be necessary to define the stratigraphic units and their relationships. Inspection of underground workings indicates that there is a strong stratigraphic control of mineralization on the property, especially in regard to the manto-style mineralization.

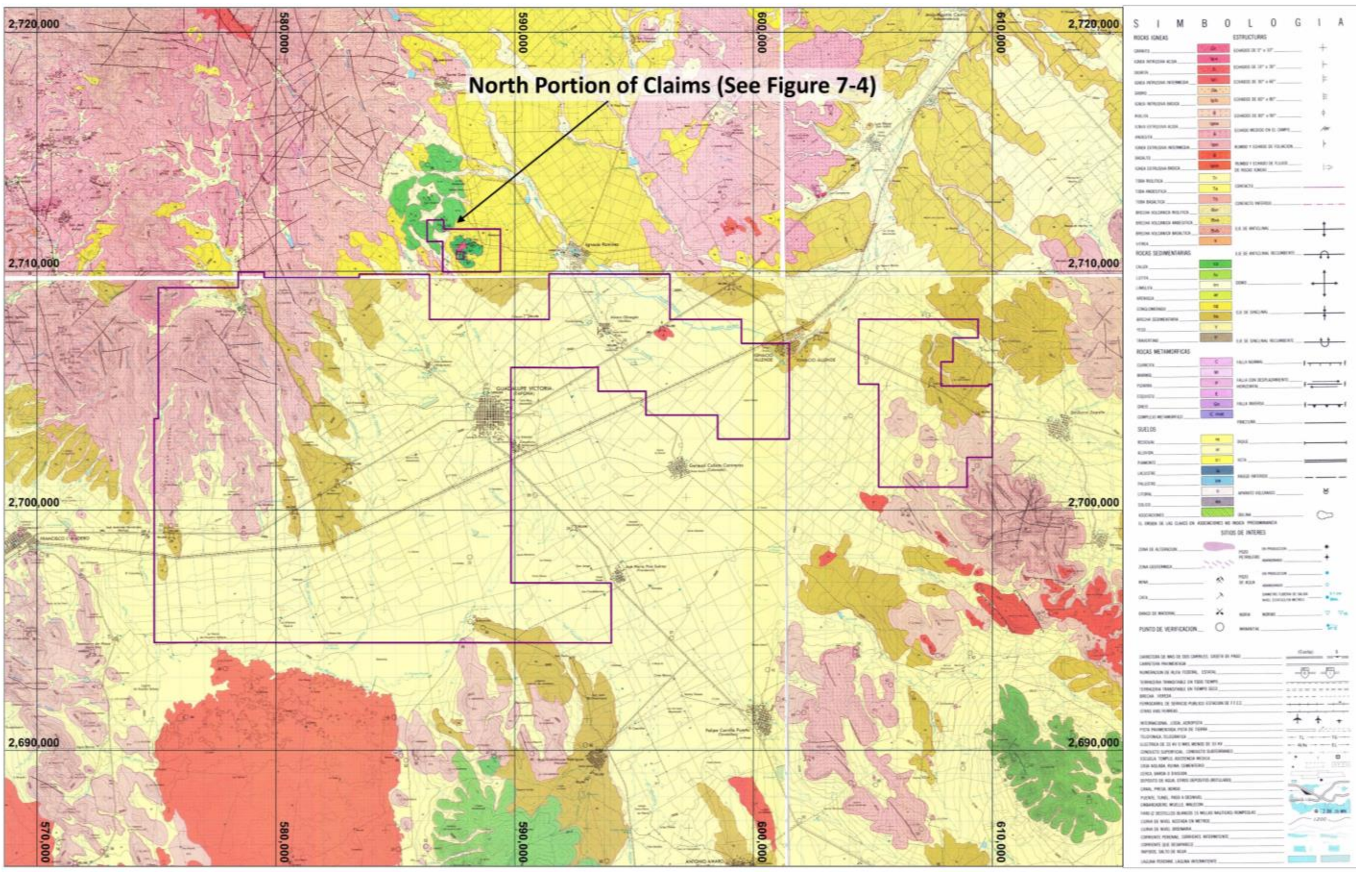
**Figure 7-6: Stratigraphy in the Region of Cerro Las Minitas**




Source: After Bañales Et Al, 2003.

Regional stratigraphy has been defined by the 2003 1:50,000 geological map covering the northern claims (G13D63) and provides a starting point for definition of the stratigraphy in the Minitas District. Figure 7-7 shows the Geology over the Wider Property Area.

**Figure 7-7: Property Wide Geology**




Source: Secretaría de Programación y Presupuesto, 1977-78.

### 7.3.1 Baluarte Formations

Strata currently assigned to the Baluarte formation are the oldest rocks exposed in the Minitas Mining District (CRM, 1998). Limestone of the formation is black to light grey in colour, very fine-grained and predominantly massive. The limestone units appear to transition outboard from the central intrusion into a mixed carbonate-siliciclastic sequence that contains increasing amounts of thin to medium bedded shales and sandstones which seems to represent lateral facies change from a carbonate platformal to clastic, deeper water environment. Siltstone and shale interbeds are generally 1-20 cm and convoluted in places. Diagenetic pyrite is common.

Where affected by contact metamorphism, the limestone beds are typically recrystallized and bleached and are the preferred hosts for both contact metasomatic and manto-style mineralization. More siliceous units are hornfelsed. Limestones containing a quartz sand component have been metamorphosed to garnet (predominantly grossularite) -

pyroxene – wollastonite - epidote aggregates. Some of the more siliceous units are hornfelsed and their mineralogic composition is yet to be determined. At the intrusive contact, small amounts of hedenbergite and diopside have been identified, but only rarely. Metamorphism of the calcareous sediments typically only reaches the grade properly described as skarnoid, which is typical of zinc skarns.

Siltstone and shale inter-beds in the limestone are generally darker and contains an increased amount of tiny bioclasts. It is commonly graphitic and individual beds range from 1 mm to ~10 cm.

### 7.3.2 Intrusive Rocks

Monzonite with minor phases of quartz monzonite and diorite occur as an intrusive stock (Central Intrusion) in the core of the domal uplift and as dykes or sills associated with felsic intrusives within the limestone outboard of Central Intrusion. Contact skarn/hornfels alteration, from several 10s to +100 metres in thickness, wraps around the intrusive neck and hosts most of the historically mined mineralization in the area and forms the weather resistant “cerro” in the topography. Similarly, skarn/horfels margins also form along dyke contacts.

The monzonite and associated phases are light grey in colour and exhibit mainly porphyritic texture which varies to holocrystalline locally. Phenocrysts range in size from ~0.5mm to almost 1cm in size and consist of quartz, (generally larger) plagioclase laths, alkali feldspar, hornblende and biotite (both primary and secondary). Areas of the monzonite that are richer in quartz phenocrysts have a quartz monzonite composition.

The central monzonite contains broad areas of potassic alteration (chlorite-magnetite-biotite) with areas of argillic alteration (clay alteration of feldspars) occasional phyllic alteration (quartz-sericite-pyrite) and a common propylitic overprint (carbonate-chlorite-epidote veins). Logging and mapping have not been completed in sufficient detail to distinguish alteration zoning patterns at this time.

Disseminated and vein pyrite with minor chalcopyrite and molybdenite occur throughout the intrusive. Pyrite content can range up to 10% locally but chalcopyrite and molybdenite content is generally low throughout the intrusive.

Several phases of veining are present throughout the porphyry, including chlorite-epidote-pyrite+/-chalcopyrite+/-calcite veins, quartz+/-pyrite+/-chalcopyrite+/-molybdenite veins, pyrite veinlets. Veining is low to medium density with rare areas of developed stockwork veining.

### 7.3.3 Felsite and Monzonite Intrusions Outboard of the Central Monzonite

Various intrusions occur outboard of the Central Intrusive stock. Where traceable, they are sub-vertical, northwest-trending and range from 1 centimetre to +100 metres in thickness. A series of monzonite/felsite dykes form along the full 1000 metre projection of the Blind zone with much of the modelled mineralization associated with the Blind zone hosted in the skarn/hornfels margins of the dykes and to a lesser extent in fractures and possible endoskarn within the intrusions.

The Aplite/Felsite intrusions are light grey to white in colour and mostly aphanitic. Some areas contain feldspar phenocrysts altered to calcite. Veining is confined to sporadic late calcite veins as well as kspar veins.

Alteration in the aplite/felsite consists of silicification, local kaolinization (clay alteration of feldspars,) weak chlorite alteration as well as iron oxidation of sulphides to hematite and MnOx+/-AsOx, which stains the rock orange and red along fractures. Much of the aplite is heavily fractured.

Mineralization in the aplite/felsite consists of disseminate pyrite, oxidized in most areas+/-disseminate galena/sphalerite up to ~2% sometimes slightly more in areas as well as massive sulphides, commonly near the margins, up to 30% combined galena/sphalerite.

The monzonite intrusions particularly in the Blind Zone are light green in colour and similar in composition and texture to the central monzonite intrusion with a mixture of quartz monzonite and monzonite. Alteration consists of kspar in fractures as well as retrograde chlorite-calcite and hematite in fractures with disseminate magnetite in some areas. Mineralization in the monzonite consists of disseminate pyrite+/-pyrrhotite with galena/sphalerite varying from trace to up to ~5% combined. Locally, sulphide-rich structures form at the edges of the monzonite in contact with the aplite with up to ~20% combined galena/sphalerite. Veining comprises late calcite veinlets as well as occasional quartz+/-pyrite veinlets.

### 7.3.4 Post-Mineral Andesite Dykes

Throughout the drill core, several dark green aphanitic andesite dykes intrude the limestone, some with feldspar phenocrysts. They are weakly altered to chlorite as well as hematite in some areas and heavily oxidized nearer the surface. Mineralization consists of weak disseminate pyrite.

### 7.3.5 Alluvium

The alluvium is composed principally of red soil overlying caliche deposits that conceal underlying rocks in the areas of lower relief on the property. The alluvium contains gravel to boulder sized clasts of weathered rock. In some areas, the clasts seem to be derived from underlying rocks and in other areas they appear to be alluvium derived from upslope. Mapping on the property is of insufficient detail to distinguish those areas.

## 7.4 Structure

Detailed mapping of the Cerro Las Minitas property has been completed. Existing mapping was done by CRM in 1980 and modified by Noranda geologists in 1999 and consultants to Silver Dragon Mining de Mexico, S.A. de C.V. in 2006. A revised structural map was created in 2022.

Accordingly, to CRM (1993), the Minitas district, like the neighboring districts Avino, La Preciosa and San Sebastian, lie in a graben formed by the NW-trending Rodeo fault to the west and the NW-trending San Lorenzo fault to the east. Faults were formed by post-Laramide extensional stress that affected the western margin, and in some cases, the central part of Mexico.

Locally, Upper Cretaceous strata were folded about northwest trending axes when they were emplaced as a regional allochthon during Laramide compression. Injection of the Tertiary (?) intrusive complex that forms the core of Cerro Las Minitas further deformed the rocks locally into an elliptical, NW-SE trending dome. As the invading intrusives shouldered aside the sediments, substantial radial and low-angle faulting as well as intense folding of the sediments occurred. As well as the predominant NW-SE trending axial planes, folding along NE-SW axis appears to have refolded some of the NW-SE structures. Additionally on the Northwestern side of the map, tight isoclinal folds with NNW-SSE axial planes have been mapped. Map data from underground workings shows that the faulting at Cerro Las Minitas occurred before, during and after the mineralizing events. Although faults of almost every orientation occur on the property, the dominant trends are northwest and northeast, reflecting the prominent regional structures. Rare N-S trending faults were also mapped, predominantly steeply east dipping.

Much of mineralization appears to be localized at the Skarn-Marble boundary, where many of the radial faults/fractures are located. Good structural preparation explains the consistency of mineralization within drillholes around the central intrusion. Although detailed structural paragenetic interpretation is ongoing, intersection of N-S, NE-SW and NW-SE structures with the radial faults and fractures around the circumference of the central intrusion appear to localize thicker and higher-grade zones of mineralization. A major regional NW-SE structure localizes a suite of monzonite and felsite dykes in the Blind-El Sol Zone. Mineralization occurs as replacements on dyke margins and in sub-vertical structures that locally channel the intrusions. Here as well, structural intersection may localize thicker and higher-grade skarn mineralization. Other Aplite-Monzonite dyke swarms have been mapped around the central intrusion with NNW-SSE and WSW-ENE orientations and may explain some of the hanging wall mineralization drilled outboard of the skarn front. Many dykes are identified outboard of the central intrusion and have not been well drilled and provide other shallow, but higher risk exploration targets.

Close to tight, sub-vertical isoclinal folding of the carbonate stratigraphy occurs at the margins of the central intrusion and locally may result in the duplication of prospective stratigraphy and thickening of marbles at axial planes and focusing mineralized fluids.

## 7.5 Alteration

Three distinct alteration assemblages have been recognized at Cerro Las Minitas: Skarnoid, Marmorization (Distal and Non-selective), as well as Late-Stage Alteration.

### 7.5.1 Skarnoid

The skarnoid alteration assemblage is a contact metasomatic phenomenon that is genetically intermediate between a purely metamorphic hornfels and a purely metasomatic, coarse-grained skarn and includes variants of both end-members.

At Cerro Las Minitas, alteration is generally zoned around the central monzonite intrusion. Proximal alteration consists of three types of skarnoid alteration. Coffee brown grossularite dominated skarn is common, as well as olive green andradite dominated skarn and retrograde chlorite+-epidote and amphibole altered skarn. Mineralization is predominantly located with olive green andradite skarn, with higher grades commonly occurring where retrograde, chlorite dominant alteration is observed. Alteration styles appear interfingered with each other, with detailed interpretation of the different zones ongoing.

Outboard to the garnetization of the rocks is a widespread recrystallization of the carbonate rocks (marmorization), generally accompanied by moderate to intense bleaching. In many drill intersections, the original carbon content of the rocks is seen to have migrated, at least in part, into stylolites also causing a slight bleaching of the host rocks. The intensity of garnetization and marmorization of the carbonate rocks decreases with distance from the contact with the central intrusive complex as well as away from the contacts of some larger dykes. The transition from skarnoid alteration to marmorization appears to be an important exploration guide at Cerro Las Minitas as a large percentageof mineralization around the central intrusion appears to be at or near these transitions.

### 7.5.2 Distal Marmorization

It is clear that much recrystallization of carbonate rocks occurred during the intrusion of the central intrusive complex at Cerro Las Minitas. However, there are numerous field exposures of recrystallized carbonate rocks at considerable distance from intrusive contacts and it is not clear that the recrystallization seen there is associated with the primary metasomatic event. Distal marmorization has therefore been recognized as a distinct form of alteration at Cerro Las Minitas. Two types of marmorization have been recognized.

### 7.5.3 Non-Selective Marmorization

This is seen as a widespread recrystallization of carbonate rocks which shows little or no preference for individual strata. It is a bulk recrystallization most closely associated with the primary metasomatic event.

Selective marmorization. This is a visually distinct form of marmorization that is commonly seen to be very bed-selective. Even though it may be confined to thin beds within carbonate rocks that have been only very weakly recrystallized, it is a very strong form of recrystallization that may produce very large grain sizes. When this form of marmorization is well-advanced, a central core of dark brown recrystallized calcite is often seen in the middle of the affected bed. This form of marmorization has now been recognized to be present lateral to Ag-Pb-Zn manto mineralization discovered on the property.

### 7.5.4 Late-Stage Alteration

This is a form of alteration that is as yet poorly defined at Cerro Las Minitas. It has been seen only in few drill intersections and in poor field exposures. It has been distinguished from other forms of alteration there because it features strong silicification, sericitization of feldspars and pyritization. Little study of late-stage alteration has been made yet, but it appears to represent a later stage of alteration that occurred in a very near-surface environment. It is currently unknown if this form of alteration is associated with mineralization of interest.

## 7.6 Mineralization

To date, mineralization at Cerro Las Minitas has been classified into four types based on surface and underground field observations and the examination of drill core. Although production records from the area are incomplete, sufficient sampling of core dumps, underground exposures and drill core has been completed to estimate typical grades in each of the four deposit types: skarnoid, chimney, manto, and dyke margin.

### 7.6.1 Skarnoid

Skarnoid is a descriptive term for calc-silicate rocks which are relatively fine-grained, iron-poor, and which reflect, at least in part, the compositional control of the protolith (Korzkinskii, 1948; Zharikov, 1970). Genetically, skarnoid is intermediate between a purely metamorphic hornfels and a purely metasomatic, coarse-grained skarn.

At Cerro Las Minitas, contact metasomatic gold, silver, zinc, lead and copper mineralization formed within the altered sediments adjacent to contacts with the central intrusive complex or larger dykes. These deposits are characterized by substantial pyrite content, higher copper content, zinc levels that are greater than lead levels, and sphalerite with high iron content. The deposits have been exploited mainly for silver, zinc, lead, and copper by artisanal miners at Cerro Las Minitas, especially in the Santo Niño-Puro Corazón area. The deposits occur as massive replacements of remnant carbonate bodies and disseminated calcite present in the garnet-wollastonite-pyroxene-epidote skarnoid assemblage. The mined bodies were variable in form and distribution. Typical grades in the skarnoid mineralization were 80–300 g/t silver, 2–8% zinc, 2–4% lead, and 0.5–2% copper. Characteristics of this style of mineralization suggest that it is properly classified as zinc skarn (Megaw, 1998).

Drilling in 2016/17 by Southern Silver discovered that skarnoid mineralization is more continuous at depth, beneath the projections of the Blind and El Sol mineralized zones. Mineralization is localized at the outer boundary of the garnet-pyroxene-wollastonite-epidote skarnoid assemblage at or near the transition to the recrystallized/marbleized carbonate sediments (marmorized zone) in an area referred to as the Skarn Front. Mineralization at the outer edge of the Skarn Front tends to be more lead and silver-enriched while mineralization deeper in the skarnoid zone (and adjacent to the central intrusion) more zinc enriched.

Drilling in 2020-22 confirmed laterally extensive skarnoid-style mineralization within the altered halo around the central intrusion in the South Skarn, La Bocona and North Felsite deposits. Mineralization occurs adjacent to the central intrusion and features similar replacement styles as is observed in the Skarn Front deposit. The skarnoid-style mineralization in the La Bocona and South Skarn deposits show a similar variability in metal assemblages as is identified in the Skarn Front deposit, but tends to be more galena biased and is generally associated with elevated silver values when compared to the Skarn Front mineralization. Mineralization in the North Felsite also show a similar variability in metal assemblage, but drilling is currently insufficient to define the mineral zonation accurately.

### 7.6.2 Chimney

Pipe-like bodies of massive to semi-massive zinc, copper, and lead sulfides, often with high silver values, that have been found in and near the intersection of high-angle mineralized structures and the more moderately dipping skarnoid zone. These produced the richer mineralization in the Santo Niño-Puro Corazón area. Mineralogically, these deposits show characteristics of both the skarnoid and manto styles of mineralization and are believed to have been formed by multiple mineralizing events. The mineralization consisted mainly of massive to semi-massive aggregates of pyrite, sphalerite, galena, chalcopyrite and bornite replacing recrystallized calcite or filling open spaces. Typical grades in the chimneys were 200–400 g/t silver, 2–10% zinc, 2–6% lead, and 0.5–1.5% copper.

Portions of the newly identified hangingwall lens of the South Skarn deposit has similarity with the chimney-style deposits. Mineralization occurs at or just outboard of the lower Skarnoid alteration zone and is characterized by both replacement textures and mineralized hydrothermal breccias.

### 7.6.3 Manto

Manto-style silver, lead, zinc, and copper deposits form as replacements of carbonate strata peripheral to or outside of the skarnoid aureole. The deposits are typically restricted to selected carbonate strata (favourable beds) that have been replaced by massive to semi-massive lead and zinc sulfides with accessory pyrite, and small amounts of copper sulfides. Drilling in 2020-21 identified manto-styled mineralization within an area of the La Bocona deposit known as the Muralla Chimney. Mineralization occurs as replacements in the hanging wall of the skarnoid mineralized zone within variably altered marble-skarn-hornfels. The thickest zone of sulphide mineralization occurs in the footwall of a thick monzonite dyke. The mineralization is strongly silver-enriched with elevated lead, arsenic and gold values. The upper portion of the mineralized zone is strongly oxidized and makes up in part the small oxide resource identified in the current mineral resource update.

### 7.6.4 Dyke Margin

Replacement mineralization located alongside dykes of various compositions outside the skarnoid aureole of the central intrusive complex. Massive to disseminated sulfides of lead, zinc, and copper are seen replacing carbonate and carbonate-bearing rocks, with or without associated skarnoid alteration. This is a dominant style of mineralization occurring with the Blind, El Sol and Las Victorias deposits.

Of these four deposit types, the skarnoid and chimney deposits have been reported to have produced the bulk of mineralization exploited in the district and such observation appears to be born out in the most recent drilling and resource modelling by Southern Silver.

# 8 DEPOSIT TYPES

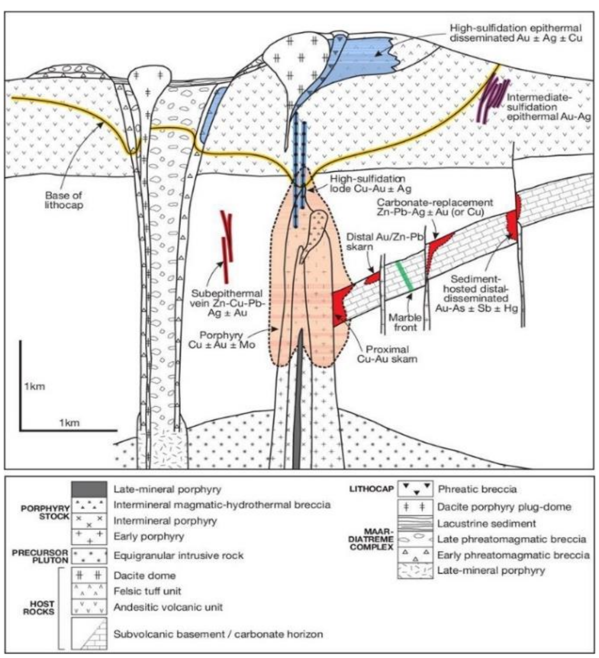
## 8.1 Introduction

Skarn-type deposits are formed in a similar process to porphyry orebodies. Skarn deposits are developed due to replacement, alteration, and contact metasomatism of the surrounding country rocks by ore-bearing hydrothermal solution adjacent to a mafic, ultramafic, felsic, or granitic intrusive body. They most often develop at the contact of intrusive plutons and carbonate country rocks. The latter are converted to marbles and calc-silicate hornfels by contact metamorphic effects (Haldar, 2018).

Mineralization discovered to date on the Cerro Las Minitas project can be broadly classified into two genetically related deposit types; Skarn and Carbonate Replacement Deposits.

The most applicable model for porphyry and associated deposits is of magmatic-hydrothermal origin (Figure 8-1), in which the material mineralization was derived from temporally and genetically related intrusions. Oxidized magmas saturated with metal and sulphur-rich aqueous fluids form large protrusions upwards from their deeper water-rich parental source as stocks and dykes. Large polyphase hydrothermal systems developed within and above coeval intrusive stocks which then regularly interact with meteoric fluids (and possibly seawater) to remobilize and potentially concentrate various minerals.

**Figure 8-1: Porphyry Hydrothermal Mineralization and Alteration Model**




Source: Sillitoe, 2010.

Skarn deposits form in calcareous rocks at or near the contact with intrusive rocks and form directly from the interaction of high-temperature magmatic fluids with the surrounding host rocks, forming an assemblage of calc-silicate minerals replacing calcareous sediments. The most common calc-silicate minerals include garnet and pyroxene. Skarn deposits are important sources of iron, copper, gold, lead, zinc, silver and tungsten throughout the world. Seven skarn deposit types, based on metal content, were described by Einaudi et al. (1981) and Meinert (1989); these are copper, lead-zinc, tungsten, iron, molybdenum, tin, and polymetallic-gold bearing skarns. Often the distinction between the skarn groups is not a clear division and an overlap of metal associations is common.

Skarns generally host two primary zones of mineralization, one near the causative intrusive and another near the limit of calc-silicate alteration and the contact front with marble or limestone. Metals zone from copper, proximal to the intrusive, to zinc and lead distal to the intrusive.

Clark and Melendez (1994) described Mexican skarn deposits as “replacement deposits, often irregular in nature, strongly discordant and usually contain calc-silicate skarns in and around stock, dike, or sill contacts. Occasionally, for example, at Concepción del Oro, ores may occur at some distance away from the intrusive contact. The geographic distribution of these deposits is coincident with those of the manto and chimney deposits and have been treated as one group of high temperature, carbonate-hosted silver-lead-zinc-copper deposits by Megaw et al, 1988.”

## 8.2 Skarn

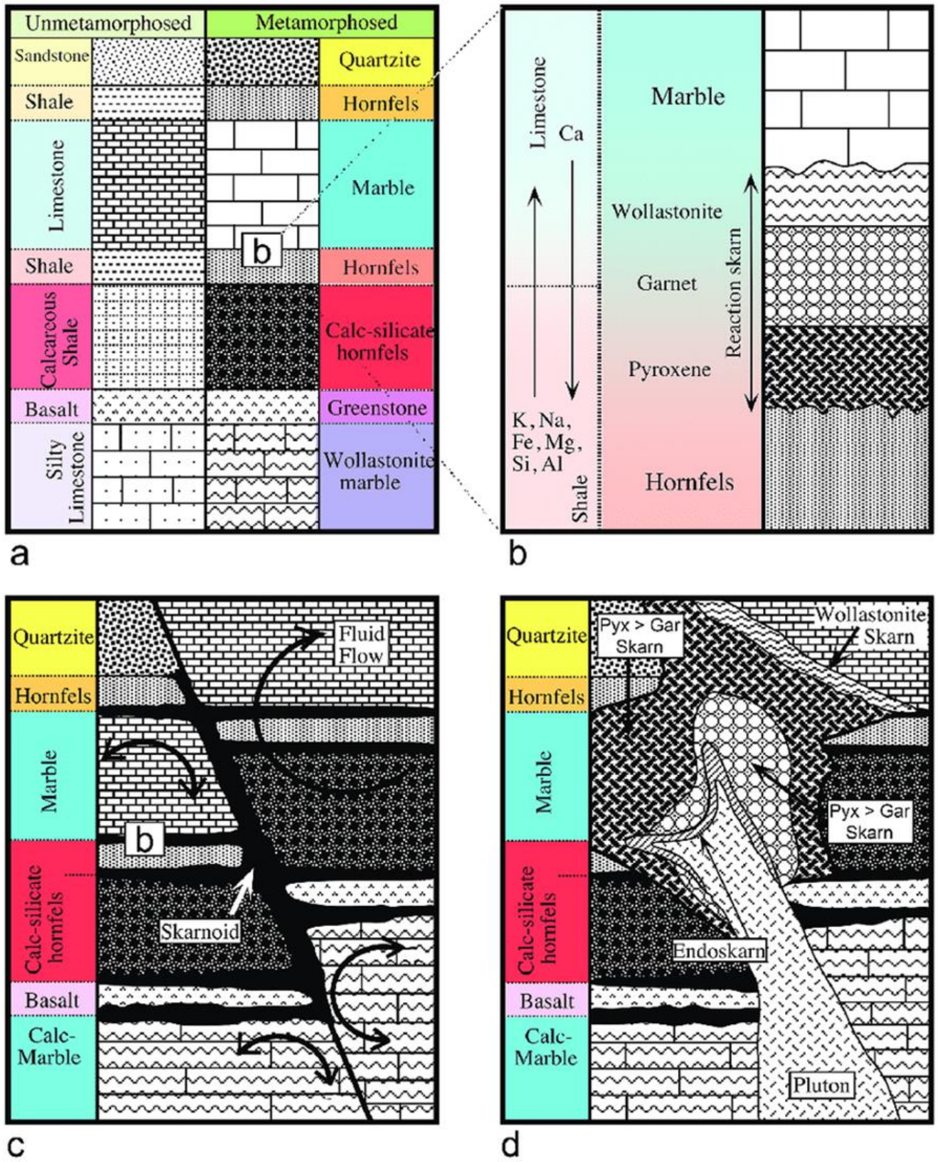
Skarns can form during regional or contact metamorphism and from a variety of metasomatic processes involving fluids of magmatic, metamorphic, meteoric, and/or marine origin. They are found adjacent to plutons, along faults and major shear zones, in shallow geothermal systems, on the bottom of the seafloor, and at lower crustal depths in deeply buried metamorphic terrains.

What links these diverse environments, and what defines a rock as skarn, is the mineralogy. This mineralogy includes a wide variety of calc-silicate and associated minerals but usually is dominated by garnet and pyroxene. Skarns can be subdivided according to several criteria. Exoskarn and endoskarn are common terms used to indicate a sedimentary or igneous protolith, respectively.

In most large skarn deposits, there is a transition from early/distal metamorphism resulting in hornfels, reaction skarn, and skarnoid, to later proximal metasomatism resulting in relatively coarse grained ore-bearing skarn. Due to the strong temperature gradients and large fluid circulation cells caused by intrusion of a magma (Salemink and Schuiling, 1987), contact metamorphism can be considerably more complex than the simple model of isochemical recrystallization typically invoked for regional metamorphism (Meinert et al., 2005).

Figure 8-2 shows the different types of skarn formation such as; a) Isochemical metamorphism involves recrystallization and changes in mineral stability without significant mass transfer; b) Reaction skarn results from metamorphism of interlayered lithologies, such as shale and limestone, with mass transfer between layers on a small scale (bimetasomatism); c) Skarnoid results from metamorphism of impure lithologies with some mass transfer by small-scale fluid movement and; d) Fluid-controlled metasomatic skarn typically is coarse grained and does not closely reflect the composition or texture of the protolith.

**Figure 8-2: Types of Skarn Formation (modified from Meinert et al., 1983)**




Source: Meinert et al., 1983.

The majority of economic skarns predominantly result from large-scale metasomatic transfer, where fluid composition and infiltration pathways control the resulting skarn and material mineralogy (Meinert et al., 2005). Early metamorphism and continued metasomatism at relatively high temperature (Wallmach and Hatton, 1989), describe temperatures >1,200°C, although 600°-800°C is more typical) are followed by retrogtrade alteration as temperatures decline and fluids evolve or undergo phase separation. In most skarn deposits the bulk of sulfide mineralization is coincident with retrograde alteration and postdates most but not all garnet-pyroxene formation. For Skarns related to plutons (as is the case at Cerro Las Minitas,) there is a parallel relationship between the sequence of emplacement, crystallization, alteration and cooling of the pluton and the corresponding metamorphism, metasomatism and retrograde alteration in the surrounding rocks (Meinert et al., 2005).

Several types of economic skarns have been discovered throughout the world – iron skarns, tungsten skarns, copper skarns, zinc skarns, tin skarns, molybdenum skarns and gold skarns as well as REE enriched skarns. The variable economic ores relate to different types of intrusion and associated mineralizing fluids. Intrusions can vary from coarse-grained, equigranular batholiths of intermediate and mafic composition to high-silica granites generated by partial melting of continental crust in rifting events and associated higher level intrusions and dykes (Meinert, 2005).

At Cerro Las Minitas, although the deposit is polymetallic, the Zinc skarn model is best assigned to the general geology and observed paragenesis. Zinc skarns typically occur in continental settings associated with either subduction or rifting. Related igneous rocks span a wide range of compositions from diorite through high silica granite (Meinert, 2005). At Cerro Las Minitas, the largest mineral deposits are spatially associated with a central monzonite-granodiorite intrusive complex while several smaller deposits and mineralized zones are associated with finer grained (higher-level) monzonite and aplite dykes outboard of the central intrusion.

Besides their Zn-Pb-Ag metal content, Zn skarns can be distinguished from other skarn types by their distinctive Mn- and Fe-Rich mineralogy, by their occurrence along structural and lithologic contacts, and by the absence of significant metamorphic aureoles centered on the skarn (Meinert, 2005).

## 8.3 Carbonate Replacement Deposits

Carbonate replacement deposits (CRD), are epigenetic, intrusion related, high-temperature sulfide-dominant Pb-Zn-Ag-Cu-Au-rich deposits that typically grade from lenticular or podiform bodies developed along stock, dike, or sill contacts to elongate-tubular to elongate-tabular bodies referred to as chimneys and/or mantos depending on their orientation. Limestone, dolomite and dolomitized limestones are the major host rocks. (Megaw, 1998)

CRD mineralization is associated with polyphase intrusions that evolve from early intermediate phases towards late, highly evolved felsic intrusions and related extrusive phases. The intrusions most closely related to mineralization are usually the most evolved phases and these are not exposed in many districts (Megaw, 1998).

At Cerro Las Minitas, mineralization in the Blind, El Sol and more distal mineralization associated with the central intrusion may fall within this deposit type.

# 9 EXPLORATION

## 9.1 Exploration on the Cerro Las Minitas Property

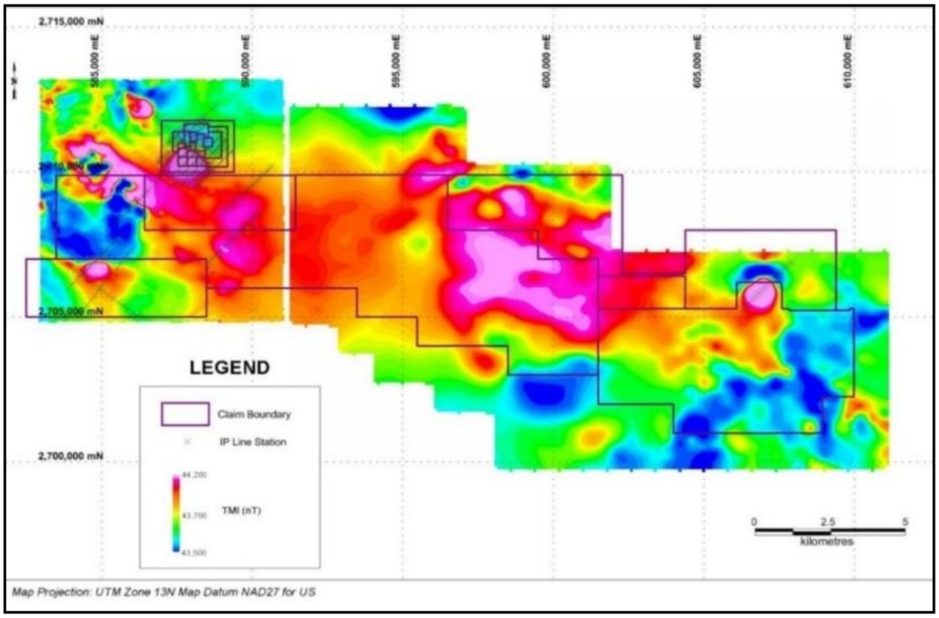
Since acquisition of the property in 2010, Southern Silver, both self-funded and funded by option partners, has completed diamond drilling; geological mapping; geochemical rock, soil and acacia sampling; shallow and deep-seated IP surveys; a ground gravity survey; and an airborne magnetic survey.

Between 2011 and 2012, Southern Silver explored the property without an option partner. Initially, a program of geophysics and geological mapping was conducted to define and delineate targets for exploration drilling.

The property was surveyed between February 19 and February 22, 2011 with a three-axis helicopter-borne magnetic gradiometer (Geotech Ltd., 2011). A total of 1,191 line-km of data was acquired during this survey, which was split into the west block and the east block. The west block (over the Cerro) was flown with north-south lines 100 m apart and east-west tie lines 1,025 m apart. The east block (over the majority of the property) was flown with north-south lines 400 m apart and east-west tie lines 200 m apart (Figure 9-1).

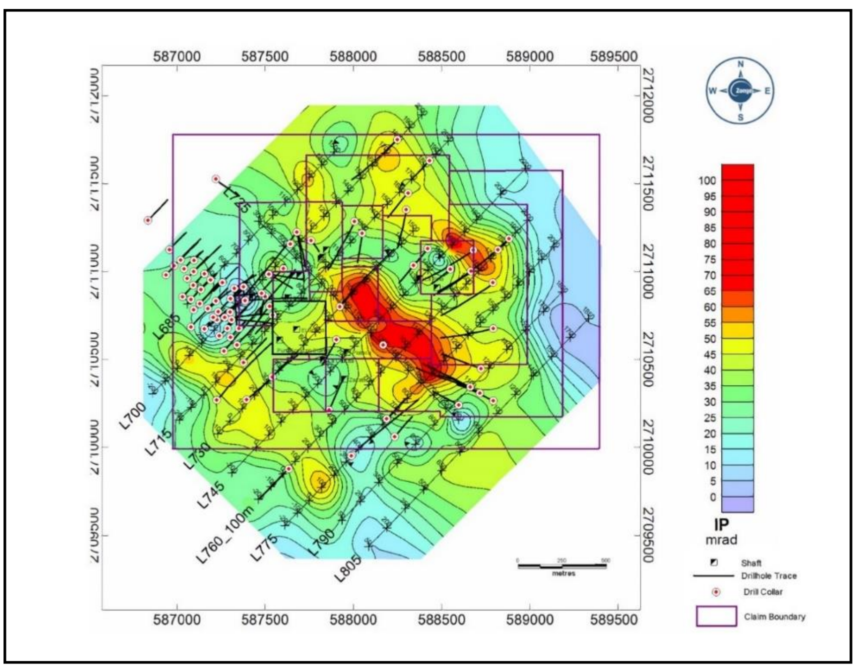
Six magnetic targets were delineated on the property; the most prevalent was the cerro (hill) in the northern block. A series of northeast-southwest IP lines with a northwest-southeast baseline was designed to further explore the magnetic target over the Cerro and delineate targets for drilling. Between February 23 and April 21, 2011, Zonge International Inc. collected dipole-dipole complex resistivity data on 13 lines for a total of 30.6 line-km and 244 receiver stations (Zonge, 2011). Of these 13 lines, 10 were in the area of the Cerro and three were over other magnetic targets on the property. The majority of the IP lines crossing the Cerro were conducted using 100 m dipoles, with 2 lines conducted using 150 m dipoles. The other exploratory lines were conducted using 200 m dipoles. The IP survey delineated several targets which were subsequently drilled (Figure 9-2).

**Figure 9-1: Geophysics – Magnetic**




Source: Southern Silver, 2016.

**Figure 9-2: Geophysics – Induced Polarization at 250 m Depth**




Source: Southern Silver, 2016.

From 2011 to 2012, Southern Silver completed 62 core holes on the property totalling 15,845 m. Drilling focused on an early new discovery outboard of the central intrusion and zones of historic mineralization known as the Blind Zone: a gravel covered, previously unrecognized mineral zone which was then delineated to an approximate 600 m strike-length and to depths of up to 350 m. Other drilling targeted the Mina Piña-La Bocona area, the north skarn and south skarn targets, resulting in several notable silver-gold-lead-zinc-copper mineralized intervals. The details of the drill program are discussed in Section 10.

In October 2012, Freeport optioned the property, and, between 2013 and 2014, it conducted additional diamond drilling, deep penetrating IP surveys, 3D inversions on existing geophysics and gravity surveys. It also collected soil samples and initiated a property-wide acacia biogeochemical survey.

A soil geochemical survey was conducted over three of the pre-existing lines at 25 m intervals, where possible, to investigate whether the Blind Zone had a surface geochemical expression. A total of 125 samples were taken, resulting in a significant surface expression of silver, lead and zinc above many of the known zones of mineralization. The soil survey was followed by an IP survey, where three pre-existing IP lines were surveyed with a deep penetrating 300 m spaced dipole-dipole survey, which confirmed continuity of the IP anomalies at depth. A ground gravity survey was conducted on a 3,000 m x 2,000 m area centred on the Cerro, which outlined gravity highs corresponding to the mapped skarn around the central intrusion. Interestingly, the hornfels mapped to the northwest of the central intrusion also shows a distinct gravity high, suggesting the potential for buried sulfide mineralization (Robles et al., 2013).

On the larger property, a reconnaissance IP survey was conducted employing three different dipoles. Anomalous responses were detected, but major roads and cultural features might have influenced the results, so caution should be taken during interpretation.

Freeport completed an orientation biogeochemical survey over the area of the Cerro and then expanded the program to cover the entire property. A total of 311 samples were taken from acacia trees with encouraging results. Several anomalies were outlined that warranted follow-up.

The central intrusion and south skarn areas were drilled by Freeport in 2013–14 to investigate the potential for a copper porphyry source to the shallower silver-lead-zinc-enriched mineralization as well as extending the known zones of mineralization to depth. Freeport completed 13 core holes and two holes were extended for a total of 7,877 m. In October 2014, Freeport terminated the option agreement with Southern Silver because it discovered only weak copper mineralization in the central intrusion after drilling to a vertical depth of 1,000 m.

In May 2015, Electrum Global Holdings L.P. signed an option agreement to earn a 60% indirect interest in the Cerro Las Minitas property. In the subsequent 2015 exploration program, additional rock, soil and acacia samples were collected and further diamond drilling was conducted.

In the area of the Cerro, an additional 595 soil samples were collected to identify additional geochemical targets for drilling. The survey was highly successful in outlining areas of known mineralization with silver, lead, and zinc anomalies as well as defining a gold anomaly outboard of the known mineralization, the source of which is yet to be discovered. A total of 45 rock samples were collected in targeted areas, which were again successful in identifying targets for drilling.

Diamond drilling in 2015 consisted of 11 holes and the extension of three earlier holes for a total of 9,135 m of drilling. The focus was large offsets of the known mineralization in the Blind Zone and the El Sol Zone with the goal of aggressively expanding the property potential. The maiden resource estimate on the property, based on all drilling up to this point on the Blind, El Sol and Santo Nino zones (later discovered to be part of the Skarn Front Zone) was released on March 1, 2016.

Follow-up was also conducted on the regional acacia survey conducted in 2011. An additional 321 soil samples were collected over the geochemically anomalous areas at 25 m spacing in 7 lines across the property. An additional 118 acacia samples were collected over the rest of the property, resulting in several supplementary targets that warrant follow-up.

Follow-up drilling was conducted between 2016 and 2017 on the Blind Zone, the El Sol Zone and the Bocona Zone, which resulted in the discovery of the Las Victorias Deposit and the Skarn Front Deposit, where a maiden resource estimate was released on January 8, 2018.

Aggressive step-out drilling was conducted in 2018 to expand the resource and fill in holes in the block model, which resulted in an updated resource estimate for the Blind Zone, the El Sol Zone, the Skarn Front Zone and the Las Victorias Zone, which was released on May 9, 2019.

In July 2020, a surface trenching program consisting of seven trenches across the strike length of the skarnoid alteration in the Bocona zone was conducted to define the surface trace of the mineralization at the Bocona Zone. Details of this trenching program are discussed in Section 10.

On June 22, 2020, Southern Silver signed an agreement to purchase Electrum's 60% indirect working interest on the Cerro Las Minitas property. In the subsequent exploration program, an additional 85 holes totaling approximately 33,756 m which resulted in the delineation of the South Skarn Zone and the La Bocona Zone as well as discovery of the North Felsite Zone. Details for drilling are discussed in Section 10.

## 9.2 Exploration on the CLM West and CLM East Claims

Southern Silver conducted surface float and rock chip sampling on the Gran Creston de Oro, Los Lenchos and Biznagas claims (collectively known as the CLM West claim group), throughout the latter part of 2017 and into 2018. Work in the claims involved initial reconnaissance float sampling followed by grid float sampling over targeted areas on a 100m x 100 m pattern. Where encouraging geochemistry was discovered, smaller areas were sampled on a 25 m x 25 m pattern.

During 2018, an extensive regional scale surface sampling, mapping and VLF-EM geophysical exploration program, followed by an exploratory drill program, was conducted on the CLM West and CLM East Claims. The objective of this program was to assess the potential for epithermal vein systems in the Tertiary stratigraphy similar to the nearby deposits at Avino, San Sebastian and La Preciosa.

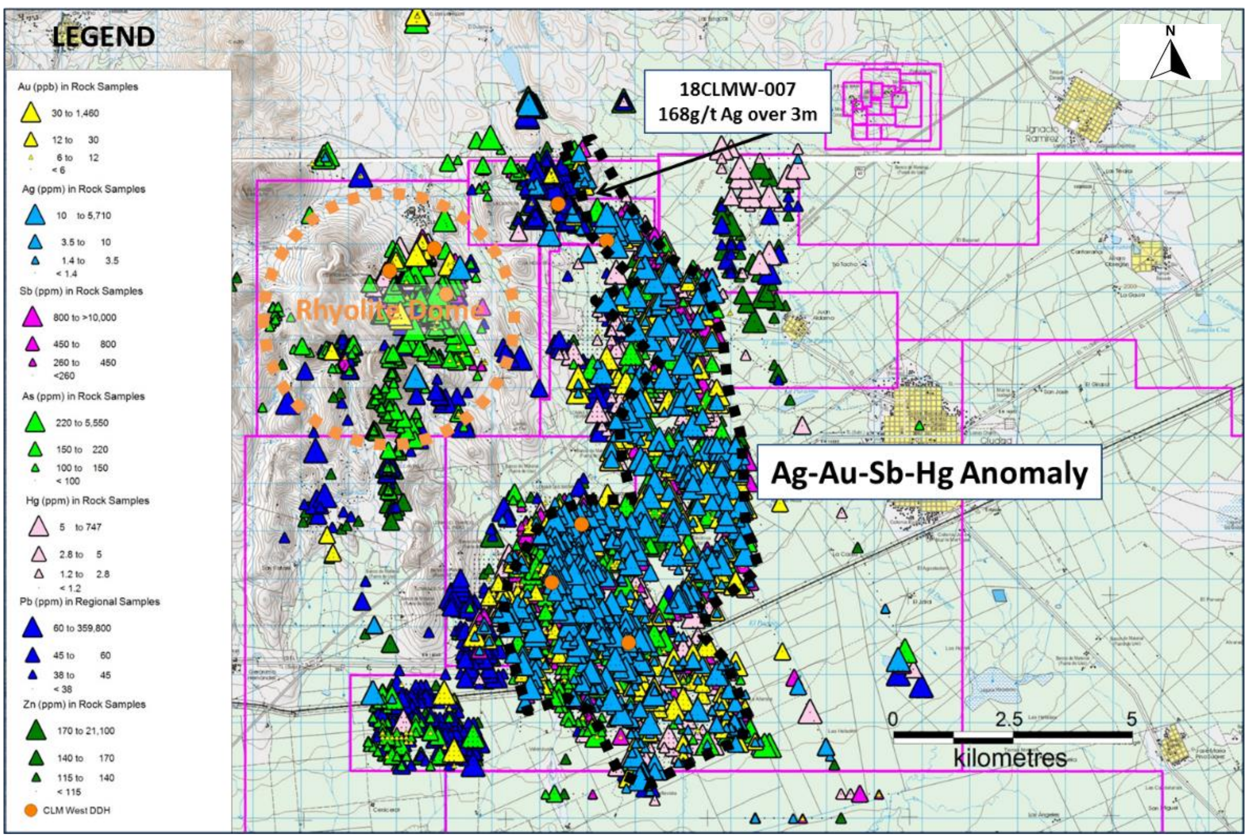
A total of over 6,400 surface samples and 94.3-line km of VLF-EM readings were taken throughout the property. VLF-EM lines were run taking readings every 25 m with 100 m line spacing over the most promising geochemical targets, resulting in a more than 12-km-long northwest-southeast-trending corridor of anomalous precious-metal and pathfinder values that display a distinct zoning pattern consistent with modelled vertical and lateral zonation within large epithermal vein systems. Results were encouraging, with 95th percentile values reaching 4.2ppm Ag, 11ppb Au, and high pathfinder values of 152ppm As, 403ppm Sb and 2.2ppm Hg to maximum values of up to 5,710g/t Ag and 1.48g/t Au, 5,550ppm As and >10,000ppm Sb and 747ppm Hg.

Subsequent drill testing of the best anomalies in 2018 produced several interesting pathfinder anomalies as well as a shallow downhole intercept of 3 m of 168 g/t Ag in hole 18CLMW-007 which warrants follow-up in subsequent exploration programs.

The results of this initial exploration program identified several promising drill targets. Follow-up drilling was conducted in the form of 9 drillholes on the CLM West claims for a total of 3,171.5 m and a single drillhole on the easternmost claim for a total of 354 m.

Although the majority of the larger property is covered in quaternary gravel, the far northwestern area of the claims contains more exposures. This area was mapped in detail in 2018. Figure 9-4 is a geological map of the northwestern area of the claims.

**Figure 9-3: Surface Sampling on the CLM West Claim Group**




Source: Southern Silver, 2019.

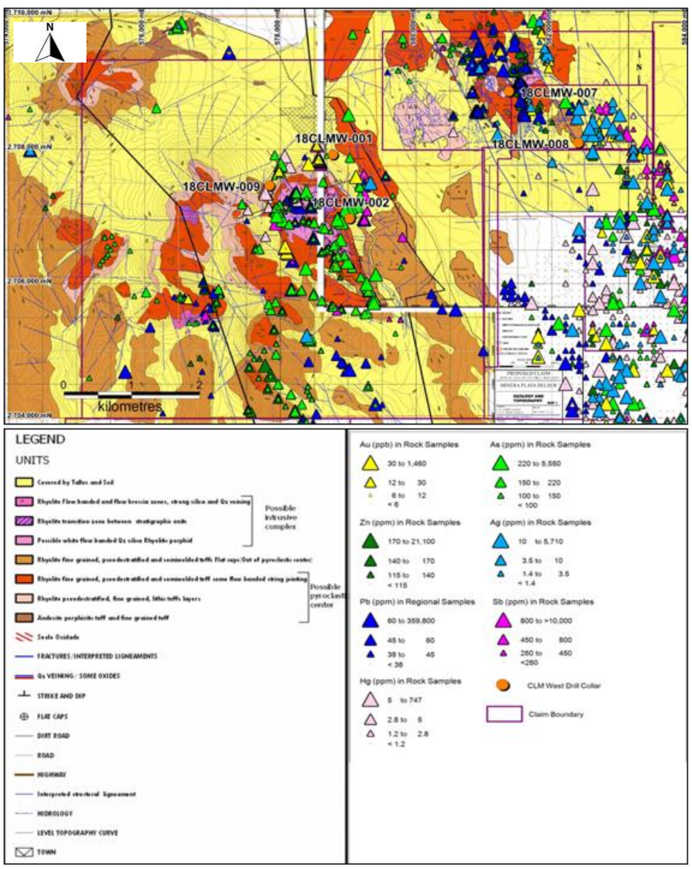
The northern area of the CLM West claim group is underlain by an early to mid-Tertiary bimodal felsic-intermediate volcanic sequence of the Gamon formation which has been affected by regional north-northwest and east-west fault structures.

The stratigraphic package includes a basal polymictic conglomerate; a lower Tertiary andesite with crystal rhyolite tuff layers overlain by mid-Tertiary rhyolitic to rhyo-dacitic ignimbrites, flows, breccias and tuffs.

Three predominant structural zones were mapped and sampled on surface, ranging in strike length between 1.5 and 5.0 km. The Marro Breccia was targeted by hole 18CLMW-007 and the El Durazno breccia with hole 18CLMW-008. Holes CLMW-001, -002 and CLMW-009 targeted quartz veins and projected vein intersections in the more southwesterly structural zone. Drilling targeted the down-dip projections of the veins particularly as they as they extend into the lower andesitic volcanic sequence as this is the stratigraphic position of the Avino vein systems located several kilometres to the northwest. None of the drillholes tested the veins within the lower andesite rock package.

Results of the 2018 regional exploration program identified several targets worthy of follow-up and several geochemical anomalies remain untested by drilling.

**Figure 9-4: Surface Geology and Surface Sampling Results of the Northern CLM West Claim Group**




Source: Southern Silver, 2019.

## 9.3 Exploration on the El Sol Claim

The El Sol concession is a single 63 ha claim strategically located on the northwestern boundary of the Bocona block of claims and is adjacent to the Area of the Cerro which hosts the six mineral deposits currently identified within the Cerro Las Minitas claim package. It covers the northwest projection of the Blind-El Sol deposits and potentially at least one additional mineralized structure.

The claim is largely gravel covered with previous work including: airborne magnetic geophysics; surface soil and acacia sampling; limited dump sampling of historic artisanal workings and a single core hole in the southeastern end of the property.

Select dump sampling of artisanal workings located to the northeast of the Blind Zone structure returned anomalous values from several strongly oxidized and silicified rocks including one sample which returned 0.67 g/t Au, 559 g/t Ag, 3.3% Pb and 4.3% Zn. These workings do not appear to be related to the Blind Zone mineralization and represent a second potential high-grade target for follow-up.

Eight holes totaling 2,920 m have been completed in 2021-22 to test a series of targets defined by earlier surface mapping, rock and soil sampling and proximity to artisanal workings. Details of the drilling results are in Section 10.

# 10 DRILLING

## 10.1 Drilling Overview

Core drilling from 2011 through 2018 was contracted out to BD Drilling Mexico, S.A. de C.V. (BDD) of EL Salto, Jalisco. Core drilling from 2020 to 2022 was contracted out to Intercore Operaciones, S de RL de CV (Intercore) of Tlajomulco de Zuniga, Jalisco Mexico. Drilling was completed using both NQ and HQ coring equipment capable of recovering core 45.1 to 61.1 mm in diameter. Table 10-1 shows the drilling by year, the number of drillholes and meterage achieved.

The purpose of the drilling programs was to identify new mineral deposits on the property and to expand on the results of historic drilling performed by previous operators including CRM, Noranda and Silver Dragon Resources as the historic data could not be adequately validated and verified particularly for inclusion for a current resource estimate. The initial drilling focused on delineating and expanding the known structures at the El Sol, Santo Nino, Mina La Bocona, South Skarn and the North Skarn zones. In addition, exploration drilling was performed to test surface exploration programs which included soil and rock chip sampling, and Induced Polarization and gravity geophysics.

Initial drilling in 2011 targeted skarn and replacement deposits in the margin of the central Intrusion in the Santo Nino, Mina La Bocona and the North Skarn zones and also tested several Induced Polarization geophysical targets both within the Central Intrusion and outboard of the known zones of mineralization in gravel covered areas. This initial 11-hole drill program successfully identified extensions to the Santo Nino zone mineralization approximately 100 m vertically underneath the lowest historic workings, confirmed previous drill results at the North Skarn and Mina La Bocona targets and resulted in the discovery of the Blind zone, a new high-grade target outboard of the El Sol shaft in a gravel covered field.

The Blind Zone was initially discovered with hole 11CLM-008, which intersected a 10.9 m down hole interval averaging 268 g/t Ag, 4.5% Pb and 3.8% Zn of polymetallic mineralization adjacent to an aplite-monzonite dyke complex outboard of the central intrusion. Subsequent drilling resulted in the discovery in hole 11CLM-011 of a similar sub-parallel zone underneath the El Sol surface showing, which soon developed into the El Sol Zone. The majority of the 2011-12 drillholes were designed to offset these discovery holes at 50-100 m intervals.

Other notable targets that returned high-grade polymetallic mineralization include the North Skarn Zone, (discovery hole 11CLM-003), the South Skarn Zone (discovery hole 12CLM-055), which was offset by Freeport McMoran Exploration Corp in 2013/14.

Drilling in 2015 continued to expand the overall size of the Blind and El Sol deposits and identify new zones of high-grade mineralization. Noteworthy milestones from the 2015 drilling program include: the identification of new high-grade Ag-Pb-Zn discoveries in the Mina La Bocona area (e.g.: 15CLM-078) and outboard of the Blind–El Sol zone (e.g.: 15CLM-081); the identification of potential new extensions to high-grade mineralization at the Santo Niño Mine (e.g.: 15CLM-023A); and the identification of thick zones of massive and semi-massive sulphide at depth in the Blind – El Sol zone (e.g.: 15CLM-077, 15CLM-081 and 11CLM-025).

Drilling in 2016/17 by Southern Silver completed 20 core holes totaling approximately 16,647 m and successfully outlined the Skarn Front as a zone of mineralization, located at depth beneath the Blind and El Sol Zones. Mineralization occurs on the outer edge of the skarn alteration zone surrounding the Central Monzonite Intrusion at or near the transition into marble and forms the primary geological control on the distribution of sulphide mineralization. Geological modelling suggests that intersections between the sub-vertical, northwest-trending Blind and El Sol mineralized zones and the generally more shallowly dipping Skarn Front may localize higher-grade shoots of mineralization which may be in part responsible for higher grade intervals identified in some of the 2017 drilling.

Drilling in 2018 by Southern Silver completed 25 holes totaling approximately 10,388 m and successfully extended the Skarn Front Zone into the Las Victorias and North Skarn areas as well as infilling areas of the 2018 resource model with inadequate drill spacing. Further geological modelling continued to extend the zones of mineralized skarn wrapping around the central monzonite intrusion.

Drilling between 2020 and 2022 completed 68 holes totaling approximately 26,285 m which continued to extend, laterally and down dip, the Mina La Bocona Zone and South Skarn Zone as well as delineating the North Felsite Zone. Three holes were completed on the west side of the intrusive to test the southeastern extension of the Las Victorias Zone. Geological modelling confirmed the architecture of the skarn wrapping around the central monzonite intrusion.

For a list of significant intercepts from 2011 to 2022, refer to Table 10-5. Both sample lengths and true widths were recorded and calculated, respectively. These values varied due to the variable orientations of both drill core and intersected bedding however that have been considered and accounted for.

Borehole locations were planned and marked by Southern Silver geologists using a handheld GPS and subsequently surveyed with a differential GPS at the end of each year. A compass was used to determine borehole azimuth and inclination. Boreholes were drilled at an angle of between 90 and 45 degrees from the horizontal, depending upon the target. Downhole surveys were completed for all boreholes using a Reflex EZ-Shot® electronic single shot (magnetic) device. Downhole deviation of boreholes was measured using these tools at nominal 50-m intervals.

The drill core is retrieved from boreholes, boxed at the drill site by the Southern Silver geologists and moved to a secure core warehouse on the property. Once at the warehouse, the core is quick logged, photographed, measured and, if the geologist deems it necessary, marked for sampling. Once logging is completed, the core that has been marked for sampling is sawn in half at the warehouse by labourers employed by Southern Silver and placed in sample bags, which are marked and secured by the sampler and checked by the geologist.

All descriptive information was captured digitally on-site using a Microsoft Access database. A listing of Southern Silver drilling is shown in Table 10-2 and Table 10-3. Table 10-5 lists the significant intervals encountered during the 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020, 2021 and 2022 drilling campaigns.

In the opinion of the QP, there are no drilling or recovery factors that could impact the accuracy or reliability of the results.

**Table 10-1: Drill Hole Summary by Year**

| Year | # Holes | Drilling (m) |
|---|---|---|
| 2011 | 29 | 7,958 |
| 2012 | 33 | 7,887 |
| 2013 | 11 | 5,950 |
| 2014 | 2 | 1,771 |
| 2015 | 13 | 9,135 |
| 2016 | 5 | 4,415 |
| 2017 | 15 | 12,232 |
| 2018 | 25 | 10,388 |
| 2020 | 17 | 7,470 |
| 2021 | 53 | 18,908 |
| 2022 | 15 | 7,381 |
| **Total** | **218** | **93,494** |

**Table 10-2: Cerro Las Minitas Drill Hole Summary**

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 11CLM-001 | 587926 | 2710799 | 2147.6 | 37.94 | -60 | 928.5 |
| 11CLM-002 | 588342 | 2711032 | 2170.6 | 217.94 | -48 | 198 |
| 11CLM-003 | 587682 | 2711222 | 2206.6 | 162.94 | -65 | 453 |
| 11CLM-004 | 587682 | 2711221 | 2206.6 | 167.94 | -45 | 400 |
| 11CLM-005 | 587762 | 2711174 | 2214.6 | 140.94 | -71 | 223 |
| 11CLM-006 | 587389 | 2710834 | 2153.6 | 87.94 | -55 | 600 |
| 11CLM-007 | 587907 | 2710611 | 2132.6 | 207.94 | -45 | 237 |
| 11CLM-008 | 587275 | 2710739 | 2133.6 | 40.94 | -60 | 243 |
| 11CLM-009 | 588880 | 2711185 | 2088.6 | 224.94 | -45 | 147.1 |
| 11CLM-010 | 588818 | 2711122 | 2091.6 | 227 | -60 | 843 |
| 11CLM-011 | 587239 | 2710771 | 2134.6 | 42.94 | -45 | 327 |
| 11CLM-012 | 587290 | 2710675 | 2130.6 | 42.94 | -45 | 261 |
| 11CLM-013 | 587179 | 2710789 | 2132.6 | 42.94 | -45 | 225 |
| 11CLM-014 | 587161 | 2710672 | 2125.6 | 51.94 | -50 | 393 |
| 11CLM-015 | 587308 | 2710845 | 2138.62 | 42.94 | -45 | 261 |
| 11CLM-016 | 587307 | 2710626 | 2128.62 | 42.94 | -55 | 208.7 |
| 11CLM-017 | 587345 | 2710582 | 2128.62 | 42.94 | -45 | 186 |
| 11CLM-018 | 587135 | 2710817 | 2132.62 | 42.94 | -45 | 240 |
| 11CLM-019 | 587211 | 2710739 | 2131.62 | 42.94 | -55 | 271 |
| 11CLM-020 | 587524 | 2710986 | 2189.62 | 123.94 | -45 | 220 |
| 11CLM-021 | 587264 | 2710940 | 2147.62 | 222.94 | -45 | 105 |
| 11CLM-022 | 587083 | 2710840 | 2130.62 | 42.94 | -45 | 270 |
| 11CLM-023 | 587271 | 2710547 | 2122.62 | 42.94 | -45 | 339 |

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 11CLM-024 | 587381 | 2710481 | 2125.62 | 42.94 | -45 | 291 |
| 11CLM-025 | 587400.9 | 2710272 | 2110.94 | 53 | -45 | 620 |
| 11CLM-026 | 587099 | 2710998 | 2136.62 | 42.94 | -45 | 168 |
| 11CLM-027 | 587528 | 2710800 | 2168.62 | 222.94 | -68 | 468 |
| 11CLM-028 | 587026 | 2711065 | 2133.62 | 42.94 | -45 | 227.5 |
| 11CLM-029 | 587261 | 2710935 | 2147.62 | 42.94 | -45 | 171 |
| 12CLM-030 | 587246 | 2710633 | 2125.62 | 42.94 | -55 | 381 |
| 12CLM-031 | 588192 | 2710161 | 2103.62 | 42.94 | -50 | 246 |
| 12CLM-032 | 587099 | 2710781 | 2128.62 | 42.94 | -55 | 468 |
| 12CLM-033 | 588237 | 2710060 | 2094.62 | 42.94 | -55 | 261 |
| 12CLM-034 | 587329 | 2710904 | 2143.62 | 177.94 | -45 | 309 |
| 12CLM-035 | 588421 | 2711127 | 2134.62 | 218.94 | -56 | 287 |
| 12CLM-037 | 588549 | 2711011 | 2120.62 | 228.94 | -45 | 345 |
| 12CLM-038 | 587550 | 2710750 | 2159.62 | 222.94 | -55 | 281.5 |
| 12CLM-039 | 588309 | 2711442 | 2126.62 | 222.94 | -45 | 258 |
| 12CLM-040 | 587867 | 2710213 | 2119.62 | 24.94 | -50 | 315 |
| 12CLM-041 | 587141 | 2710896 | 2136.62 | 42.94 | -45 | 162 |
| 12CLM-042 | 587544 | 2710400 | 2126.62 | 42.94 | -45 | 204 |
| 12CLM-043 | 587097 | 2710921 | 2134.62 | 42.94 | -45 | 210 |
| 12CLM-044 | 587503 | 2710857 | 2179.62 | 197.94 | -45 | 147 |
| 12CLM-045 | 587063 | 2710960 | 2134.62 | 42.94 | -50 | 399 |
| 12CLM-046 | 587503 | 2710858 | 2179.62 | 197.94 | -65 | 237 |
| 12CLM-047 | 587044 | 2711014 | 2133.62 | 42.94 | -50 | 204 |
| 12CLM-048 | 587484 | 2710875 | 2179.62 | 264.94 | -45 | 210 |
| 12CLM-049 | 586989 | 2711032 | 2131.62 | 42.94 | -45 | 231 |
| 12CLM-050 | 587524 | 2710984 | 2189.62 | 97.94 | -50 | 288.7 |
| 12CLM-051 | 587159 | 2710986 | 2140.62 | 42.94 | -45 | 117 |
| 12CLM-052 | 588431 | 2711628 | 2110.62 | 222.94 | -45 | 210 |
| 12CLM-053 | 587100 | 2711062 | 2137.62 | 42.94 | -45 | 104 |
| 12CLM-054 | 586962 | 2711122 | 2133.62 | 42.94 | -45 | 195 |
| 12CLM-055 | 588663 | 2710341 | 2086.3 | 297.94 | -45 | 421.5 |
| 12CLM-056 | 587355 | 2710676 | 2133.62 | 42.94 | -45 | 87 |
| 12CLM-057 | 586942 | 2710980 | 2129.62 | 42.94 | -45 | 372 |
| 12CLM-058 | 588051 | 2711215 | 2171 | 186.94 | -45 | 240 |
| 12CLM-059 | 587194 | 2710950 | 2142.62 | 42.94 | -45 | 75 |
| 12CLM-060 | 587305 | 2710768 | 2138 | 42.94 | -45 | 90 |
| 12CLM-061 | 587224 | 2710832 | 2139 | 42.94 | -45 | 120 |
| 12CLM-062 | 587037 | 2710856 | 2130 | 42.94 | -45 | 303 |
| 13CLM-063 | 588793 | 2710263 | 2080.3 | 297.74 | -65 | 531 |

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 13CLM-064 | 588171 | 2710581 | 2119 | 0 | -90 | 456 |
| 13CLM-065 | 587638 | 2709879 | 2095 | 222.74 | -45 | 321 |
| 13CLM-066 | 587315 | 2710725 | 2135 | 90 | -70 | 690 |
| 13CLM-067 | 588598 | 2710240 | 2086.7 | 297.74 | -65 | 387 |
| 13CLM-068 | 588725 | 2710445 | 2086 | 290.74 | -50 | 369 |
| 13CLM-069 | 588722.4 | 2710310 | 2083.36 | 292.74 | -55 | 456 |
| 13CLM-070 | 587220.7 | 2711526 | 2132.18 | 132.74 | -50 | 256 |
| 13CLM-071 | 587228.8 | 2710719 | 2126.88 | 81 | -69 | 816 |
| 13CLM-072 | 586840.3 | 2711288 | 2132.95 | 42.74 | -45 | 231 |
| 13CLM-073 | 588000.7 | 2709956 | 2091.03 | 42.74 | -65 | 1314 |
| 14CLM-074 | 588719 | 2710307 | 2083.45 | 297.64 | -65 | 829 |
| 14CLM-075 | 587992.6 | 2709953 | 2091.22 | 0 | -90 | 942 |
| 15CLM-023A | 587271 | 2710547 | 2122.58 | 42.94 | -45 | 879 |
| 15CLM-076 | 587085.2 | 2710685 | 2118.84 | 42.55 | -60 | 750 |
| 15CLM-077 | 587604.85 | 2711015.91 | 2196.66 | 222.5 | -61 | 986 |
| 15CLM-078 | 588668.89 | 2710994.09 | 2099.99 | 237.4 | -61 | 531 |
| 15CLM-079 | 588793.31 | 2710672.95 | 2084.81 | 257.6 | -61 | 621 |
| 15CLM-080 | 588301.28 | 2711350.64 | 2128.45 | 192.6 | -60 | 474 |
| 15CLM-081 | 587233.63 | 2710267 | 2104.4 | 41.34 | -55 | 834 |
| 15CLM-082 | 588792.79 | 2710929.59 | 2088.64 | 237.5 | -60 | 702 |
| 15CLM-083 | 588678.6 | 2711115.79 | 2098.05 | 236.34 | -60 | 648 |
| 15CLM-084 | 587673.86 | 2711211.18 | 2202 | 219.24 | -48.5 | 894 |
| 15CLM-085 | 588251.78 | 2711751.75 | 2111.76 | 221.96 | -45 | 492 |
| 15CLM-086 | 588007.9 | 2711279.07 | 2171.74 | 207.5 | -57 | 570 |
| 16CLM-087 | 587231.04 | 2710073.34 | 2099.02 | 43.34 | -50 | 850 |
| 16CLM-088 | 587233.21 | 2710266.83 | 2104.41 | 39.64 | -75 | 798 |
| 16CLM-089 | 587221.86 | 2709923.41 | 2093.9 | 42 | -55 | 1052 |
| 16CLM-090 | 588641.63 | 2711092.44 | 2101.79 | 229.14 | -60 | 403.5 |
| 16CLM-091 | 587305.17 | 2710480.61 | 2117.01 | 42.3 | -75 | 775 |
| 17CLM-092 | 588490.05 | 2711179 | 2116.34 | 195 | -55 | 444 |
| 17CLM-093 | 588676.76 | 2711118.32 | 2098.28 | 202.04 | -60 | 705 |
| 17CLM-094 | 587176.77 | 2710396.74 | 2108.89 | 42.54 | -75 | 935 |
| 17CLM-095 | 587272.14 | 2710545.4 | 2118.37 | 45 | -75 | 1017.5 |
| 17CLM-096 | 587190.19 | 2710225.42 | 2102.47 | 37 | -85 | 1021 |
| 17CLM-097 | 587001.68 | 2710424.5 | 2106.76 | 37 | -75 | 1206 |
| 17CLM-098 | 586977.57 | 2710609.55 | 2112.47 | 38 | -60 | 1168 |
| 17CLM-099 | 586971.61 | 2710782.17 | 2119.17 | 40 | -60 | 752.5 |
| 17CLM-100 | 587265.31 | 2710933.07 | 2143.35 | 92 | -70 | 846 |
| 17CLM-101 | 587568.51 | 2710232.4 | 2109.24 | 46.04 | -60 | 528 |

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 17CLM-102 | 587660.23 | 2711168.28 | 2213.03 | 100 | -56 | 436 |
| 17CLM-103 | 587178.37 | 2710788.33 | 2128.66 | 85 | -76 | 1035 |
| 17CLM-104 | 587659.67 | 2711168.74 | 2212.99 | 60 | -57 | 426.8 |
| 17CLM-105 | 587511.67 | 2710187.64 | 2105.24 | 42 | -60 | 601 |
| 17CLM-106 | 587078.72 | 2710838.14 | 2125.91 | 96 | -72 | 1110.5 |
| 18CLM-107 | 587569.18 | 2710230.09 | 2109.12 | 38.3 | -45 | 480 |
| 18CLM-108 | 587602.51 | 2710100.42 | 2101.45 | 38.5 | -45 | 528 |
| 18CLM-109 | 587602 | 2710099.92 | 2101.38 | 38.5 | -60 | 579 |
| 18CLM-110 | 587383.18 | 2710480.2 | 2120.84 | 80 | -70 | 489 |
| 18CLM-111 | 587321.53 | 2711014.96 | 2151.41 | 100 | -54 | 654 |
| 18CLM-112B | 587407.07 | 2710891.06 | 2157.89 | 92 | -51 | 445 |
| 18CLM-113 | 587320.88 | 2711013.18 | 2151.11 | 94.5 | -64.3 | 684 |
| 18CLM-114 | 587328.96 | 2711217.11 | 2150.02 | 110.5 | -51 | 714 |
| 18CLM-115 | 587180.4 | 2710397.67 | 2108.97 | 63 | -70.5 | 747 |
| 18CLM-116 | 587275.1 | 2710571.32 | 2119.42 | 77 | -67 | 640.4 |
| 18CLM-117 | 587570.2 | 2710025.62 | 2097.12 | 33.9 | -63 | 689.5 |
| 20CLM-118 | 588635.9 | 2710613.14 | 2093.57 | 258 | -55 | 280 |
| 20CLM-119 | 588636.1 | 2710613.71 | 2093.54 | 284 | -66 | 360 |
| 20CLM-120 | 588825.6 | 2710525.11 | 2081.44 | 268.7 | -51 | 473.4 |
| 20CLM-121 | 587511.5 | 2709877.19 | 2090.15 | 43 | -50 | 756.25 |
| 20CLM-122 | 588825.1 | 2710525.46 | 2081.47 | 285.5 | -47 | 501 |
| 20CLM-123 | 587527.2 | 2710268.92 | 2110.82 | 33.9 | -49.5 | 453.7 |
| 20CLM-124 | 588827.5 | 2710525.7 | 2081.4 | 269.9 | -60 | 579.1 |
| 20CLM-125 | 588706 | 2710939.32 | 2095.97 | 269 | -60.5 | 360.2 |
| 20CLM-126 | 588826.5 | 2710527.69 | 2081.45 | 285 | -64.5 | 636.45 |
| 20CLM-127 | 588705.8 | 2710939.32 | 2095.97 | 269 | -53 | 330.5 |
| 20CLM-128 | 588503.6 | 2711099.06 | 2119.1 | 209.5 | -60 | 372.55 |
| 20CLM-129 | 588503.8 | 2711099.18 | 2119.08 | 202.9 | -62 | 350 |
| 20CLM-130 | 588826.3 | 2710529.46 | 2081.47 | 260 | -65 | 606.7 |
| 20CLM-131 | 588504 | 2711099.75 | 2119.08 | 201.6 | -66 | 369 |
| 20CLM-132 | 588504.2 | 2711098.83 | 2119.04 | 199.5 | -56 | 309 |
| 20CLM-133 | 588607.4 | 2710696.88 | 2099.53 | 285 | -67.5 | 352.5 |
| 20CLM-134 | 588670.2 | 2710992.33 | 2099.84 | 249.2 | -59 | 379.15 |
| 21CLM-135 | 588559.9 | 2711143.63 | 2109.35 | 210 | -59.5 | 464.35 |
| 21CLM-136 | 588752 | 2710938.78 | 2091.93 | 270 | -58 | 399.8 |
| 21CLM-137 | 588753.7 | 2710939.13 | 2091.72 | 230 | -45 | 243.25 |
| 21CLM-138 | 588559.8 | 2711142.36 | 2109.31 | 200 | -49 | 345 |
| 21CLM-139 | 588754.2 | 2710939.55 | 2091.69 | 230 | -60 | 222.9 |
| 21CLM-140 | 588707 | 2710899 | 2098 | 276.7 | -61 | 364.35 |

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 21CLM-141 | 588562 | 2711144.77 | 2109.02 | 217.5 | -61.5 | 513.5 |
| 21CLM-142 | 588705.1 | 2710895.68 | 2095.62 | 269 | -62.5 | 411 |
| 21CLM-143 | 588745.3 | 2710939.31 | 2092.52 | 264 | -59.5 | 414 |
| 21CLM-144 | 588563 | 2711144.04 | 2109.06 | 205 | -59.5 | 430.75 |
| 21CLM-145 | 588589.4 | 2711280.16 | 2104.4 | 200 | -49 | 277.1 |
| 21CLM-146 | 588702.5 | 2711084.29 | 2096.03 | 234 | -55 | 382.8 |
| 21CLM-147 | 588683.7 | 2711117.63 | 2097.63 | 227.2 | -60 | 462.5 |
| 21CLM-148 | 588701.6 | 2711084.06 | 2096.13 | 232 | -63 | 419.45 |
| 21CLM-149 | 588684.1 | 2711117.51 | 2097.61 | 218.8 | -66 | 483 |
| 21CLM-150 | 588667.2 | 2710771.5 | 2096.61 | 235.8 | -64 | 400.65 |
| 21CLM-151 | 588562.2 | 2711147.6 | 2108.91 | 207 | -63.5 | 539.05 |
| 21CLM-152 | 588668.2 | 2710770.61 | 2096.49 | 232 | -71 | 456 |
| 21CLM-153 | 588875.4 | 2710860.9 | 2082.47 | 283 | -52 | 555.8 |
| 21CLM-154 | 588811.3 | 2710457.82 | 2081.57 | 270 | -50 | 450 |
| 21CLM-155 | 588819.3 | 2710523.85 | 2081.8 | 252 | -55.5 | 532.9 |
| 21CLM-156 | 588371.3 | 2711112.53 | 2142.79 | 208.2 | -45.3 | 255 |
| 21CLM-157 | 588585.4 | 2710538.62 | 2093.67 | 270 | -45 | 180.8 |
| 21CLM-158 | 588371.8 | 2711112.58 | 2142.71 | 190 | -53 | 263.75 |
| 21CLM-159 | 588586.2 | 2710538.17 | 2093.63 | 241 | -63.5 | 308.5 |
| 21CLM-160 | 588609.3 | 2710693.75 | 2099.23 | 256 | -53 | 233.4 |
| 21CLM-161 | 588371.2 | 2711112.97 | 2142.78 | 225 | -55 | 258 |
| 21CLM-162 | 588371.5 | 2711112.83 | 2142.77 | 215 | -62 | 282 |
| 21CLM-163 | 588608.9 | 2710694.83 | 2099.23 | 297 | -49 | 304 |
| 21CLM-164 | 588424.3 | 2711129.16 | 2129.98 | 215 | -62 | 360.9 |
| 21CLM-165 | 588488.1 | 2711178.04 | 2116.39 | 208 | -50 | 279 |
| 21CLM-166 | 588423.8 | 2711129.14 | 2129.99 | 231 | -61.5 | 351.5 |
| 21CLM-167 | 588487.6 | 2711178.23 | 2116.41 | 225 | -54.5 | 425.25 |
| 21CLM-168 | 588317.2 | 2711240.8 | 2136.19 | 210 | -50 | 390 |
| 21CLM-169 | 587806.1 | 2710266.95 | 2119.72 | 19 | -52 | 354 |
| 21CLM-170 | 588317.4 | 2711241.19 | 2136.18 | 210 | -60 | 430.1 |
| 21CLM-171 | 587806.3 | 2710267.22 | 2119.74 | 5 | -63 | 371.4 |
| 21CLM-172 | 588241.0 | 2711259.9 | 2142.3 | 210 | -50 | 315.6 |
| 21CLM-173 | 588241.2 | 2711260.3 | 2142.3 | 210 | -60 | 405 |
| 21CLM-174 | 588112.6 | 2711268.7 | 2153.7 | 210 | -50 | 252 |
| 21CLM-175 | 588112.9 | 2711269.2 | 2153.7 | 210 | -60 | 279.8 |
| 21CLM-176 | 588112.1 | 2711352.3 | 2146.1 | 182.5 | -53 | 390.6 |
| 21CLM-177 | 588111.5 | 2711352.4 | 2146.1 | 210.5 | -54 | 376 |
| 21CLM-178 | 587920.0 | 2711422.6 | 2154.6 | 180 | -45 | 432 |
| 21CLM-179 | 587920.2 | 2711423.0 | 2154.6 | 173 | -57 | 444.8 |

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 21CLM-180 | 588111.1 | 2711353.5 | 2146.1 | 196 | -65 | 450 |
| 21CLM-181 | 587985.6 | 2711444.6 | 2146.9 | 180 | -60 | 550.3 |
| 22CLM-182 | 587856.0 | 2711461.5 | 2155.5 | 165 | -60 | 543 |
| 22CLM-183 | 587855.9 | 2711462.0 | 2155.5 | 162 | -66 | 627.8 |
| 22CLM-184 | 588096.3 | 2711449.1 | 2136.7 | 201 | -51 | 481.4 |
| 22CLM-185 | 588096.9 | 2711450.0 | 2136.6 | 190 | -60 | 543 |
| 22CLM-186 | 588218.0 | 2711417.0 | 2131.3 | 198 | -50 | 497.3 |
| 22CLM-187 | 588218.0 | 2711417.4 | 2131.3 | 200 | -55 | 533 |
| 22CLM-188 | 587724.4 | 2711428.9 | 2162.1 | 150 | -55 | 495 |
| 22CLM-189 | 587724.2 | 2711431.6 | 2162.1 | 149 | -61 | 530.1 |
| 22CLM-190 | 587650.8 | 2711315.4 | 2178.6 | 137 | -62 | 342.35 |
| 22CLM-190A | 587650.8 | 2711315.4 | 2178.6 | 137 | -62 | 466.5 |
| 22CLM-191 | 587650.6 | 2711315.6 | 2178.6 | 153 | -58 | 600.3 |
| 22CLM-192 | 587650.9 | 2711314.9 | 2178.6 | 150 | -64 | 610.3 |
| 22CLM-193 | 587650.7 | 2711316.8 | 2178.6 | 136 | -67 | 522 |
| 22CLM-194 | 588019.3 | 2711355.1 | 2155.7 | 190 | -55 | 399 |
| 22CLM-195 | 588163.3 | 2711265.0 | 2148.4 | 197 | -59 | 342.9 |

Source: Kirkham, 2022.

**Table 10-3: CLM West and CLM East Drill Hole Summary**

| DDH Name | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| 18CLME-001 | 608340 | 2707324 | 2100 | 220 | -50 | 354 |
| 18CLMW-001 | 578783 | 2707912 | 2214 | 245 | -45 | 384 |
| 18CLMW-002 | 579030 | 2706958 | 2223 | 280 | -45 | 350 |
| 18CLMW-003 | 582855 | 2699670 | 2011 | 275 | -45 | 329.5 |
| 18CLMW-004 | 582855 | 2699670 | 1928 | 235 | -55 | 300 |
| 18CLMW-005 | 581250 | 2700925 | 2000 | 90 | -45 | 259 |
| 18CLMW-006 | 581870 | 2702146 | 2000 | 45 | -45 | 250 |
| 18CLMW-007 | 581375 | 2708850 | 2165 | 90 | -50 | 507 |
| 18CLMW-008 | 582400 | 2708084 | 2096 | 50 | -50 | 354 |
| 18CLMW-009 | 577852 | 2707451 | 2230 | 55 | -50 | 438 |
| 21CLME-002 | 608340 | 2707324 | 2100 | 220 | -70 | 523.4 |
| 21CLMW-010 | 584160 | 2706247 | 2100 | 45 | -55 | 408.7 |
| 21CLMW-010A | 584160 | 2706247 | 2100 | 45 | -55 | 185.4 |

Source: Kirkham, 2022

**Table 10-4: Trench Summary**

| Trench | Easting | Northing | Elevation | Azimuth | Dip | Depth |
|---|---|---|---|---|---|---|
| T-1 | 588664.23 | 2710838.38 | 2099.1 | 17.4 | -0.8 | 35.9 |
| T-2 | 588412 | 2710873 | 2147.9 | 67.3 | -11.5 | 35.62 |
| T-3 | 588423.66 | 2710844.15 | 2139.5 | 103.1 | -16.8 | 39.44 |
| T-4 | 588426.94 | 2710782.27 | 2128.2 | 278.8 | 9.7 | 56.84 |
| T-5 | 588384.07 | 2710896.17 | 2162.5 | 46 | -12.3 | 79.17 |
| T-6 | 588300.88 | 2710928.8 | 2184 | 35.3 | 17.4 | 90.25 |
| T-7 | 588262.57 | 2710964.19 | 2198.3 | 32.1 | 15.9 | 102.94 |

**Table 10-5: Cerro Las Minitas Significant Assay Intervals**

| 2011 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 11CLM-003 | 419.6 | 436.2 | 16.6 | UNK | 55 | 0.0 | 0.8 | 0.3 | 1.5 | North Skarn |
| inc. | 428.8 | 430.3 | 1.5 | UNK | 72 | 0.0 | 1.5 | 0.5 | 1.6 | - |
| 11CLM-006 | 424.2 | 427.9 | 3.7 | 2.0 | 184 | 0.0 | 2.0 | 0.3 | 18.4 | Santo Niño |
| 11CLM-008 | 168.4 | 179.3 | 10.9 | 5.5 | 268 | 0.1 | 0.0 | 4.5 | 3.8 | Blind Zone |
| inc. | 169.6 | 171.4 | 1.8 | 0.9 | 1400 | 0.3 | 0.0 | 19.7 | 14.5 | - |
| 11CLM-011 | 131.6 | 136.6 | 5.0 | 3.6 | 224 | 0.4 | 0.0 | 4.2 | 5.8 | Blind Zone |
| inc. | 134.5 | 135.6 | 1.2 | 0.8 | 540 | 0.5 | 0.1 | 9.5 | 18.7 | - |
| 11CLM-011 | 311.0 | 319.2 | 8.2 | 6.4 | 46 | 0.0 | 0.1 | 2.1 | 2.6 | El Sol Zone |
| inc. | 316.7 | 319.2 | 2.4 | 1.9 | 75 | 0.0 | 0.1 | 3.6 | 4.2 | - |
| 11CLM-016 | 152.4 | 164.1 | 11.7 | 6.5 | 114 | 0.0 | 0.2 | 3.3 | 4.9 | Blind Zone |
| inc. | 158.2 | 159.8 | 1.6 | 0.9 | 390 | 0.1 | 0.5 | 11.9 | 17.1 | - |
| 11CLM-023 | 300.1 | 312.5 | 12.4 | 8.5 | 134 | 0.1 | 0.2 | 4.0 | 4.5 | Blind Zone |
| inc. | 310.0 | 311.6 | 1.6 | 1.1 | 404 | 0.0 | 0.4 | 13.2 | 11.5 | - |
| 11CLM-027 | 0.6 | 25.4 | 24.8 | 9.3 | 124 | 0.0 | 0.1 | 1.9 | 2.1 | El Sol Zone |
| inc. | 9.0 | 11.8 | 2.8 | 1.1 | 404 | 0.0 | 0.0 | 1.4 | 2.5 | - |

| 2012 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 12CLM-034 | 170.7 | 172.2 | 1.5 | 0.7 | 338 | 0.0 | 0.5 | 11.1 | 15.9 | Blind Zone |
| 12CLM-041 | 138.5 | 143.1 | 4.6 | 3.1 | 203 | 0.0 | 0.3 | 4.9 | 4.2 | Blind Zone |
| inc. | 141.9 | 143.1 | 1.2 | 0.8 | 499 | 0.1 | 0.4 | 10.4 | 10.4 | - |
| 12CLM-044 | 57.6 | 83.6 | 26.1 | 17.3 | 67 | 0.0 | 0.1 | 2.8 | 3.3 | El Sol Zone |
| inc. | 78.3 | 80.7 | 2.5 | 1.6 | 153 | 0.1 | 0.1 | 6.3 | 7.5 | - |
| 12CLM-047 | 162.6 | 167.0 | 4.4 | 3.0 | 186 | 0.0 | 0.2 | 5.6 | 4.6 | Blind Zone |
| inc. | 162.6 | 165.5 | 2.9 | 1.9 | 254 | 0.0 | 0.2 | 7.8 | 4.9 | - |
| 12CLM-051 | 50.9 | 70.9 | 20.0 | 14.7 | 143 | 0.0 | 0.0 | 2.4 | 0.6 | Blind Zone |
| 12CLM-055 | 224.1 | 228.4 | 4.3 | 2.7 | 89 | 1.4 | 1.8 | 0.1 | 0.2 | South Skarn |
| 12CLM-056 | 12.7 | 18.4 | 5.7 | 4.0 | 335 | 0.1 | 0.8 | 16.3 | 4.5 | Blind Zone |
| inc. | 13.6 | 17.8 | 4.2 | 2.9 | 409 | 0.1 | 1.0 | 20.5 | 4.0 | - |
| 12CLM-061 | 86.3 | 96.8 | 10.6 | 8.6 | 114 | 0.0 | 0.0 | 2.8 | 0.9 | Blind Zone |
| inc. | 86.3 | 87.5 | 1.3 | 1.0 | 382 | 0.0 | 0.2 | 9.9 | 5.1 | - |

| 2013/14 Drilling Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 13CLM-063 | 228.6 | 230.2 | 1.6 | 1.0 | 160 | 1.0 | 0.1 | 3.3 | 0.4 | South Skarn |
| 13CLM-066 | 88.4 | 97.5 | 9.2 | 3.1 | 401 | 0.1 | 0.1 | 8.5 | 5.1 | Blind Zone |
| inc. | 92.9 | 95.0 | 2.1 | 0.7 | 1190 | 0.2 | 0.0 | 21.6 | 13.0 | - |
| and | 534.6 | 585.2 | 50.6 | 8.9 | 41 | 0.0 | 0.0 | 0.7 | 5.3 | El Sol Zone |
| inc. | 573.0 | 585.2 | 12.2 | 2.1 | 45 | 0.0 | 0.0 | 1.7 | 10.8 | - |
| and | 633.3 | 642.6 | 9.3 | 1.6 | 9 | 0.0 | 0.1 | 0.1 | 13.0 | El Sol Zone |
| inc. | 638.2 | 640.4 | 2.1 | 0.4 | 14 | 0.0 | 0.4 | 0.0 | 20.6 | - |
| 13CLM-068 | 285.4 | 299.3 | 13.9 | 8.4 | 136 | 0.2 | 0.0 | 2.4 | 1.3 | South Skarn |
| inc. | 285.4 | 287.8 | 2.4 | 1.5 | 546 | 0.2 | 0.1 | 10.3 | 3.8 | - |

| 2015 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 15CLM-077 | 712.6 | 714.2 | 1.6 | 0.9 | 569 | 0.1 | 0.0 | 3.4 | 1.1 | Blind Zone |
| inc. | 712.6 | 713.3 | 0.6 | 0.3 | 1380 | 0.1 | 0.0 | 7.9 | 2.4 | - |
| 15CLM-078 | 77.8 | 85.6 | 7.8 | 3.9 | 37 | 13.5 | 0.0 | 2.2 | 1.7 | La Bocona |
| inc. | 77.8 | 79.7 | 1.9 | 1.0 | 74 | 27.7 | 0.0 | 6.4 | 3.5 | - |
| and | 195.0 | 211.5 | 16.5 | 8.2 | 150 | 0.5 | 0.0 | 3.4 | 0.7 | La Bocona |
| inc. | 196.1 | 196.9 | 0.8 | 0.4 | 1170 | 1.1 | 0.0 | 21.9 | 1.2 | - |
| and | 222.2 | 231.5 | 9.3 | 4.6 | 275 | 0.9 | 0.0 | 4.3 | 1.9 | La Bocona |
| inc. | 222.2 | 224.2 | 2.0 | 1.0 | 808 | 2.3 | 0.0 | 12.4 | 3.0 | - |
| and | 255.4 | 259.9 | 4.5 | 2.2 | 903 | 0.2 | 0.1 | 16.1 | 2.2 | La Bocona |
| inc. | 256.3 | 258.0 | 1.7 | 0.8 | 1180 | 0.4 | 0.1 | 20.5 | 2.1 | - |
| and | 326.7 | 331.7 | 4.3 | 2.2 | 405 | 0.2 | 0.0 | 10.0 | 1.1 | La Bocona |
| inc. | 330.9 | 331.7 | 0.8 | 0.4 | 903 | 0.8 | 0.1 | 20.8 | 1.1 | - |
| 15CLM-079 | 395.0 | 396.0 | 1.0 | UNK | 41 | 11.7 | 0.0 | 0.1 | 0.0 | South Skarn |
| 15CLM-081 | 616.1 | 632.9 | 16.8 | 8.7 | 136 | 0.0 | 0.5 | 0.3 | 4.5 | Blind Zone |
| inc. | 616.1 | 625.1 | 9.0 | 4.7 | 167 | 0.0 | 0.7 | 0.4 | 8.2 | - |
| 15CLM-082 | 184.3 | 186.9 | 2.6 | 1.3 | 322 | 5.0 | 0.2 | 5.7 | 7.7 | La Bocona |
| 15CLM-083 | 484.3 | 490.1 | 5.8 | 3.1 | 275 | 0.2 | 0.5 | 1.1 | 3.4 | La Bocona |
| inc. | 487.4 | 488.3 | 0.9 | 0.5 | 1050 | 1.0 | 1.2 | 4.3 | 7.7 | - |
| 15CLM-084 | 800.2 | 808.5 | 8.4 | 5.0 | 112 | 0.2 | 0.0 | 0.5 | 0.4 | Blind Zone |
| 11CLM-010 (extension) | 503.5 | 509.3 | 5.8 | 3.5 | 130 | 0.4 | 1.1 | 1.3 | 9.3 | La Bocona |
| | 503.5 | 506.5 | 3.0 | 1.8 | 196 | 0.1 | 1.1 | 2.3 | 15.1 | - |
| 15CLM-023A | 284.7 | 299.5 | 14.8 | 10.1 | 231 | 0.3 | 0.2 | 4.5 | 3.7 | Blind Zone |
| inc. | 284.7 | 286.0 | 1.3 | 0.9 | 891 | 0.6 | 0.1 | 11.3 | 5.7 | - |
| 15CLM-023A | 677.0 | 685.4 | 8.4 | 5.7 | 143 | 0.1 | 0.3 | 1.2 | 6.2 | Santo Niño |
| inc. | 681.9 | 685.4 | 3.5 | 2.4 | 263 | 0.1 | 0.3 | 2.4 | 12.2 | - |

| 2015 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 11CLM-025 (extension) | 488.9 | 499.7 | 10.8 | 6.9 | 181.7 | 1 | 0.5 | 1.6 | 6.4 | El Sol Zone |
| inc. | 493.55 | 496.0 | 2.4 | 1.5 | 534.0 | 0 | 1.8 | 4.6 | 14.2 | - |

| 2016-18 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 16CLM-088 | 683.7 | 714.0 | 30.4 | 29.5 | 107 | 0.1 | 0.4 | 1.1 | 2.3 | Skarn Front |
| inc. | 683.7 | 691.0 | 7.3 | 7.1 | 190 | 0.1 | 0.4 | 3.4 | 5.5 | - |
| 16CLM-091 | 662.8 | 677.9 | 15.1 | 14.8 | 39 | 0.0 | 0.05 | 0.1 | 10.2 | Skarn Front |
| inc. | 667.5 | 672.3 | 4.8 | 4.7 | 39 | 0.0 | 0.12 | 0.1 | 23.2 | - |
| 17CLM-094 | 788.8 | 798.6 | 9.8 | 6.8 | 65 | 0.0 | 0.02 | 0.3 | 5.0 | Skarn Front |
| inc. | 794.2 | 798.6 | 4.4 | 3.1 | 92 | 0.0 | 0.02 | 0.4 | 7.1 | - |
| 17CLM-095 | 691.3 | 700.3 | 9.0 | 8.0 | 602 | 0.1 | 0.05 | 7.1 | 17.9 | Skarn Front |
| | 693.0 | 700.3 | 7.3 | 6.5 | 737 | 0.0 | 0.06 | 8.6 | 21.8 | - |
| 17CLM-098 | 1086.5 | 1101.0 | 14.5 | 8.7 | 288 | 0.0 | 2.03 | 0.8 | 1.2 | Skarn Front |
| | 1092.6 | 1096.7 | 4.1 | 2.5 | 686 | 0.1 | 3.65 | 1.0 | 1.7 | - |
| 17CLM-101 | 229.9 | 247.4 | 17.6 | 12.5 | 154 | 2.0 | 0.21 | 3.2 | 3.9 | Las Victorias |
| inc. | 235.4 | 241.0 | 5.7 | 4.0 | 261 | 4.0 | 0.2 | 6.0 | 6.9 | - |
| and | 452.5 | 462.6 | 10.1 | 9.2 | 220 | 0.0 | 0.3 | 3.6 | 5.4 | Skarn Front |
| inc. | 456.9 | 459.2 | 2.3 | 2.1 | 373 | 0.1 | 0.88 | 7.4 | 10.3 | - |
| 17CLM-103 | 859.3 | 864.4 | 5.2 | 3.3 | 27 | 0.0 | 0.01 | 0.4 | 2.6 | Skarn Front |
| inc. | 859.3 | 860.2 | 1.0 | 0.6 | 126 | 0.0 | 0.00 | 1.7 | 8.2 | - |
| 17CLM-105 | 356.9 | 367.8 | 10.9 | 6.8 | 194 | 0.8 | 0.12 | 4.4 | 2.0 | Las Victorias |
| inc. | 358.2 | 359.1 | 0.9 | 0.6 | 1100 | 1.5 | 0.4 | 23.2 | 5.9 | - |
| and | 507.6 | 520.9 | 13.3 | 13.0 | 105 | 0.1 | 0.1 | 0.5 | 0.4 | Skarn Front |
| inc. | 510.6 | 513.2 | 2.5 | 2.5 | 318 | 0.1 | 0.41 | 1.4 | 0.8 | - |
| 17CLM-106 | 889.3 | 891.7 | 2.5 | 2.1 | 88 | 0.0 | 0.04 | 0.2 | 10.3 | Skarn Front |
| and | 921.3 | 930.4 | 9.1 | 7.7 | 22 | 0.0 | 0.0 | 0.0 | 3.6 | - |
| inc. | 926.2 | 930.4 | 4.2 | 3.5 | 30 | 0.0 | 0.0 | 0.1 | 5.8 | - |
| and | 941.6 | 943.4 | 1.8 | 1.5 | 30 | 0.1 | 0.11 | 0.0 | 20.7 | - |
| 18CLM-107 | 353.8 | 354.6 | 0.9 | 0.6 | 79 | 0.4 | 1.2 | 0.1 | 14.1 | Skarn Front |
| 18CLM-110 | 450.0 | 468.9 | 18.9 | 15.1 | 260 | 0.0 | 0.18 | 0.9 | 0.1 | Skarn Front |
| inc. | 450.0 | 455.5 | 5.5 | 4.4 | 598 | 0.1 | 0.40 | 2.1 | 0.1 | - |
| 18CLM-111 | 256.9 | 257.5 | 0.6 | 0.4 | 506 | 0.2 | 0.1 | 14.1 | 15.1 | El Sol Zone |
| 18CLM-112 | 387.5 | 390.9 | 3.4 | 2.8 | 191 | 0.0 | 0.86 | 3.7 | 9.4 | Skarn Front |
| inc. | 387.5 | 388.7 | 1.1 | 1.0 | 260 | 0.0 | 0.81 | 5.6 | 16.4 | - |
| 18CLM-113 | 398.5 | 399.5 | 1.0 | 0.8 | 154 | 0.0 | 0.23 | 7.3 | 9.2 | El Sol Zone |
| and | 643.5 | 645.9 | 2.4 | 1.7 | 139 | 0.0 | 0.39 | 0.4 | 4.1 | Skarn Front |

| 2016-18 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | Zone |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 18CLM-115 | 649.6 | 652.3 | 2.6 | 2.0 | 409 | 0.6 | 0.9 | 0.8 | 8.4 | Skarn Front |
| inc. | 649.6 | 650.2 | 0.6 | 0.5 | 477 | 2.2 | 3.7 | 0.6 | 32.3 | - |
| and | 664.2 | 674.1 | 10.0 | 7.5 | 55 | 0.4 | 0.3 | 0.1 | 1.0 | - |
| inc. | 671.2 | 672.6 | 1.5 | 1.1 | 140 | 0.0 | 1.1 | 0.1 | 5.3 | - |
| and | 683.2 | 684.2 | 1.0 | 0.8 | 640 | 0.0 | 1.03 | 16.7 | 22.4 | - |
| 18CLM-116 | 528.3 | 529.3 | 1.0 | 0.9 | 195 | 0.0 | 0.1 | 1.6 | 8.7 | Skarn Front |
| 18CLM-117 | 461.7 | 463.9 | 2.3 | 1.2 | 202 | 1.6 | 0.01 | 3.8 | 1.8 | Las Victorias |
| inc. | 462.7 | 463.9 | 1.2 | 0.7 | 333 | 2.7 | 0.02 | 6.6 | 3.2 | - |

| 2018 CLM West Drill Highlights | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | As | Sb | Au |
| | m | m | m | m | g/t | g/t | g/t | g/t |
| 18CLMW-007 | 126.0 | 129.0 | 3.0 | UNK | 168.0 | 31 | - | - |
| and | 164.2 | 182.0 | 17.9 | UNK | 0.4 | 144 | 49 | - |
| and | 333.7 | 366.0 | 32.3 | UNK | - | 1073 | 771 | - |
| inc. | 351.0 | 354.0 | 3.0 | UNK | 4.9 | 1145 | 676 | - |
| 18CLMW-008 | 333.0 | 354 (EOH) | 21.0 | UNK | 0.8 | 136 | 7 | - |
| 18CLMW-009 | 341.0 | 438 (EOH) | 97.0 | UNK | - | 205 | 50 | 0.014 |
| inc. | 345.7 | 351.3 | 5.6 | UNK | 2.1 | 629 | 68 | 0.063 |

| 2020 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 20CLM-118 | 170.1 | 177.0 | 6.9 | 4.0 | 109 | 0.1 | 0.0 | 1.8 | 2.1 | South Skarn |
| inc. | 174.2 | 175.4 | 1.2 | 0.9 | 412 | 0.1 | 0.1 | 7.8 | 9.2 | - |
| 20CLM-119 | 226.1 | 235.1 | 9.0 | 6.7 | 625 | 0.1 | 0.03 | 11.8 | 7.5 | South Skarn |
| inc. | 226.1 | 228.4 | 2.3 | 1.7 | 1338 | 0.2 | 0.04 | 25.9 | 17.6 | - |
| and inc. | 232.0 | 233.3 | 1.3 | 0.9 | 1480 | 0.1 | 0.04 | 26.5 | 16.8 | - |
| 20CLM-120 | 429.0 | 432.6 | 3.7 | 2.7 | 511 | 0.1 | 0.13 | 5.0 | 3.7 | South Skarn |
| inc. | 431.8 | 432.6 | 0.9 | 0.6 | 902 | 0.1 | 0.16 | 7.8 | 8.4 | - |
| and | 450.8 | 452.9 | 2.1 | 1.6 | 182 | 0.2 | 0.21 | 4.4 | 4.1 | - |
| 20CLM-121 | 678.6 | 679.1 | 0.5 | 0.4 | 155 | 1.8 | 2.28 | 0.1 | 22.8 | Skarn Front |
| 20CLM-122 | 435.0 | 442.8 | 7.8 | 5.8 | 66 | 0.0 | 0.02 | 0.4 | 0.2 | South Skarn |
| inc. | 442.1 | 442.8 | 0.6 | 0.5 | 237 | 0.1 | 0.02 | 0.9 | 0.2 | - |

| 2020 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 20CLM-124 | 397.2 | 402.1 | 5.0 | 3.3 | 304 | 0.1 | 0.18 | 4.8 | 1.9 | South Skarn |
| inc. | 400.1 | 401.0 | 0.8 | 0.6 | 607 | 0.2 | 0.49 | 11.0 | 3.4 | - |
| and | 475.0 | 490.6 | 15.6 | 10.4 | 172 | 0.1 | 0.15 | 3.8 | 3.7 | South Skarn |
| inc. | 475.0 | 483.7 | 8.7 | 5.8 | 286 | 0.1 | 0.27 | 6.4 | 5.8 | - |
| inc. | 475.0 | 475.9 | 0.9 | 0.6 | 975 | 0.1 | 1.3 | 21.2 | 18.5 | - |
| and | 498.0 | 499.9 | 1.9 | 1.2 | 303 | 0.0 | 0.0 | 7.1 | 5.8 | South Skarn |
| inc. | 499.0 | 499.9 | 0.9 | 0.6 | 544 | 0.0 | 0.02 | 13.1 | 9.1 | - |
| 20CLM-125 | 23.8 | 80.6 | 56.8 | 30.9 | 24 | 0.9 | 0.02 | 0.6 | 0.4 | Oxide Gold/Silver |
| | 31.4 | 34.1 | 2.8 | 1.5 | 72 | 5.1 | 0.08 | 1.0 | 0.5 | - |
| and | 216.8 | 267.4 | 50.6 | 33.2 | 224 | 0.3 | 0.03 | 3.6 | 1.8 | Bocona |
| inc. | 221.8 | 227.8 | 6.1 | 4.0 | 421 | 0.5 | 0.01 | 5.5 | 1.9 | - |
| and inc. | 237.8 | 247.1 | 9.3 | 6.1 | 344 | 0.6 | 0.04 | 5.7 | 3.9 | - |
| and | 326.7 | 328.2 | 1.4 | 1.0 | 1070 | 0.1 | 0.12 | 23.3 | 3.2 | Bocona |
| 20CLM-126 | 559.2 | 565.8 | 6.6 | 4.4 | 95 | 0.1 | 0.06 | 0.7 | 1.2 | South Skarn |
| inc. | 564.8 | 565.8 | 1.0 | 0.7 | 398 | 0.2 | 0.24 | 2.7 | 4.0 | - |
| 20CLM-127 | 44.7 | 56.1 | 11.4 | 7.0 | 24 | 0.9 | 0.01 | 0.5 | 0.7 | Oxide Gold/Silver |
| and | 132.5 | 175.7 | 43.2 | 26.5 | 26 | 0.4 | 0.0 | 0.5 | 0.4 | Oxide Gold/Silver |
| inc. | 132.5 | 134.6 | 2.1 | 1.3 | 131 | 2.6 | 0.2 | 4.3 | 3.6 | |
| and | 214.2 | 224.2 | 10.0 | 6.1 | 162 | 0.6 | 0.01 | 3.2 | 1.3 | Bocona |
| 20CLM-128 | 254.2 | 255.1 | 0.9 | 0.6 | 460 | 0.2 | 0.24 | 9.4 | 12.6 | Bocona |
| and | 265.8 | 267.0 | 1.3 | 0.8 | 423 | 0.2 | 0.2 | 7.5 | 2.9 | Bocona |
| and | 284.9 | 291.3 | 6.4 | 4.3 | 146 | 0.2 | 0.0 | 2.9 | 1.6 | Bocona |
| inc. | 290.5 | 291.3 | 0.8 | 0.5 | 809 | 0.4 | 0.11 | 17.1 | 9.1 | - |
| 20CLM-129 | 244.3 | 265.2 | 20.9 | 9.0 | 212 | 0.6 | 0.06 | 3.7 | 3.3 | Bocona |
| inc. | 248.3 | 255.7 | 7.4 | 3.2 | 287 | 1.6 | 0.09 | 4.6 | 4.8 | - |
| 20CLM-130 | 207.8 | 209.3 | 1.6 | 1.0 | 327 | 0.0 | 0.03 | 5.6 | 11.5 | South Skarn HW |
| and | 563.1 | 571.7 | 8.6 | 5.5 | 58 | 0.0 | 0.09 | 0.1 | 2.3 | South Skarn |
| inc. | 563.7 | 564.1 | 0.5 | 0.3 | 89 | 0.1 | 0.16 | 0.1 | 9.0 | - |
| 20CLM-131 | 299.9 | 315.0 | 15.1 | 8.0 | 1072 | 0.6 | 0.39 | 18.8 | 7.5 | Bocona |
| inc. | 303.4 | 307.6 | 4.3 | 2.3 | 1084 | 1.6 | 0.5 | 20.2 | 12.9 | - |
| and inc. | 310.7 | 311.8 | 1.1 | 0.6 | 3180 | 0.3 | 0.3 | 58.8 | 2.3 | - |
| and | 319.3 | 335.4 | 16.1 | 8.5 | 121 | 0.1 | 0.1 | 2.5 | 2.5 | Bocona |
| inc. | 330.7 | 333.7 | 3.0 | 1.6 | 413 | 0.2 | 0.4 | 8.7 | 9.3 | - |

| 2020 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| and | 347.1 | 351.4 | 4.3 | 2.3 | 36 | 0.2 | 1.47 | 0.1 | 0.1 | Bocona |
| 20CLM-132 | 238.4 | 241.6 | 3.2 | 2.0 | 20 | 0.0 | 0.1 | 0.0 | 6.5 | Bocona |
| 20CLM-133 | 228.0 | 229.3 | 1.3 | 0.8 | 373 | 0.5 | 0.04 | 3.9 | 3.6 | South Skarn |
| and | 232.4 | 233.2 | 0.8 | 0.5 | 281 | 0.1 | 0.09 | 2.8 | 4.2 | South Skarn |
| 20CLM-134 | 69.5 | 73.6 | 4.1 | 1.8 | 46 | 1.9 | 0.01 | 3.4 | 2.3 | Oxide Gold/Silver |
| inc. | 72.0 | 73.6 | 1.6 | 0.7 | 85 | 4.3 | 0.0 | 7.4 | 5.4 | - |
| and | 215.1 | 215.5 | 0.4 | 0.2 | 1230 | 0.1 | 0.1 | 28.9 | 8.5 | Bocona |
| and | 248.4 | 257.6 | 9.2 | 4.1 | 205 | 0.2 | 0.0 | 4.0 | 0.9 | Bocona |
| inc. | 251.7 | 252.9 | 1.3 | 0.6 | 575 | 0.1 | 0.01 | 9.9 | 2.2 | - |

| 2021 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 21CLM-135 | 384.0 | 396.1 | 12.1 | 6.3 | 134 | 0.5 | 2.3 | 0.3 | 0.6 | Bocona |
| inc. | 385.9 | 388.0 | 2.1 | 1.1 | 567 | 2.3 | 11.2 | 0.6 | 2.0 | - |
| 21CLM-136 | 170.3 | 176.3 | 6.0 | 4.2 | 241 | 1.4 | 0.05 | 7.3 | 2.5 | Bocona |
| inc. | 174.5 | 176.3 | 1.8 | 1.3 | 525 | 3.5 | 0.01 | 15.1 | 2.4 | - |
| and | 291.0 | 296.5 | 5.4 | 3.8 | 217 | 0.3 | 0.06 | 3.3 | 0.7 | Bocona |
| 21CLM-137 | 37.1 | 41.5 | 4.4 | 2.5 | 10 | 1.6 | 0.00 | 0.9 | 0.2 | Oxide Gold/Silver |
| inc. | 37.6 | 38.7 | 1.2 | 0.7 | 9 | 4.6 | 0.01 | 0.9 | 0.3 | - |
| 21CLM-139 | 50.3 | 53.1 | 2.8 | 1.4 | 31 | 1.1 | 0.01 | 1.2 | 0.7 | Oxide Gold/Silver |
| inc. | 50.3 | 51.6 | 1.3 | 0.7 | 53 | 2.2 | 0.02 | 2.1 | 0.5 | - |
| 21CLM-140 | 329.4 | 338.0 | 8.6 | 7.5 | 261 | 0.1 | 0.02 | 7.0 | 1.7 | Bocona |
| inc. | 331.8 | 336.9 | 5.1 | 4.5 | 324 | 0.2 | 0.02 | 8.8 | 2.4 | - |
| 21CLM-141 | 397.4 | 417.8 | 20.4 | 12.5 | 51 | 0.1 | 0.88 | 0.0 | 0.1 | Bocona |
| inc. | 399.5 | 412.4 | 12.9 | 7.9 | 60 | 0.2 | 1.16 | 0.0 | 0.1 | - |
| 21CLM-143 | 110.4 | 117.5 | 7.1 | 4.0 | 57 | 2.2 | 0.1 | 2.3 | 0.9 | Oxide Gold/Silver |
| and | 137.5 | 138.0 | 0.5 | 0.3 | 770 | 0.2 | 0.1 | 17.9 | 11.1 | Bocona |
| and | 159.7 | 168.0 | 8.3 | 4.7 | 58 | 2.2 | 0.0 | 1.7 | 1.6 | Bocona |
| inc. | 162.8 | 165.8 | 2.9 | 1.7 | 108 | 5.2 | 0.05 | 3.2 | 3.3 | - |
| and | 275.3 | 282.4 | 7.1 | 4.0 | 161 | 0.2 | 0.01 | 3.1 | 0.4 | Bocona |
| inc. | 281.9 | 282.4 | 0.5 | 0.3 | 594 | 0.0 | 0.01 | 10.5 | 1.6 | - |
| and | 368.9 | 373.1 | 4.2 | 2.4 | 335 | 0.2 | 0.26 | 5.3 | 2.4 | Bocona |
| inc. | 371.7 | 373.1 | 1.4 | 0.8 | 636 | 0.4 | 0.45 | 10.5 | 2.8 | - |

| 2021 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| and | 390.4 | 393.6 | 3.2 | 1.8 | 167 | 0.3 | 0.33 | 4.0 | 3.3 | Bocona |
| inc. | 391.8 | 392.2 | 0.5 | 0.3 | 696 | 1.3 | 1.91 | 20.6 | 11.0 | - |
| 21CLM-144 | 363.0 | 366.5 | 3.6 | 2.9 | 174 | 0.6 | 0.14 | 4.3 | 5.0 | Bocona |
| inc. | 363.0 | 363.9 | 0.9 | 0.8 | 361 | 1.5 | 0.32 | 8.9 | 11.7 | - |
| 21CLM-146 | 236.4 | 240.3 | 3.9 | 1.5 | 118 | 0.1 | 0.01 | 1.8 | 0.8 | Bocona |
| inc. | 239.8 | 240.3 | 0.5 | 0.2 | 528 | 0.6 | 0.00 | 9.3 | 4.5 | - |
| 21CLM-147 | 279.4 | 282.3 | 2.9 | 1.7 | 116 | 0.0 | 0.02 | 2.4 | 2.0 | Bocona |
| inc. | 281.9 | 282.3 | 0.4 | 0.2 | 358 | 0.0 | 0.1 | 7.9 | 8.5 | - |
| and | 424.6 | 438.1 | 13.5 | 7.9 | 74 | 0.1 | 0.1 | 1.2 | 1.8 | Bocona |
| inc. | 432.1 | 435.8 | 3.8 | 2.2 | 149 | 0.3 | 0.22 | 2.3 | 3.4 | - |
| 21CLM-148 | 353.3 | 357.6 | 4.3 | 2.6 | 159 | 0.1 | 0.07 | 2.4 | 3.5 | Bocona |
| inc. | 353.3 | 353.8 | 0.5 | 0.3 | 428 | 0.2 | 0.1 | 6.1 | 1.5 | - |
| and | 379.1 | 388.3 | 9.2 | 5.6 | 59 | 0.2 | 0.1 | 1.4 | 1.9 | Bocona |
| inc. | 379.1 | 382.0 | 2.9 | 1.7 | 139 | 0.4 | 0.09 | 3.1 | 3.8 | - |
| 21CLM-149 | 344.7 | 346.3 | 1.6 | 1.0 | 375 | 0.2 | 0.14 | 7.3 | 0.4 | Bocona |
| and | 429.7 | 438.8 | 9.1 | 5.4 | 121 | 0.0 | 0.39 | 0.7 | 0.5 | - |
| 21CLM-150 | 348.0 | 349.5 | 1.6 | 1.1 | 311 | 0.2 | 0.0 | 0.3 | 0.0 | South Skarn |
| 21CLM-151 | 385.0 | 387.2 | 2.1 | 1.8 | 161 | 0.1 | 0.0 | 4.9 | 3.0 | Bocona |
| inc. | 386.7 | 387.2 | 0.5 | 0.4 | 422 | 0.4 | 0.1 | 13.2 | 9.1 | - |
| and | 420.5 | 449.3 | 28.8 | 24.1 | 17 | 0.0 | 0.3 | 0.0 | 0.1 | Bocona |
| inc. | 424.7 | 426.9 | 2.2 | 1.8 | 69 | 0.1 | 1.85 | 0.0 | 0.2 | - |
| 21CLM-152 | 212.5 | 214.4 | 1.9 | 1.1 | 71 | 0.1 | 0.12 | 1.2 | 2.4 | South Skarn |
| inc. | 212.5 | 213.1 | 0.6 | 0.3 | 172 | 0.1 | 0.19 | 2.8 | 5.1 | - |
| 21CLM-153 | 311.8 | 313.4 | 1.6 | 0.9 | 333 | 0.2 | 0.0 | 0.1 | 0.2 | Bocona |
| 21CLM-154 | 133.3 | 138.3 | 5.0 | 3.3 | 57 | 0.4 | 0.0 | 4.2 | 1.1 | South Skarn |
| inc. | 134.5 | 137.2 | 2.7 | 1.8 | 61 | 0.4 | 0.0 | 6.9 | 1.4 | - |
| and | 400.7 | 403.6 | 2.9 | 2.5 | 106 | 0.2 | 0.0 | 2.8 | 1.3 | South Skarn |
| and | 413.6 | 415.8 | 2.3 | 1.9 | 159 | 0.1 | 0.0 | 1.2 | 1.0 | South Skarn |
| inc. | 413.6 | 414.6 | 1.0 | 0.9 | 289 | 0.1 | 0.07 | 1.8 | 0.7 | - |
| 21CLM-155 | 319.3 | 320.7 | 1.4 | 1.1 | 149 | 8.8 | 0.0 | 1.5 | 1.1 | South Skarn |
| and | 345.1 | 363.2 | 18.1 | 14.0 | 162 | 0.2 | 0.0 | 1.4 | 0.5 | South Skarn |
| inc. | 362.7 | 363.2 | 0.6 | 0.4 | 1150 | 0.1 | 0.3 | 6.0 | 2.7 | - |
| and | 485.4 | 488.2 | 2.8 | 2.3 | 118 | 0.0 | 0.2 | 1.0 | 1.2 | South Skarn |
| inc. | 485.4 | 486.3 | 0.9 | 0.7 | 231 | 0.1 | 0.52 | 1.3 | 2.5 | - |
| 21CLM-156 | 168.9 | 170.9 | 1.9 | 1.4 | 37 | 0.0 | 0.19 | 1.2 | 6.8 | Bocona |
| and | 177.0 | 185.6 | 8.6 | 6.1 | 32 | 0.1 | 0.05 | 1.1 | 0.8 | - |
| 21CLM-157 | 95.6 | 103.6 | 8.0 | 6.3 | 41 | 0.1 | 0.0 | 1.7 | 0.7 | South Skarn |
| 21CLM-158 | 102.0 | 102.8 | 0.8 | 0.5 | 452 | 0.5 | 0.1 | 2.8 | 0.6 | Bocona |
| 21CLM-159 | 174.7 | 176.7 | 2.0 | 1.4 | 184 | 0.3 | 0.1 | 3.3 | 2.7 | South Skarn |

| 2021 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| and | 181.2 | 186.2 | 5.0 | 3.6 | 93 | 0.1 | 0.0 | 2.0 | 1.6 | South Skarn |
| and | 190.0 | 192.0 | 2.0 | 1.4 | 719 | 0.0 | 0.0 | 14.2 | 16.0 | South Skarn |
| inc. | 190.0 | 191.5 | 1.5 | 1.1 | 946 | 0.0 | 0.0 | 18.7 | 21.1 | - |
| and | 195.2 | 199.2 | 4.0 | 2.8 | 97 | 0.2 | 0.0 | 1.6 | 2.7 | South Skarn |
| and | 205.4 | 208.2 | 2.8 | 2.0 | 144 | 0.1 | 0.0 | 2.2 | 1.2 | South Skarn |
| inc. | 207.7 | 208.2 | 0.5 | 0.4 | 541 | 0.0 | 0.09 | 8.8 | 4.0 | - |
| 21CLM-160 | 154.1 | 155.2 | 1.1 | 0.7 | 99 | 0.1 | 0.0 | 1.2 | 1.2 | South Skarn |
| 21CLM-161 | 128.0 | 131.7 | 3.7 | 2.5 | 132 | 0.1 | 0.51 | 2.0 | 0.3 | Bocona |
| Inc. | 130.3 | 131.7 | 1.3 | 0.9 | 312 | 0.1 | 0.80 | 5.3 | 0.3 | - |
| and | 181.7 | 190.0 | 8.3 | 5.6 | 55 | 0.1 | 0.03 | 1.2 | 0.5 | Bocona |
| 21CLM-162 | 154.5 | 156.4 | 1.9 | 1.5 | 602 | 0.1 | 2.0 | 0.7 | 0.3 | Bocona |
| 21CLM-164 | 285.1 | 286.5 | 1.3 | 0.9 | 414 | 0.1 | 0.15 | 8.2 | 3.6 | Bocona |
| and | 293.7 | 309.9 | 16.3 | 10.8 | 102 | 0.0 | 0.05 | 1.8 | 1.7 | Bocona |
| Inc. | 297.5 | 299.7 | 2.1 | 1.4 | 383 | 0.1 | 0.13 | 7.9 | 10.2 | - |
| 21CLM-165 | 143.0 | 143.7 | 0.7 | 0.4 | 149 | 0.2 | 0.0 | 3.9 | 2.9 | Bocona |
| 21CLM-166 | 279.2 | 280.4 | 1.2 | 0.8 | 96 | 0.1 | 0.1 | 1.1 | 0.2 | Bocona |
| 21CLM-167 | 239.4 | 241.0 | 1.7 | 1.3 | 263 | 0.2 | 0.01 | 6.0 | 1.2 | Bocona |
| inc. | 240.3 | 241.0 | 0.7 | 0.6 | 543 | 0.4 | 0.02 | 12.7 | 1.0 | - |
| 21CLM-168 | 326.5 | 330.9 | 4.4 | 3.7 | 69 | 0.0 | 0.11 | 0.7 | 0.2 | Bocona |
| inc. | 329.8 | 330.9 | 1.1 | 1.0 | 173 | 0.0 | 0.11 | 0.5 | 0.2 | - |
| 21CLM-170 | 328.7 | 331.4 | 2.8 | 2.5 | 7 | 0.0 | 0.13 | 0.0 | 10.6 | Bocona |
| 21CLM-171 | 99.5 | 100.6 | 1.1 | 0.7 | 89 | 0.1 | 0.06 | 0.8 | 0.4 | Zacatecas |
| 21CLM-172 | 210.5 | 211.2 | 0.7 | 0.4 | 313 | 0.2 | 0.07 | 7.0 | 1.3 | Bocona West |
| and | 287.8 | 288.7 | 0.9 | 0.5 | 180 | 0.1 | 0.36 | 3.7 | 0.5 | Bocona West |
| 21CLM-173 | 249.6 | 250.1 | 0.5 | 0.3 | 87 | 0.4 | 0.06 | 2.2 | 11.9 | Bocona West |
| 21CLM-174 | 157.1 | 157.6 | 0.5 | 0.3 | 147 | 0.0 | 0.00 | 2.1 | 0.1 | North Felsite |
| 21CLM-175 | 224.0 | 226.7 | 2.7 | 1.9 | 599 | 0.1 | 0.03 | 16.9 | 10.2 | North Felsite |
| inc. | 224.0 | 225.2 | 1.2 | 0.8 | 760 | 0.1 | 0.03 | 23.2 | 17.4 | - |
| 21CLM-176 | 291.3 | 295.1 | 3.8 | 2.6 | 78 | 1.1 | 0.03 | 1.1 | 0.4 | North Felsite |
| inc. | 291.3 | 291.6 | 0.4 | 0.2 | 24 | 11.2 | 0.01 | 0.3 | 0.1 | - |
| and | 319.2 | 320.2 | 1.1 | 0.7 | 142 | 0.0 | 0.01 | 3.6 | 0.8 | North Felsite |
| and | 362.7 | 371.1 | 8.5 | 5.8 | 151 | 0.1 | 0.08 | 3.1 | 1.0 | North Felsite |
| inc. | 362.7 | 363.7 | 1.1 | 0.7 | 487 | 0.2 | 0.22 | 12.9 | 3.0 | - |
| 21CLM-177 | 239.8 | 242.3 | 2.5 | 2.0 | 193 | 0.0 | 0.04 | 4.3 | 0.5 | North Felsite |
| and | 294.9 | 296.8 | 1.9 | 1.5 | 194 | 0.2 | 0.04 | 4.3 | 2.5 | North Felsite |
| and | 303.2 | 318.0 | 14.8 | 11.8 | 185 | 0.2 | 0.06 | 2.8 | 1.0 | North Felsite |
| inc. | 303.2 | 307.0 | 3.8 | 3.0 | 354 | 0.7 | 0.11 | 6.1 | 2.6 | - |
| 21CLM-178 | 245.2 | 250.2 | 5.0 | 4.6 | 63 | 2.0 | 0.12 | 0.8 | 0.5 | North Felsite |
| inc. | 245.2 | 246.3 | 1.1 | 1.0 | 21 | 5.3 | 0.03 | 0.1 | 0.1 | - |

| 2021 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| and | 338.5 | 340.5 | 2.0 | 1.8 | 160 | 0.1 | 0.16 | 0.4 | 0.1 | North Felsite |
| 21CLM-179 | 256.4 | 259.3 | 2.9 | 2.6 | 140 | 0.9 | 0.10 | 3.6 | 5.7 | North Felsite |
| and | 345.7 | 348.0 | 2.4 | 2.1 | 109 | 0.0 | 0.01 | 1.9 | 1.4 | North Felsite |
| and | 359.7 | 360.0 | 0.4 | 0.3 | 275 | 0.0 | 0.02 | 10.7 | 4.8 | North Felsite |
| 21CLM-180 | 400.3 | 400.9 | 0.6 | 0.4 | 1430 | 1.2 | 1.24 | 9.7 | 11.5 | North Felsite |
| and | 404.0 | 405.8 | 1.8 | 1.2 | 79 | 0.1 | 0.39 | 0.2 | 5.1 | North Felsite |
| inc. | 405.3 | 405.8 | 0.6 | 0.4 | 129 | 0.1 | 1.12 | 0.2 | 13.8 | - |
| 21CLM-181 | 321.9 | 327.0 | 5.1 | 3.7 | 174 | 0.5 | 0.13 | 1.5 | 0.9 | North Felsite |
| Inc. | 324.9 | 325.6 | 0.7 | 0.5 | 914 | 2.1 | 0.96 | 7.2 | 4.8 | - |
| 21CLM-181 | 459.5 | 463.1 | 3.6 | 2.6 | 146 | 0.3 | 0.45 | 0.4 | 3.0 | North Felsite |
| and | 468.0 | 476.0 | 8.0 | 5.7 | 234 | 0.1 | 0.30 | 1.1 | 2.0 | North Felsite |
| inc. | 470.3 | 471.4 | 1.1 | 0.8 | 661 | 0.2 | 1.08 | 2.0 | 6.2 | - |
| and | 482.9 | 484.2 | 1.3 | 0.9 | 280 | 0.1 | 0.13 | 3.8 | 4.5 | North Felsite |
| inc. | 483.4 | 483.8 | 0.4 | 0.3 | 852 | 0.3 | 0.42 | 11.0 | 14.8 | - |

| 2022 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| 22CLM-182 | 333.8 | 351.1 | 17.3 | 14.1 | 55 | 0.72 | 0.09 | 0.4 | 0.7 | North Felsite |
| inc. | 350.7 | 351.1 | 0.4 | 0.3 | 442 | 1.25 | 0.83 | 2.9 | 4.0 | - |
| and | 497.7 | 500.9 | 3.2 | 2.6 | 195 | 0.05 | 0.09 | 0.6 | 2.5 | North Felsite |
| 22CLM-183 | 535.4 | 538.4 | 3.0 | 2.2 | 85 | 0.03 | 0.01 | 1.6 | 3.6 | North Felsite |
| 22CLM-184 | 378.8 | 396.3 | 17.5 | 11.7 | 7 | 1.13 | 0.00 | 0.1 | 0.2 | North Felsite |
| inc. | 384.5 | 385.9 | 1.4 | 1.0 | 19 | 5.63 | 0.00 | 0.3 | 0.1 | - |
| and | 418.3 | 427.3 | 8.9 | 6.0 | 117 | 0.07 | 0.14 | 1.1 | 1.0 | North Felsite |
| inc. | 418.3 | 418.8 | 0.5 | 0.3 | 302 | 0.22 | 0.50 | 1.1 | 10.7 | - |
| 22CLM-185 | 472.2 | 474.5 | 2.3 | 1.8 | 1001 | 0.33 | 0.78 | 2.4 | 3.3 | North Felsite |
| inc. | 473.3 | 474.5 | 1.2 | 1.0 | 1785 | 0.47 | 1.42 | 3.1 | 5.9 | - |
| 22CLM-186 | 410.2 | 411.0 | 0.8 | 0.6 | 107 | 6.98 | 0.04 | 7.6 | 4.9 | North Felsite |
| and | 481.0 | 481.6 | 0.6 | 0.5 | 649 | 0.13 | 0.86 | 5.1 | 4.4 | North Felsite |
| 22CLM-187 | 494.7 | 496.9 | 2.2 | 1.9 | 162 | 0.63 | 0.26 | 1.5 | 0.6 | North Felsite |
| 22CLM-188 | 441.8 | 457.8 | 16.0 | 12.7 | 128 | 0.03 | 0.04 | 0.8 | 1.1 | North Felsite |
| inc. | 455.6 | 457.2 | 1.6 | 1.3 | 675 | 0.03 | 0.26 | 5.5 | 3.4 | - |
| 22CLM-189 | 86.2 | 92.9 | 6.7 | 5.4 | 30 | 0.49 | 0.18 | 0.6 | 1.2 | North Felsite |
| and | 469.5 | 470.0 | 0.5 | 0.4 | 1130 | 0.06 | 2.12 | 9.8 | 11.9 | North Felsite |
| 22CLM-190A | 342.6 | 343.4 | 0.8 | 0.6 | 462 | 0.03 | 0.11 | 11.1 | 3.0 | North Felsite |
| 22CLM-191 | 453.2 | 460.4 | 7.2 | 4.7 | 123 | 0.02 | 0.81 | 0.4 | 0.6 | North Felsite |
| inc. | 455.6 | 456.2 | 0.6 | 0.4 | 848 | 0.01 | 5.61 | 0.7 | 2.6 | - |

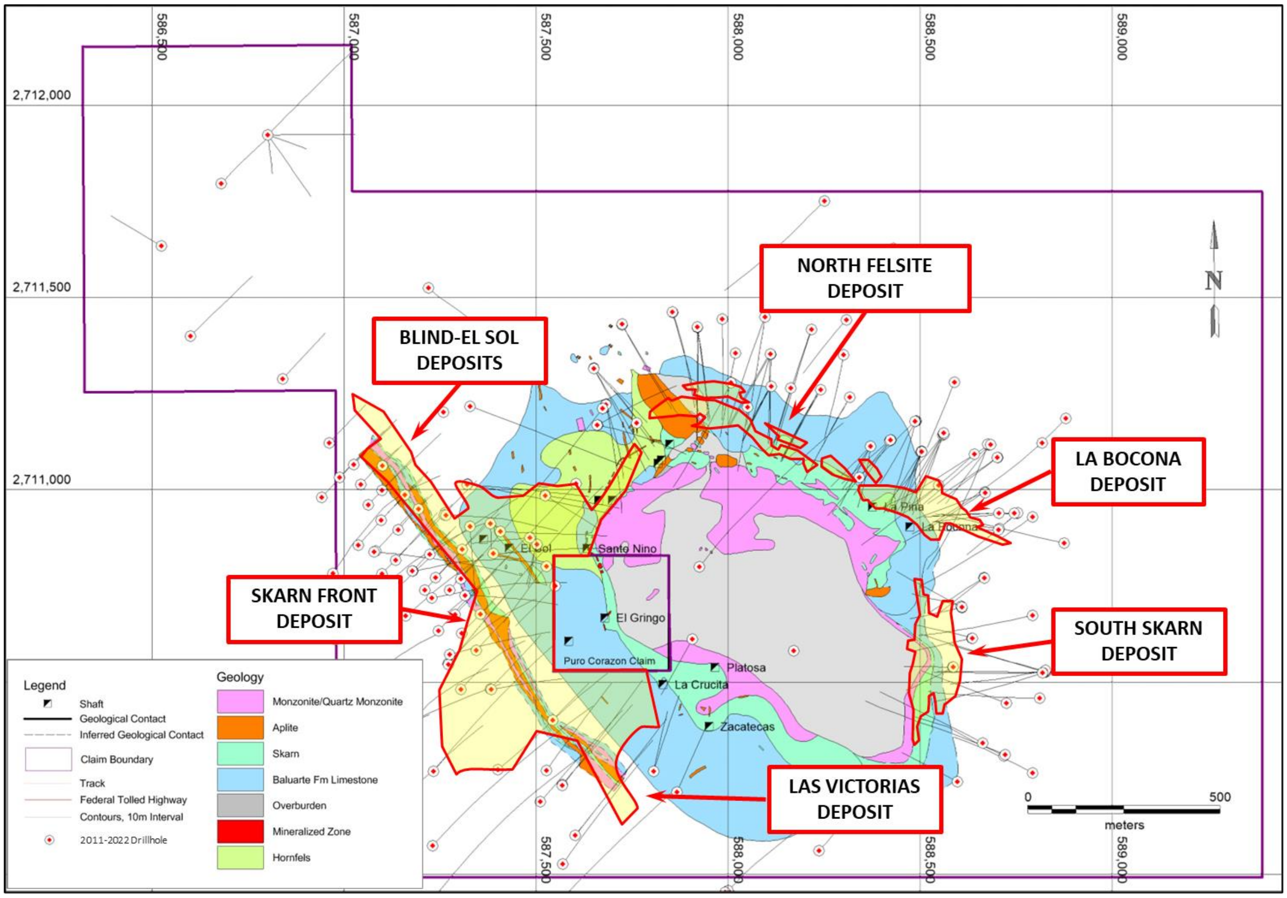
| 2022 Drill Highlights | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Est. Tr. Thck. | Ag | Au | Cu | Pb | Zn | |
| | m | m | m | m | g/t | g/t | % | % | % | |
| | 474.7 | 478.7 | 4.0 | 2.6 | 77 | 0.02 | 4.44 | 0.2 | 0.9 | North Felsite |
| inc. | 474.7 | 476.2 | 1.5 | 1.0 | 165 | 0.05 | 11.45 | 0.1 | 0.4 | - |
| 22CLM-192 | 408.6 | 411 | 2.4 | 1.2 | 181 | 0.01 | 0.39 | 1.5 | 1.5 | North Felsite |
| 22CLM-193 | 409.7 | 416 | 6.3 | 5.6 | 124 | 0.02 | 0.03 | 1.4 | 0.4 | North Felsite |
| Inc. | 409.7 | 413 | 3.4 | 3 | 219 | 0.02 | 0.04 | 2.5 | 0.6 | - |
| 22CLM-194 | 306.2 | 308.8 | 2.6 | 2 | 336 | 0.14 | 0.16 | 6.5 | 4.7 | North Felsite |
| Inc. | 306.2 | 307 | 0.8 | 0.6 | 746 | 0.09 | 0.22 | 17.1 | 13.2 | - |

Source: Southern Silver, 2022

**Table 10-6: El Sol Claim Significant Assay Intervals**

| El Sol Claim Drill Highlights | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hole No. | From | To | Interval | Ag | Au | Cu | Pb | Zn |
| | m | m | m | g/t | g/t | % | % | % |
| 21SOL-001 | 29.7 | 34.3 | 4.7 | 39 | 0.1 | 0.0 | 1.7 | 1.1 |
| 21SOL-002 | 332.3 | 333.0 | 0.8 | 52 | 0.3 | 0.0 | 0.9 | 2.3 |
| 21SOL-003 | 132.4 | 135.8 | 3.5 | 549 | 0.2 | 0.0 | 8.6 | 3.6 |
| inc. | 135.0 | 135.8 | 0.8 | 1760 | 0.9 | 0.1 | 23.6 | 1.2 |
| and | 161.0 | 161.4 | 0.4 | 129 | 0.6 | 0.0 | 3.9 | 6.2 |
| 21SOL-004 | 299.6 | 300.4 | 0.8 | 15 | 0.1 | 0.0 | 0.7 | 2.1 |
| 22SOL-006 | 136.5 | 136.9 | 0.3 | 11 | 1.1 | 0.0 | 0.4 | 5.8 |
| 22SOL-006 | 263.1 | 263.8 | 0.6 | 20 | 0.2 | 0.0 | 3.6 | 0.9 |
| 22SOL-007 | 181.5 | 184.7 | 3.3 | 68 | 0.1 | 0.0 | 0.2 | 1.1 |

**Figure 10-1: Cerro Las Minitas Drill Hole Locations**




Source: Southern Silver, 2024.

## 10.2 Drilling on the El Sol Claim

Five core holes were completed on the El Sol claim in late 2021 to test a series of targets defined by earlier surface mapping, rock and soil sampling and proximity to artisanal workings. Drill hole 21SOL-003 returned:

- a 0.8 metre interval grading 1,760 g/t Ag, 0.9 g/t Au, 23.6% Pb and 1.2% Zn (2,622 g/t AgEq) within a 3.5 m interval averaging 549 g/t Ag, 0.3g/t Au, 8.6% Pb and 3.6% Zn (982 g/t AgEq) from drill hole 21SOL-003.

The highlight interval intersected down-dip of historic workings located on a northeast-southwest trending structure which has been traced on surface for up to 300 m laterally before plunging under gravel cover.

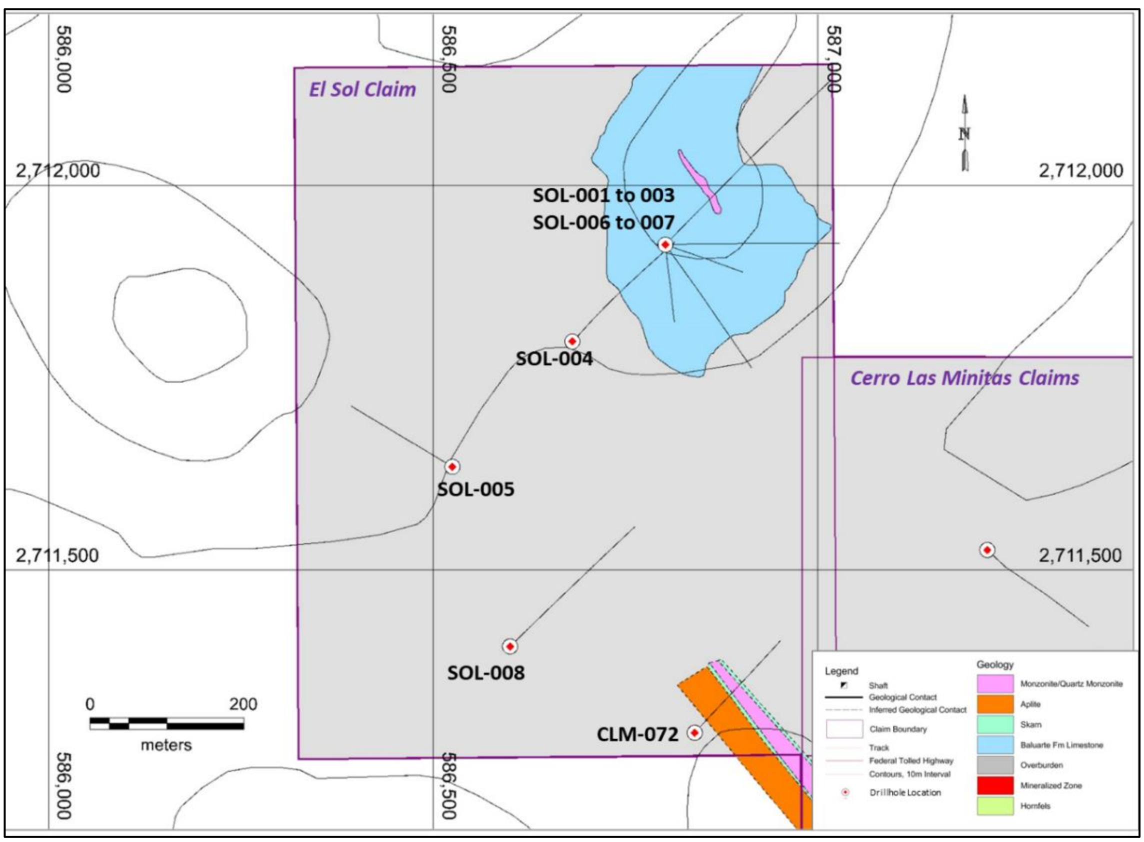
Drill crews mobilized to complete an additional three core holes in January 2022. Eight holes totaling 2,920 metres have now been completed to date. Table 10-7 shows the location of these drillholes. Two holes tested down dip of

21SOL-003 and a third hole tested an extension of the Blind - El Sol zone located in the southwestern part of the claim. Table 10-6 shows highlight assays from this drilling and Figure 10-2 shows the location of the drillholes.

**Table 10-7: Location of Drillholes on the El Sol Claim**

| DDH Name | Easting | Northing | Azimuth | Dip | Depth |
|---|---|---|---|---|---|
| 21SOL-001 | 586802 | 2711923 | 45 | -55 | 530.1 |
| 21SOL-002 | 586802 | 2711923 | 90 | -55 | 388.1 |
| 21SOL-003 | 586802 | 2711923 | 145 | -65 | 445.9 |
| 21SOL-004 | 586681 | 2711797 | 45 | -55 | 321.35 |
| 21SOL-005 | 586525 | 2711634 | 300 | -55 | 270.15 |
| 22SOL-006 | 586802 | 2711923 | 173 | -70 | 300.4 |
| 22SOL-007 | 586802 | 2711923 | 111 | -67 | 313.2 |
| 22SOL-008 | 586600 | 2711400 | 45 | -45 | 351 |
| 13CLM-072 | 586840 | 2711288 | 45 | -45 | 231 |

**Figure 10-2: El Sol Geology and Drillholes**




Source: Kirkham, 2022.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

## 11.1 Chain of Custody

The drill core is retrieved from boreholes, boxed at the drill site by the Southern Silver geologists and moved to a secure core warehouse on the property where it is quickly logged, photographed, measured and marked for sampling. Once logging is completed, the core that has been marked for sampling is sawn in half at the warehouse by labourers employed by Southern Silver. The core is placed in sample bags, which are marked and secured by the sampler and checked by the geologist. Blanks are inserted at a rate of 1 blank for every 20 samples. The blank material is taken from a local outcrop of barren limestone. Core duplicates are taken at a rate of 1 for every 20 samples by quarter-splitting the sampled half core and inserting each quarter into a separate sample bag. Blank, marked bags are prepared and inserted into the sample stream at a rate of 1 in every 10 samples for insertion of standards at the laboratory. Note: In Mexico, there are export restrictions that prohibit this final standards step, so it must occur out of country; therefore, once the samples arrive at the laboratory, the standards, which are stored at the Southern Silver offices, are delivered and inserted into the sample stream.

In Mexico, samples are stored in the secure warehouse. When enough samples have been taken, the samples are driven to ALS Minerals laboratories, Lomas Bizantinas, Zacatecas, Mexico and delivered by the Southern Silver geologist. The samples are bar-coded, weighed and pulverized to 70% passing 2 mm, where a 250 g sample is split and pulverized to 85% passing 75 microns.

The prepared pulps are then shipped by ALS Minerals to its laboratory in North Vancouver, Canada which is independent of the issuer. All core, trench, and grab samples collected between 2011 and 2017 were submitted to ALS Minerals for preparation and assaying. The management system of the ALS Group of Laboratories is accredited ISO 9001:2000 by QMI–Management Systems Registration. Samples were crushed and pulverised by the Zacatecas preparation facility and shipped to North Vancouver for assaying. The North Vancouver laboratory is accredited ISO/IEC 17025:2005 by the Standards Council of Canada for certain testing procedures, including those used to assay samples submitted by Southern Silver.

Standards manufactured by CDN Resource Laboratories Ltd. (CDN), Langley, BC, Canada, and prepared blanks manufactured by OREAS (Ore Research & Exploration Pty Ltd) of North Bayswater, Australia that have been securely stored at the head office of Southern Silver in Vancouver, Canada, are then inserted into sample bags, marked and secured by the Southern Silver geologist in Vancouver and sent by corporate courier to ALS Minerals in North Vancouver for insertion into the pulp sample stream.

Prepared samples are then transferred to ALS Minerals laboratory in North Vancouver where they are assayed for gold using a conventional fire assay procedure (ICP-AES) on 30 g subsamples. The samples are also submitted for a suite of 35 elements using a four-acid digestion and ICP-AES finish on 0.25 g subsamples.

## 11.2 Quality Assurance and Quality Control

At the Cerro Las Minitas Project, inserting quality control samples takes place in the core shack before samples are shipped to the lab, with the exception of the standards for the reasons discussed in Section 11.1. These samples are routinely inserted and are used to check for accuracy, precision and cleanliness in the analytical laboratory. At the beginning of the sampling process, sample tags are pre-marked before logging with locations for standards, core duplicates, and field blanks.

The process is as follows:

- Core duplicate samples are taken every 20 samples within the sample series (5%). Core duplicate samples are used to evaluate combined field, preparation and analytical precision. The core duplicate samples are quarter-spilt cores sampled on site before the samples leave camp.
- Field blanks are non-mineralized limestone material collected from a local source, broken with a hammer, and inserted into the sample series every 20 samples (5%). Field blanks are inserted to test for any potential carry-over contamination which might occur in the crushing phase of sample preparation, as a result of poor cleaning practices.
- Standards and prepared blanks are used to test the accuracy of the assays and to monitor the consistency of the laboratory over time. Commercially available multielement assay standards were purchased from CDN. Prepared blanks were purchased from Analytical Solutions Ltd. These standards and prepared blanks are inserted into the sample sequences approximately once every 10 samples (10%). The standards and prepared blanks are stored at the Southern Silver offices in Vancouver and delivered to the laboratory and inserted into the sample stream. This is due to Mexican export restrictions and must occur out of country.

Commercial standards sourced from CDN and prepared blanks from Analytichem (formerly Oreas North America Inc. and formerly Analytical Solutions Ltd.) are used to test the accuracy of the assays and to monitor the consistency of the laboratory over time. All standards listed here are multielement standards with recommended values (between-lab mean ± 3 standard deviations) for silver, copper, gold, lead and zinc. All prepared blanks are certified values with absolute and relative standard deviations, as well as 95% confidence intervals. In the case of the certified blanks, 3 standard deviations were chosen as a guide to flag samples for QAQC analysis. Looking at the surrounding samples, a sample bleed of <1% was used as a tolerance level for reanalysis. These standards and prepared blanks were randomly inserted into the sample sequences approximately once every 10 samples. Table 11-1 show the standards and prepared blanks used for the Cerro Las Minitas Project, along with their recommended mean metal concentrations.

For the collection of surface rock samples, the same procedure is followed as above but the insertion rates are approximately 1 standard, 1 prepared blank, 1 field duplicate and 1 field blank for every 60 samples.

**Table 11-1: Recommended Metal Concentrations of Standards Used at Cerro Las Minitas**

| Standard | Gold (g/t) | Silver (g/t) | Copper (%) | Lead (%) | Zinc (%) |
|---|---|---|---|---|---|
| CDN-ME-5 | 1.07** | 205.6 | 0.84 | 2.13 | 0.579 |
| CGS-26 | 1.64 | - | 1.58 | - | - |
| CDN-ME-1605 | 2.85 | 274 | 0.38 | 4.45 | 2.15 |
| CDN-ME-1302 | 2.412 | 418.9 | 0.579 | 4.68 | 1.2 |
| CDN-ME-17 | 0.452** | 38.2 | 1.36 | 0.676 | 7.34 |
| CDN-ME-1414 | 0.284 | 18.2 | 0.219 | 0.105 | 0.732 |
| CDN-ME-1413 | 1.01 | 52.2 | 0.452 | 0.698 | 0.604 |
| CDN-ME-1201 | 0.125** | 37.6 | 1.572 | 0.465 | 4.99 |
| CDN-ME-1901 | 7.85 | 373 | 0.637 | 2.56 | 2.89 |
| CDN-ME-1902 | 5.38 | 349 | 0.781 | 2.2 | 3.66 |
| OREAS 22e (Blank) | <0.001 | <0.05 | 0.000797 | <0.0001 | 0.000433 |
| OREAS 21e (Blank) | <0.001 | <0.05 | 0.000568 | <0.0001 | 0.000291 |
| OREAS 22h (Blank) | <0.001 | <0.05 | 0.00062 | 0.000083 | 0.000269 |
| OREAS 20a (Blank) | <0.003 | 0.061 | 0.00454 | 0.00219 | 0.0069 |

Source: Kirkham, 2022. Notes: ** Provisional Value Only.

### 11.2.1 Analytical Laboratory Procedures

Prepared samples are then transferred to ALS Minerals laboratory in North Vancouver where they are assayed for gold using a conventional fire assay procedure (ICP-AES) on 30-gram subsamples. The samples are also submitted for a suite of 35 elements using a four-acid digestion and ICP-AES finish on 0.25-gram subsamples.

### 11.2.2 Evaluation of QA/QC Results

Standards, field blanks, and duplicate samples are discussed in the following subsections.

### 11.2.3 Standards

Failure of a standard implies that all routine samples within its sphere of influence are also considered to have failed and must be re-analyzed at the same primary laboratory. Standards are considered to have failed if the reported gold, silver, copper lead or zinc assay concentration is greater or less than 3 standard deviations from the recommended mean value for that standard.

In the case of failure of any standard, the failure is recorded, and a determination is made as to whether the failure is within the proximity of any mineralized intervals. If so, the procedure is to re-assay the block of samples within its sphere of influence. In practice, this means that all consecutively listed samples, down list from the failing standard to the next passing standard, and up list from the failing standard to the next prior passing standard, are considered to have failed, and must be re-assayed. Table 11-2 shows the standards performance listing number of failures for all metals.

**Table 11-2: Standards Performance – Failures**

| Standard | # | Gold (g/t) | % | Silver (g/t) | % | Copper (%) | % | Lead (%) | % | Zinc (%) | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CDN-ME-5 | 53 | 5 | 9% | 3 | 6% | 1 | 2% | 0 | 0% | 5 | 9% |
| CGS-26 | 47 | 0 | 0% | N/A | N/A | 1 | 2% | N/A | N/A | N/A | N/A |
| CDN-ME-1302 | 86 | 1 | 1% | 6 | 7% | 11 | 13% | 0 | 0% | 6 | 7% |
| CDN-ME-17 | 176 | *13* | *7%* | 1 | 1% | 1 | 1% | 2 | 1% | 3 | 2% |
| CDN-ME-1413 | 16 | 0 | 0% | 2 | 13% | 2 | 13% | 1 | 6% | 1 | 6% |
| CDN-ME-1414 | 40 | 2 | 5% | 2 | 5% | 1 | 3% | 1 | 3% | 4 | 10% |
| CDN-ME-1605 | 95 | 3 | 3% | 0 | 0% | 14 | 15% | 0 | 0% | 2 | 2% |
| CDN-ME-1901 | 82 | 8 | 10% | 0 | 0% | 8 | 10% | 0 | 0% | 0 | 0% |
| CDN-ME-1201 | 139 | *14* | *10%* | 1 | 1% | 0 | 0% | 0 | 0% | 0 | 0% |
| CDN-ME-1902 | 34 | *0* | *0%* | 0 | 0% | 3 | 9% | 0 | 0% | 0 | 0% |
| OREAS 22e (Blank) | 175 | 5 | 3% | 0 | 0% | 3 | 2% | 13 | 7% | 6 | 3% |
| OREAS 21e (Blank) | 95 | 3 | 3% | 0 | 0% | 1 | 1% | 2 | 2% | 4 | 4% |
| OREAS 22h (Blank) | 101 | 9 | 9% | 0 | 0% | 0 | 0% | 3 | 3% | 2 | 2% |
| OREAS 20a (Blank) | 91 | 19 | 21% | 0 | 0% | 1 | 1% | 1 | 1% | 3 | 3% |

Source: Kirkham, 2022.

There seems to be a relatively high failure rate which appears to be attributable to two specific standards: the CDN-ME-5 standard with a failure rate of 9% gold, 9% zinc, and 6% silver, and the CDN-1302 standard with a failure rate of 5% silver, 13% copper, 14% lead, and 9% zinc. In addition, CDN-ME-1605 has a failure rate of 15% copper only. CDN-ME-5 and the CDN-1302 standard is no longer used at the project. In addition, the laboratory has been informed of the failures in order to address potential quality assurance and quality control problems at the lab as all identified failures are not all attributable to problems with the standards.

With the exception of the high failure rate of two standards, the QP finds the levels of sampling, security, and analytical procedures to be satisfactory particularly as CDN-ME-5 is no longer in use.

### 11.2.4 Preparatory Blanks

For the 2016/17 field season and beyond, additional QAQC was inserted in the form of blind prepared blanks inserted in the same way as the standards at a rate of 1 for every 20 samples (5%). The blank was sourced from Analytichem ( Formerly Oreas North America Inc. and Formerly Analytical Solutions Ltd.) and produced by OREAS (Ore Research & Exploration Pty Ltd) of North Bayswater, Australia.

### 11.2.5 Field Blanks

Field blanks are used to check the level of cleanliness at a laboratory, and more specifically to check for the presence of any carry-over contamination during the crushing phase of sample preparation. Proper cleaning of the coarse crushers between samples, and between sample batches, should ensure that there is no carry-over of material between samples that could produce negligible gold, silver, lead, zinc and copper results on a consistent basis. Field blanks are typically created from barren rock material, preferably of similar hardness to the target lithologies. At Cerro

Las Minitas, non-mineralized rock is collected from a local source, and inserted into the sample series every 20 samples (5%).

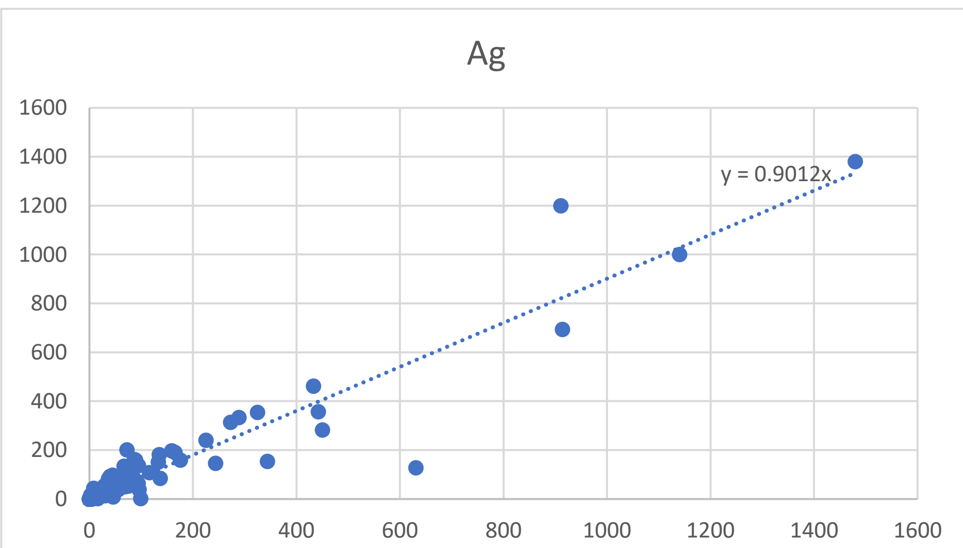
In general, field blanks exhibit a failure rate of 0% for silver analysis, 8% for gold, between 4% for lead and 3% for copper and zinc which indicates that some carry-over contamination at the crusher stage might be occurring. An investigation as to the cause of the high gold failures is recommended. As gold is not a significant contributor to the Cerro Las Minitas resource, the issue is not deemed significant nor material at this time.

Towards the end of 2017, a procedure was introduced to request that the lab use preparation blanks in between samples with visible high-grade Cu-Pb-Zn sulphides. In 2018, there was only one copper failure. In general, current field blanks and related procedures exhibit acceptable results.

### 11.2.6 Duplicate Samples

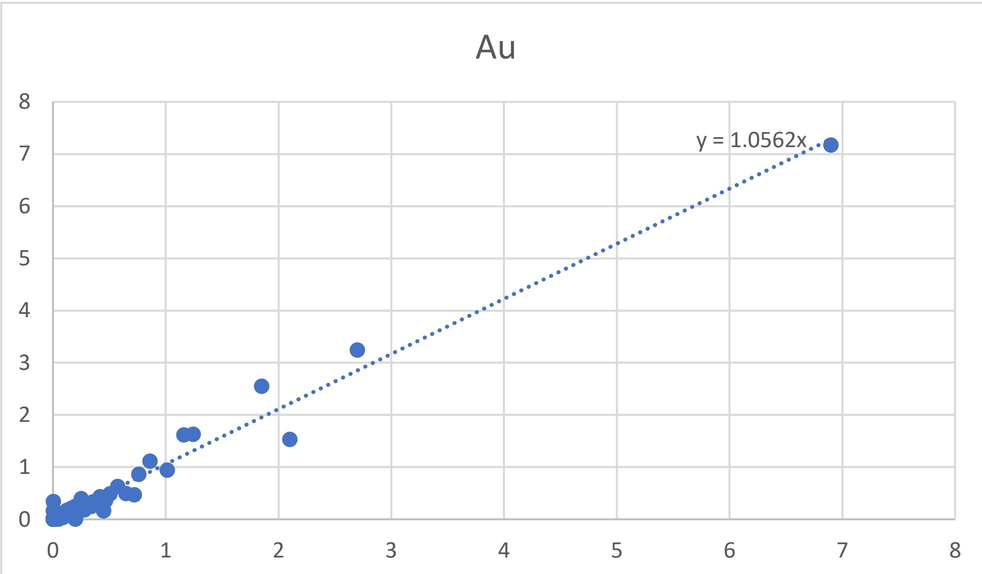
Field duplicate samples are added to the assay batches. ALS Minerals laboratories prepared pulp duplicates and inserted these at a rate of one every 20 samples. Figure 11-1 through Figure 11-5 show the results of the duplicate comparison for silver, gold, copper, lead, and zinc, respectively. All metals show an excellent correlation.

**Figure 11-1: Field Duplicate Results – AG**



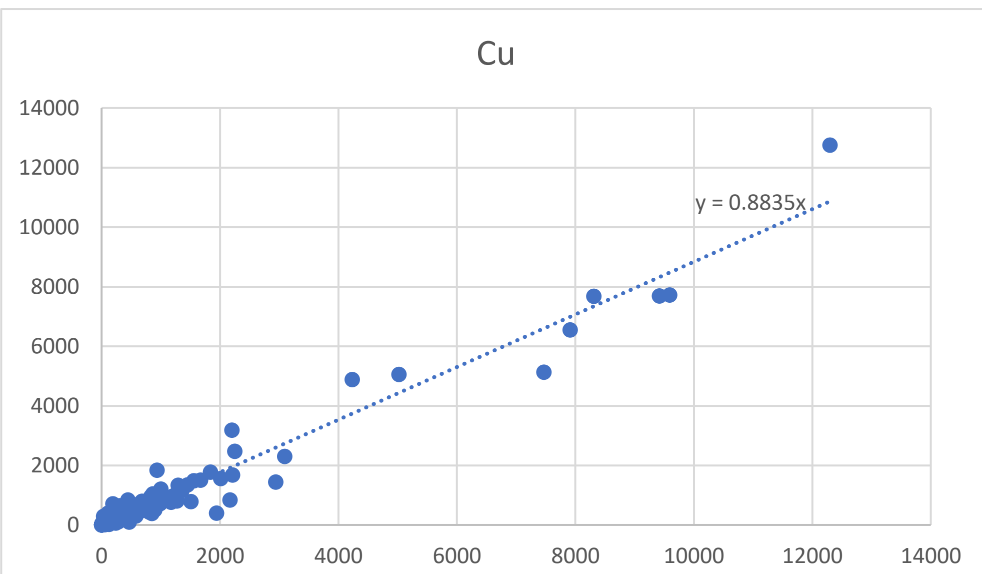

Source: Kirkham, 2022.

**Figure 11-2: Field Duplicate Results – AU**



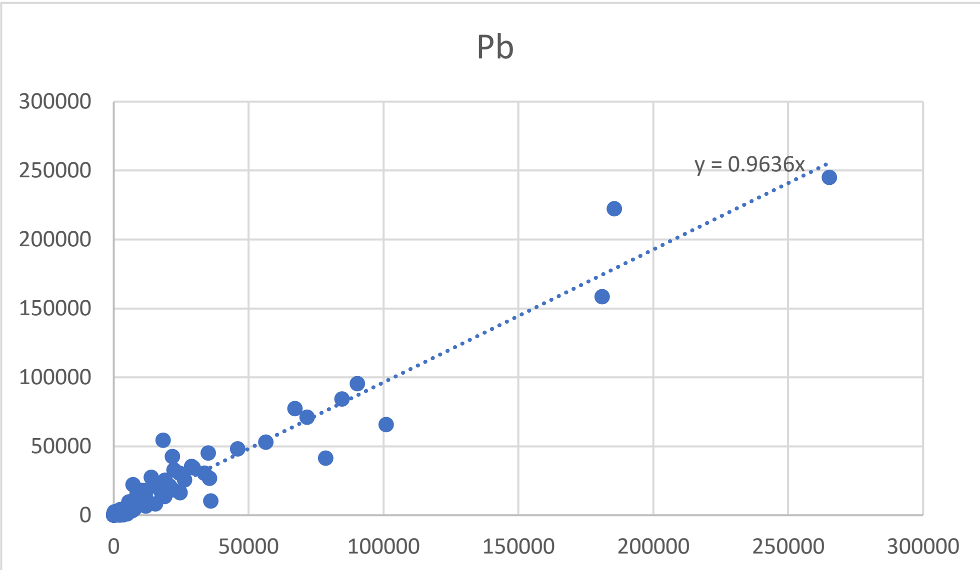

Source: Kirkham, 2022

**Figure 11-3: Field Duplicate Results – Cu**



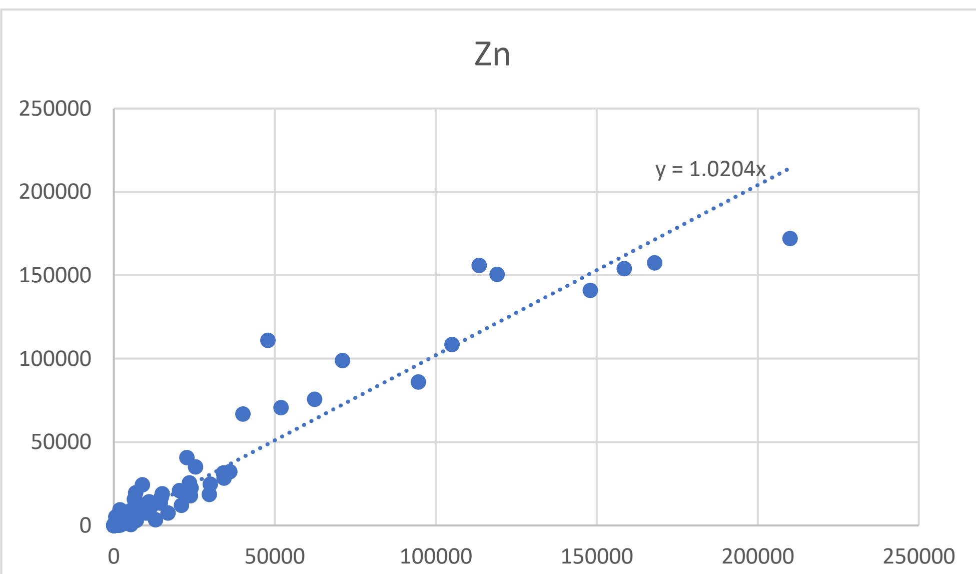

Source: Kirkham, 2022

**Figure 11-4: Field Duplicate Results – Pb**




Source: Kirkham, 2022

**Figure 11-5: Field Duplicate Results – Zn**




Source: Kirkham, 2022

### 11.3 Comment on Sample Preparation, Analyses and Security

With the exception of the high failure rate of two standards, both of which are no longer used, the QP finds the levels of sampling, security, and analytical procedures to be satisfactory. In the opinion of the QP, the sample preparation, security, and analytical procedures used by Southern Silver are consistent with generally accepted industry best practices and are, therefore, adequate for the purpose of mineral resource estimation.

# 12 DATA VERIFICATION

## 12.1 Exploration, Geology and Resource Estimation

The QP visited the property several times between March 31 through April 2, 2015, then again on January 14 through January 19, 2019, and most recently on August 16, 2021. The site visits included an inspection of the property, offices, drill sites, outcrops, trenches, drill collars, core storage facilities, core receiving area, and tours of major centres and surrounding villages most likely to be affected by any potential mining operation. In addition, the January 2019 site visit included a tour of the Puro Corazon site and processing facilities.

The tour of the office and storage facilities showed a clean, well-organized, professional environment. On-site staff led the QP through the chain of custody and methods used at each stage of the logging and sampling process. All methods and processes are up to industry standards and reflect best practices, and no issues were identified.

A visit to the collar locations showed that the collars were well marked and labelled; therefore, they were easily identified. The previous drill holes were cased.

In 2015, the QP selected four complete drill holes at random from the database and they were laid out at the core storage area. Site staff supplied the logs and assay sheets for verification against the core and the logged intervals. The data correlated with the physical core and no issues were identified. In addition, the QP toured the complete core storage facilities, selecting and reviewing core throughout. No issues were identified, and recoveries appeared to be very good. For the 2019 site visit, all significant intersections encountered in the 2017 and 2018 drill programs were laid out, inspected and compared against drill logs and assay sheets. For the 2021 site visit, all significant intersections encountered in the 2021 drill programs were laid out, inspected, and compared against drill logs and assay sheets. In addition, the methods and procedures for specific gravity measurements were reviewed and approved.

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

The core is accessible, and the core is stored in a secure warehouse. The core facilities are clean and well organized for easy access and analysis by way of a core map.

The QP is confident that the data and results are valid based on the site visit and inspection of all aspects of the project, including methods and procedures used. It is the opinion of the independent QP that all work, procedures, and results have adhered to best practices and industry standards. No duplicate samples were taken during either the April 2015, January 2019 or August 2021 site visit to verify assay results and the QP was satisfied with the results from previous verification sampling. In addition, there were no limitations with respect to validating the physical data or computerbased data. The QP is of the opinion that the work was being performed by a well-respected, multi-national company that employs competent professionals that adhere to industry best practices and standards.

The data verification process did not identify any material issues with the Cerro Las Minitas sample and assay data. The QP is satisfied that the data is of suitable quality and adequate to be used as the basis for this technical report.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

## 13.1 Metallurgical Testing Overview

Six phases of metallurgical testwork have been conducted on mineralization from the Cerro Las Minitas project on behalf of Southern Silver. The work includes:

- Initial testwork in 2015 on a high-grade sulphide composite of dump samples from shallow workings on the Blind zone. The work was performed at Dawson Metallurgical Laboratories of Midvale, Utah.
- More comprehensive testwork in 2017-18 on representative composites of the Blind-El Sol (BESS) sulphide mineralization, Blind-El Sol oxide mineralisation, and Skarn Front sulphide mineralization. The work included kinetic (grindability) tests, a series of batch flotation tests, probe-work and some ICP analyses to determine levels of deleterious metals within the composites and was performed by Blue Coast Research (BCR) of Parksville, BC. Direct cyanidation testing of oxide material was conducted.
- Further testwork on Skarn Front material by BCR, completed in 2018, focused on optimizing the flotation sequence in order to upgrade the zinc concentrate by removing chalcopyrite and if possible, creating a separate copper concentrate. These tests showed significantly improved results for Skarn Front.
- Locked Cycle testing in late 2019 was conducted on an updated Skarn Front sulphide composite corresponding to the average grade of the updated Indicated Skarn Front sulphides at the time of sampling. The testwork was performed using the optimised flotation sequence developed in 2018. In addition, seven (7) variability samples of Skarn Front sulphide were tested to confirm the robustness of the optimised flowsheet in handling extremes of grade and varying base metal ratios. The testwork returned improved grades and recoveries over previous results.
- In addition to the testwork already completed, additional testing of higher gold content oxide mineralized material was conducted in 2022 to determine gold and silver recoveries by direct cyanidation.
- In 2021, a program on recently drilled La Bocona (BESS type mineralized material) confirmed the applicability of the 2018 flotation design to BESS-type mineralized material, with the same improved results over the 2017 BESS testwork. Higher grades and recoveries were obtained.
- In addition, high arsenopyrite content sulphides rejected from zinc flotation were also tested via the optimised circuit, to confirm arsenic elimination from base metal concentrates.
- A comprehensive sampling and testing program to evaluate the amenability of the CLM material to pre-concentration was initiated in April 2022.
- Following the drilling of higher gold content mineralisation in the Bocona and North Felsite zone in 2020 and 2021 gold diagnostic leach studies were performed in 2023 at Base Metallurgical Laboratories in Kamloops on gold-bearing mineralisation for both sulphide and oxide material. This provided a better understanding of the gold deportment. 20% of the gold in sulphide was found to be readily leachable in cyanide, and 80% was refractory in nature.

- Bulk samples of both sulphide and oxide material from the Bocona region were tested for gold recovery. The oxide material responded well to direct cyanidation confirming the diagnostic leach findings.
- The Bocona sulphide sample was tested for compatibility with the sequential flotation design (Cu-Pb-Zn-pyrite sequence) and the viability of gold recovery from pyrite and arsenopyrite-rich float tails was confirmed.
- Following generation of a pyrite/arsenopyrite rich concentrate containing 55% of the total gold, ultrafine grinding was shown to increase the response of the pyritic gold to direct cyanidation to 38%. Subsequent oxidation tests at atmospheric pressure further increased the response to cyanidation with 84% of the gold in the concentrate extracted.

Cumulatively, the metallurgical testwork had advanced the development of the CLM flowsheet from two products to four saleable products. In the original 2017 testwork the lead and zinc concentrates were far from ideal from a toll treatment perspective: The zinc concentrate was deemed unsaleable by virtue of the high lead and copper contamination. The Lead-silver concentrate produced was likely to incur high tolling penalties due to arsenic content.: By 2024 the flowsheet has evolved to four distinct saleable products:

- A medium grade copper concentrate with high gold by product credits;
- A high quality lead-silver concentrate;
- A clean, high-grade zinc concentrate;
- A gold-silver Doré generated by treating gold bearing pyrite/arsenopyrite concentrate extracted from the zinc tailings.

Very modest penalties may be levied by toll treatment facilities for the small amounts of As, Sb and Cd present, but since Sb is associated with Pb in the galena, and Cd with the Zn in sphalerite, these two elements cannot be removed by flotation without negatively affecting primary metal recovery. The penalties levied are reasonable compared to the inherent value of the concentrates and are commensurate with the amount of processing required. Arsenic elimination has been shown to be feasible and reports primarily to the pyrite concentrate. There is a strong but unproven correlation between arsenic content and gold content.

The flotation tails were found to be free of acid-generating potential and had a high acid neutralising potential due to their high limestone content.

## 13.2 Flotation Testwork Details

### 13.2.1 2017-18 BCR Testwork

For the 2017-18 BCR testwork, a total of 200 kg of representative samples of the Blind–El Sol oxides and sulphides as well as the Skarn Front sulphides were collected from drill core and combined into three distinct composites to represent the three different styles of mineralization currently identified on the project. Testwork included sample characterization and batch flotation tests. A limited cyanidation test program was conducted on the Blind–El Sol oxide composite.

Sample characterization of the composites included head analyses, chemical characterization, modal mineralogy determinations (including microprobe work) and Bond Ball Work Index tests.

The dominant mineral phases in the sampled material are calcite and orthoclase, with significant quantities of garnet and quartz. Sulphide minerals represent 18.1% of the Skarn Front composite and 23.5% of the Blind-El Sol sulphide composite. Major sulphide minerals include sphalerite, pyrite and galena. Significant arsenopyrite is present in the Blind–El Sol sulphide composite but was effectively rejected during flotation.

A single Bond Ball Work test was conducted on each composite. Bond Work Mill Indices ranged from 12.3 to 12.8 kilowatt hours per tonne (kWh/t) for the two sulphide composites.

Regarding mineralogy, electron microprobe analysis provided an understanding of the base metal mineral species present in the two sulphide samples. This assisted in determining both the maximum concentrate grades achievable and elements likely to incur penalties from toll smelters. For zinc the maximum is 59.2% Zn, with Fe, Mn and Cd being in solution. The galena was very high grade (86.2% Pb) with Sb and Zn being the only significant diluents (other than Ag) Table 13-1 and Table 13-2 shows the values.

**Table 13-1: Blind El Sol Sulphide Mineralogy**

| Minerals | S | Ca | Mn | Fe | Cu | Zn | As | Cd | Sb | Pb | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrite | 53.1 | 0.12 | 0 | 44.9 | 0 | 0 | 1.88 | 0 | 0 | 0 | 100 |
| Sphalerite | 34.96 | 0.04 | 0.55 | 6.49 | 0 | 57.09 | 0 | 0.87 | 0 | 0 | 100 |
| Galena | 13.47 | 0 | 0.02 | 0 | 0.02 | 0.13 | 0 | 0 | 0.25 | 86.12 | 100 |

**Table 13-2: Skarn Front Sulphide Mineralogy**

| Minerals | Al | S | Ca | Mn | Fe | Cu | Zn | Cd | Sb | Pb | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pyrite | 0.18 | 54.15 | 0.19 | 0 | 45.48 | 0 | 0 | 0 | 0 | 0 | 100 |
| Sphalerite | 0 | 35.05 | 0.21 | 0.26 | 4.46 | 0.03 | 59.21 | 0.78 | 0 | 0 | 100 |
| Galena | 0 | 12.56 | 0 | 0 | 0.51 | 0 | 0.7 | 0 | 0 | 86.23 | 100 |

The skarn front sample used for the flotation composite contained some chalcopyrite from a specific high copper drill core intersection. This copper reported to the zinc concentrate, resulting in a lower Zn grade than desirable, and triggered the investigation into the Cu-Pb-Zn flotation program.

The Blind-El Sol (BESS) oxide composite was subjected to a limited test program. Whole mineralized material cyanidation tests averaged 74% Ag recovery. Lack of sulphide minerals in the oxide material meant that flotation was ineffective and resulted in poor recoveries for lead and zinc.

Batch flotation testwork was successful in separating lead and zinc concentrates from the Blind–El Sol deposits and copper, lead and zinc concentrates from the Skarn Front deposit and provided the following recoveries.

### 13.2.2 2018 Sequential Flotation Test on Skarn Front for Copper Removal

The summary results were as follows:

- Blind–El Sol Zone:
  - Lead Concentrate (avg of 2): 82% Ag, 90% Pb and 4% Zn recovery assaying 2880 ppm Ag, 68% Pb and 2% Zn; and
  - Zinc Concentrate: 78% Zn recovery at a grade of 52% Zn.
- Skarn Front Zone:
  - Copper Concentrate: 67.7% Cu and 15.1% Ag recovery assaying 27.9% Cu and 1661 g/t Ag (3 stages of cleaning);
  - Lead Concentrate: 85.2% Pb and 67.3% Ag recovery assaying 60.8% Pb and 4596 g/t Ag (one stage of cleaning); and
  - Zinc Concentrate: 89% Zn and 8.2% Ag recovery assaying 50.7% Zn and 111 g/t Ag (3 stages of cleaning).

### 13.2.3 2019 Locked Cycle Testing on Skarn Front Material

Following the success of the sequential Cu-Pb-Zn flowsheet, a locked cycle test on a master composite from the Skarn Front was undertaken. A composite was created from 8 different selected continuous portions of drill core and blended to create a master composite conforming as closely as possible to the Resource grade at the time, based on the NSR valuation performed. A total of 219 kg were selected such that 120 kg was used for the master composite, and 99 kg for the 7 variability tests intended to test the robustness of the flowsheet The calculated head grade based on drill core is shown in Table 13-3.

**Table 13-3: Calculated Master Composite Head Grades**

| Ag (ppm) | Pb (%) | Zn % | Cu % |
|---|---|---|---|
| 130 | 1.17 | 5.52 | 0.24 |

Table 13-4 shows the final assayed results on the master composite using both different labs and alternative analytical method.

**Table 13-4: Final Composite Head Assays**

| Lab | BCR | BCR | Act labs | BCR | BCR | Act labs | BCR | BCR | Act labs | BCR | BCR | Act labs | BCR | BCR | Act labs | BCR | BCR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Method | AR-AA | AR-ICP | AR-ICP | AR-AA | AR-AA | AR-ICP | AR-AA | AR-AA | AR-ICP | AR-AA | AR-ICP | AR-ICP | AR-AA | AR-ICP | AR-ICP | ELTRA | FA-AA |
| Element | Cu % | Cu% | Cu% | Pb % | Pb % | Pb% | Zn% | Zn% | Zn% | Fe% | FE% | Fe% | Ag g/t | Ag g/t | Ag g/t | S% | Au g/t |
| Results | 0.233 | 0.227 | 0.216 | 1.206 | 1.136 | 1.170 | 5.65 | 5.58 | 5.36 | 8.34 | 8.15 | 8.74 | 107.5 | 109.8 | 109.0 | 6.406 | 0.044 |

The locked-cycle testing on a 6-cycle test produced the following average results:

- Copper concentrate after 3 stages of cleaning: 27% Cu grade at 60.2% Cu recovery and 6.5% Ag recovery at a grade of 1255 g/t.
- Lead Concentrate after 3 stages of cleaning: 65.08% Pb grade at 83.6% Pb recovery and 5504 g/t Ag at 77.3% Ag recovery.
- Zinc Concentrate after 3 stages of cleaning: 53.95% Zn grade at 94.7% Zn recovery.

These results confirmed not only improved base metal grades, but also improved deportment of silver into the lead concentrate. Concentrate values on a $/t concentrate were improved for all 3 concentrates.

**Table 13-5: Projected Metallurgy from Skarn Master Composite**

| Product | Weight (%) | Assays | | | | | % Distribution | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) | S (%) | Cu | Pb | Zn | Ag | S |
| Cu Cleaner 3 Conc | 0.6 | 27.00 | 9.64 | 5.07 | 1255 | 31.84 | 60.2 | 4.5 | 0.5 | 6.5 | 2.9 |
| Pb Cleaner 3 Conc | 1.6 | 2.07 | 65.08 | 5.37 | 5504 | 16.07 | 12.6 | 83.6 | 1.5 | 77.3 | 4.0 |
| Zn Cleaner 3 Conc | 9.7 | 0.45 | 0.67 | 53.95 | 92 | 33.97 | 17.2 | 5.4 | 94.7 | 8.0 | 52.4 |
| Zn Cleaner 1 Tails | 6.6 | 0.13 | 0.42 | 2.02 | 66.50 | 17.91 | 3.4 | 2.2 | 2.4 | 3.9 | 18.6 |
| Zn Rougher Tails | 81.6 | 0.02 | 0.06 | 0.06 | 5.87 | 1.71 | 6.5 | 4.2 | 0.9 | 4.3 | 22.1 |
| Feed | 100 | 0.26 | 1.22 | 5.56 | 111 | 6.32 | 100 | 100 | 100 | 100 | 100 |

The master composite testwork indicated that:

- Separate copper, lead and zinc products could be generated from Skarn Front material containing a copper head grade as low as 0.24% Cu.
- Copper concentrates grading 27% Cu could be produced with copper recovery of 60 -67%. Silver recovery to the copper concentrate is expected to be 6.5%.
- Lead recovery to lead concentrate of nearly 84% could be achieved at concentrate grades of 65% Pb. Silver recovery to the lead concentrate is expected to be 77% at a grade of 5504 g/t Ag.
- Zinc recovery of almost 95% zinc can be achieved at a zinc concentrate grade of 54%.

The complete results are shown in Table 13-5 and Table 13-6.

**Table 13-6: Mass Balances for Locked Cycle Tests**

| Product | Weight | | | | Assays | | | | % Distribution | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g | % | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) | S (%) | Cu | Pb | Zn | Ag | S |
| Cycle 1 Cu Rougher Conc | 28.4 | 0.24 | 10.91 | 3.82 | 8.95 | 626.0 | 17.8 | 10.2 | 0.8 | 0.4 | 1.4 | 0.7 |
| Cycle 2 Cu Rougher Conc | 28.6 | 0.24 | 11.65 | 3.80 | 9.19 | 597.0 | 18.9 | 11.0 | 0.8 | 0.4 | 1.3 | 0.7 |
| Cycle 3 Cu Rougher Conc | 29.7 | 0.25 | 11.35 | 4.70 | 9.15 | 648.5 | 18.5 | 11.1 | 1.0 | 0.4 | 1.5 | 0.7 |
| Cycle 4 Cu Rougher Conc | 31.4 | 0.26 | 10.84 | 3.98 | 8.76 | 574.0 | 18.4 | 11.2 | 0.9 | 0.4 | 1.4 | 0.8 |
| Cycle 5 Cu Rougher Conc | 31.2 | 0.26 | 10.66 | 4.10 | 8.37 | 578.5 | 17.2 | 10.9 | 0.9 | 0.4 | 1.4 | 0.7 |
| Cycle 6 Cu Rougher Conc | 32.3 | 0.27 | 10.98 | 4.65 | 10.33 | 659.5 | 19.4 | 11.7 | 1.0 | 0.5 | 1.6 | 0.8 |
| Cycle 1 Pb Cleaner 3 Conc | 26.1 | 0.22 | 1.78 | 71.85 | 3.24 | 5825.0 | 14.9 | 1.5 | 13.1 | 0.1 | 11.6 | 0.5 |
| Cycle 2 Pb Cleaner 3 Conc | 28.5 | 0.24 | 1.33 | 67.61 | 5.99 | 5635.0 | 16.9 | 1.2 | 13.4 | 0.3 | 12.2 | 0.6 |
| Cycle 3 Pb Cleaner 3 Conc | 30.3 | 0.25 | 1.31 | 66.20 | 6.50 | 5545.0 | 15.9 | 1.3 | 14.0 | 0.3 | 12.8 | 0.6 |
| Cycle 4 Pb Cleaner 3 Conc | 29.2 | 0.24 | 1.37 | 68.70 | 5.12 | 5780.0 | 15.6 | 1.3 | 14.0 | 0.2 | 12.8 | 0.6 |
| Cycle 5 Pb Cleaner 3 Conc | 29.9 | 0.25 | 1.11 | 67.64 | 5.27 | 5650.0 | 15.4 | 1.1 | 14.1 | 0.2 | 12.9 | 0.6 |
| Cycle 6 Pb Cleaner 3 Conc | 28.6 | 0.24 | 1.00 | 70.23 | 4.45 | 5785.0 | 15.4 | 0.9 | 14.0 | 0.2 | 12.6 | 0.6 |
| Cycle 1 Zn Cleaner 3 Conc | 149.0 | 1.25 | 0.38 | 0.38 | 56.74 | 57.0 | 34.2 | 1.9 | 0.4 | 12.8 | 0.6 | 6.8 |
| Cycle 2 Zn Cleaner 3 Conc | 190.0 | 1.59 | 0.47 | 0.79 | 56.90 | 107.0 | 34.9 | 2.9 | 1.0 | 15.7 | 1.5 | 8.8 |
| Cycle 3 Zn Cleaner 3 Conc | 185.1 | 1.55 | 0.42 | 0.64 | 54.05 | 87.5 | 34.4 | 2.6 | 0.8 | 15.1 | 1.2 | 8.5 |
| Cycle 4 Zn Cleaner 3 Conc | 188.4 | 1.58 | 0.44 | 0.63 | 54.50 | 88.5 | 34.7 | 2.7 | 0.8 | 15.5 | 1.3 | 8.7 |
| Cycle 5 Zn Cleaner 3 Conc | 192.7 | 1.61 | 0.49 | 0.70 | 53.91 | 100.5 | 34.3 | 3.1 | 0.9 | 15.7 | 1.5 | 8.8 |
| Cycle 6 Zn Cleaner 3 Conc | 183.9 | 1.54 | 0.42 | 0.71 | 55.55 | 87.5 | 34.2 | 2.6 | 0.9 | 15.4 | 1.2 | 8.4 |
| Cycle 1 Zn Cleaner 1 Tails | 111.4 | 0.93 | 0.19 | 0.50 | 7.71 | 53.5 | 22.8 | 0.7 | 0.4 | 1.3 | 0.7 | 3.4 |
| Cycle 2 Zn Cleaner 1 Tails | 95.6 | 0.80 | 0.10 | 0.31 | 0.92 | 49.5 | 17.0 | 0.3 | 0.2 | 0.1 | 0.4 | 2.2 |
| Cycle 3 Zn Cleaner 1 Tails | 115.6 | 0.97 | 0.14 | 0.46 | 2.35 | 74.5 | 20.7 | 0.5 | 0.4 | 0.4 | 0.7 | 3.2 |
| Cycle 4 Zn Cleaner 1 Tails | 130.5 | 1.09 | 0.13 | 0.40 | 1.47 | 64.5 | 18.5 | 0.5 | 0.4 | 0.3 | 0.6 | 3.2 |
| Cycle 5 Zn Cleaner 1 Tails | 109.9 | 0.92 | 0.15 | 0.44 | 1.67 | 72.5 | 18.9 | 0.6 | 0.3 | 0.3 | 0.6 | 2.8 |
| Cycle 6 Zn Cleaner 1 Tails | 115.4 | 0.97 | 0.17 | 0.54 | 3.30 | 84.0 | 20.9 | 0.6 | 0.4 | 0.6 | 0.7 | 3.2 |
| Cycle 6 Pb Cleaner 3 Tail | 2.3 | 0.02 | 0.66 | 7.64 | 15.33 | 784.5 | 16.9 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |

| Product | Weight | | | | Assays | | | | % Distribution | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | g | % | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) | S (%) | Cu | Pb | Zn | Ag | S |
| Cycle 6 Pb Cleaner 2 Tail | 6.3 | 0.05 | 0.35 | 3.35 | 12.64 | 340.5 | 13.7 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| Cycle 6 Pb Cleaner 1 Tail | 21.2 | 0.18 | 0.24 | 1.51 | 12.39 | 164.5 | 13.4 | 0.2 | 0.2 | 0.4 | 0.3 | 0.4 |
| Cycle 6 Zn Cleaner 3 Tail | 15.4 | 0.13 | 0.54 | 1.42 | 30.245 | 211.5 | 33.7 | 0.3 | 0.2 | 0.7 | 0.2 | 0.7 |
| Cycle 6 Zn Cleaner 2 Tail | 34.3 | 0.29 | 0.38 | 1.07 | 14.40 | 166.5 | 29.0 | 0.4 | 0.3 | 0.7 | 0.4 | 1.3 |
| Cycle 1 Zn Rougher Tail | 1612.8 | 13.49 | 0.02 | 0.06 | 0.06 | 5.9 | 1.5 | 1.1 | 0.6 | 0.2 | 0.7 | 3.3 |
| Cycle 2 Zn Rougher Tail | 1636.7 | 13.69 | 0.02 | 0.06 | 0.07 | 6.3 | 1.7 | 1.1 | 0.7 | 0.2 | 0.8 | 3.8 |
| Cycle 3 Zn Rougher Tail | 1624.5 | 13.59 | 0.02 | 0.06 | 0.06 | 5.7 | 1.6 | 1.1 | 0.7 | 0.2 | 0.7 | 3.5 |
| Cycle 4 Zn Rougher Tail | 1602.5 | 13.41 | 0.02 | 0.06 | 0.06 | 5.4 | 1.6 | 1.1 | 0.7 | 0.1 | 0.7 | 3.3 |
| Cycle 5 Zn Rougher Tail | 1639.4 | 13.71 | 0.02 | 0.07 | 0.07 | 6.2 | 1.8 | 1.1 | 0.8 | 0.2 | 0.8 | 4.0 |
| Cycle 6 Zn Rougher Tail | 1637.3 | 13.70 | 0.02 | 0.06 | 0.06 | 6.0 | 1.8 | 1.1 | 0.7 | 0.2 | 0.7 | 3.8 |
| **Head (calc.)** | **11954.6** | **100.0** | **0.25** | **1.20** | **5.54** | **110.04** | **6.3** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| **Head (direct)** | **12000.0** | **99.62** | **0.24** | **1.27** | **5.77** | **111.00** | **6.4** | **-** | **-** | **-** | **-** | **-** |
| **Reconciliation, %** | - | - | **106.6** | **94.4** | **96.0** | **99.1** | **98.3** | - | - | - | - | - |
| **Combined Products** | | | | | | | | | | | | |
| **Product** | **Weight** | | | | **Assays** | | | | **% Distribution** | | | |
| | **g** | **%** | **Cu (%)** | **Pb (%)** | **Zn (%)** | **Ag (g/t)** | **S (%)** | **%** | **Cu** | **Pb** | **Zn** | **Ag** |
| Cu Rougher Conc 1-3 | 86.7 | 0.7 | 11.30 | 4.12 | 9.10 | 624.13 | 18 | 32.2 | 2.5 | 1.2 | 4.1 | 2.1 |
| Cu Rougher Conc 4-6 | 94.9 | 0.8 | 10.84 | 4.25 | 9.17 | 604.61 | 18 | 33.8 | 2.8 | 1.3 | 4.4 | 2.3 |
| Cu Rougher Conc 1-6 | 181.6 | 1.5 | 11.06 | 4.18 | 9.13 | 613.93 | 18 | 66.1 | 5.3 | 2.5 | 8.5 | 4.4 |
| Pb Cleaner 3 Conc 1-3 | 85.0 | 0.7 | 1.46 | 68.41 | 5.33 | 5661.34 | 15.9 | 4.1 | 40.5 | 0.7 | 36.6 | 1.8 |
| Pb Cleaner 3 Conc 4-6 | 87.6 | 0.7 | 1.16 | 68.84 | 4.95 | 5737.25 | 15.5 | 3.3 | 42.0 | 0.7 | 38.2 | 1.8 |
| Pb Cleaner 3 Conc 1-6 | 172.6 | 1.4 | 1.31 | 638.63 | 5.14 | 5699.88 | 15.7 | 7.4 | 82.6 | 1.3 | 74.8 | 3.6 |
| Zn Cleaner 3 Conc 1-3 | 524.1 | 4.4 | 0.43 | 0.62 | 55.12 | 85.90 | 34.5 | 7.3 | 2.3 | 43.6 | 3.4 | 24.0 |
| Zn Cleaner 3 Conc 4-6 | 565.0 | 4.7 | 0.45 | 0.68 | 54.64 | 92.27 | 34.4 | 8.4 | 2.7 | 46.6 | 4.0 | 25.8 |
| Zn Cleaner 3 Conc 1-6 | 1089.1 | 9.1 | 0.44 | 0.65 | 54.87 | 89.20 | 34.5 | 15.7 | 5.0 | 90.2 | 7.4 | 49.9 |
| Zn Cleaner 1 Tails 1-3 | 322.5 | 2.7 | 0.14 | 0.43 | ..78 | 70.20 | 20.3 | 1.5 | 1.0 | 1.8 | 1.7 | 8.7 |
| Zn Cleaner 1 Tails 4-6 | 355.7 | 3.0 | 0.15 | 0.46 | 2.12 | 73.30 | 19.4 | 1.7 | 1.1 | 1.1 | 2.0 | 9.2 |
| Zn Cleaner 1 Tails 1-6 | 678.2 | 5.7 | 0.15 | 0.45 | 2.91 | 71.82 | 19.8 | 3.3 | 2.1 | 3.0 | 3.7 | 17.9 |
| Zn Rougher Tail 1-3 | 4874.0 | 40.8 | 0.02 | 0.06 | 0.06 | 5.97 | 1.63 | 3.3 | 2.0 | 0.5 | 2.2 | 10.6 |
| Zn Rougher Tail 2-4 | 4879.2 | 40.8 | 0.02 | 0.06 | 0.06 | 5.87 | 1.7 | 3.3 | 2.2 | 0.5 | 2.2 | 11.1 |
| Zn Rougher Tail 1-6 | 9753.2 | 81.6 | 0.02 | 0.06 | 0.06 | 5.92 | 1.7 | 6.5 | 4.2 | 0.9 | 4.4 | 21.7 |

### 13.2.4 Variability Testing

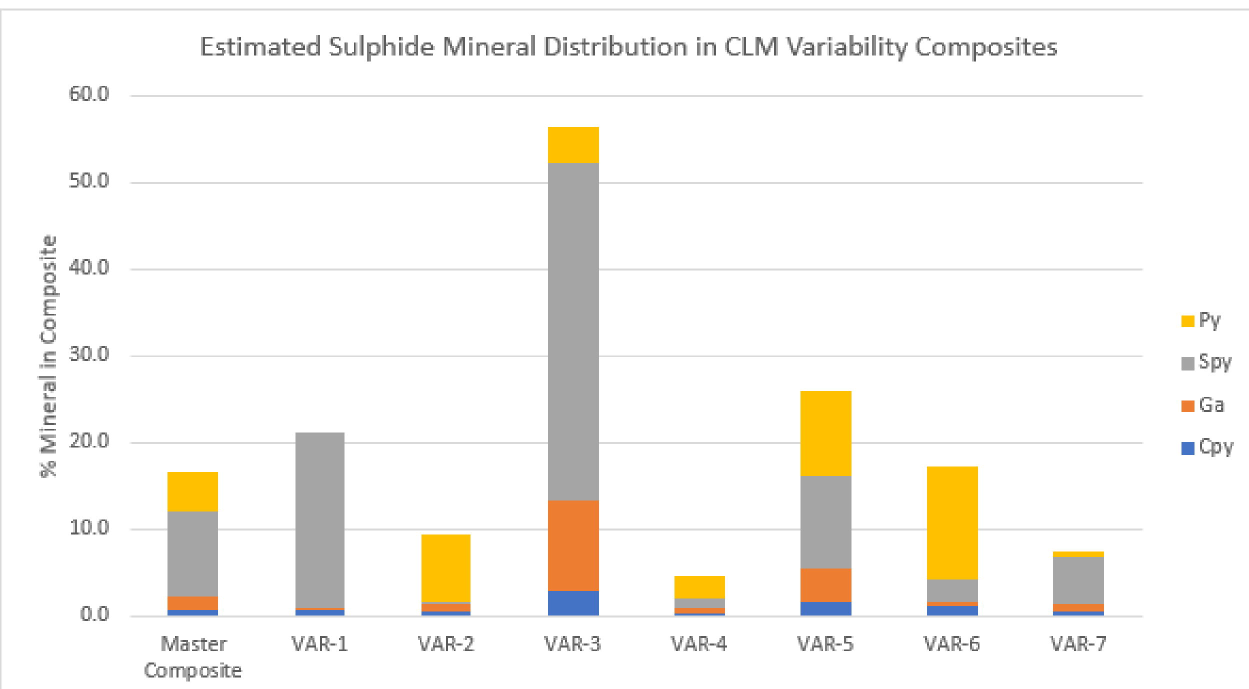
As mentioned in the previous paragraph, variability testing on selected samples showing extremes in terms of Pb/Zn ratio and total sulphide content, varying from very low grade to massive sulphide intersections were tested. The description of the samples and their grades are shown in Table 13-7.

**Table 13-7: Variability Samples-Head Grades**

| Composite | Description | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) | S (%) |
|---|---|---|---|---|---|---|
| VAR-1 | Hi Zn/ Pb | 0.235 | 0.103 | 12.32 | 50.4 | 7.53 |
| VAR-2 | Hi Pb/ Zn | 0.139 | 0.777 | 0.074 | 235.8 | 4.24 |
| VAR-3 | High Grade | 0.927 | 9.160 | 23.00 | 728.3 | 18.10 |
| VAR-4 | Low Grade | 0.093 | 0.384 | 0.512 | 28.8 | 1.78 |
| VAR-5 | Medium Grade | 0.488 | 2.979 | 6.02 | 177.5 | 10.36 |
| VAR-6 | Below Ave Grade | 0.378 | 0.373 | 1.39 | 73.5 | 8.50 |
| VAR-7 | Below Ave 2 | 0.131 | 0.679 | 2.61 | 68.3 | 2.25 |

Figure 13-1 shows both the total sulphide mineral content as well as the individual sulphide fractions in the variability samples and the master composite.

**Figure 13-1: Sulphides in Variability Samples**




Source: A. Kelly, 2020.

Some highlights of the variability testing for which summary results are shown in Table 13-8 included:

- Confirmation of the ability of the flowsheet to deal with large variations in grade: from a low grade 0.4% Pb; 0.5% Zn; 29 g/t Ag; 1.8% S to a 0.9% Cu; 9.2% Pb; 23% Zn; 18.1% S massive sulphide, the flowsheet was able to deal with extremes using only reagent dosage adjustments and adjusted flotation times to achieve results comparable to the Locked Cycle Tests.
- The ability of the flowsheet to reject pyrite: VAR 6 sulphides were almost 80% pyrite, with low galena and silver content yet high copper and zinc recoveries (74.8% and 84.4% respectively were achieved at saleable grades. (26.4% Cu and 46.2% Zn respectively)
- The ability of the lead concentrate to collect silver: VAR2 contained only 0.78% Pb, 0.14% Cu but 236 g/t Ag. The Pb concentrate contained 81% of the Ag at a grade of 17,883 g/t Ag.
- Confirmation that the proposed flowsheet is well suited to a ROM feed from multiple stopes with only minor stockpile grade control being required. Coupled with the LCT work the variability tests confirmed that the recycling of cleaner tails to the rougher circuit improves overall recoveries while dampening the effects of minor swings in feed grade and mineralization.

The following key observations were made during the Cerro Las Minitas Variability testwork:

- All composites responded favourably to the Cu-Pb-Zn flowsheet (or a modified Pb-Zn) flowsheet at the standard primary grind size of 80% passing approximately 100 µm. Liberation did not appear to be an issue.
- Metallurgical performance could be fine-tuned with reagents alone.
- All composites where zinc flotation was attempted produced zinc concentrates grading over 50% zinc, with one exception. VAR-6 produced a zinc concentrate grading 46% zinc. This composite carried the lowest overall zinc head grade (1.39% Zn).
- Four composites produced lead concentrate grading less than the standard benchmark of 60% lead after 3 stages of cleaning. Of these:
    - VAR-2 graded 53% Pb, however the silver grade of 17,883 g/t is expected to make this concentrate attractive.
    - VAR-4 graded 52% Pb. This was a very low-grade composite with a head grade of 0.38% Pb and 28 g/t Ag.
    - VAR-6 graded 55% Pb. This was another low-grade composite with a head grade of 0.37% Pb.
    - VAR-7 graded 42% Pb. Another lower grade composite with some copper dilution to the lead concentrate. The addition of sodium cyanide to the depressant suite of this composite will likely push additional copper units into the zinc concentrate thereby allowing the lead concentrate grade to likely increase to the mid to high 50% range.
- Four of the composites had copper grades in excess of 0.20% Cu. Copper flotation was attempted on these composites. All of these composites produced copper concentrates in excess of 22% Cu after three stages of cleaning and two of those concentrates graded in excess of 25% Cu.
- The variability results confirm that the current flowsheet is robust across a wide range of head grades and metal ratios and that with appropriate adjustments to reagent dosages reasonable metallurgy may be expected. Some

lower grade composites did not achieve the benchmark 60% lead concentrate grade; however, these composites could likely be blended with higher grade material as they are less than the resource grade of the Skarn front. A review of the proposed mine plan should be undertaken in the future to determine potential variability in the mill feed, and a follow up variability program should be undertaken which matches composite grades to that expected in the mill feed.

**Table 13-8: Summary of Open Circuit Cleaner Tests on Variability Composites**

| Test ID | Composite | Product | Grade | | | | | Recovery (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) | S (%) | Cu | Pb | Zn | Ag | S |
| F-23 | VAR-1 | Cu/Pb Conc | 26.84 | 4.89 | 4.92 | 3570 | 31.75 | 52.0 | 26.0 | 0.2 | 35.5 | 2.1 |
| | | Zn Conc | 0.27 | 0.21 | 59.43 | 99.5 | 34.61 | 20.0 | 44.0 | 93.9 | 38.4 | 88.7 |
| F-24 | VAR-2 | Pb Conc | 5.84 | 52.79 | 1.13 | 17883 | 20.62 | 51.6 | 79.1 | 21.5 | 81.0 | 5.7 |
| F-25 | VAR-3 | Cu Conc | 24.34 | 3.60 | 13.16 | 571 | 32.92 | 45.3 | 0.7 | 1.1 | 1.3 | 3.2 |
| | | Pb Conc | 0.28 | 75.49 | 4.51 | 6410 | 14.01 | 3.1 | 89.8 | 2.2 | 86.1 | 8.2 |
| | | Zn Conc | 0.70 | 0.65 | 53.40 | 99 | 33.59 | 25.1 | 2.5 | 84.2 | 4.4 | 64.0 |
| F-34 | VAR-4 | Pb Conc | 8.53 | 52.15 | 5.06 | 3745 | 20.03 | 62.5 | 86.8 | 6.4 | 81.2 | 8.0 |
| | | Zn Conc | 2.79 | 1.26 | 51.40 | 205 | 33.49 | 23.4 | 2.4 | 74.9 | 5.1 | 15.3 |
| F-31 | VAR-5 | Cu Conc | 22.15 | 4.80 | 5.95 | 526 | 31.67 | 36.2 | 1.2 | 0.8 | 2.1 | 2.4 |
| | | Pb Conc | 4.17 | 65.47 | 4.70 | 3780 | 17.57 | 35.3 | 86.1 | 3.2 | 78.8 | 7.0 |
| | | Zn Conc | 0.85 | 1.08 | 52.84 | 113 | 34.42 | 18.0 | 3.6 | 90.6 | 5.9 | 34.4 |
| F-33 | VAR-6 | Cu Conc | 26.44 | 5.69 | 4.15 | 1631 | 30.67 | 74.8 | 16.9 | 3.0 | 23.1 | 3.8 |
| | | Pb Conc | 1.40 | 54.72 | 4.12 | 8685 | 17.73 | 1.2 | 48.1 | 0.9 | 36.4 | 0.7 |
| | | Zn Conc | 1.14 | 0.83 | 46.19 | 231 | 32.38 | 8.1 | 6.2 | 84.4 | 8.2 | 10.2 |
| F-26 | VAR-7 | Pb Conc | 6.95 | 42.48 | 14.35 | 4833 | 22.55 | 50.0 | 63.4 | 5.6 | 64.4 | 10.7 |
| | | Zn Conc | 0.70 | 0.85 | 51.19 | 115 | 34.57 | 20.3 | 5.1 | 80.3 | 6.2 | 66.0 |

### 13.2.5 2021 Sequential Flowsheet Testing on Bocona (BESS-Type) Mineralized Material

By late 2021, an updated Resource Estimate including holes from the La Bocona and Murilla chimney areas in the (NE) portion of the exploration target had been completed, and since this fresh material was mainly of the Blind-El Sol (BESS) mineralisation, the opportunity was taken to confirm whether the flowsheet used for the locked cycle tests was adequate for BESS mineralized material as well. Since BESS mineralized material contains more pyrite and arsenopyrite, this material was also important for testing whether elimination of arsenic from the zinc concentrate would improve the Zn grade, and whether the Au, thought to be associated with arsenopyrite, could be concentrated into the arsenopyrite concentrate Since the 2021 holes had intersected higher gold grades than any in the South Skarn zone, this also provided an opportunity to perform direct cyanidation tests on both oxide and sulphide material. 36 kg of quarter core from 4 holes was used for these tests. Table 13-9 shows a summary of the results as well as the head grade of the composite. Results of the lead and zinc cleaner tests are shown in Table 13-10 and Table 13-11.

**Table 13-9: 2021 Summary Flotation Testing Results of Bocona "BESS"- Type Mineralized Material**

| Stream | Weight | Assays | | | | | | | % Distribution | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | Au | Ag | As | Pb | Zn | Fe | Stot | Au | Ag | As | Pb | Zn | Fe | Stot |
| Head Grade | 100.0 | **0.69** | **157.13** | **5.56** | **3.47** | **2.48** | **7.72** | **6.13** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Pb Rougher | 6.4 | 1.5 | 2306.9 | 2.2 | 53.6 | 6.3 | 4.5 | 15.9 | 12.4 | 88.9 | 2.7 | 91.6 | 15.3 | 3.5 | 16.4 |
| Pb Cleaner | **4.8** | 1.14 | **2901** | 1.72 | **64.0** | 4.12 | 2.76 | 16.3 | 8.6 | **86.5** | 1.4 | **88.8** | 8.0 | 1.8 | 12.9 |
| Zn Rougher | 7.3 | 2.1 | 123.4 | 14.3 | 1.9 | 29.0 | 20.4 | 27.6 | 19.8 | 5.4 | 20.0 | 3.8 | 81.0 | 18.2 | 32.6 |
| Zn Cleaner | **4.1** | 0.6 | 169.4 | 2.0 | 2.2 | 52.7 | 9.4 | 33.3 | 4.1 | 4.4 | 1.4 | 2.7 | 87.3 | 5.2 | 22.1 |
| AsPy rougher | 6.5 | 2.2 | 138.8 | 10.6 | 2.2 | 29.3 | 15.6 | 27.5 | 11.8 | 6.3 | 13.1 | 4.7 | 84.3 | 12.9 | 28.8 |
| AsPy cleaner | **7.9** | 3.8 | 44.3 | 35.3 | 0.7 | 0.5 | 39.5 | 25.3 | 38.7 | 2.1 | 53.6 | 1.5 | 1.4 | 38.2 | 32.4 |
| Tails | 83.2 | - | - | - | - | - | - | - | 48.6 | 7.0 | 43.5 | 7.1 | 3.3 | 54.8 | 32.6 |

**Table 13-10: Lead Cleaner Tests**

| Test | Product | Weight | | Assays | | | | | | | % Distribution | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | g | % | Au | Ag | As | Pb | Zn | Fe | Stot | Au | Ag | As | Pb | Zn | Fe | Stot |
| | | | units | g/t | g/t | % | % | % | % | % | | | | | | | |
| F7 | Pb Cleaner 3 Conc | 84.23 | 4.23 | 0.9 | 3193.8 | 1.2 | 72.1 | 2.4 | 1.8 | 15.6 | 5.9 | 81.5 | 0.9 | 84.4 | 3.9 | 1.1 | 10.8 |
| F8 | Pb Cleaner 3 Conc | 97.48 | 4.90 | 1.7 | 2823.7 | 1.6 | 64.0 | 4.8 | 2.6 | 16.3 | 11.9 | 87.4 | 1.4 | 89.4 | 9.3 | 1.8 | 13.3 |
| F9 | Pb Cleaner 3 Conc | 96.03 | 4.83 | 1.1 | 2869.4 | 1.7 | 61.8 | 3.6 | 2.7 | 16.5 | 8.6 | 87.7 | 1.4 | 89.7 | 7.1 | 1.7 | 12.9 |
| F10 | Pb Cleaner 3 Conc | 98.84 | 4.98 | 1.2 | 2895.5 | 1.9 | 62.2 | 4.2 | 3.1 | 16.2 | 9.2 | 88.3 | 1.6 | 90.4 | 8.2 | 1.9 | 13.0 |
| F11 | Pb Cleaner 3 Conc | 99.3 | 4.99 | 0.9 | 2722.8 | 2.2 | 60.0 | 5.7 | 3.6 | 16.9 | 7.4 | 87.7 | 1.9 | 89.8 | 11.3 | 2.4 | 14.4 |
| **Average:** | | | **4.79** | **1.1** | **2901.0** | **1.7** | **64.0** | **4.1** | **2.8** | **16.3** | **8.6** | **86.5** | **1.4** | **88.8** | **8.0** | **1.8** | **12.9** |
| Max | | | 4.99 | 1.7 | 3193.8 | 2.2 | 72.1 | 5.7 | 3.6 | 16.9 | 11.9 | 88.3 | 1.9 | 90.4 | 11.3 | 2.4 | 14.4 |
| Min | | | 4.23 | 0.9 | 2722.8 | 1.2 | 60.0 | 2.4 | 1.8 | 15.6 | 5.9 | 81.5 | 0.9 | 84.4 | 3.9 | 1.1 | 10.8 |
| Std Dev | | | 0.28 | 0.3 | 157.8 | 0.3 | 4.2 | 1.1 | 0.6 | 0.4 | 2.0 | 2.5 | 0.3 | 2.2 | 2.4 | 0.4 | 1.2 |

**Table 13-11: Zinc Cleaner Tests**

| Test | Product | Weight | | Assays | | | | | | | % Distribution | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | g | % | Au | Ag | As | Pb | Zn | Fe | Stot | Au | Ag | As | Pb | Zn | Fe | Stot |
| F7 | Zn Cleaner 3 Conc | 47.24 | 2.37 | 0.7 | 362.3 | 0.5 | 3.7 | 56.4 | 7.3 | 34.1 | 2.6 | 5.2 | 0.2 | 2.4 | 51.8 | 2.4 | 13.2 |
| F8 | Zn Cleaner 3 Conc | 63.69 | 3.20 | 0.56 | 105.3 | 1.5 | 0.9 | 56.6 | 9.2 | 34.0 | 2.6 | 2.1 | 0.9 | 0.8 | 72.3 | 4.2 | 18.1 |
| F11 | Zn Cleaner 3 Conc | 70.52 | 3.54 | 0.6 | 120.9 | 1.7 | 1.4 | 57.7 | 9.6 | 33.9 | 3.7 | 2.8 | 1.0 | 1.5 | 81.7 | 4.5 | 20.5 |
| F9 | Zn Cleaner 3 Conc | 81.67 | 4.11 | 0.62 | 169.4 | 2.0 | 2.2 | 52.7 | 9.4 | 33.3 | 4.1 | 4.4 | 1.4 | 2.7 | 87.3 | 5.2 | 22.1 |

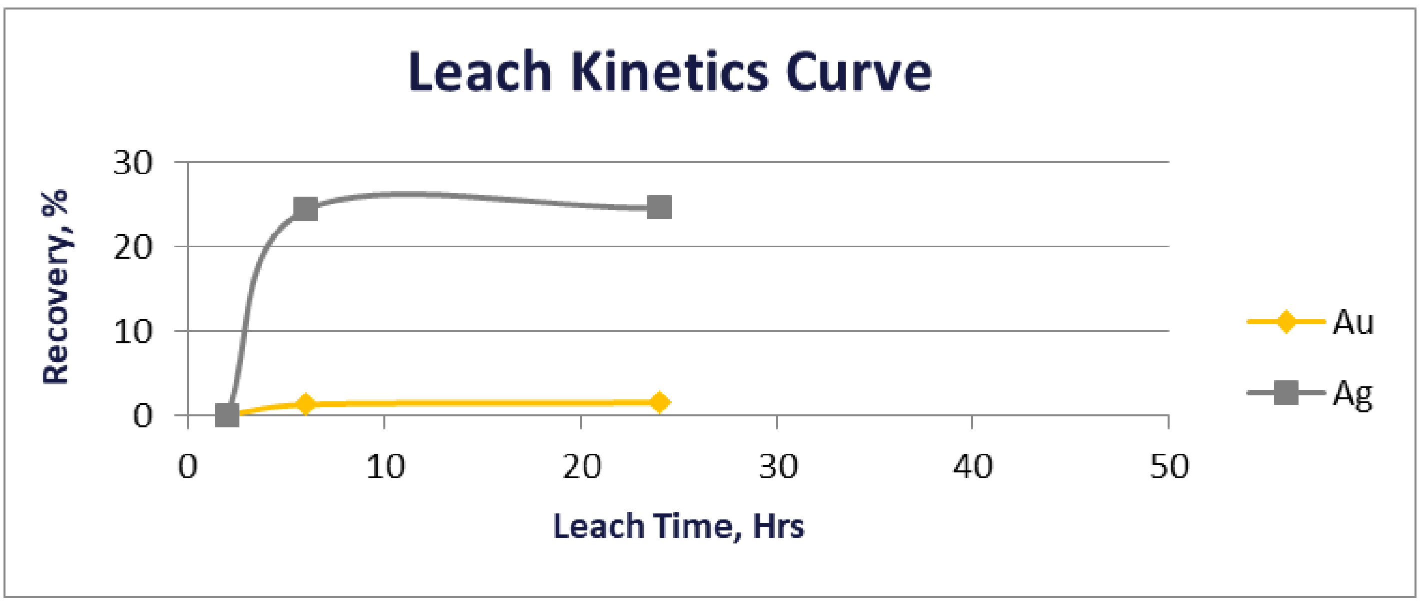
### 13.2.6 Arsenopyrite Rejection from Zinc- Implications for Au Recovery

From Table 13-9 it can be seen that 38% of the Au and 53.6% of the Arsenic reported to the “arsenopyrite” concentrate which constituted 7.9% of the feed material. The final tails (83.2% of the feed) contained 48% of the Au and 43.5% of the As. The only payable level of gold recovered in the primary concentrates was 8% into the Pb concentrate at a grade of 1.14 g/t. Since the deduction for Au in Pb concentrates is 1 g/t the value of Au in base metal concentrates is negligible, and for the purposes of the PEA, no gold revenue had been included in the 2022 PEA report. Direct cyanidation tests on the arsenopyrite returned poor results as shown in Figure 13-12, indicative of highly refractory gold.

**Table 13-12: Cyanidation of Arsenopyrite Concentrate**

| Product | Amount (g, mL) | Assay (mg/L, g/t) | | Distribution (%) | |
|---|---|---|---|---|---|
| | | Au | Ag | Au | Ag |
| 2 h PLS | 172.2 | 0.02 | 3.8 | 1.3 | 24.4 |
| 6 h PLS | 148.4 | 0.03 | 4.1 | 1.6 | 24.6 |
| 24 h PLS | 141.7 | 0.04 | 4.8 | 2.7 | 29.6 |
| Residue | 91.2 | 2.75 | 20.7 | 97.3 | 70.4 |
| **Calculated Head** | **-** | **2.82** | **29.38** | **-** | **-** |
| Direct Head | 93 | 3.3 | 32.7 | - | - |
| Accountability | - | 86% | 90% | - | - |

**Figure 13-2: Leach Kinetics of Concentrate Cyanidation**




Source: A. Kelly, 2022.

### 13.2.7 2021 La Bocona High Au Oxide Mineralized Material Cyanidation Testing

In order to test the amenability of oxide mineralized material to cyanidation, two samples of La Bocona oxide mineralized material were collected—one of relatively low, but measurable Au content, and one of high Au content. These were both subjected to standard bottle roll cyanidation tests at Blue Coast Research, Parksville at two different grind sizes (80% passing 75 micron and 80% passing 125 micron) and for up to 48 hours of leach time. The 24-hour leach results are summarized in Table 13-13.

**Table 13-13: Direct Cyanidation Results on La Bocona Oxide Mineralized Material**

| Sample | Head Assay | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ID | Au (g/t) | Ag (g/t) | As (%) | Pb (%) | Zn (%) | Fe (%) | S (%) | S2 - (%) | Ctot (%) | Corg (%) |
| High Grade Oxide | 2.20 | 46.55 | 3.73 | 1.09 | 0.74 | 2.96 | 0.00 | 0.02 | 7.22 | 0.02 |
| Low Grade Oxide | 0.78 | 36.07 | 2.94 | 0.97 | 0.67 | 2.93 | 0.53 | 0.52 | 7.64 | 0.09 |
| **Results** | **Grind Size** | **NaCN** | **Au Rec** | **Ag Rec** | **Grind Size** | **NaCN** | **Au Rec** | **Ag Rec** | - | - |
| | **Micron** | **g/L** | **%@24h** | **%** | **Micron** | **g/L** | **%** | **%** | - | - |
| High Grade Oxide | 125.00 | 1.00 | 78.70 | 39.66 | 75.00 | 1.00 | 80.07 | 45.39 | - | - |
| Low Grade Oxide | 125.00 | 1.00 | 29.92 | 54.82 | 75.00 | 1.00 | 32.10 | 58.93 | - | - |

The Au in the low-grade sample appears associated with a small amount of sulphide, as shown by the assay and is refractory. The high-grade sample returned acceptable leach extraction of 78.7% suggesting that the oxide Au is not refractory. This is encouraging from the perspective of the Au in float tails which suggest that about 48% of the gold is oxide, and 78% of that could be recovered by cyanidation.

## 13.3 Pre-Concentration Testwork

### 13.3.1 Motivation for Pre-Concentration

The art and practice of mineral beneficiation utilises differences in physical properties between material with potential economic value and barren or low value host rock. Historically material which was deemed extractable economically was defined by the term "ore" and material with value below the economic threshold ("cut-off grade") was described as waste. While the use of these terms is inexplicably discouraged in NI 43-101-compliant reports, no acceptable synonyms have been forthcoming. Established processes such as froth flotation, (which utilizes differences in surface properties to affect separation between "ore" and "waste") are commonly used in the mineral processing discipline to allow the economic upgrading (primary beneficiation) of mined material to higher value concentrates which can be economically transported and further processed in specialized facilities to saleable products.

Pre-concentration is a generic term used to describe intermediate steps between mining and flotation that minimise the amount of barren material that requires processing before primary beneficiation (such as flotation in the case of CLM) can take place. The lower the overall grade of the potentially economically extractable material ("ore") the greater the potential benefits of preconcentration. In the case of CLM the mineralized sulphide material has distinctly different physical and chemical characteristics from the surrounding host rock (including colour, density, hardness conductivity and transmission of X-rays) which can be used in isolation or combination to perform preconcentration at particle sizes many orders of magnitude larger than used in flotation, ensuring that only material of economic extraction potential is subjected to costly and inefficient grinding and subsequent flotation separation methods. The potential benefits of sensor-based sorting to perform substantial waste elimination and thus a high degree of preconcentration on the CLM project were sufficiently compelling to institute a test program to quantify the sorting potential. Steinert US had a suitable multi-sensor continuous test unit available.

#### 13.3.2 Sample Selection

Southern Silver decided to institute a site sampling program to extract a reasonably representative selection of various sulphide materials and host rocks from site to provide a blended bulk sample for a continuous sorting test on the CLM mineralization.

The overall procedure was developed as follows:

a. Collect initial lump samples for testing.

b. Hand crush to +½”-2” size.

c. Blend a composite approximating the resource ROM grade.

d. Ship the bulk sample and individual “tuning” specimens to Steinert US.

e. Steinert conduct sorting response tests.

f. Product and reject samples shipped to SGS Lakefield for independent assay.

g. Perform mass balances and head grade reconciliation and determine grades and recoveries as a function of sorter sensitivity settings.

h. Evaluation of the results.

The quantity of material collected on site was intended to represent contributing sulphide minerals and host rock blended such that the overall composite produced for the testwork would conform to the “life of mine” estimated grades, such that meaningful comparisons with a PEA level “flotation only” flowsheet could be made. Table 13-14 below shows the initial mass and specifics for each of the six samples required to generate both the “tuning” specimens and the bulk composite.

**Table 13-14: Sample Collection Guidelines**

| Size | No. | Description | Detail | Quantity (kg) | Range +/- |
|---|---|---|---|---|---|
| +1/2” – 2” | 1 | High Grade | Galena Rich | 20 | +/- 3kg |
| | 2 | High Grade | Sphalerite Rich | 40 | +/- 3kg |
| | 3 | Mid Grade | Any Sulphides Py,AsPy, Cpy | 20 | +/- 3kg |
| | 4 | Waste Rock | Skarn / Marble / Limestone | 160 | +/- 3kg |
| | 5 | Waste | Other Host Rocks, Mixed | 30 | +/- 3kg |
| | 6 | Low Grade | Disseminated Sulphide in Host | 20 | +/- 3kg |
| **Total** | | | | **300** | **300-400 kg Total** |

The hand samples collected were crushed to ½" to 2" size and portions of each sample combined into a 200kg composite bulk sample. The remaining material from each sample was used to calibrate the sensors. The breakdown is shown in Table 13-15 below.

**Table 13-15: Bulk Composite Blending**

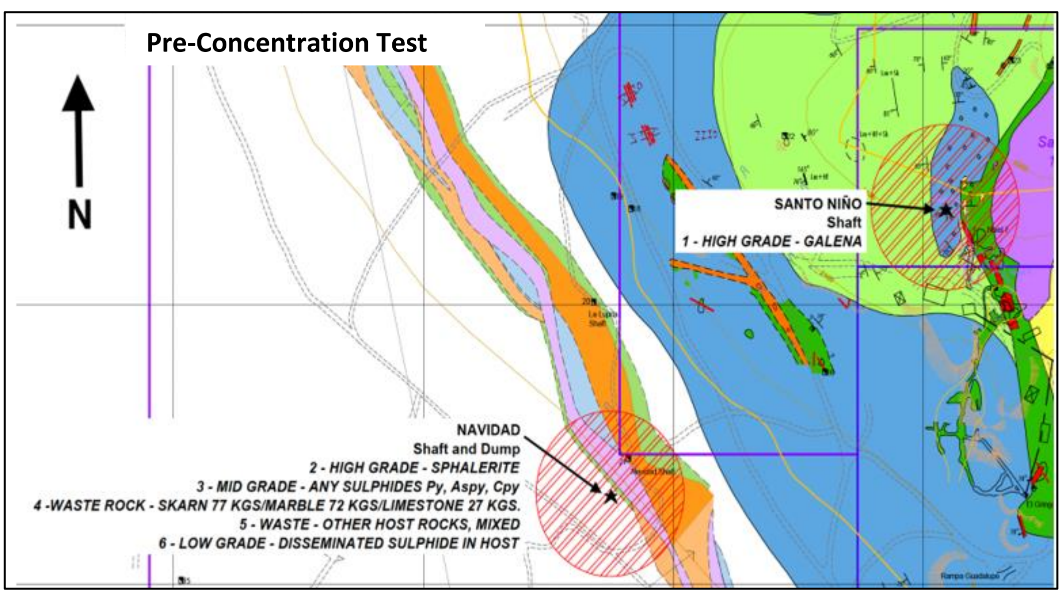
| 200 kg "ROM" Composite | Description | Amount (kg) | Remains (kg) | Min |
|---|---|---|---|---|
| 1 | Galena | 8 | 12 | 9 |
| 2 | Sphalerite | 25 | 15 | 12 |
| 3 | Mixed | 5 | 15 | 12 |
| 4 | Skarn Host | 137 | 23 | 20 |
| 5 | Other Host | 20 | 10 | 7 |
| 6 | Disseminated | 5 | 15 | 12 |
| **Total** | **-** | **200** | **90** | **-** |

These samples were then sent to Steinert, a reputable vendor with suitable test facilities in the US where the continuous sorting test would be performed. The details below cover the site-related procedures. (Items a to d in the overall test procedure). Steinert US provided a stand-alone report on the sorting.

### 13.3.3 Sorter Material Sampling Locations

Two areas were selected for obtaining test samples. The Navidad shaft area was the main source of the different rock types, with the balance from the Santo Niño shaft dump. Figure 13-3 relates the samples to the geological setting.

**Figure 13-3: CLM Geological Map Showing Mineralized and Waste Material Locations in the Navidad and Santo Niño Shafts**




Source: Southern Silver Exploration Corp, 2022.

**Figure 13-4: Sample Collection from the Navidad Dumps Corresponding to the Blind Zone Area of CLM**

Source: Southern Silver Exploration Corp, 2022.

Table 13-16 indicates the different rock types, including the weight for each sample type, CLM location area and UTM coordinates. More material was collected than originally requested to allow for fines generation during crushing.

**Table 13-16: Sample Summary: Description and Location of Origin**

| No. | Description | Detail | Visual Grade Estimation | Requested KG | Sampled KG | Area | X | Y |
|---|---|---|---|---|---|---|---|---|
| 1 | High Grade | Galena Ranch | 10 /15% | 20 | 26 | Santo Niño Shaft | 587618 | 2710868 |
| 2 | High Grade | Sphalerite Rich | 20 /25% | 40 | 42 | Navidad Shaft and Dump | 587350 | 2710663 |
| 3 | Mid Grade | Other Sulphides: Py, Aspy, Cpy | 0.5 /1% | 20 | 31 | Navidad Shaft and Dump | - | - |
| 4 | Waste Rock | Skarn 77 KG / Limestone 27 KGS | - | 88 | 104 | Navidad Shaft and Dump | 587350 | 2710663 |
| - | Waste Rock | Marble 72 KG | - | 72 | 72 | Santo Niño Shaft | 587618 | 2710868 |
| 5 | Waste Rock | Other Host Rocks, Mixed | - | 30 | 34 | Navidad Shaft and Dump | 587350 | 2710663 |
| 6 | Low Grade | Disseminated Sulphide in Host | 3% | 20 | 36 | Navidad Shaft and Dump | 587350 | 2710663 |
| **Total** | | | - | **300** | **345** | - | - | - |

### 13.3.4 Sampling Details

Galena high grade material was collected from dumps at the Santo Niño shaft (Figure 13-5).

**Figure 13-5: High Grade Galena Rich (1) – Navidad Shaft**


Source: Southern Silver Exploration Corp, 2022.

The sphalerite high grade sample occurs naturally mixed with galena (Figure 13-6).

**Figure 13-6: Sphalerite Rich (2) – Mid Grade (3), Other Sulphides: Chalcopyrite, Pyrite and Arsenopyrite**


Source: Southern Silver Exploration Corp, 2022.

The mineralised rock contains some sphalerite, galena, pyrite, arsenopyrite and some chalcopyrite collected from dumps near the Navidad shaft.

Skarn and limestone were collected from dumps at the Navidad shaft. Marble was collected from dumps near the Santo Niño shaft (Figure 13-7).

**Figure 13-7: Skarn, Waste Rock Marble, Waste Rock Limestone, Waste Rock**


Source: Southern Silver Exploration Corp, 2022.

Aplite rock was selected as the “other” host rock associated with the mineralized zone. The sample was selected from dumps at the Navidad shaft. Low grade sulphide samples were selected from dumps at the Navidad shaft (Figure 13-8).

**Figure 13-8: Aplite Waste (5) – Disseminated Sulphides (6)**


Source: Southern Silver Exploration Corp, 2022.

### 13.3.5 Sample Crushing and Composite Assembly

Individual rocks were crushed to reduce the particle size to between +½” and -2”.

**Figure 13-9: Hand Crushing of Specimens**

Source: Southern Silver Exploration Corp, 2022.

**Figure 13-10: Hand Crushed Specimens Arranged by Size**

Source: Southern Silver Exploration Corp, 2022.

The different rock types were weighted after crushing and proportioned according to the sampling instructions to create a 200 kg bulk sample. Eleven (11) plastic buckets were filled with approximately 20 kg of sized rocks each.

**Figure 13-11: Crushed Specimens Prior to Blending**

Source: Southern Silver Exploration Corp, 2022.

The different rock types were blended and homogenized according to the list provided to generate the bulk composite.

**Figure 13-12: Preparation of Bulk Sample**

Source: Southern Silver Exploration Corp, 2022.

The individual portions of material that remained made up the samples used for sorter calibration. All were individually weighted after crushing and organized according to the list provided.

**Figure 13-13: Individual Specimens for Sorter Calibration**


Source: Southern Silver Exploration Corp, 2022.

**Figure 13-14: Weighing of Samples Prior to Dispatch**


Source: Southern Silver Exploration Corp, 2022.

The samples, totalling 290Kg (consisting of 19 plastic buckets in total) were sent to the local ALS Prep Lab in Zacatecas on March 11, 2022, for forwarding to Steinert in Kentucky, USA. The results of the sorting testwork are provided in a separate report.

### 13.3.6 Pre-Concentration Testwork

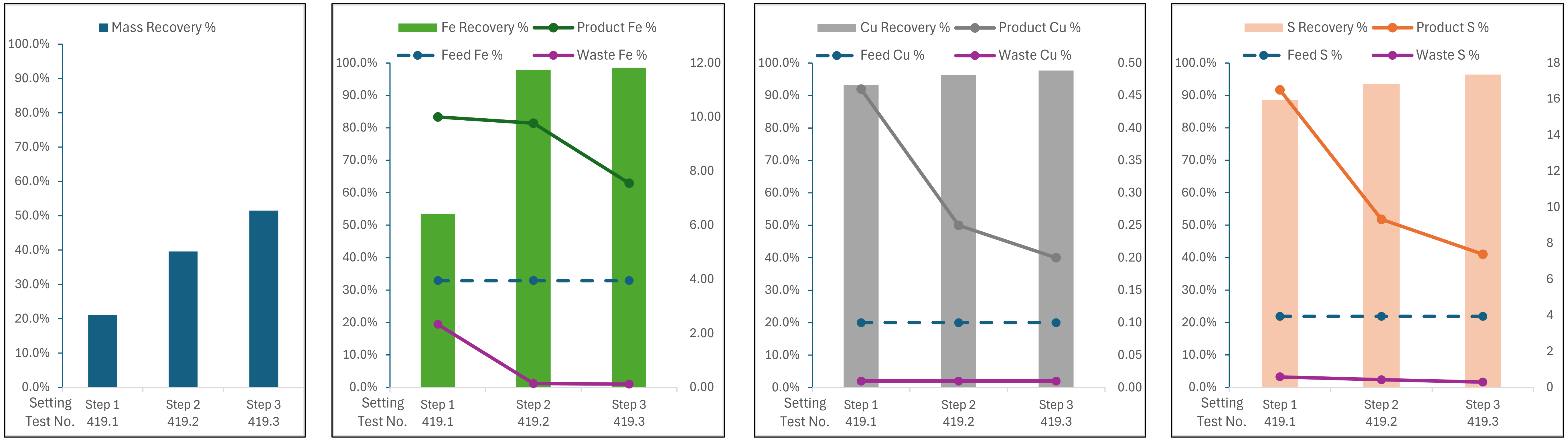
Steinert US was approached to conduct pre-concentration test work on a high-grade silver-polymetallic mineralized material sample from Cerro Las Minitas, a project owned by Southern Silver Exploration Corp. The test work was conducted on a Steinert multi-sensor sorter in Kentucky, USA. The objective of the test work was to demonstrate that sensor-based sorting can be effective in removal of waste rock and upgrading the mineralized material whilst maintaining high pay metal recoveries.

### 13.3.7 X-Ray Transmission Sorting Overview

X-ray transmission sorting technology has experienced rapid advancements in mineral beneficiation applications over the last decade with Steinert being on the forefront of developing sensor-based sorting equipment. XRT image processing evaluates each particle's X-ray attenuation which has a direct correlation on the mineral composition. Steinert also uses a multi-sensor technique to optimize sorting results in one sorting step. The graph below (Figure 13-15) shows the grade and recovery values at 3 different sensitivity settings. This sample showed that this material has excellent pre-concentration potential using the Steinert multi-sensor approach to remove waste rock from mineralized material to beneficiate the mill feed material. At sensitivity setting Step 1 the silver grade was increased from 91.2g/t to a product of 407g/t at a recovery of 94.3% with a mass recovery of 21.1%. Similar upgrades and recoveries were achieved for lead and zinc showing that this XRT-multi-sensor sorting technique is ideally suited for this type of poly-metallic material.

**Figure 13-15: Grade and Recovery Results for CLM Material**

| Test No. | Setting | Total Sample Kg | Product Kg | Waste Kg | Mass Recovery % | Feed Fe % | Product Fe % | Waste Fe % | Fe Recovery % | Feed Cu % | Product Cu % | Waste Cu % | Cu Recovery % | Feed S % | Product S % | Waste S % | S Recovery % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 419.1 | Step 1 | 184.5 | 39.0 | 145.5 | 21.1% | 3.95 | 10.00 | 2.33 | 53.5% | 0.10 | 0.46 | 0.01 | 93.3% | 3.94 | 16.5 | 0.58 | 88.5% |
| 419.2 | Step 2 | 184.5 | 73.0 | 111.5 | 39.6% | 3.95 | 9.77 | 0.14 | 97.9% | 0.10 | 0.25 | 0.01 | 96.3% | 3.94 | 9.32 | 0.42 | 93.5% |
| 419.3 | Step 3 | 184.5 | 95.0 | 89.5 | 51.5% | 3.95 | 7.55 | 0.12 | 98.5% | 0.10 | 0.2 | 0.01 | 97.7% | 3.94 | 7.38 | 0.29 | 96.4% |



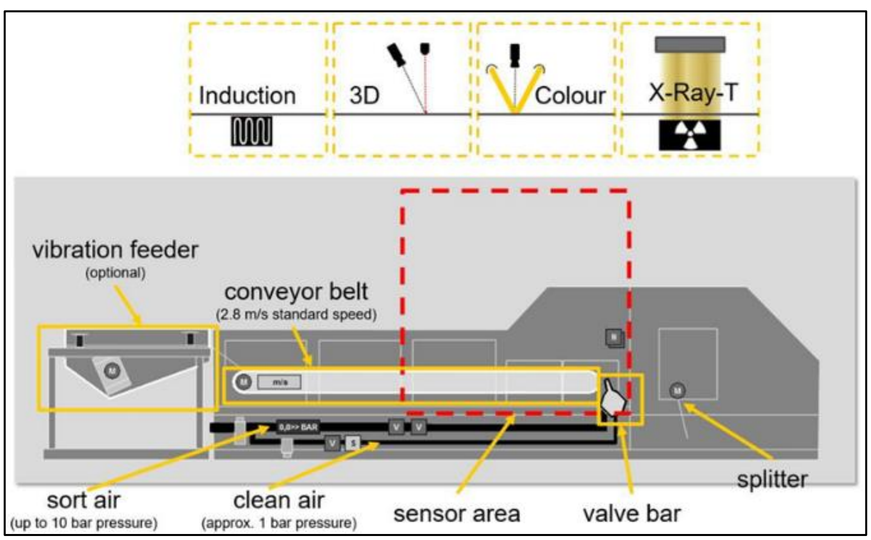

Source: Steinert KSS Testwork Report, 2022.

The Steinert sorting unit used for these tests is shown in Figure 13-16 and a schematic of the process in Figure 13-7.

**Figure 13-16: Steinert KSS CLIXT Sorter**


Source: Steinert KSS Testwork Report, 2022.

**Figure 13-17: Schematic of Steinert Combination Sensor Sorter**




Source: Steinert KSS Testwork Report, 2022.

The technical data for the unit are provided in Table 13-17 below. Full descriptions are provided in the detailed Steinert report.

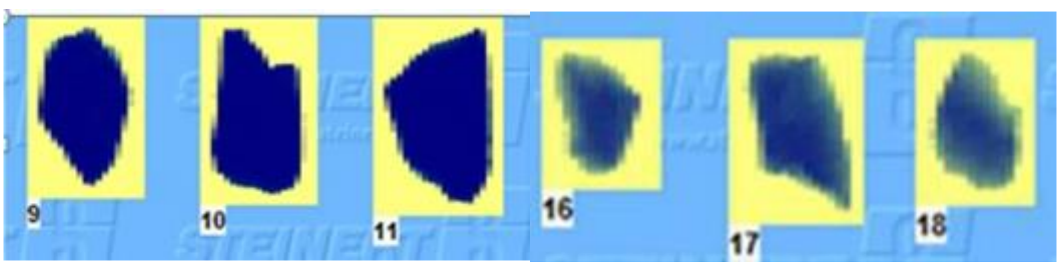
**Table 13-17: Sorter Technical Data Summary**

| Model | KSS 100 520 CLI XT |
|---|---|
| Current consumption | 35A max |
| Power consumption | 12kVA max |
| Compressed air operating pressure | 6.5 bar |
| Auxiliary pressure | 1.5 bar |
| Compressor power | 45-75 kW |
| Detection System installed | X-ray transmission, Colour, Laser, induction |

### 13.3.8 Pre-Sorting X-Ray Transmission Classification

Individual rocks were scanned and categorised from high grade to waste based on the X-ray density images. Figure 13-18 below shows typical high density (9-11) X-ray absorbing rocks and low density (16-18) barren rock x-ray images. Dual energy x-ray images improve discrimination as shown in the scatter plot (Figure 13-19) where green dots represent high grade, high x-ray absorbing mineralised material and red dots low-grade and barren material allowing easier x-ray transmission The scatter plots are then used to produce a separation curve as shown in Figure 13-20.

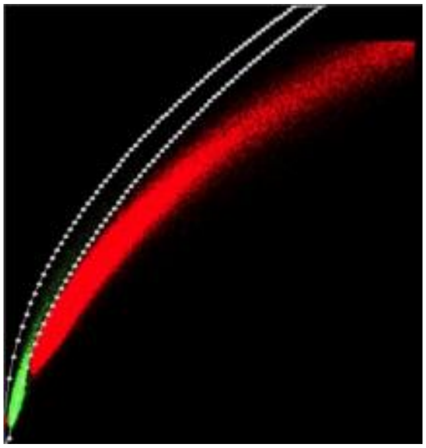
**Figure 13-18: Individual X-Ray Images of High Grade (9-11) and Low-Grade (16-18) Rocks**




Source: Steinert KSS Testwork Report, 2022.

Figure 13-19 showing high X-ray absorption (high grade) specimens (green) and low absorption, low grade rocks in red.

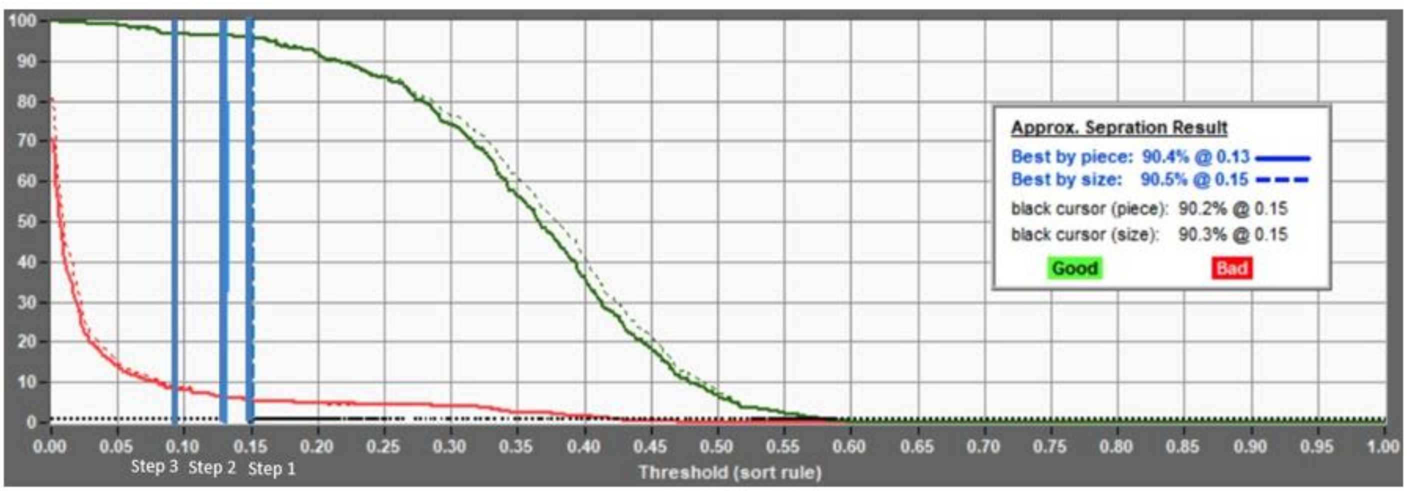
**Figure 13-19: X-Ray Scatter Plots**



Source: Steinert KSS Testwork Report, 2022.

Figure 13-20 showing high X-ray absorption (high grade) specimens (green) and low absorption, low grade rocks in red.

**Figure 13-20: MD Separation Curves**




Source: Steinert KSS Testwork Report, 2022.

In Figure 13-20, the green curve is for mineralised material and the red curve for barren waste rock. The 3 steps used for the sorting tests are shown in blue. The level of discrimination between mineralised and barren material in the sample range is excellent. All 3 steps recovered over 95% of the mineralised material. As the steps are increased moving from right to left, the recovery of mineralised material increases while the grade decreases due to the inclusion of increased amounts of lower grade material. The flexibility of the sorter to "dial-in" infinitely variable sorting sensitivities is of significant benefit to a mineralized body like CLM where the mineralisation varies from extremely low grade to very high grade throughout the resource.

### 13.3.9 Sorting Test Results

Table 13-18 shows the mass balances for the 3 steps performed on the CLM bulk sample, and Table 13-19 the assay results from SGS laboratories, who performed the independent assays on the products.

**Table 13-18: Mass Balances on Sorting Tests**

| Range | Test | Stage | Setting | Total Sample (kg) | Product (kg) | Mass Recovery (%) | Waste (Kg) | Mass Recovery (%) |
|---|---|---|---|---|---|---|---|---|
| -50 +12mm | 419.1 | L; XRT | Step 1 | 184.5 | 39.0 | 21.1% | 145.5 | 78.9% |
| | 419.2 | L; XRT | Step 2 | 145.5 | 34.0 | 23.4% | 111.5 | 76.6% |
| | **Steps 1 &2** | | | **184.5** | **73.0** | **39.6%** | **111.5** | **60.4%** |
| -50 +12mm | 419.3 | L; XRT | Step 3 | 111.5 | 22.0 | 19.7% | 89.5 | 80.3% |
| | **Steps 1, 2 & 3** | | **Step 3** | **184.5** | **95.00** | **51.5%** | **89.5** | **48.5%** |

**Table 13-19: SGS Analytical Results on Sorted Material**

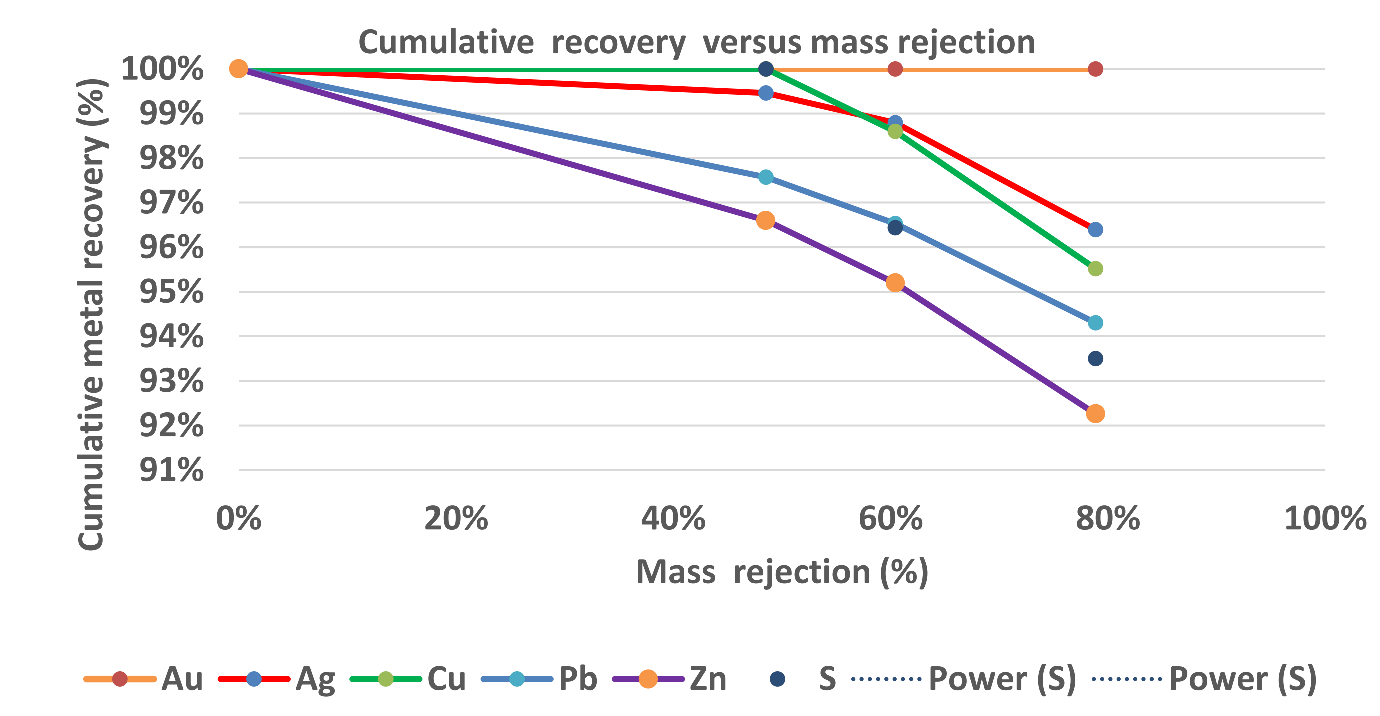
| Sample ID | Weight | Au | Ag | Cu | Fe | Pb | Zn |
|---|---|---|---|---|---|---|---|
| | (kg) | g/t | g/t | % | % | % | % |
| Lab No. 1084 Test Product 419.1.1 | 39.0 | 0.18 | 407 | 0.46 | 10.0 | 10.7 | 13.7 |
| Lab No. 1084 Test Product 419.2.1 | 34.0 | < 0.02 | 11.6 | 0.017 | 9.50 | 0.29 | 0.50 |
| Lab No. 1084 Test Product 419.3.1 | 22.0 | < 0.02 | < 10 | 0.012 | 7.27 | 0.21 | 0.37 |
| Lab No. 1084 Test Product 419.3.2 | 89.5 | < 0.02 | < 10 | < 0.01 | 1.19 | 0.12 | 0.22 |

The combination grade recovery results are shown in the upper portion of Figure 13-15, while the recovery versus cumulative mass rejection curves for each element of interest are shown in Figure 13-21. As expected, elements such as gold and silver, with a very high x-ray absorption level are preferentially detected by this method. Gold was recovered at ~100% even at the 80% mass rejection level, while silver was still higher than 95% recovery at this rejection rate. At the planned 60-70% mass waste rejection level, all pay metals are recovered at higher than 95% recovery. The level of grade improvement is highlighted by the silver grade increasing from 89g/t in the feed sample to 407 g/t at 79% mass rejection, a 4.6x upgrade. Gold upgraded by 4.86x. All other pay metals were upgraded by 4.2-4.6x.

### 13.3.10 Preconcentration Comments

Although extensive pre-concentration testing has been completed to date, the economical base case presented in this PEA does not consider the use of pre-concentration in the mineral processing facility.

**Figure 13-21: Cumulative Recovery vs. Mass Rejection During Sorting**




Source: MPC Pre-Concentration Trade-off Study, 2022.

## 13.4 Gold Extraction Testwork 2023

### 13.4.1 Diagnostic Leach

The testwork performed in 2021 had indicated the refractory nature of the gold in the BESS material, so a comprehensive Gold Diagnostic leach program was carried at Base Metallurgical Laboratories in Kamloops to quantify the gold deportment. For continuity with the 2021 work performed at BCR, material largely from the Bocona region was preferentially selected, firstly because this material had not been fully tested in 2018 and because it was shallow, likely to be extracted early in the mine-life and had generally higher gold arsenic and pyrite content than the Skarn Front material which had formed the bulk of the resource in 2018 and received the bulk of attention from a metallurgical perspective . Some earlier BESS type material was included to provide sufficient mass required for testing. Sample origins are shown in Table 13-19 and Table 13-20.

Samples were received at Base Metallurgical Laboratories Ltd. in a single shipment on February 13, 2023. A total of 43 samples were received, weighing a total of 102 kilograms. Samples were combined to form two composites, Oxide Composite and Sulphide Composite as shown in Table 13-20 and Table 13-21.

The two composites were individually homogenized, and stage crushed to pass 3.35 mm (6 mesh). A representative cut was removed from each composite and subject to a Bond ball work index test at a closing screen size of 106µm $K_{80}$. The remaining sample mass was homogenized and split into 2-kilogram charges ahead of test work.

**Table 13-20: Oxide Samples Received**

| Sample ID | DDH ID | From (m) | To (m) | Mass in Comp (kg) |
|---|---|---|---|---|
| 12CLM-055-2002 | 12CLM-055 | 196.45 | 198 | 1.5 |
| 15CLM-078-0009 | 15CLM-078 | 81.95 | 83 | 1.9 |
| 20CLM-119-0019 | 20CLM-119 | 94.95 | 96.45 | 3.4 |
| 20CLM-125-0003 | 20CLM-125 | 26.55 | 27.15 | 1.4 |
| 20CLM-125-0020 | 20CLM-125 | 50.9 | 52.25 | 2.6 |
| 20CLM-127-0133 | 20CLM-127 | 25.45 | 26.9 | 2.9 |
| 20CLM-127-0008 | 20CLM-127 | 44.7 | 46.7 | 4.1 |
| 20CLM-127-0010 | 20CLM-127 | 48.1 | 49.5 | 2.8 |
| 20CLM-127-0011 | 20CLM-127 | 49.5 | 51.3 | 2.4 |
| 20CLM-127-0164 | 20CLM-127 | 123.6 | 125.65 | 3.2 |
| 20CLM-127-0032 | 20CLM-127 | 160.2 | 161.85 | 3.2 |
| 20CLM-134-0008 | 20CLM-134 | 11.9 | 13.55 | 3.2 |
| 20CLM-134-0022 | 20CLM-134 | 64.9 | 65.85 | 2.0 |
| 20CLM-134-0026 | 20CLM-134 | 71.95 | 73.6 | 3.4 |
| 21CLM-138-0021 | 21CLM-138 | 75.25 | 77 | 3.5 |
| 21CLM-143-0025 | 21CLM-143 | 113.15 | 114.8 | 2.3 |
| 21CLM-143-0027 | 21CLM-143 | 116.5 | 117.45 | 1.9 |
| 21CLM-151-0024 | 21CLM-151 | 111.4 | 113 | 3.3 |

**Table 13-21: Sulphide Samples Received**

| Sample ID | DDH ID | From (m) | To (m) | Mass in Comp (kg) |
|---|---|---|---|---|
| 11CLM-010-0012 | 11CLM-010 | 508.3 | 509.3 | 1.1 |
| 11CLM-019-0482 | 11CLM-019 | 230.85 | 231.2 | 0.96 |
| 15CLM-078-0039 | 15CLM-078 | 206.45 | 207.85 | 3.32 |
| 17CLM-105-0084 | 17CLM-105 | 353.85 | 354.5 | 1.54 |
| 20CLM-124-0101 | 20CLM-124 | 483.15 | 483.7 | 1.88 |
| 20CLM-125-0038 | 20CLM-125 | 223.65 | 224.55 | 2.1 |
| 20CLM-125-0046 | 20CLM-125 | 235.75 | 236.55 | 1.84 |
| 20CLM-125-0051 | 20CLM-125 | 240.7 | 242.7 | 4.82 |
| 20CLM-128-0052 | 20CLM-128 | 277.7 | 278.6 | 2.42 |
| 20CLM-131-0062 | 20CLM-131 | 350.4 | 351.35 | 2.24 |
| 20CLM-133-0045 | 20CLM-133 | 228 | 229.3 | 3.06 |
| 21CLM-146-0022 | 21CLM-146 | 237.7 | 238 | 0.7 |

| Sample ID | DDH ID | From (m) | To (m) | Mass in Comp (kg) |
|---|---|---|---|---|
| 21CLM-146-0025 | 21CLM-146 | 239.8 | 240.3 | 1.38 |
| 21CLM-147-0068 | 21CLM-147 | 432.05 | 433.8 | 4.4 |
| 21CLM-148-0070 | 21CLM-148 | 384.35 | 384.95 | 1.12 |
| 21CLM-179-0038 | 21CLM-179 | 258.25 | 259.3 | 2.38 |
| 22CLM-182-0055 | 22CLM-182 | 333.75 | 334.5 | 1.74 |
| 22CLM-185-0076 | 22CLM-185 | 377.8 | 378.7 | 1.18 |
| 22CLM-194-0129 | 22CLM-194 | 308.55 | 308.75 | 0.62 |
| 21CLM-144-0085 | 21CLM-144 | 362.95 | 363.9 | 2.82 |
| 21CLM-177-0154 | 21CLM-177 | 303.85 | 304.5 | 1.32 |
| 21CLM-147-0062 | 21CLM-147 | 406.8 | 408 | 2.32 |
| 15CLM-078-0069 | 15CLM-078 | 257.15 | 258 | 2.32 |
| 20CLM-128-0061 | 20CLM-128 | 290.5 | 291.3 | 2.64 |
| 20CLM-131-0024 | 20CLM-131 | 301.55 | 302.65 | 3.06 |

The two composites were subject to a Bond ball work index test at a closing screen size of 106µm. Results are summarized in Table 13-22. The Bond ball work index of the Oxide and Sulphide Composites was measured to be 10.4 and 11.8 kWh/tonne, respectively. Based on these values, both composites would be considered moderately hard with respect to ball milling.

**Table 13-22: Comminution Tests**

| Sample ID | Bond Ball Mill Work Index | | | |
|---|---|---|---|---|
| | $F_{80}$ µm | $P_{80}$ µm | Gpr | WiBM kWhr/tonne |
| Oxide Composite | 1749 | 76 | 2.0 | 10.4 |
| Sulphide Composite | 1909 | 81 | 1.8 | 11.8 |

Representative head cuts were removed and assayed for elements of interest. A multi- element ICP scan was also performed on a single cut from each sample. A summary of the results for key elements are shown in Table 13-23.

**Table 13-23: Sample Head Assays**

| Sample ID | Assays | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Au | Ag | S | C | Fe | Cu | Pb | Zn | As |
| | g/t | g/t | % | % | % | % | % | % | g/t |
| Sulphide Composite | 0.66 | 353 | 11.9 | 2.66 | 11.7 | 0.38 | 6.70 | 5.10 | 39200 |
| Oxide Composite | 1.74 | 23 | <0.01 | 5.32 | 4.08 | 0.034 | 1.27 | 0.65 | 42840 |

### 13.4.2 Diagnostic Leach Test

The two composites were subjected to a 5-stage diagnostic leach test to determine the association of gold in the samples. A summary of the results is shown in Table 13-24. The 5-stage diagnostic leach was assessed according to the following:

- Stage 1 (High Intensity CN Leach): Gold recoverable through direct cyanide leaching
- Stage 2 (HCL + CN Leach): Gold locked in carbonate minerals.
- Stage 3 (HNO3 + CN Leach): Gold locked in arsenopyrite minerals.
- Stage 4 (Aqua Regia Digestion): Gold locked in sulphide minerals.
- Stage 5 (Fire Assay): Gold encapsulated in silicate and other gangue minerals.

**Table 13-24: Diagnostic Leach Summary**

| Stage | Au g/tonne - per stage | |
|---|---|---|
| | Sulphide Composite | Oxide Composite |
| Cyanidable Gold | 0.11 | 1.14 |
| Carbonate Locked Gold | 0.06 | 0.11 |
| Arsenical Mineral (Arsenopyrite) | 0.30 | 0.27 |
| Pyritic Sulphide Mineral | 0.17 | 0.11 |
| Silicate (Gangue) Encapsulated | 0.04 | 0.03 |
| **Total (recalculated) Au grade** | **0.68** | **1.65** |
| Measured Au Grade | 0.66 | 1.74 |
| | **Au Distribution %** | |
| Cyanidable Gold | 16.6 | 69.1 |
| Carbonate Locked Gold | 8.4 | 6.4 |
| Arsenical Mineral (Arsenopyrite) | 44.6 | 16.1 |
| Pyritic Sulphide Mineral | 25.0 | 6.4 |
| Silicate (Gangue) Encapsulated | 5.4 | 2.0 |
| **Total** | **100** | **100** |

Most of the gold in the Sulphide Composite was associated with arsenical and pyritic sulphide minerals. Only 17 percent was directly leachable. In contrast, 69 percent of the gold in the Oxide Composite was directly leachable gold. About 6 percent was associated with carbonate minerals and another 21 percent associated with arsenical and pyritic sulphide minerals. Gangue encapsulated gold content was low for both composites.

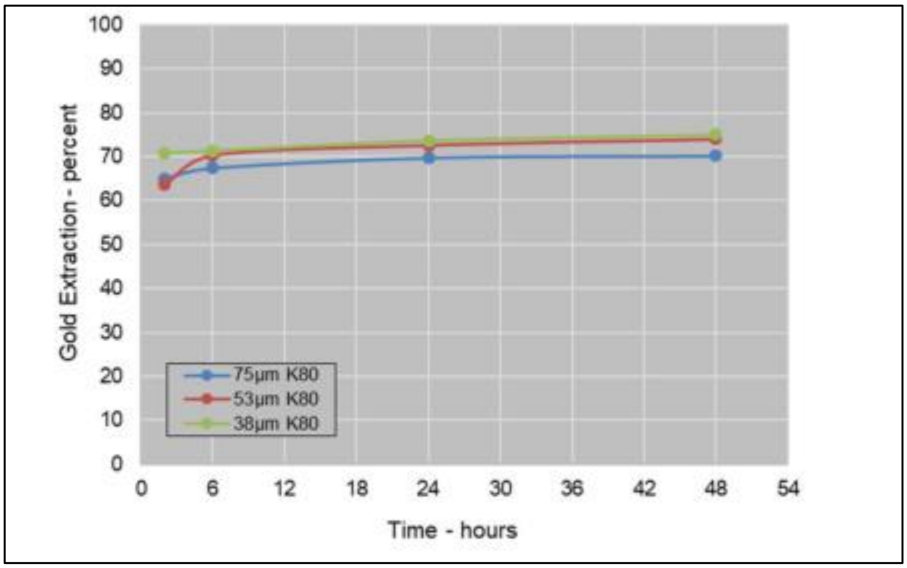
### 13.4.3 Whole Material Leach Testing

The Oxide Comp was subject to three whole material leach tests evaluating primary grind sizing of 38 to 75µm $K_{80}$. Tests were performed as bottle roll leach tests for a duration of 48 hours, sparged with oxygen, at an NaCN concentration of 2000ppm, and pH 10.5.

Table 13-25: Whole Material Leach Test Results

| Sample ID | Test | PG µm K80 | Gold Extraction - percent cumulative at Time (hrs) | | | | Silver Extr'n percent | Res Assay g/t | Consumption kg/tonne | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2 | 6 | 24 | 48 | 48 | Au | NaCN | Lime |
| Oxide Composite | 4 | 75 | 65.1 | 67.4 | 69.8 | 70.2 | 53.4 | 0.47 | 0.96 | 1.29 |
| | 5 | 53 | 63.6 | 70.3 | 72.6 | 74.0 | 56.4 | 0.44 | 1.19 | 1.05 |
| | 6 | 38 | 70.9 | 71.4 | 73.7 | 75.1 | 59.0 | 0.42 | 1.23 | 1.28 |

Figure 13-22: Gold Leach Rates



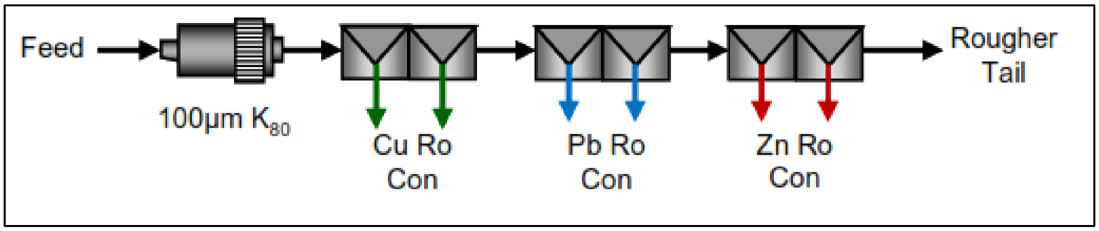

Source: Base Met Labs, 2023.

Overall, the samples responded adequately to whole mineralized material leaching, with gold extraction values ranging from 70 to 75 percent. Silver extraction ranged from 53 to 59 percent. For both gold and silver, extraction increased with finer primary grind sizing's. Cyanide consumption increased as well, as primary grind size decreased, albeit still low at 0.96 to1.23 kg/tonne.

### 13.4.4 Kinetic Rougher Tests

Two sequential copper, lead, zinc kinetic rougher tests were performed on the Sulphide Composite, using test conditions based on prior testwork. These tests were primarily performed to evaluate gold deportment using the sequential flotation flowsheet from the 2021 testwork. The second test evaluated a finer primary grind size and also consisted of a sequential iron-sulphide float, in order to recover additional gold associated with pyrite minerals. A flowsheet of the initial rougher test performed is provided in Figure 13-23, along with a summary of results in Table 13-26.

**Figure 13-23: Rougher Test Flowsheet without Pyrite Recovery**




Source: Base Met Labs, 2023.

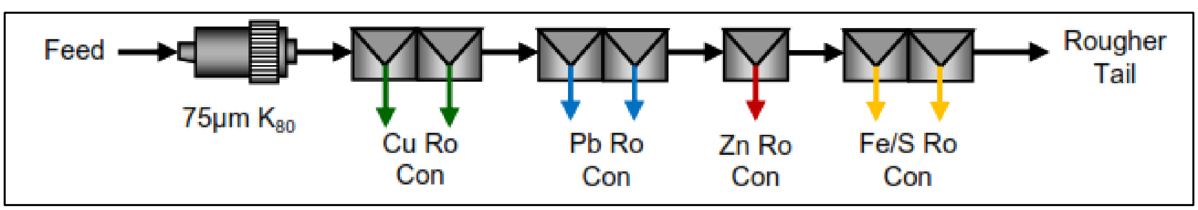
**Table 13-26: Rougher Test Results without Pyrite Recovery**

| Product | Mass | Assay - percent or g/t | | | | | | | | Distribution - percent | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | Cu | Pb | Zn | Fe | S | Au | Ag | As | Cu | Pb | Zn | Fe | S | Au | Ag | As |
| Cu Ro Con | 6.0 | 4.52 | 16.3 | 5.95 | 11.1 | 14.7 | 1.68 | 1738 | 1.97 | 69.0 | 16.1 | 7.2 | 5.6 | 6.8 | 15.9 | 27.0 | 3.3 |
| Pb Ro Con | 18.0 | 0.40 | 26.52 | 10.44 | 9.07 | 17.6 | 0.61 | 1400 | 3.23 | 18.4 | 78.9 | 38.1 | 13.7 | 24.4 | 17.3 | 65.6 | 16.5 |
| Zinc Ro Con | 12.9 | 0.23 | 0.60 | 19.1 | 22.9 | 28.4 | 1.41 | 89 | 10.57 | 7.5 | 1.3 | 49.9 | 24.9 | 28.2 | 28.9 | 3.0 | 38.7 |
| Ro Tails | 63.1 | 0.03 | 0.36 | 0.4 | 10.5 | 8.4 | 0.38 | 27 | 2.32 | 5.2 | 3.7 | 4.9 | 55.7 | 40.6 | 37.9 | 4.4 | 41.5 |

In the first rougher test the majority of the gold, at 38 percent, was lost to the rougher tailings. Gold reporting to the copper, lead and zinc rougher concentrates, measured 16, 17 and 29 percent, respectively. When the primary grind size was reduced to 75µm $K_{80}$ and an iron sulphide (Fe-S) rougher circuit was implemented, gold losses to the rougher tails reduced to only 3 percent, with 50 percent of the gold reporting to the Fe-S concentrate. Gold to the copper, lead and zinc rougher concentrates measured 14, 16 and 17 percent, respectively.

According to the diagnostic leach testing the majority of the gold is locked in sulphide minerals and arsenopyrite. Rougher test results confirm this, showing that gold appears to be recovering to a bulk sulphide flotation circuit. A detailed gold mineralogical analysis such as a TMS would be required to determine detailed information on how the gold particles are distributed and their locking characteristics.

**Figure 13-24: Rougher Test Flowsheet with Pyrite Recovery**




Source: Base Met Labs, 2023.

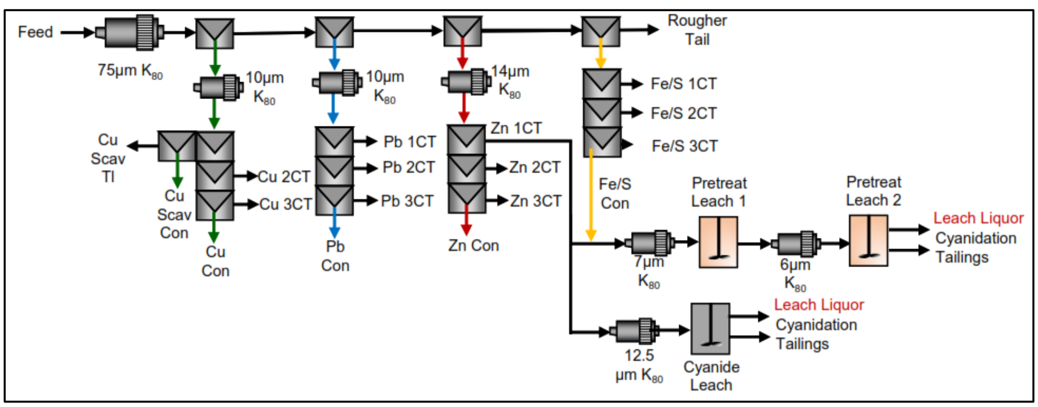
**Table 13-27: Results Rougher Test with Pyrite Recovery**

| Test | Mass | Assay - percent or g/t | | | | | | | | Distribution - percent | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | Cu | Pb | Zn | Fe | S | Au | Ag | As | Cu | Pb | Zn | Fe | S | Au | Ag | As |
| Cu Ro Con | 6.9 | 3.75 | 28.3 | 5.31 | 8.8 | 15.8 | 1.20 | 2549 | 1.93 | 71.6 | 33.0 | 6.9 | 5.4 | 8.4 | 13.9 | 44.5 | 3.7 |
| Pb Ro Con | 13.7 | 0.42 | 26.50 | 12.75 | 8.97 | 19.8 | 0.71 | 1405 | 3.88 | 15.9 | 61.1 | 32.6 | 10.9 | 20.7 | 16.3 | 48.5 | 14.7 |
| Zinc Ro Con | 9.0 | 0.24 | 0.59 | 32.4 | 15.8 | 28.5 | 1.09 | 92 | 8.71 | 6.0 | 0.9 | 54.5 | 12.6 | 19.7 | 16.5 | 2.1 | 21.8 |
| Fe-S Con | 23.4 | 0.08 | 0.67 | 0.6 | 27.9 | 28.3 | 1.28 | 50 | 9.06 | 5.0 | 2.6 | 2.5 | 57.6 | 50.6 | 50.1 | 2.9 | 58.6 |
| Ro Tails | 46.9 | 0.01 | 0.29 | 0.4 | 3.3 | 0.2 | 0.04 | 17 | 0.01 | 1.4 | 2.3 | 3.5 | 13.6 | 0.6 | 3.1 | 2.0 | 1.2 |

### 13.4.5 Cleaner Testing

A single cleaner test was performed on the Sulphide Composite, at a primary grind sizing of 75µm $K_{80}$. An Fe-S circuit shown in Figure 13-25 was implemented for this test in order to concentrate and recover refractory gold primarily associated with iron sulphide minerals. Following the cleaner test, the zinc 1st cleaner tailings and the Fe-S concentrate were combined and subject to an oxidation pre-treatment process to liberate the refractory gold for further leach extraction. Results are summarized in Table 13-28.

**Figure 13-25: Complete Rougher-Cleaner Circuit for Gold Deportment Testing**




Source: Base Met Labs, 2023.

**Table 13-28: Cleaner Tests with Pyrite Extraction Results**

| Product | Weight | | Assay - percent or g/t | | | | | | | | Distribution - percent | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | grams | Cu | Pb | Zn | Fe | S | Au | Ag | As | Cu | Pb | Zn | Fe | S | Au | Ag | As |
| Cu Con | 1.1 | 22.4 | 12.4 | 36.1 | 3.04 | 10.7 | 23.3 | 15.0 | 5490 | 0.62 | 37.1 | 7.1 | 0.7 | 1.1 | 2.0 | 21.5 | 15.3 | 0.2 |
| Cu 3rd Clnr Tl | 0.2 | 3.0 | 5.60 | 13.6 | 5.1 | 12.7 | 18.1 | 11.0 | 2390 | 2.691 | 2.2 | 0.4 | 0.2 | 0.2 | 0.2 | 2.1 | 0.9 | 0.1 |
| Cu 2nd Clnr Tl | 0.4 | 7.4 | 3.34 | 14.9 | 6.2 | 10.5 | 15.3 | 6.56 | 1490 | 2.55 | 3.3 | 1.0 | 0.5 | 0.3 | 0.4 | 3.1 | 1.4 | 0.3 |
| Cu Scav Con | 0.6 | 11.0 | 4.40 | 18.0 | 4.7 | 8.1 | 16.7 | 1.63 | 3070 | 1.519 | 6.5 | 1.7 | 0.6 | 0.4 | 0.7 | 1.1 | 4.2 | 0.3 |
| Cu Scav Tl | 3.9 | 77.6 | 1.99 | 15.0 | 5.60 | 9.2 | 14.3 | 0.74 | 1450 | 2.301 | 20.6 | 10.2 | 4.7 | 3.2 | 4.3 | 3.7 | 14.0 | 2.7 |
| Pb Con | 5.2 | 103.9 | 0.65 | 72.8 | 1.6 | 1.42 | 15.6 | 0.88 | 3790 | 0.707 | 9.0 | 66.2 | 1.8 | 0.7 | 6.3 | 5.9 | 49.1 | 1.1 |

| Product | Weight | | Assay - percent or g/t | | | | | | | | Distribution - percent | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | grams | Cu | Pb | Zn | Fe | S | Au | Ag | As | Cu | Pb | Zn | Fe | S | Au | Ag | As |
| Pb 3rd Clnr Tl* | 0.1 | 1.3 | 0.58 | 17.0 | 14.4 | 14.8 | 20.2 | 0.95 | 880 | 5.41 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Pb 2nd Clnr Tl | 0.9 | 17.6 | 0.43 | 12.3 | 13.6 | 12.6 | 20.2 | 0.95 | 880 | 5.405 | 1.0 | 1.9 | 2.6 | 1.0 | 1.4 | 1.1 | 1.9 | 1.4 |
| Pb 1st Clnr Tl | 6.1 | 121.5 | 0.24 | 4.85 | 12.9 | 14.1 | 20.2 | 0.80 | 320 | 5.575 | 3.9 | 5.2 | 16.8 | 7.7 | 9.6 | 6.2 | 4.9 | 10.3 |
| Zn Con | 2.4 | 48.0 | 0.45 | 0.56 | 55.0 | 7.1 | 34.1 | 0.41 | 180 | 0.146 | 2.9 | 0.2 | 28.3 | 1.5 | 6.4 | 1.3 | 1.1 | 0.1 |
| Zn 3rd Clnr Tl | 0.2 | 4.6 | 0.49 | 3.03 | 46.8 | 8.8 | 32.9 | 1.03 | 280 | 1.447 | 0.3 | 0.1 | 2.3 | 0.2 | 0.6 | 0.3 | 0.2 | 0.1 |
| Zn 2nd Clnr Tl | 0.7 | 13.7 | 0.40 | 2.21 | 35.6 | 12.5 | 29.5 | 2.40 | 230 | 4.845 | 0.7 | 0.3 | 5.2 | 0.8 | 1.6 | 2.1 | 0.4 | 1.0 |
| Zn 1st Clnr Tl | 8.4 | 166.4 | 0.15 | 0.50 | 16.8 | 19.0 | 26.0 | 1.38 | 60 | 9.748 | 3.3 | 0.7 | 30.0 | 14.2 | 16.9 | 14.7 | 1.2 | 24.7 |
| Fe-S Con | 10.9 | 217.5 | 0.10 | 0.36 | 0.2 | 41.5 | 46.9 | 1.78 | 60 | 10.064 | 2.9 | 0.7 | 0.4 | 40.5 | 39.9 | 24.8 | 1.6 | 33.3 |
| Fe-S 3rd Clnr Tl | 1.3 | 25.9 | 0.12 | 0.56 | 0.5 | 29.2 | 25.4 | 2.04 | 60 | 17.456 | 0.4 | 0.1 | 0.1 | 3.4 | 2.6 | 3.4 | 0.2 | 6.9 |
| Fe-S 2nd Clnr Tl | 2.3 | 45.1 | 0.10 | 0.66 | 0.6 | 21.5 | 17.9 | 1.19 | 50 | 10.651 | 0.6 | 0.3 | 0.3 | 4.4 | 3.2 | 3.4 | 0.3 | 7.3 |
| Fe-S 1st Clnr Tl | 6.5 | 129.3 | 0.09 | 0.71 | 0.78 | 9.1 | 5.5 | 0.39 | 40 | 3.814 | 1.5 | 0.8 | 1.1 | 5.3 | 2.8 | 3.2 | 0.6 | 7.5 |
| Rougher Tail | 48.9 | 973.4 | 0.03 | 0.36 | 0.40 | 3.5 | 0.25 | 0.03 | 20 | 0.174 | 3.6 | 3.1 | 4.2 | 15.2 | 0.9 | 1.9 | 2.4 | 2.6 |

The cleaner test was performed according to the flowsheet schematic in Figure 13-25. For this test, a significant portion of the gold, at 25 percent, reported to the “Fe-S” concentrate, followed by 22 percent to the copper concentrate and 15 percent to the zinc first cleaner tailings. Some gold remained in the intermediate cleaner tailings. These streams would be recycled in closed circuit conditions and additional gold would be expected to be recovered to the concentrates.

### 13.4.6 Ultrafine Grinding and Oxidation Testing for Refractory Gold Recovery

In order to test the amenability of the gold-enriched fraction to improved extraction by a combination of ultrafine grinding followed by atmospheric pressure oxidation the combined zinc 1st cleaner tail and Fe-S concentrate (identified as “pyrite” for simplicity) was split into 500g charges. The first sample was subjected to a fine regrind (reground to 12.5µm $K_{80}$) followed by direct cyanide leaching resulted in an additional gold extraction of 38 percent. This equates to an additional 15 percent gold recovery from the feed compared to the recovery without fine grinding.

A second sample was subjected to both fine grinding and oxidation pre-treatment, before cyanidation cyanide leaching. The oxidation pre-treatment was performed in a moderately oxidative state at atmospheric pressure and temperature just below boiling (95oC).

An initial oxidation pre-treatment/leach test resulted in gold extraction of 64 percent from the “pyrite” concentrate. The sample was subject to a second oxidative pre-treatment process for a longer period (48 hours) before leaching, which resulted in an 84 percent recovery of the gold in the concentrate. These results are summarised in Table 13-29.

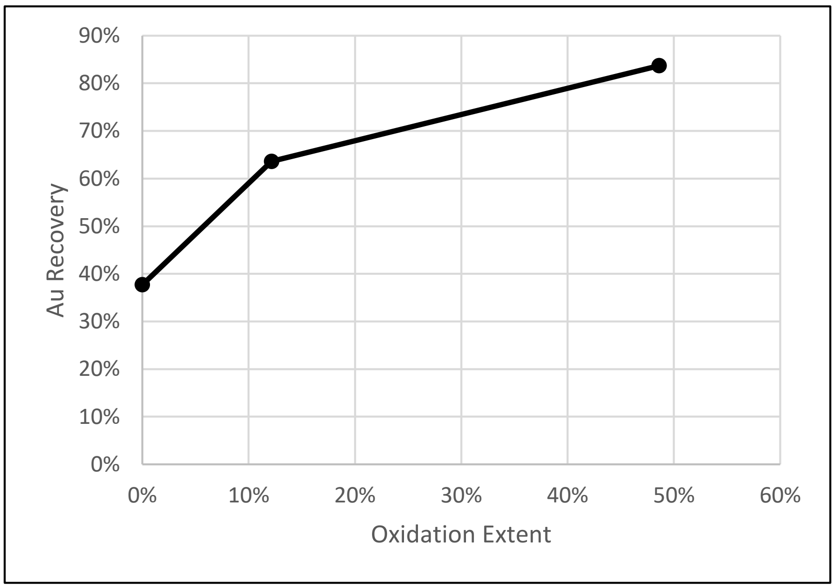
**Table 13-29: Overall Gold Extraction Results – Ultrafine Grinding and Pre-Oxidation of “Pyrite”**

| Product | Test | Test Type | Test Feed | Recovery - percent | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Au | Ag | Cu | Zn | Fe | S |
| Zn 1CT +Fe-S Con | 8 | Cleaner | Sulphide Comp | 39.5 | 3 | 6.2 | 30.4 | 54.7 | 56.8 |
| 48 h Leach Solution 48 h | 8B/C | Pre-Treatment/Leach 1 | Zn 1CT +Fe-S Con Test 8C | 63.6 | 71 | 93.2 | 8.7 | 0.2 | 0.07 |
| Leach Solution | 8E/F | Pre-Treatment/Leach 2 | Cyanide Tails | 83.7 | 34 | 53.3 | 15.0 | 0.01 | 0.05 |

| Product | Test | Test Type | Test Feed | Recovery - percent | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Au | Ag | Cu | Zn | Fe | S |
| Overall Extraction from Zn 1CT + Fe/S Con | | | | 94.0 | 81 | 96.8 | 22.4 | 0.2 | 0.11 |
| **Overall Extraction from Feed** | | | | **37.2** | **2** | **6.0** | **6.8** | **0.1** | **0.06** |
| Zn 1CT +Fe-S Con | 8 | Cleaner | Sulphide Comp | 39.5 | 3 | 6.2 | 30.4 | 54.7 | 56.8 |
| 48 h Leach Solution | 8D | Cyanide Leach | Zn 1CT +Fe-S Con | 37.7 | 81 | 33.2 | 4.7 | 0.0 | 0.27 |
| **Overall Extraction from Feed** | | | | **14.9** | **2.3** | **2.1** | **1.4** | **0.0** | **0.2** |

Figure 13-26 shows gold extraction increases with increasing levels of oxidation. The chart indicates that no more than 60% oxidation would be required to fully liberate the gold.

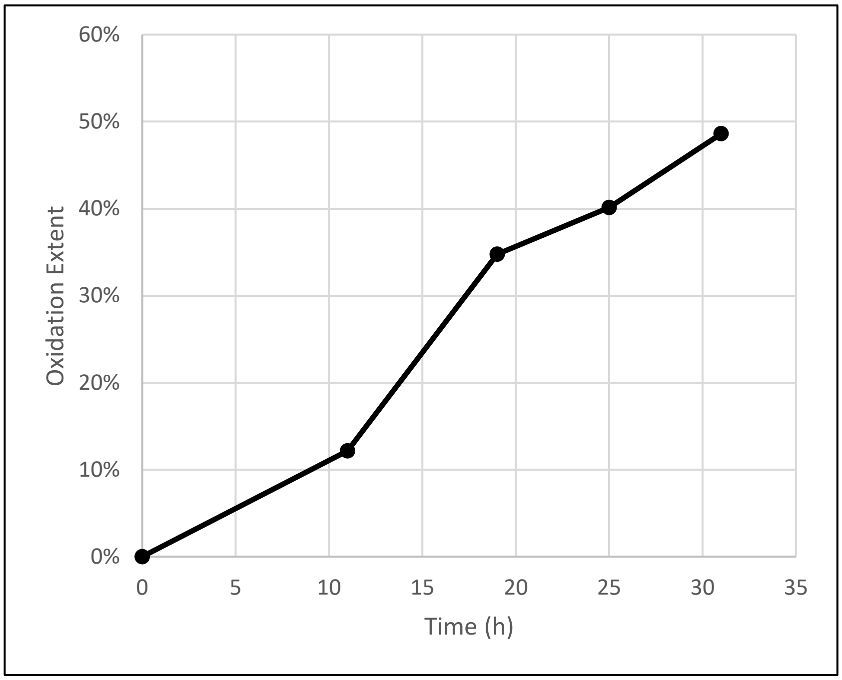
**Figure 13-26: Gold Extraction vs. Oxidation Degree**




Source: Ausenco Albion Model, 2024.

Figure 13-27 indicates that the extraction rate was limited by oxygen supply. Improved oxygen uptake efficiency is likely to further improve reaction rates and reduce residence time. Although these tests were encouraging and demonstrated that a combination of ultra-fine grinding and partial oxidation rendered the refractory gold responsive to cyanidation, test conditions were not optimised. Further testwork would focus on improved pyrite cleaning and improved monitoring of oxygen supply during the oxidative pre-treatment. Larger samples of pyrite concentrate will be required than are generated from a 2 kg rougher sample. This work is currently in the planning stages.

**Figure 13-27: Degree of Oxidation with Time**




Source: Ausenco Albion Model, 2024.

## 13.5 Recovery Estimates

The cumulative mineral processing testwork has concluded that 4 saleable concentrates (Cu, Pb-Ag, Zn, and Au doré) can be produced from the Life of mine average concentrate and the likely grades and recoveries are summarized in Table 13-30.

**Table 13-30: Metal Recoveries to Final Concentrates**

| Item | Pb Concentrate (%) | Zn Concentrate (%) | Cu Concentrate (%) | Doré |
|---|---|---|---|---|
| Pb Recovery | 87.0 | - | - | - |
| Zn Recovery | - | 93.2 | - | - |
| Cu Recovery | - | - | 70.0 | - |
| Ag Recovery | 77.0 | 7.3 | 6.0 | 3.0 |
| Au Recovery | - | - | 20.0 | 28.6 |
| Concentrate Grade (Primary Base Metal) | 65 | 54 | 27 | - |

# 14 MINERAL RESOURCE ESTIMATES

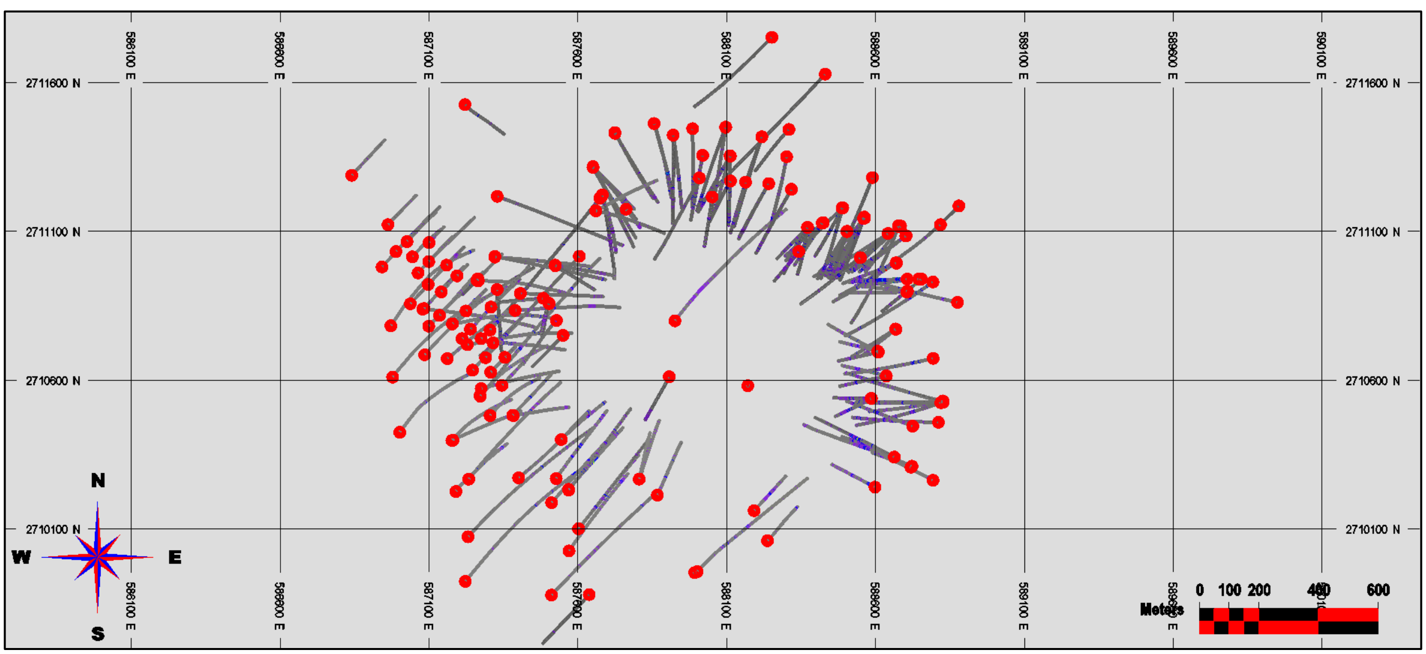
## 14.1 Introduction

The purpose of this report is to document the resource estimations for the Cerro Las Minitas deposit. This section describes the work undertaken by Kirkham Geosystems Ltd., including key assumptions and parameters used to prepare the mineral resource models. This includes the Blind, El Sol, Las Victorias, Skarn Front reported in 2019 and for South Skarn and La Bocona which were subsequently published in 2021. However, all are updated herein to be reporting using Net Smelter Royalty (NSR) cut-offs based upon updated metallurgical recoveries, commodity pricing and operating costs. In addition, this Technical Report also includes the mineral resources for the North Felsite Zone, together with appropriate commentary regarding the merits and possible limitations of such assumptions.

## 14.2 Data

The 216 drill holes and seven (7) trenches in the database were supplied in electronic format by Southern Silver. This included collars, downhole surveys, lithology data and assay data (i.e., Ag g/t, Au g/t, Cu%, Pb ppm, Zn ppm, Fe%, Ca%, S%, As ppm, Sb ppm, SG). Validation and verification checks were performed during importation of data to ensure there were no overlapping intervals, typographic errors, or anomalous entries. Anomalies and errors were validated and corrected. Figure 14-1 shows a plan view of the supplied drill holes.

**Figure 14-1: Plan View of Cerro Las Minitas Drill Holes**

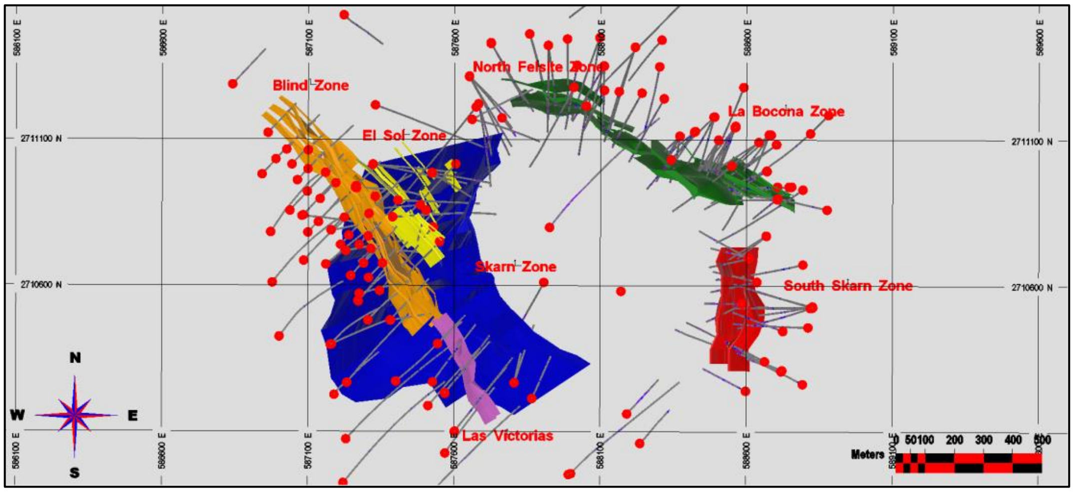



Source: Kirkham, 2024.

## 14.3 Geology Model

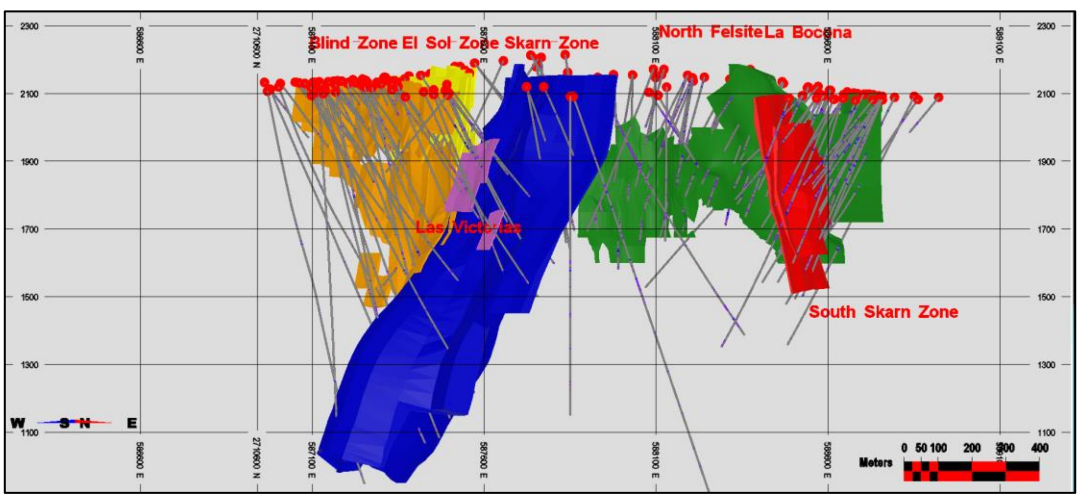
Solid models (Figure 14-2 and Figure 14-3) were created from sections and based on a combination of lithology, silver equivalent grades and site knowledge. It is important to note that continuously improved understanding and interpretation has evolved to be that of a significant Skarn Zone flanked by the El Sol, Blind and Las Victorias zones on the west side of the intrusion and the South Skarn, La Bocona and North Felsite zones to the east and north.

**Figure 14-2: Plan View of Cerro Las Minitas Mineralized Zones and Drill Holes**




Source: Kirkham, 2024.

**Figure 14-3: Section View of Cerro Las Minitas Mineralized Zones and Drill Holes Looking 350 Degrees Azimuth**




Source: Kirkham, 2024.

All zones were modelled based on current drilling and assay data using LeapFrog™ and then imported into MineSight™ for interpretation and refinement. As the Skarn zone extends through the adjacent Puro Corazon property, the available data within that area is primarily the historic Silver Dragon drillhole data. It is important to note that the historic Silver

Dragon drillholes were used to guide, confirm and ensure continuity of the Skarn zone through the Puro Corazon claims. The Puro Corazon volumes and tonnages are not reported as resources. In addition, at La Bocona, the historic underground workings were masked out to be excluded from the resource. This included a reasonable buffer to ensure sufficient pillars are accounted for.

Thirteen Silver Dragon drill holes were used to project the wireframe through the Puro Corazon claim; effectively tracing the contact with the central intrusion to identify the footwall of the Skarn Front zone. In four cases, where downhole data was not available, core photos were used to trace the contact. In other instances, down hole geology/mineralization was compared to geological projections from SSV drilling and known areas of mine activity at Santo Nino and Puro Corazon. This was the basis of the 2019 wireframe as it projects through the Puro Corazon claim. In comparison, the earlier 2017 wireframe typically projects 30 meters to 50 meters horizontally east of the identified Skarn Front zone in the Silver Dragon drilling, and as significantly, projects a similar distance east of the Rampa Guadalupe workings.

Intersections were inspected, and the domain solids were then manually adjusted to match the drill intercepts. Once the solid models were created, they were used to code the drill hole assays and composites for subsequent statistical and geostatistical analysis. The solid domain zones were used to constrain the block model by matching assays to those within the zones. The orientation and ranges (distances) used for search ellipsoids in the estimation process were derived from strike and dip of the mineralized zone, site knowledge and on-site observations by the QP and Southern Silver geological staff.

## 14.4 Data Analysis

The database was numerically coded throughout the intersections with the mineralized zones and then manually adjusted to ensure accuracy of zonal intercepts. Table 14.1 shows the statistics for the silver, gold, copper, lead and zinc assays. In addition, basic statistics for the La Bocona, North Felsite, La Bocona Oxide and South Skarn zones are shown in Table 14-1 through Table 14-5, respectively.

Note that the Blind and Skarn zones have a high degree of variability for all metals which is evidenced by the high Coefficient of Variation (CV). The CV is a unit independent quantitative measure of variability which is represented by the formula CV = standard deviation/mean. With CV's ranging for a moderately high value of >2 to very high values of > 3 within the silver and base metals and 5.6 - 6 for the gold within the Blind and Skarn zones to 3.6 in the Skarn zone. The El Sol and Las Victorias zones are much less variable however, the goal of compositing and grade cutting will be to reduce these to reasonable range of 1 to 2. It should be noted that as the CV's for gold are extremely high to a maximum of 6.0, the gold is also extremely low grade. For reference, the CV's that have a value greater than 2.0 are highlighted in **RED** throughout to show the reader the effect progressive mitigative steps.

As noted, the Las Victorias and El Sol zones have CV's that range between 1 and 2 which are moderate and will also be reduced to more reasonable levels with a goal of tuning them to less than 1.

Table 14-1: Statistics Silver, Gold, Copper, Lead and Zinc for the Blind, Las Victorias, Skarn and El Sol Zones

| Code | Zone | Metal | Length (m) | Max | Mean | CV | Code | Zone | Metal | Length (m) | Max | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BZ1 | AG | 443.52 | 1,040 | 24.03 | 2.8 | 12 | ES2 | AG | 120.02 | 745 | 32.66 | 2.2 |
| | | AU | 443.52 | 0.52 | 0.02 | 3.1 | | | AU | 120.02 | 0.181 | 0.01 | 1.6 |
| | | CU% | 443.52 | 1.12 | 0.02 | 3.2 | | | CU% | 120.02 | 5.1 | 0.09 | 4.5 |
| | | PB% | 443.52 | 18.5 | 0.55 | 3.1 | | | PB% | 120.02 | 12.4 | 0.92 | 1.9 |
| | | ZN% | 443.52 | 20.3 | 0.49 | 3.2 | | | ZN% | 120.02 | 12.85 | 0.92 | 1.8 |
| 2 | BZ2 | AG | 596.18 | 1,380 | 38.04 | 2.9 | 13 | ES3 | AG | 37.85 | 238 | 62.96 | 1 |
| | | AU | 596.18 | 5.32 | 0.05 | 5.6 | | | AU | 37.85 | 0.074 | 0.02 | 1 |
| | | CU% | 596.18 | 3.27 | 0.05 | 3.3 | | | CU% | 37.85 | 0.605 | 0.11 | 1.3 |
| | | PB% | 596.18 | 28.35 | 0.98 | 2.9 | | | PB% | 37.85 | 7.84 | 2.58 | 1 |
| | | ZN% | 596.18 | 17.1 | 0.83 | 2.6 | | | ZN% | 37.85 | 9.05 | 3.29 | 1 |
| 3 | BZ3 | AG | 383.22 | 1,400 | 46.18 | 2.8 | 14 | ES4 | AG | 41.38 | 391 | 90.83 | 1.1 |
| | | AU | 383.22 | 0.555 | 0.03 | 2.6 | | | AU | 41.38 | 0.247 | 0.03 | 2.1 |
| | | CU% | 383.22 | 1.105 | 0.04 | 2.8 | | | CU% | 41.38 | 0.239 | 0.07 | 1.1 |
| | | PB% | 383.22 | 19.7 | 1 | 2.3 | | | PB% | 41.38 | 9.42 | 1.86 | 1.1 |
| | | ZN% | 383.22 | 18.7 | 0.91 | 2.6 | | | ZN% | 41.38 | 8.12 | 2 | 0.9 |
| 4 | BZ4 | AG | 152.1 | 247 | 12.43 | 2.1 | 15 | ES5 | AG | 23.05 | 58.2 | 17.47 | 0.8 |
| | | AU | 152.1 | 0.035 | 0.01 | 1 | | | AU | 23.05 | 0.018 | 0.01 | 0.9 |
| | | CU% | 152.1 | 0.335 | 0.02 | 2.7 | | | CU% | 23.05 | 0.216 | 0.06 | 1.1 |
| | | PB% | 152.1 | 6.46 | 0.38 | 2.2 | | | PB% | 23.05 | 2.85 | 0.73 | 0.9 |
| | | ZN% | 152.1 | 5.06 | 0.36 | 2.2 | | | ZN% | 23.05 | 3.21 | 0.77 | 1.1 |
| 5 | Las Victorias Zone | AG | 71.5 | 1,100 | 89.84 | 1.8 | 16 | ES6 | AG | 27.55 | 650 | 123.09 | 1.5 |
| | | AU | 71.5 | 6.26 | 0.81 | 1.6 | | | AU | 27.55 | 0.66 | 0.1 | 1.7 |
| | | CU% | 71.5 | 0.985 | 0.09 | 1.9 | | | CU% | 27.55 | 0.321 | 0.06 | 1.3 |
| | | PB% | 71.5 | 23.19 | 1.77 | 1.9 | | | PB% | 27.55 | 16 | 2.64 | 1.7 |
| | | ZN% | 71.5 | 8.69 | 1.59 | 1.5 | | | ZN% | 27.55 | 15.1 | 1.36 | 1.8 |
| 20 | Skarn Zone | AG | 1054.5 | 1,415 | 43.98 | 2.6 | 17 | ES7 | AG | 11.85 | 154 | 37.95 | 1.4 |
| | | AU | 1054.5 | 6.9 | 0.05 | 6 | | | AU | 11.85 | 0.023 | 0.01 | 0.8 |
| | | CU% | 1054.5 | 5.56 | 0.16 | 2.9 | | | CU% | 11.85 | 0.234 | 0.04 | 1.7 |
| | | PB% | 1054.5 | 16.7 | 0.34 | 3.6 | | | PB% | 11.85 | 7.28 | 1.27 | 1.6 |
| | | ZN% | 1054.5 | 37.33 | 1.65 | 2.5 | | | ZN% | 11.85 | 9.23 | 1.18 | 2.1 |
| 11 | ES1 | AG | 49.65 | 276 | 39.01 | 1.3 | 18 | ES8 | AG | 8.8 | 214 | 30.7 | 1.9 |
| | | AU | 49.65 | 0.1 | 0.01 | 1.5 | | | AU | 8.8 | 0.01 | 0.01 | 0.5 |
| | | CU% | 49.65 | 0.326 | 0.04 | 1.6 | | | CU% | 8.8 | 0.031 | 0.01 | 1.4 |
| | | PB% | 49.65 | 10.6 | 1.1 | 1.9 | | | PB% | 8.8 | 7.23 | 1.05 | 2 |
| | | ZN% | 49.65 | 5.6 | 1.08 | 1.3 | | | ZN% | 8.8 | 3.51 | 0.9 | 1.5 |

Outside of gold, the La Bocona zones are less variable which for the most part should be addressed during compositing and grade limiting.

**Table 14-2: Statistics for Silver, Gold, Copper, Lead and Zinc by Vein for the La Bocona Zone**

| Code | Zone | Metal | Length (m) | Min | Max | Mean | CV |
|---|---|---|---|---|---|---|---|
| 1 | La Bocona HW1 | AU | 28.75 | 0.002 | 3.02 | 0.14 | **3.4** |
| | | AG | 28.75 | 1.1 | 602 | 71.11 | **2.2** |
| | | CU% | 28.75 | 0.003 | 1.965 | 0.30 | 1.6 |
| | | PB% | 28.75 | 0 | 5.31 | 0.37 | **3.0** |
| | | ZN% | 28.75 | 0.01 | 0.48 | 0.17 | 1.0 |
| 2 | La Bocona HW2 | AU | 25.1 | 0.002 | 0.413 | 0.05 | 1.4 |
| | | AG | 25.1 | 0.5 | 530 | 72.44 | **2.0** |
| | | CU% | 25.1 | 0.002 | 0.54 | 0.07 | 1.9 |
| | | PB% | 25.1 | 0 | 13.15 | 1.26 | **2.2** |
| | | ZN% | 25.1 | 0.02 | 32.18 | 1.04 | **3.8** |
| 3 | La Bocona HW3 | AU | 3.55 | 0.011 | 0.421 | 0.13 | 1.2 |
| | | AG | 3.55 | 12.8 | 543 | 140.15 | 1.4 |
| | | CU% | 3.55 | 0.005 | 0.022 | 0.01 | 0.7 |
| | | PB% | 3.55 | 0.38 | 12.7 | 3.22 | 1.5 |
| | | ZN% | 3.55 | 0.1 | 1.34 | 0.72 | 0.7 |
| 10 | Muralla Gold Sulphide | AU | 1.4 | 0.009 | 0.224 | 0.09 | 1.2 |
| | | AG | 1.4 | 0.8 | 770 | 275.51 | 1.3 |
| | | CU% | 1.4 | 0.004 | 0.096 | 0.04 | 1.2 |
| | | PB% | 1.4 | 0.02 | 17.9 | 6.41 | 1.3 |
| | | ZN% | 1.4 | 0.21 | 11.1 | 4.10 | 1.3 |
| 20 | Muralla Main | AU | 35.45 | 0 | 5.35 | 0.84 | 1.8 |
| | | AG | 35.45 | 0 | 528 | 97.63 | 1.5 |
| | | CU% | 35.45 | 0 | 0.254 | 0.04 | 1.7 |
| | | PB% | 35.45 | 0 | 15.1 | 2.44 | 1.5 |
| | | ZN% | 35.45 | 0 | 8.5 | 1.13 | 1.3 |
| 21 | Muralla HW1 | AU | 78.6 | 0.002 | 2.7 | 0.20 | **2.2** |
| | | AG | 78.6 | 0.6 | 1,190 | 169.93 | 1.6 |
| | | CU% | 78.6 | 0.001 | 0.232 | 0.02 | 1.6 |
| | | PB% | 78.6 | 0 | 23.44 | 3.09 | 1.6 |
| | | ZN% | 78.6 | 0.02 | 29.5 | 0.90 | **2.3** |
| 22 | Muralla HW2 | AU | 134.3 | 0.002 | 7.84 | 0.39 | **2.3** |
| | | AG | 134.3 | 0.25 | 2,430 | 138.13 | 1.9 |
| | | CU% | 134.3 | 0.001 | 0.365 | 0.02 | 1.7 |
| | | PB% | 134.3 | 0 | 53.53 | 2.31 | **2.0** |
| | | ZN% | 134.3 | 0 | 14.15 | 1.11 | **2.1** |

Only the gold and silver are deemed of interest at this time for the Bocona Oxide zones and as such exhibit moderate to low variability which will be addressed though grad limiting.

**Table 14-3: Statistics for Silver, Gold, Copper, Lead and Zinc by Vein at the La Bocona Zone Oxide**

| Code | Zone | Metal | Length (m) | Min | Max | Mean | CV |
|---|---|---|---|---|---|---|---|
| 40 | Muralla Gold Oxide | AU | 121 | 0 | 34.6 | 1.70 | 2.5 |
| | | AG | 121 | 0 | 107 | 25.00 | 1.0 |
| | | CU% | 121 | 0 | 0.13 | 0.02 | 1.5 |
| | | PB% | 121 | 0 | 8.74 | 0.78 | 1.8 |
| | | ZN% | 121 | 0 | 5.98 | 0.56 | 1.6 |
| 41 | Muralla HW1 | AU | 13.85 | 0.006 | 0.11 | 0.05 | 0.8 |
| | | AG | 13.85 | 1.1 | 125 | 43.12 | 1.1 |
| | | CU% | 13.85 | 0.001 | 0.01 | 0.00 | 0.8 |
| | | PB% | 13.85 | 0 | 0.46 | 0.12 | 1.5 |
| | | ZN% | 13.85 | 0.09 | 1.27 | 0.53 | 0.8 |
| 42 | Muralla HW2 | AU | 18.8 | 0.021 | 2.82 | 0.55 | 1.4 |
| | | AG | 18.8 | 6.8 | 236 | 28.50 | 1.7 |
| | | CU% | 18.8 | 0.001 | 0.23 | 0.02 | 2.2 |
| | | PB% | 18.8 | 0.01 | 6.25 | 0.58 | 2.5 |
| | | ZN% | 18.8 | 0.05 | 5.44 | 0.55 | 2.2 |
| 44 | La Bocona Main Oxide | AU | 130.3 | 0.002 | 2.14 | 0.12 | 2.7 |
| | | AG | 130.3 | 0.8 | 358 | 34.70 | 1.8 |
| | | CU% | 130.3 | 0.001 | 1.88 | 0.09 | 3.0 |
| | | PB% | 130.3 | 0 | 2.46 | 0.47 | 1.4 |
| | | ZN% | 130.3 | 0.01 | 12 | 0.95 | 2.0 |

The La Bocona / North Felsite zone has a very high degree of variability which is evidenced by the high CV ranging for a moderately high value of >2 to very high values of approximately 4.2. The hangingwall zones exhibit less pronounced variability which will be addressed through compositing and grade cutting.

**Table 14-4: Statistics for Silver, Gold, Copper, Lead and Zinc by Vein at the North Felsite Zone**

| Zone | Zone Code | Metal | Length (m) | Maximum | Mean | CV |
|---|---|---|---|---|---|---|
| North Felsite / La Bocona Main | 4 | AG | 875.45 | 3,180 | 82.80 | 2.8 |
| | | AU | 875.45 | 4.71 | 0.10 | 3.4 |
| | | CU% | 932.45 | 11.2 | 0.14 | 4.2 |
| | | PB% | 932.45 | 58.81 | 1.13 | 3.3 |
| | | ZN% | 932.45 | 21.5 | 0.90 | 2.7 |

| Zone | Zone Code | Metal | Length (m) | Maximum | Mean | CV |
|---|---|---|---|---|---|---|
| North Felsite HW1 | 23 | AG | 70.55 | 328 | 40.87 | 1.4 |
| | | AU | 70.55 | 11.2 | 0.56 | 2.7 |
| | | CU% | 70.55 | 0.276 | 0.02 | 1.8 |
| | | PB% | 70.55 | 10.65 | 0.79 | 2.0 |
| | | ZN% | 70.55 | 11.9 | 0.50 | 2.7 |
| North Felsite HW2 | 24 | AG | 36.25 | 451 | 55.39 | 1.7 |
| | | AU | 36.25 | 2.61 | 0.45 | 1.7 |
| | | CU% | 36.25 | 0.831 | 0.06 | 1.8 |
| | | PB% | 36.25 | 4.56 | 0.62 | 1.8 |
| | | ZN% | 36.25 | 11.45 | 0.85 | 2.1 |

The South Skarn Main and HW1 zones have a consistently high degree of variability with CV's ranging for a moderately high value of >2 to very high values of 2.9 and 3.8 for copper although the copper values are not likely economic.

**Table 14-5: Statistics for Silver, Gold, Copper Lead and Zinc by Vein at the South Skarn Zone**

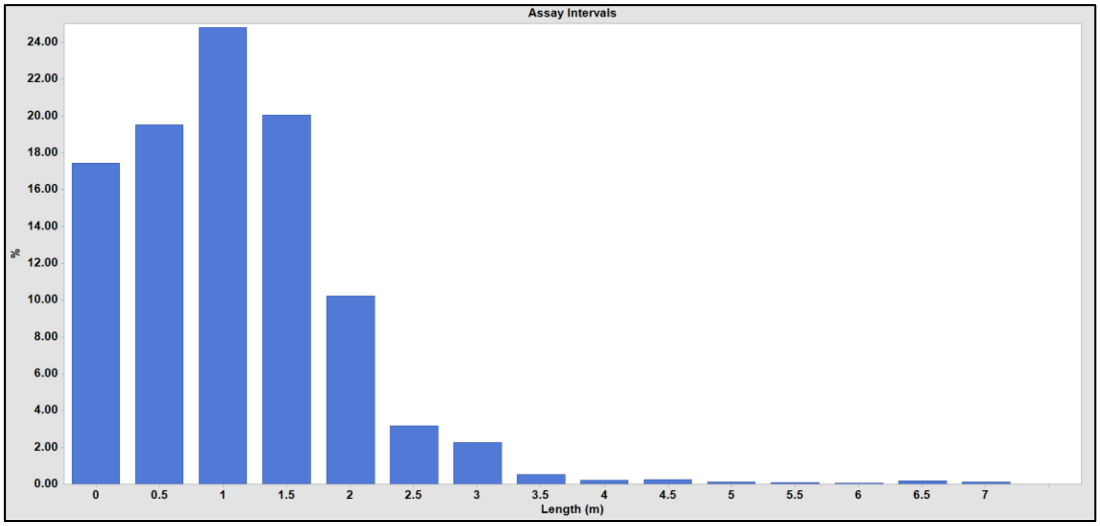
| Code | Zone | Metal | Length (m) | Min | Max | Mean | CV |
|---|---|---|---|---|---|---|---|
| 30 | South Skarn FW1 | AU | 6.9 | 0.002 | 0.48 | 0.17 | 1.1 |
| | | AG | 6.9 | 4.3 | 305 | 121.92 | 1.0 |
| | | CU% | 6.9 | 0.004 | 1.08 | 0.29 | 1.4 |
| | | PB% | 6.9 | 0.05 | 4.39 | 2.24 | 0.9 |
| | | ZN% | 6.9 | 0.05 | 4.12 | 1.90 | 0.9 |
| 31 | South Skarn HW1 | AU | 123.2 | 0.002 | 11.7 | 0.36 | 3.3 |
| | | AG | 123.2 | 0.25 | 1,150 | 58.31 | 2.3 |
| | | CU% | 123.2 | 0.001 | 0.52 | 0.02 | 2.9 |
| | | PB% | 123.2 | 0.003 | 11 | 0.75 | 2.1 |
| | | ZN% | 123.2 | 0.01 | 5.08 | 0.37 | 2.0 |
| 32 | South Skarn Main | AU | 402.4 | 0 | 2.04 | 0.08 | 2.4 |
| | | AG | 402.4 | 0 | 1,480 | 73.09 | 2.5 |
| | | CU% | 402.4 | 0 | 2.5 | 0.06 | 3.8 |
| | | PB% | 402.4 | 0 | 26.5 | 1.11 | 3.0 |
| | | ZN% | 402.4 | 0 | 22.6 | 0.98 | 2.9 |

The Blind, Skarn, La Bocona HW1, North Felsite/La Bocona Main, South Skarn Main and South Skarn HW1 zones have a relatively high degree of variability as shown.

## 14.5 Composites

It was determined that a 1.5 m composite length offered the best balance between supplying common support for samples and minimizing the smoothing of the grades with ~85% of the samples within the mineralized zones being <2 meters in length. The 1.5 m sample length also was consistent with the distribution of sample lengths within the mineralized domains as shown in the histogram of assay lengths in Figure 14-4.

**Figure 14-4: Assay Interval Lenghts**




Source: Kirkham, 2024.

Table 14-5 shows the basic statistics for the 1.5 m copper composite grades within the mineralized domains. It should be noted that although 1.5 m is the composite length, any residual composites of lengths greater than 0.5 m and less than 1.5 m were retained to represent a composite, while any composite residuals less than 0.5 m were combined with the previous composite.

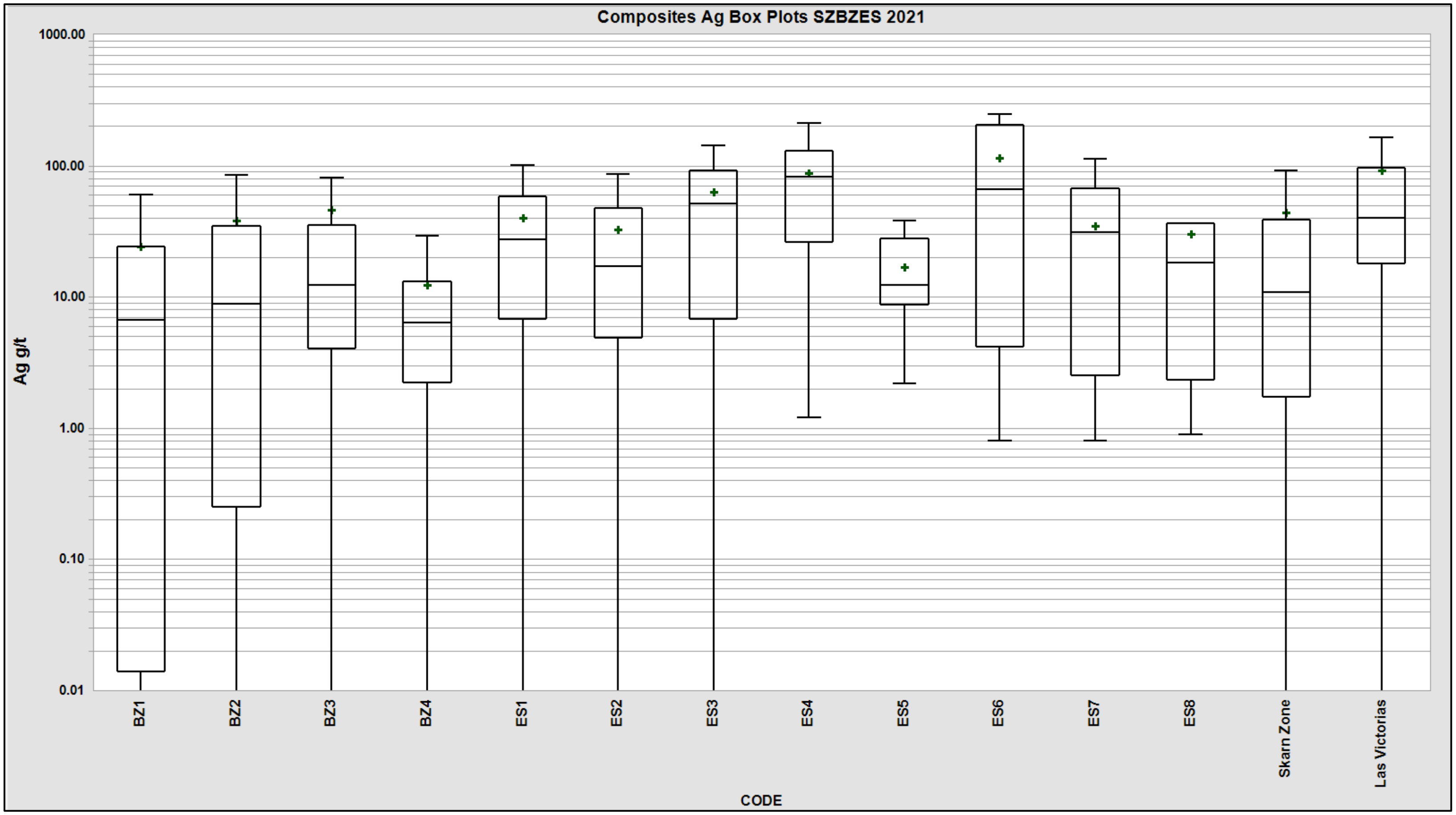
Box plots are a useful graphical statistical tool in order to compare and contrast different data populations particularly those within various lithological or mineralized domains. These are also helpful in determining whether similar related zones or lithologic units may be grouped and whether the domains should be treated as wither hard or soft boundaries.

The box plots for the silver, gold, copper, lead and zinc composites shown in Figure 14-5 through Figure 14-9 illustrate that the four Blind Zone units, the eight El Sol units, the Las Victorias and Skarn Front zone and their statistical relationship to each other. The box plots show that there are grade similarities within the zone groupings where the Blind Zone solids and the El Sol Zone solids are somewhat similar, and, therefore, it may be acceptable to treat them in a similar manner. The Skarn Front zone also exhibit statistically similarities particularly in the case of Ag, Au and Zn while the Las Victorias has commonality for Ag, Zn and Pb grade distributions.

The box plots shown in Figure 14-10 through Figure 14-14 illustrate the La Bocona and Muralla zones and their statistical relationship to each other for Ag, Au, Cu, Pb and Zn, respectively. The differences of the metal distributions by zone appear more pronounced and significant in comparison to the other zones other than perhaps the zinc grades.

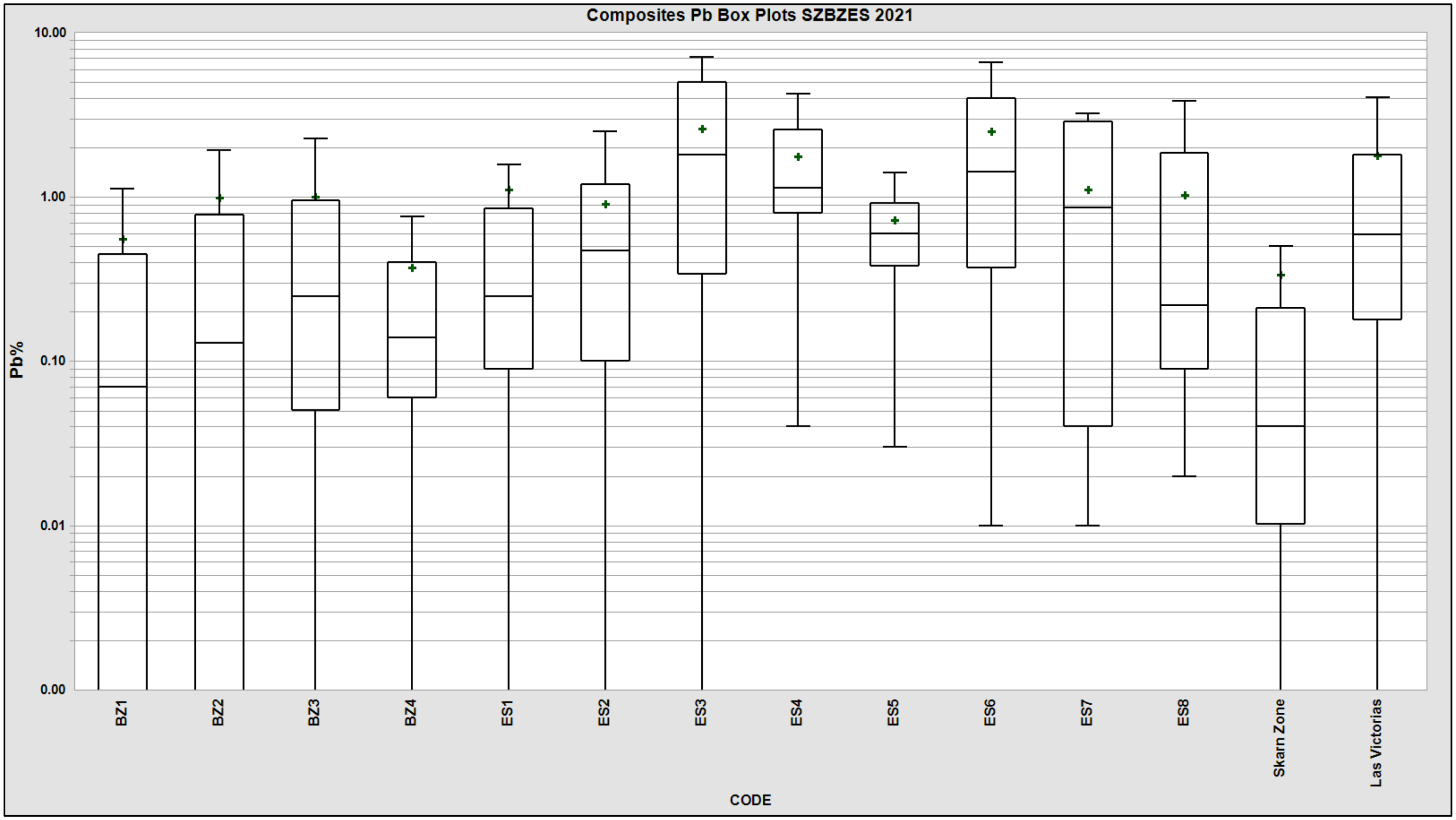
Gold concentrations within the La Bocona zone is relatively low with the exception of the La Bocona and Muralla Oxide shown in the Au box plot in Figure 14-9. As the oxide resource is likely to be a leach product, only the gold and silver, will be economic and therefore reported, herein.

**Figure 14-5: Box Plot of Ag Composites for the Blind, El Sol and Skarn Zones**



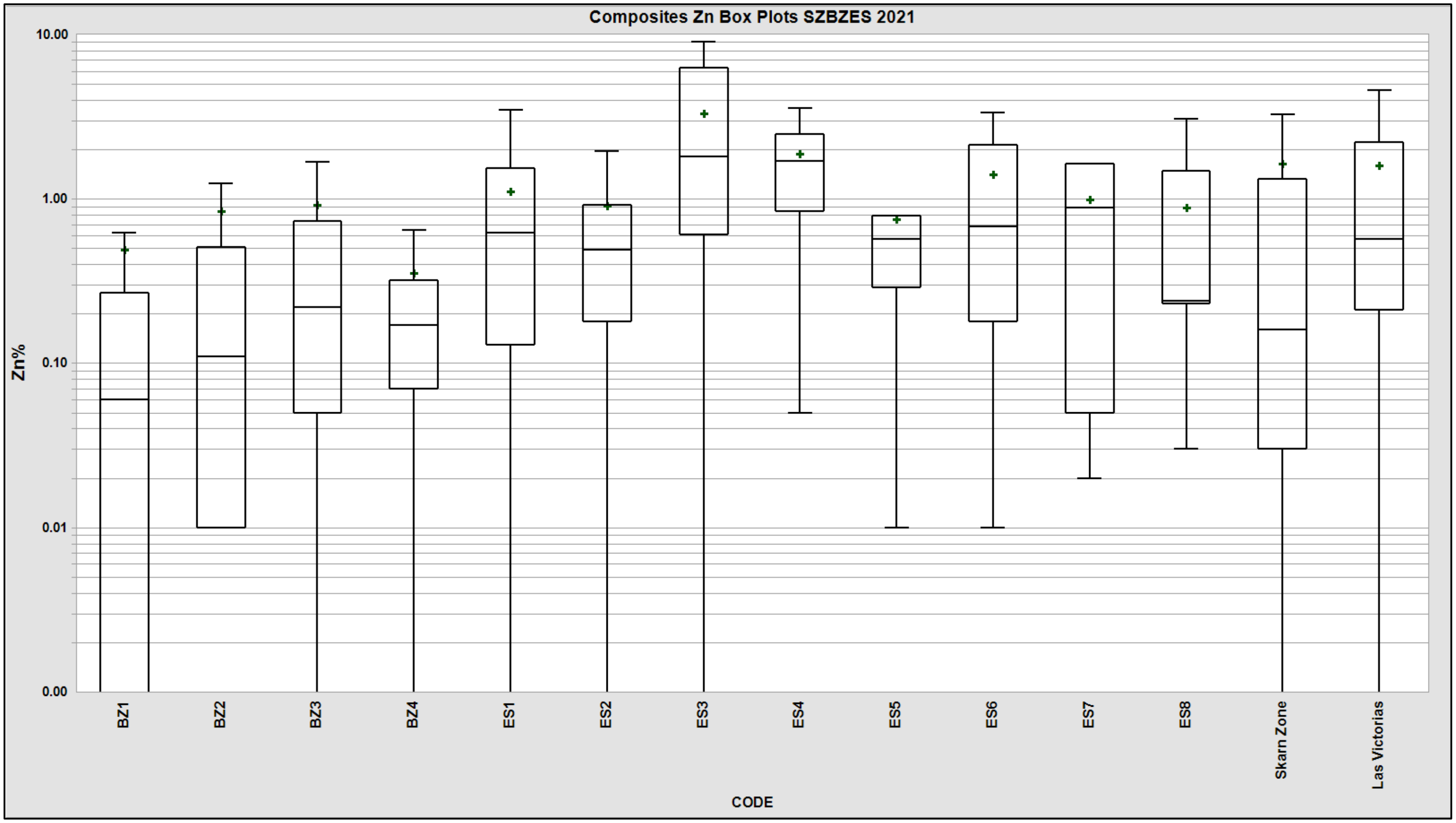

Source: Kirkham, 2024.

**Figure 14-6: Box Plot of Pb Composites for the Blind, El Sol and Skarn Zones**



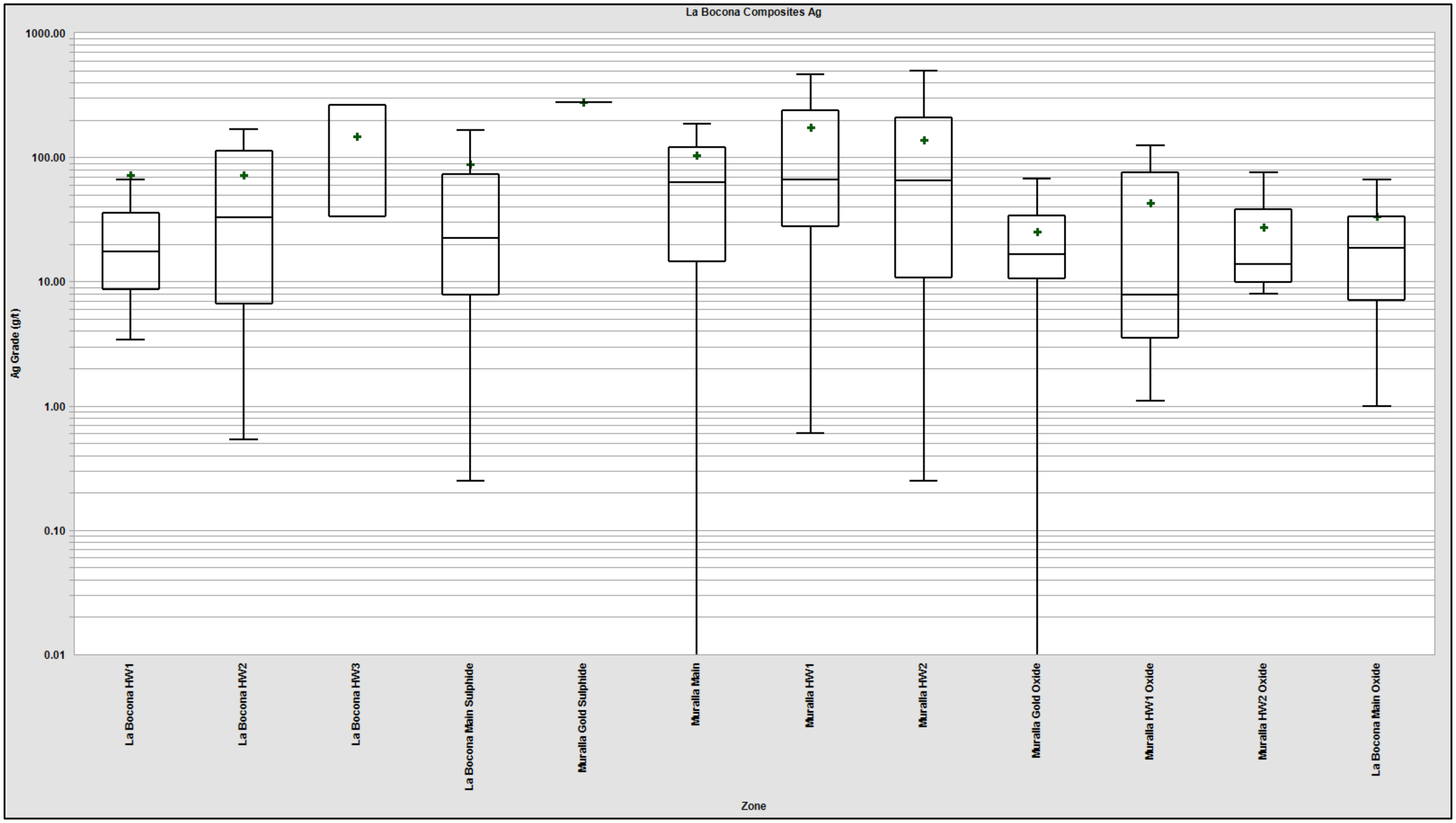

Source: Kirkham, 2024.

**Figure 14-7: Box Plot of Zn Composites for the Blind, El Sol and Skarn Zones**



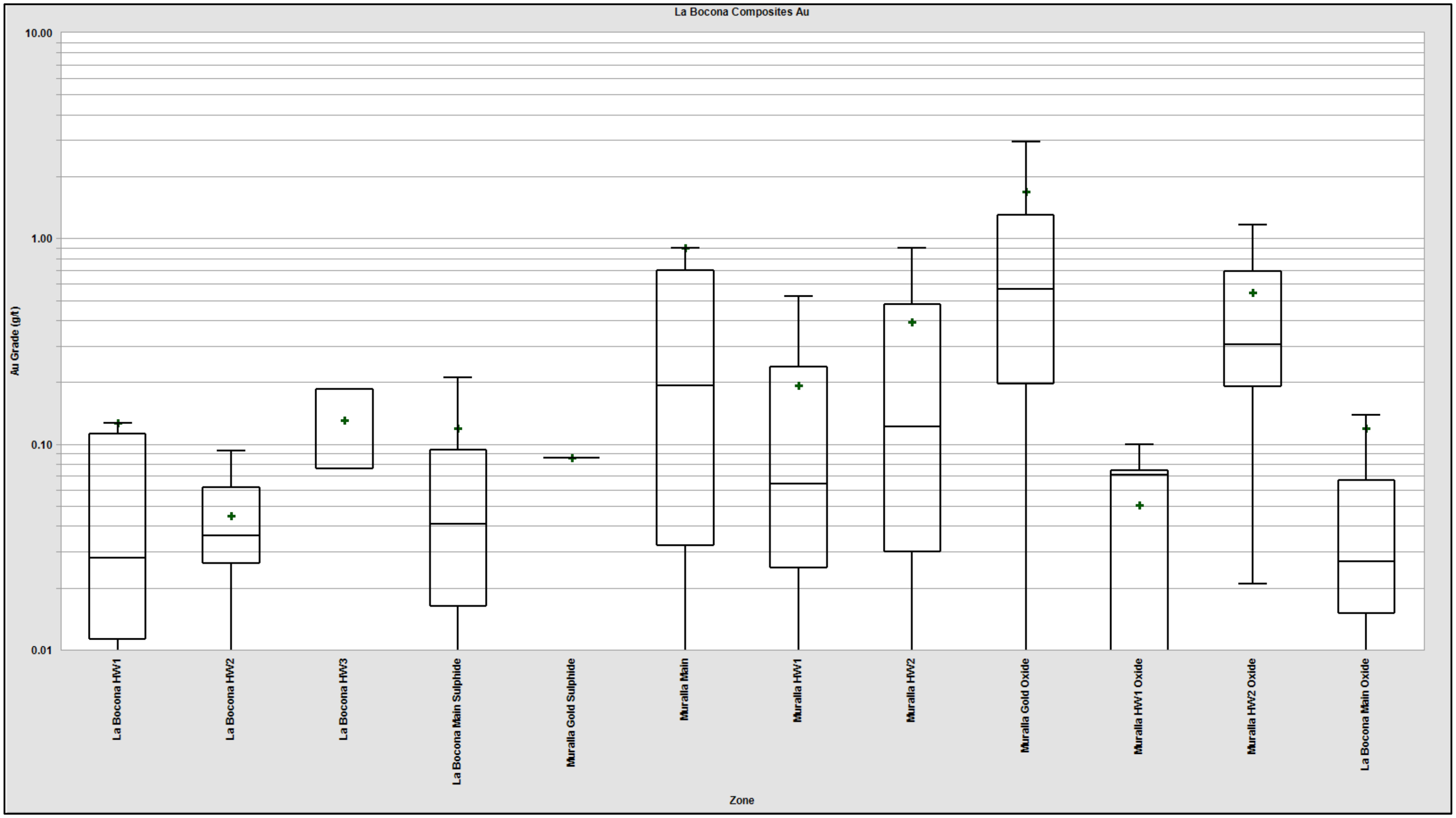

Source: Kirkham, 2024.

**Figure 14-8: Box Plot of Ag Composites by the La Bocona Zone**



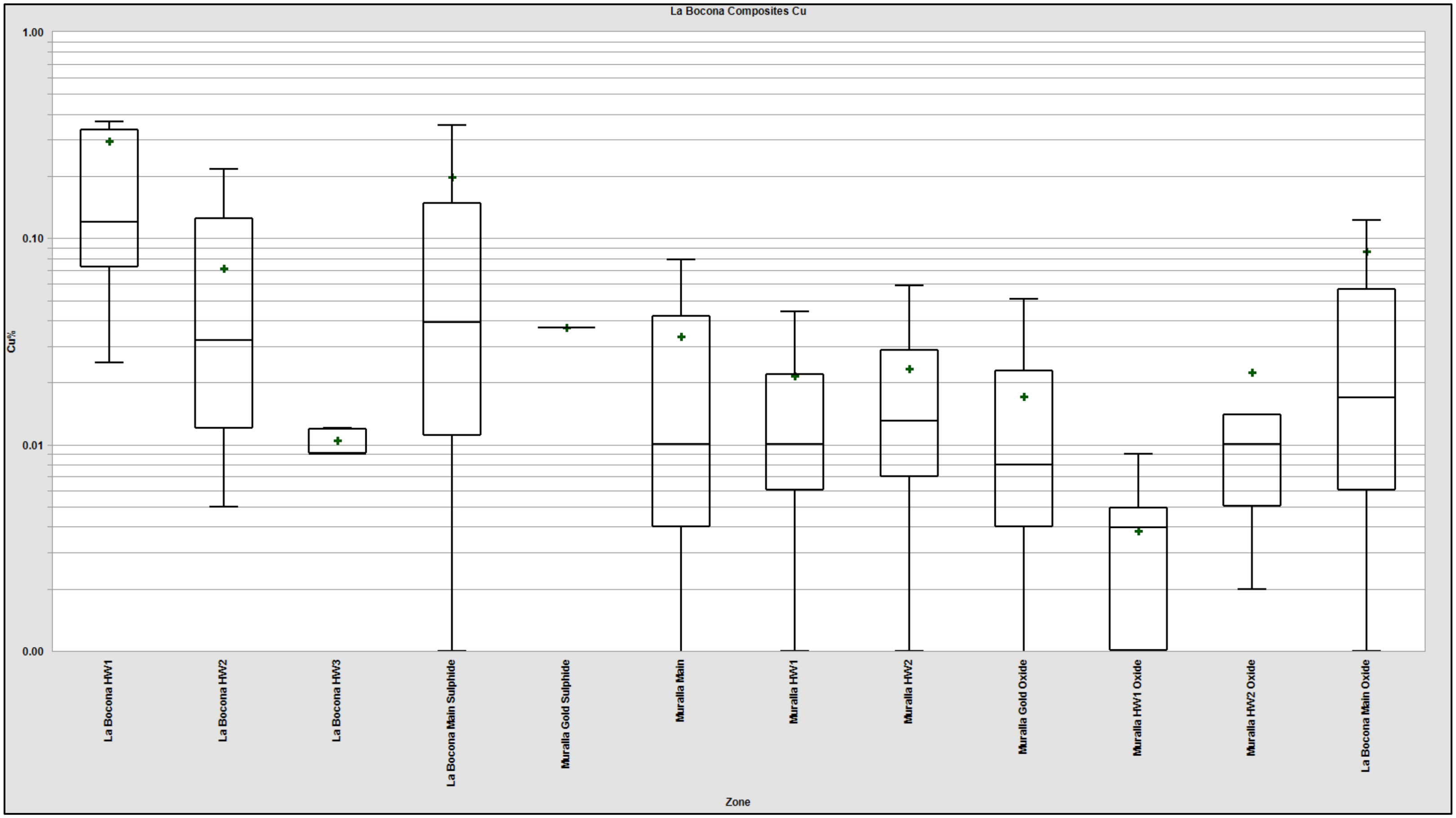

Source: Kirkham, 2024

**Figure 14-9: Box Plot of Au Composites by Zone for the La Bocona and Muralla**



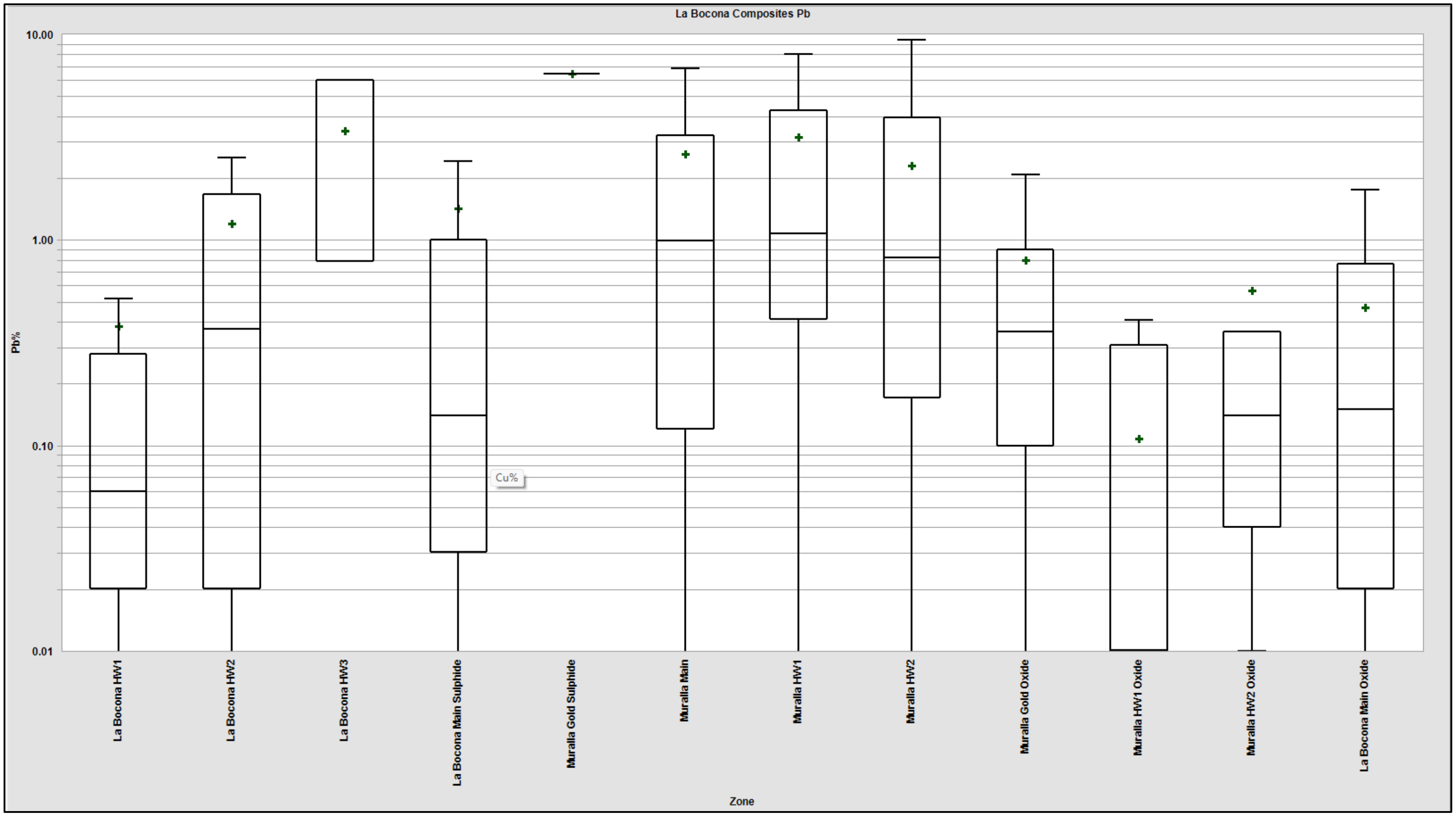

Source: Kirkham, 2024

**Figure 14-10: Box Plot of Cu Composites for the La Bocona Zone**



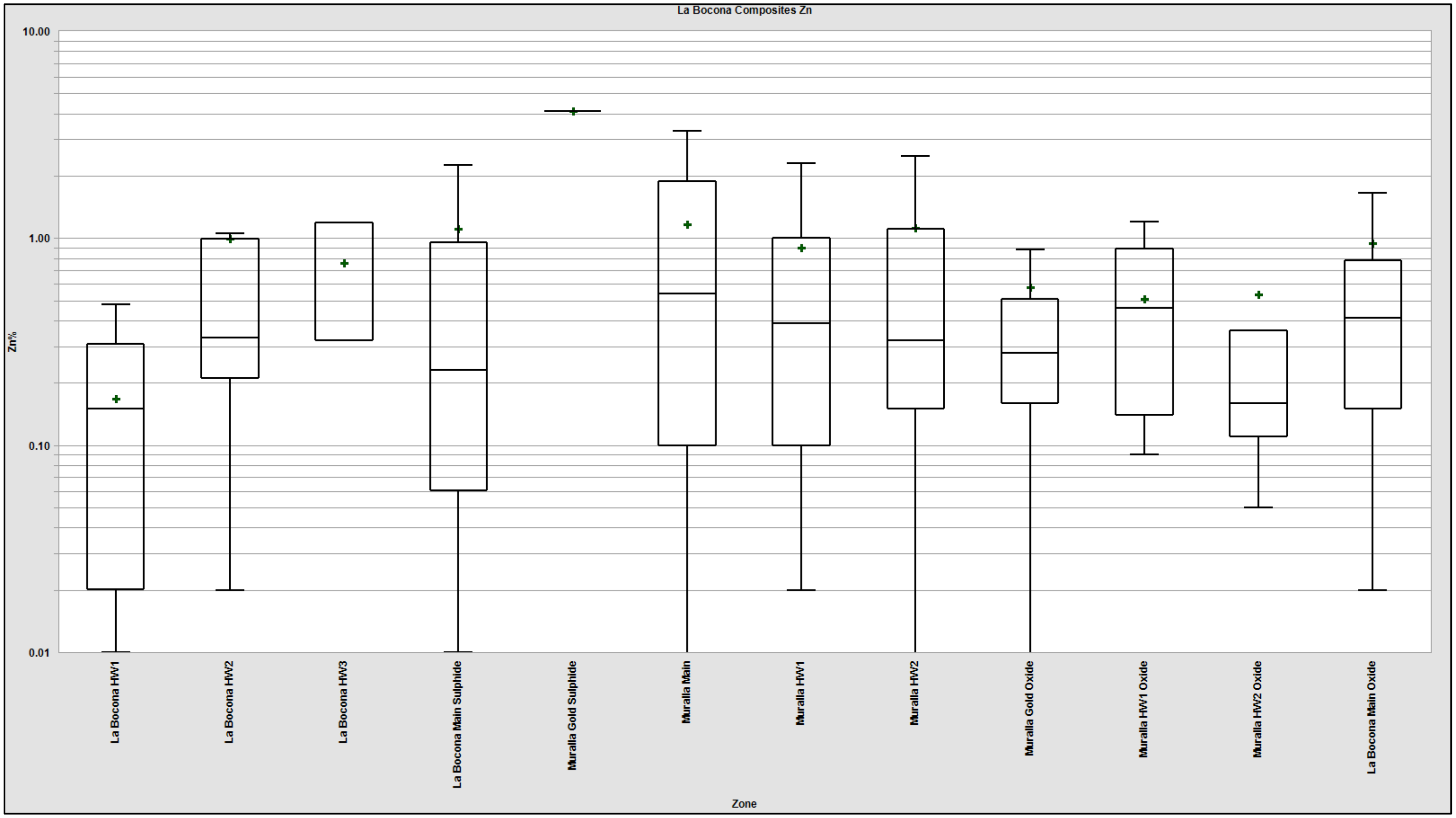

Source: Kirkham, 2024.

**Figure 14-11: Box Plot of Pb Composites for the La Bocona and Muralla Zones**




Source: Kirkham, 2024.

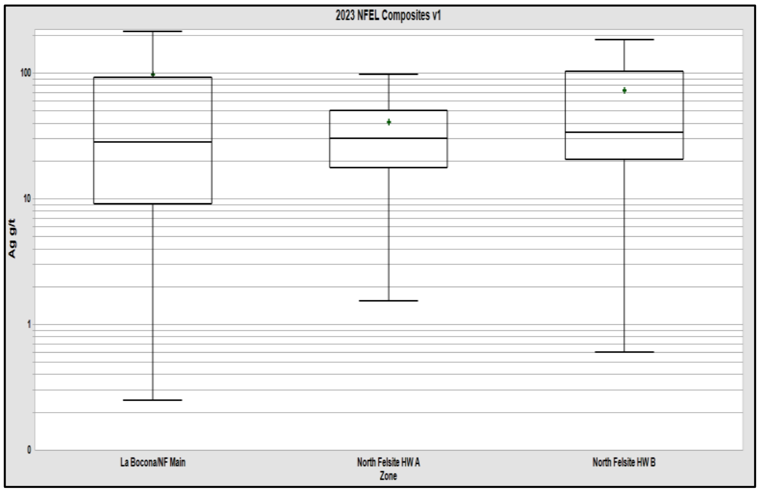
**Figure 14-12: Box Plot of Zn Composites for the La Bocona and Muralla Zones**




Source: Kirkham, 2024.

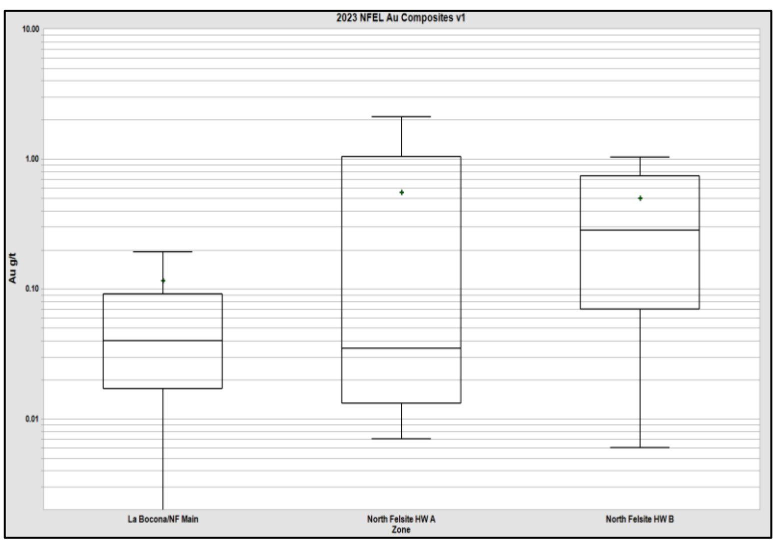
Table 14-8 shows the statistics for the South Skarn zone demonstrating significant silver, lead and zinc grades, particularly within the FW1 domain. Gold is also elevated within the HW1 domain. Based on the box plots as shown in Figure 14-13 through Figure 14-17, the South Skarn Main and HW1 could be considered statistically similar enough to combine, however due to the few numbers of composites, they continue to remain segregated and estimated using hard boundaries. It is clear however that the FW1 is distinctly different and is treated as such.

**Figure 14-13: Box Plot of Ag Composites for the North Felsite Zone**



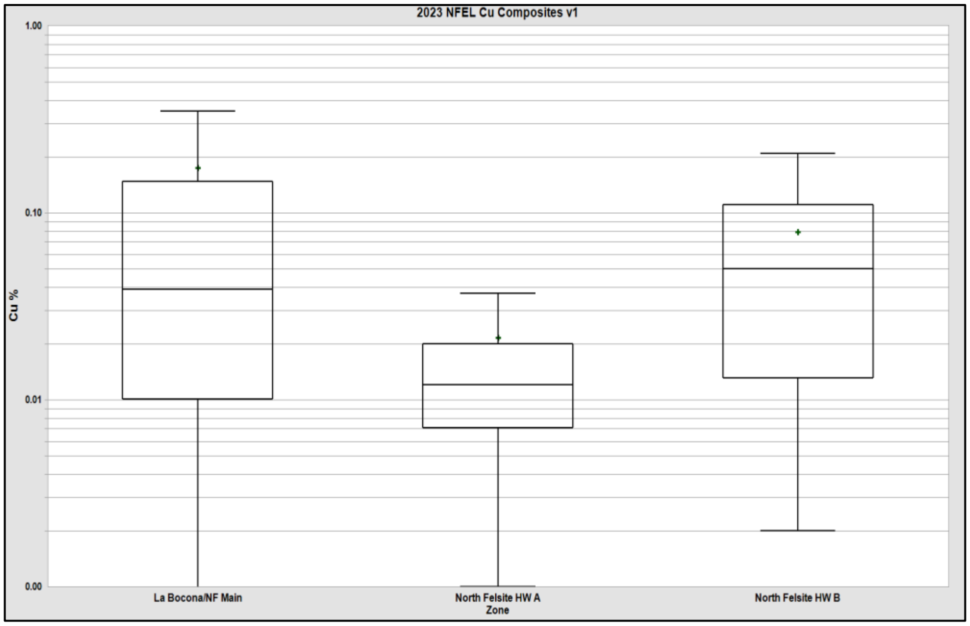

Source: Kirkham, 2024.

**Figure 14-14: Box Plot of Ag Composites for the North Felsite Zone**



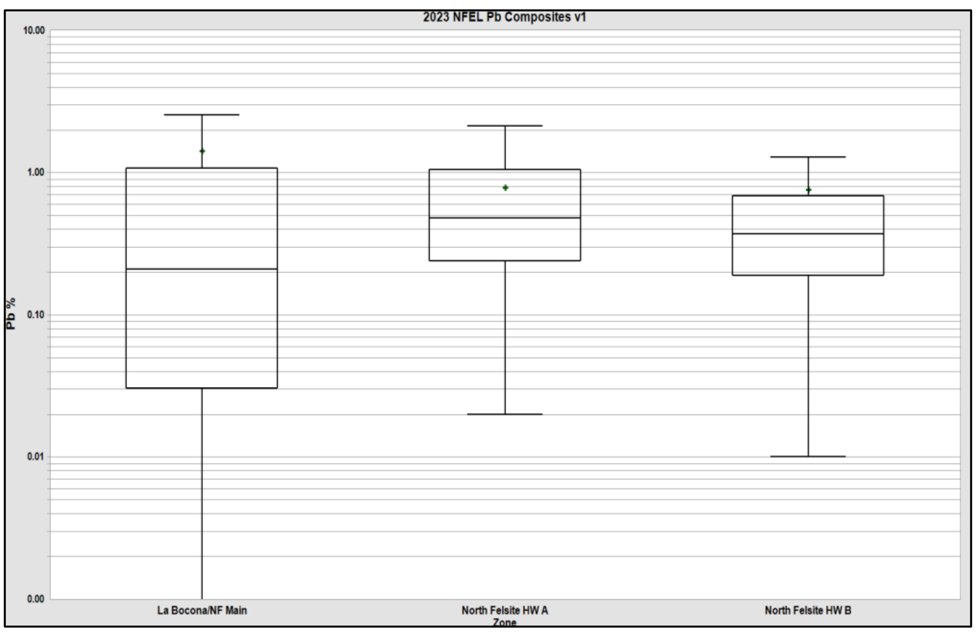

Source: Kirkham, 2024.

**Figure 14-15: Box Plot of Cu Composites for the North Felsite Zone**



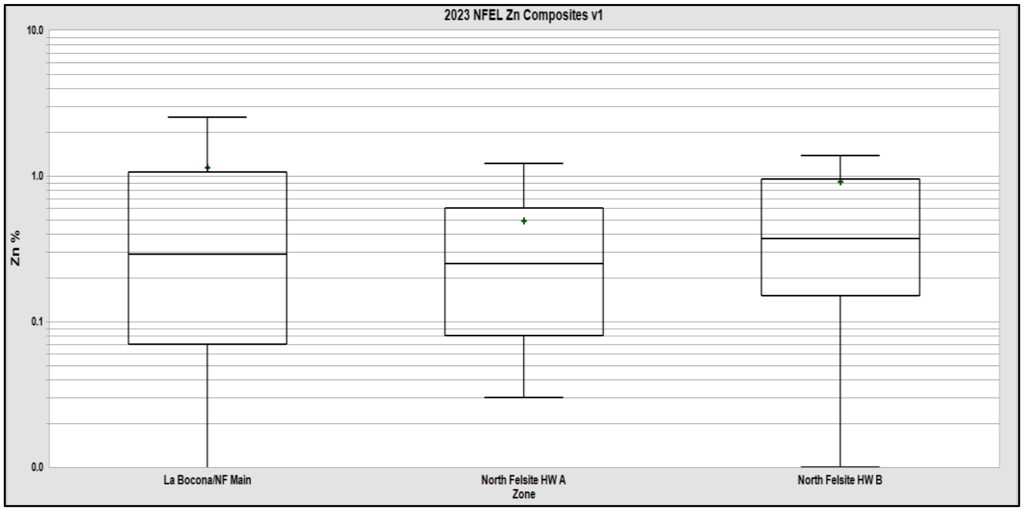

Source: Kirkham, 2024.

**Figure 14-16: Box Plot of Pb Composites for the North Felsite Zone**



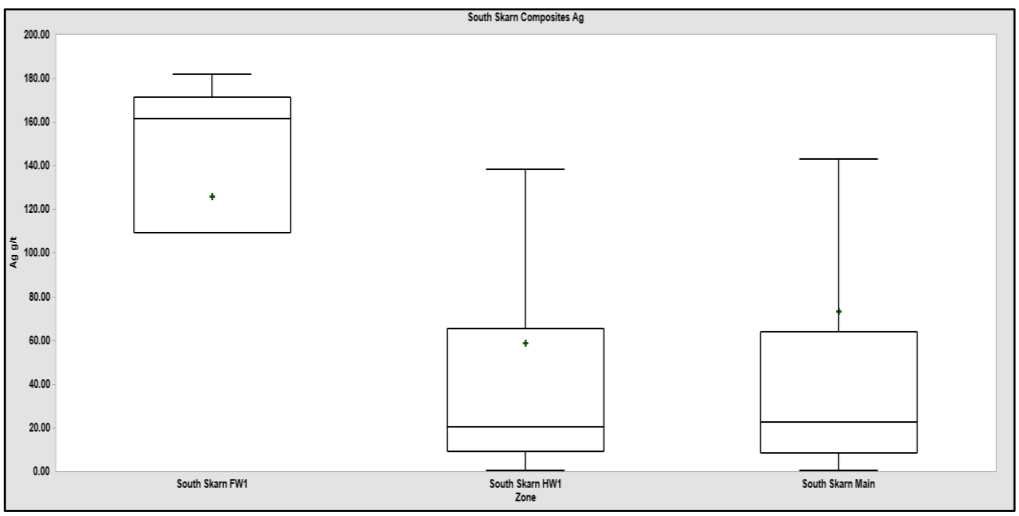

Source: Kirkham, 2024.

**Figure 14-17: Box Plot of Zn Composites for the North Felsite Zone**



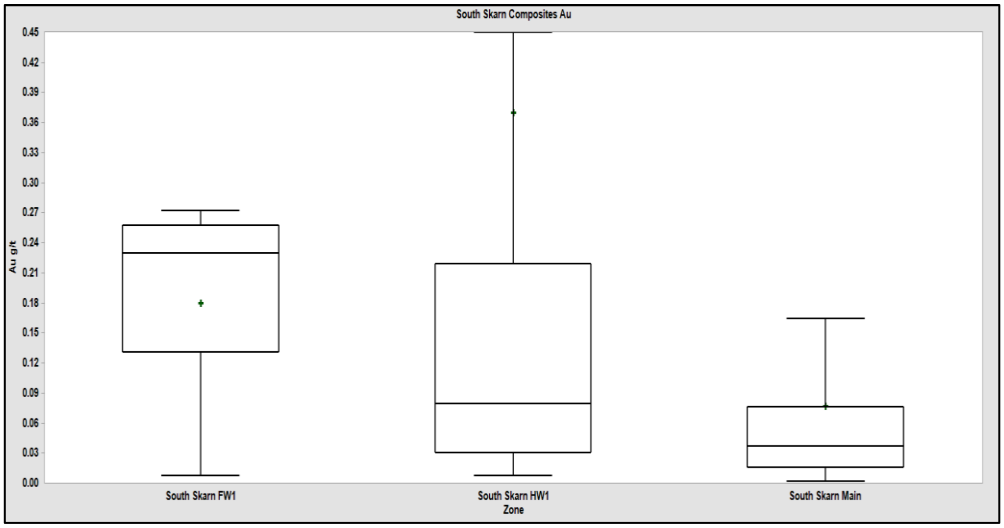

Source: Kirkham, 2024.

**Figure 14-18: Box Plot of Ag Composites by Zone for the South Skarn**



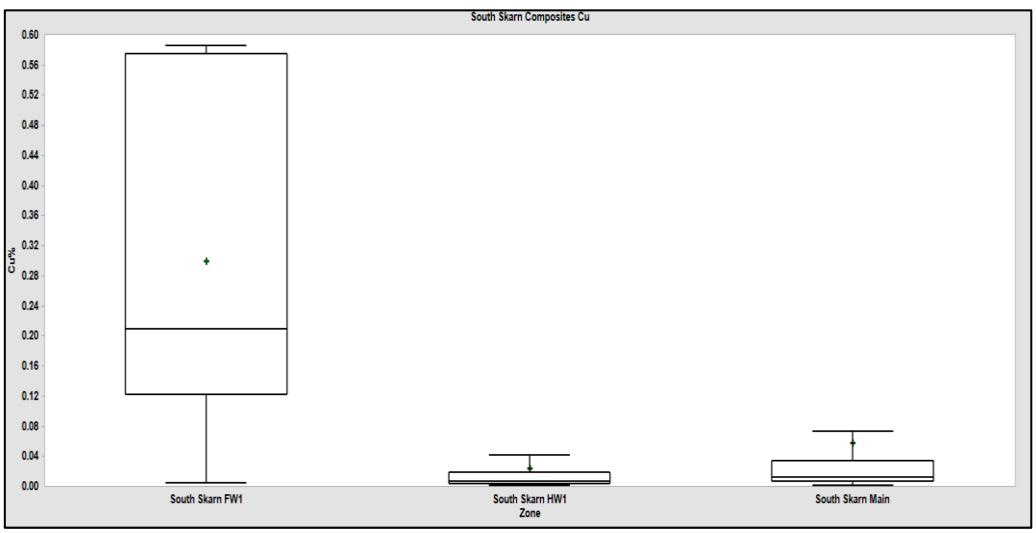

Source: Kirkham, 2024.

**Figure 14-19: Box Plot of Au Composites by Zone for South Skarn**



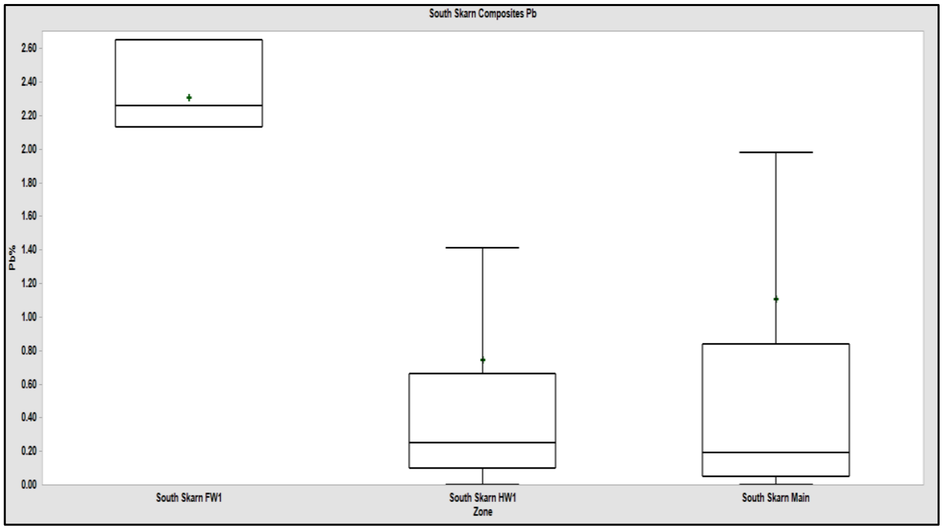

Source: Kirkham, 2024.

**Figure 14-20: Box Plot of Cu Composites by Zone for South Skarn**



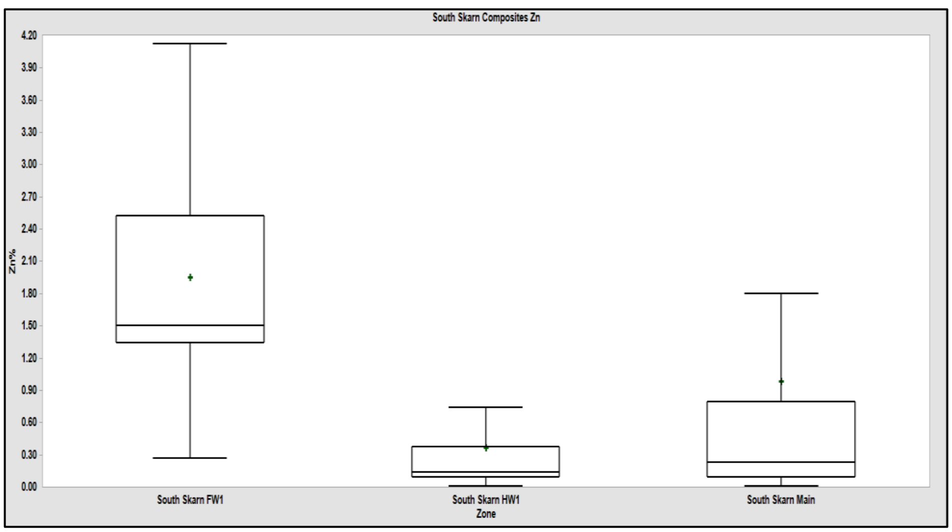

Source: Kirkham, 2024.

**Figure 14-21: Box Plot of Pb Composites by Zone for South Skarn**




Source: Kirkham, 2024.

**Figure 14-22: Box Plot of Zn Composites by Zone for South Skarn**




Source: Kirkham, 2024.

In conclusion, despite the similarities, not all metals are consistent, and the commonalities and distribution do not align adequately enough to warrant groupings or applying soft boundaries and therefore hard boundaries for all zones and metals are employed.

## 14.6 Evaluation of Outlier Assay Values

Although the compositing has regularized and smoothed the assay grades thereby reducing the effect of high-grade outliers along with reducing variability, it is clear that additional measures are necessary to further mitigate the potential for over-estimation or smearing of grades by way of cutting. In addition, the treatment of outliers is effective at reducing variability and thereby uncertainty and risk. As previously discussed, the CV's, which are a unit independent measure of variability, were relatively high for the assay data. This may be mitigated or resolved by 1) compositing and 2) cutting or grade limiting. An evaluation of the probability plots suggests that there are outlier assay values that could result in an over-estimation of resources. Although it is believed that this risk is relatively low, it was considered prudent to cut the silver, gold, copper, lead, and zinc composites to reduce the effects of these outlier populations.

The high-grade outlier thresholds were chosen by domain and are based on an analysis of the breaks in the cumulative probability plots for each of the mineralized domains for each of the zones. These threshold values are summarized in Table 14-6 listed by zone.

**Table 14-6: Cut Threshold Grades for Silver, Gold, Copper, Lead and by Zone**

| Code | Zone | Ag | Au | Cu% | Pb% | Zn% |
|---|---|---|---|---|---|---|
| 1,2,3,4 | Blind Zone | 700 | 1.5 | 1.4 | 5 | 19 |
| 11,12,13,14,15,16,17,18 | El Sol | 700 | 1.5 | 1.4 | 5 | 19 |
| 5 | Las Victorias | 700 | 1.5 | 1.4 | 5 | 19 |
| 20 | Skarn Zone | 700 | 1.5 | 1.4 | 5 | 19 |
| 21,22,23 | La Bocona HW | 500 | 0.3 | 0.6 | 5 | 1 |
| 1,2,3,10 | Muralla | 700 | 2.5 | 0.15 | 10 | 10 |
| 4 | La Bocona Main/North Felsite | 700 | 1.5 | 2 | 18 | 10 |
| 23,24 | North Felsite HW | 700 | 2 | 0.2 | 3 | 5 |
| 40,41,42,44 | La Bocona Oxide | 150 | 10 | 0.2 | 3 | 3 |
| 30,31,32 | South Skarn | 700 | 2.5 | 0.5 | 15 | 8 |

Tables 14-7 through Table 14-11 illustrates the effect of each process from assay data, composites and cut composites along with the reduction in average grade and corresponding CV.

The Blind, Las Victorias and the Skarn zones all show significant reductions in CV's although the gold remain very high within the Skarn zone. However, for the Blind and Skarn zones, the gold and copper is extremely low grade to the point that CV is not a good indicator of error or variability. Additionally, the silver and zinc within the Blind and Skarn zones still exhibit moderate variability with CV's > 2.0 however as there is a decrease in grade or loss of metal of 3-4%, it is concluded that outlier treatment has been sufficiently effective.

**Table 14-7: Outlier Cutting Analysis for the Blind, El Sol and Skarn Zones**

| Code | Metal | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **AG** | 1,040.00 | 24.03 | 2.8 | 409.37 | 24.03 | 2.0 | 409.37 | 24.03 | **2.0** | 0% | **-30%** |
| 2 | **AG** | 1,380.00 | 38.04 | 2.9 | 1,152.41 | 38.04 | 2.5 | 700 | 36.88 | **2.3** | **-3%** | **-22%** |
| 3 | **AG** | 1,400.00 | 46.18 | 2.8 | 1,400 | 46.18 | 2.5 | 700 | 43.44 | **2.0** | **-6%** | **-27%** |
| 4 | **AG** | 247 | 12.43 | 2.1 | 80.5 | 12.43 | 1.4 | 80.5 | 12.43 | 1.4 | 0% | **-33%** |
| 5 | **AG** | 1,100.00 | 89.84 | 1.8 | 618.8 | 89.84 | 1.5 | 618.8 | 89.84 | 1.5 | 0% | **-16%** |
| 20 | **AG** | 1,415.00 | 43.98 | 2.6 | 1,262.64 | 43.98 | 2.4 | 700 | 42.40 | **2.2** | **-4%** | **-15%** |
| 1 | **AU** | 0.52 | 0.02 | 3.1 | 0.388 | 0.02 | 2.7 | 0.388 | 0.02 | 2.7 | 0% | -10% |
| 2 | **AU** | 5.32 | 0.05 | 5.6 | 2.56 | 0.05 | 4.2 | 1.5 | 0.05 | 3.4 | **-12%** | **-39%** |
| 3 | **AU** | 0.555 | 0.03 | 2.6 | 0.54 | 0.03 | 2.4 | 0.541 | 0.03 | 2.4 | 0% | -7% |
| 4 | **AU** | 0.035 | 0.01 | 1.0 | 0.025 | 0.01 | 0.8 | 0.025 | 0.01 | 0.8 | 0% | **-20%** |
| 5 | **AU** | 6.26 | 0.81 | 1.6 | 5.62 | 0.81 | 1.3 | 1.5 | 0.59 | 0.9 | **-28%** | **-44%** |
| 20 | **AU** | 6.9 | 0.05 | 6.0 | 5.82 | 0.05 | 5.3 | 1.5 | 0.04 | **3.1** | **-14%** | **-49%** |
| 1 | **CU%** | 1.12 | 0.024 | 3.2 | 0.45 | 0.02 | 2.3 | 0.447 | 0.02 | **2.3** | 0% | **-30%** |
| 2 | **CU%** | 3.27 | 0.048 | 3.3 | 1.62 | 0.05 | 2.8 | 1.4 | 0.05 | **2.7** | -1% | **-18%** |
| 3 | **CU%** | 1.105 | 0.041 | 2.8 | 1.11 | 0.04 | 2.5 | 1.11 | 0.04 | **2.5** | 0% | **-10%** |
| 4 | **CU%** | 0.335 | 0.020 | 2.7 | 0.28 | 0.02 | 2.2 | 0.28 | 0.02 | **2.2** | 0% | **-19%** |
| 5 | **CU%** | 0.985 | 0.09 | 1.9 | 0.99 | 0.09 | 1.8 | 0.99 | 0.09 | 1.8 | 0% | -3% |
| 20 | **CU%** | 5.56 | 0.163 | 2.9 | 5.19 | 0.16 | 2.6 | 1.4 | 0.14 | **2.0** | **-14%** | **-30%** |
| 1 | **PB%** | 18.5 | 0.55 | 3.1 | 12.39 | 0.55 | 2.3 | 5 | 0.51 | **2.0** | **-7%** | **-34%** |
| 2 | **PB%** | 28.35 | 0.976 | 2.9 | 26.27 | 0.98 | 2.7 | 5 | 0.72 | 1.8 | **-26%** | **-39%** |
| 3 | **PB%** | 19.7 | 1.003 | 2.3 | 19.7 | 1.00 | 2.0 | 5 | 0.85 | 1.5 | **-15%** | **-33%** |
| 4 | **PB%** | 6.46 | 0.384 | 2.2 | 3.66 | 0.39 | 1.6 | 3.66 | 0.39 | 1.6 | 0% | **-26%** |
| 5 | **PB%** | 23.19 | 1.765 | 1.9 | 14.09 | 1.77 | 1.6 | 5 | 1.34 | 1.2 | **-24%** | **-37%** |
| 20 | **PB%** | 10.6 | 1.099 | 1.9 | 6.22 | 1.10 | 1.7 | 5 | 0.98 | 1.5 | **-10%** | **-19%** |
| 1 | **ZN%** | 20.3 | 0.487 | 3.2 | 8.72 | 0.49 | 2.4 | 8.72 | 0.49 | **2.4** | 0% | **-24%** |
| 2 | **ZN%** | 17.1 | 0.833 | 2.6 | 12.56 | 0.83 | 2.3 | 12.56 | 0.83 | **2.3** | **0%** | **-14%** |
| 3 | **ZN%** | 18.7 | 0.906 | 2.6 | 15.35 | 0.91 | 2.2 | 15.35 | 0.91 | **2.2** | 0% | **-16%** |
| 4 | **ZN%** | 5.06 | 0.361 | 2.2 | 4.05 | 0.36 | 1.8 | 4.05 | 0.36 | 1.8 | 0% | **-19%** |
| 5 | **ZN%** | 8.69 | 1.591 | 1.5 | 7.58 | 1.59 | 1.3 | 7.58 | 1.59 | 1.3 | 0% | **-11%** |
| 20 | **ZN%** | 37.33 | 1.65 | 2.5 | 27.06 | 1.65 | 2.3 | 19 | 1.60 | **2.2** | **-3%** | **-15%** |

The El Sol zones all show significant reductions in CV's although the gold remain very high within the Skarn zone. However, for the Blind and Skarn zones, the gold and copper are extremely low grade to the point that CV is not a good indicator of error or variability. Additionally, the silver and zinc within the Blind and Skarn zones still exhibit moderate variability with CV's > 2.0 however as there is a decrease in grade or loss of metal of 3-4%, it is concluded that outlier treatment has been sufficiently effective.

**Table 14-8: Outlier Cutting Analysis for the El Sol Zone**

| Code | Metal | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | **AG** | 214 | 30.70 | 1.9 | 114.55 | 30.70 | 1.3 | 114.55 | 30.70 | 1.3 | 0% | **-33%** |
| 12 | **AG** | 276 | 39.01 | 1.3 | 164.93 | 39.01 | 1.1 | 164.93 | 39.01 | 1.1 | 0% | **-18%** |
| 13 | **AG** | 745 | 32.66 | 2.2 | 399.23 | 32.66 | 1.6 | 399.23 | 32.66 | 1.6 | 0% | **-26%** |
| 14 | **AG** | 238 | 62.96 | 1.0 | 238 | 62.96 | 0.9 | 238 | 62.96 | 0.9 | 0% | -7% |
| 15 | **AG** | 391 | 90.83 | 1.1 | 391 | 90.83 | 0.9 | 391 | 90.83 | 0.9 | 0% | **-14%** |
| 16 | **AG** | 58.2 | 17.47 | 0.8 | 38.2 | 17.47 | 0.6 | 38.2 | 17.47 | 0.6 | 0% | **-22%** |
| 17 | **AG** | 650 | 123.09 | 1.5 | 551.86 | 123.09 | 1.1 | 551.86 | 123.09 | 1.1 | 0% | **-27%** |
| 18 | **AG** | 154 | 37.95 | 1.4 | 111.94 | 37.95 | 0.9 | 111.94 | 37.95 | 0.9 | 0% | **-31%** |
| 11 | **AU** | 0.01 | 0.01 | 0.5 | 0.01 | 0.01 | 0.4 | 0.01 | 0.01 | 0.4 | 0% | **-10%** |
| 12 | **AU** | 0.1 | 0.01 | 1.5 | 0.09 | 0.01 | 1.3 | 0.09 | 0.01 | 1.3 | 1% | **-13%** |
| 13 | **AU** | 0.181 | 0.01 | 1.6 | 0.122 | 0.01 | 1.4 | 0.122 | 0.01 | 1.4 | 0% | **-14%** |
| 14 | **AU** | 0.074 | 0.02 | 1.0 | 0.074 | 0.02 | 0.9 | 0.074 | 0.02 | 0.9 | 0% | **-13%** |
| 15 | **AU** | 0.247 | 0.03 | 2.1 | 0.226 | 0.03 | 1.8 | 0.226 | 0.03 | 1.8 | 0% | **-13%** |
| 16 | **AU** | 0.018 | 0.01 | 0.9 | 0.018 | 0.01 | 0.8 | 0.018 | 0.01 | 0.8 | 0% | -9% |
| 17 | **AU** | 0.66 | 0.10 | 1.7 | 0.555 | 0.10 | 1.5 | 0.555 | 0.10 | 1.5 | 0% | **-14%** |
| 18 | **AU** | 0.023 | 0.01 | 0.8 | 0.021 | 0.01 | 0.7 | 0.021 | 0.01 | 0.7 | 0% | -5% |
| 11 | **CU%** | 0.326 | 0.0403 | 1.6 | 0.177 | 0.04 | 1.1 | 0.177 | 0.04 | 1.1 | 0% | **-27%** |
| 12 | **CU%** | 5.1 | 0.09 | 4.5 | 2.654 | 0.09 | 3.3 | 1.4 | 0.08 | **2.2** | **-17%** | **-50%** |
| 13 | **CU%** | 0.605 | 0.11 | 1.3 | 0.445 | 0.11 | 1.1 | 0.445 | 0.11 | 1.1 | 0% | **-18%** |
| 14 | **CU%** | 0.239 | 0.07 | 1.1 | 0.232 | 0.07 | 0.9 | 0.232 | 0.07 | 0.9 | 0% | **-11%** |
| 15 | **CU%** | 0.216 | 0.06 | 1.1 | 0.212 | 0.06 | 1.0 | 0.212 | 0.06 | 1.0 | 0% | -3% |
| 16 | **CU%** | 0.321 | 0.06 | 1.3 | 0.217 | 0.06 | 1.0 | 0.217 | 0.06 | 1.0 | 0% | **-27%** |
| 17 | **CU%** | 0.234 | 0.04 | 1.7 | 0.106 | 0.04 | 1.0 | 0.106 | 0.04 | 1.0 | 0% | **-40%** |
| 18 | **CU%** | 0.031 | 0.01 | 1.4 | 0.027 | 0.01 | 1.1 | 0.027 | 0.01 | 1.1 | 1% | **-19%** |
| 11 | **PB%** | 16.7 | 0.34 | 3.6 | 13.15 | 0.34 | 3.3 | 5 | 0.30 | **2.6** | **-12%** | **-27%** |
| 12 | **PB%** | 12.4 | 0.92 | 1.9 | 8.72 | 0.92 | 1.6 | 5 | 0.86 | 1.3 | -7% | **-31%** |
| 13 | **PB%** | 7.84 | 2.58 | 1.0 | 7.1 | 2.58 | 0.9 | 5 | 2.35 | 0.8 | -9% | **-16%** |
| 14 | **PB%** | 9.42 | 1.86 | 1.1 | 6.93 | 1.86 | 1.0 | 5 | 1.74 | 0.9 | -7% | **-21%** |
| 15 | **PB%** | 2.85 | 0.73 | 0.9 | 2.11 | 0.73 | 0.7 | 2.11 | 0.73 | 0.7 | 0% | **-22%** |
| 16 | **PB%** | 16 | 2.64 | 1.7 | 13.71 | 2.64 | 1.3 | 5 | 1.98 | 0.9 | **-25%** | **-44%** |
| 17 | **PB%** | 7.28 | 1.27 | 1.6 | 3.23 | 1.27 | 1.0 | 3.23 | 1.27 | 1.0 | 0% | **-40%** |
| 18 | **PB%** | 7.23 | 1.05 | 2.0 | 3.87 | 1.06 | 1.4 | 3.87 | 1.06 | 1.4 | 0% | **-31%** |
| 11 | **ZN%** | 5.6 | 1.08 | 1.3 | 4.26 | 1.08 | 1.1 | 4.26 | 1.08 | 1.1 | 0% | **-15%** |
| 12 | **ZN%** | 12.85 | 0.92 | 1.8 | 9.05 | 0.92 | 1.4 | 9.05 | 0.92 | 1.4 | 0% | **-19%** |
| 13 | **ZN%** | 9.05 | 3.29 | 1.0 | 9.05 | 3.29 | 0.9 | 9.05 | 3.29 | 0.9 | 0% | -9% |
| 14 | **ZN%** | 8.12 | 2.00 | 0.9 | 6.02 | 2.00 | 0.8 | 6.02 | 2.00 | 0.8 | 0% | **-12%** |
| 15 | **ZN%** | 3.21 | 0.77 | 1.1 | 2.22 | 0.77 | 0.9 | 2.22 | 0.77 | 0.9 | 0% | **-18%** |
| 16 | **ZN%** | 15.1 | 1.36 | 1.8 | 6.77 | 1.36 | 1.2 | 6.77 | 1.36 | 1.2 | 0% | **-32%** |
| 17 | **ZN%** | 9.23 | 1.18 | 2.1 | 4.08 | 1.18 | 1.2 | 4.08 | 1.18 | 1.2 | 0% | **-43%** |
| 18 | **ZN%** | 3.51 | 0.90 | 1.5 | 3.07 | 0.90 | 1.2 | 3.07 | 0.90 | 1.2 | 0% | **-17%** |

Table 14-9 through Table 14-12 summarise the effectiveness of the outlier cutting strategy for the La Bocona, Bocona Oxide, North Felsite and South Skarn zones, respectively. All show significant reductions in CV's. However, there are isolated anomalies for individual metals in selected zones that still have relatively high CV's, those being lead values within the La Bocona, North Felsite and South Skarn. In general, the cutting strategic has been very effective in reducing the risk of ever-estimation as a result of high-grade outlier populations.

**Table 14-9: Outlier Cutting Analysis for the La Bocona Zone**

| Code | Metal | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **AG** | 602 | 71.11 | 2.2 | 482.28 | 71.11 | 1.8 | 482.28 | 71.11 | 1.8 | 0% | **-19%** |
| 2 | **AG** | 530 | 72.44 | 2.0 | 364.53 | 72.44 | 1.3 | 364.53 | 72.44 | 1.3 | 0% | **-35%** |
| 3 | **AG** | 543 | 140.15 | 1.4 | 263.36 | 140.15 | 0.8 | 263.36 | 140.15 | 0.8 | 0% | **-43%** |
| 20 | **AG** | 528 | 97.63 | 1.5 | 525 | 97.63 | 1.3 | 525 | 97.63 | 1.3 | 0% | **-17%** |
| 21 | **AG** | 1,190 | 169.93 | 1.6 | 1,002.93 | 169.93 | 1.3 | 700 | 158.21 | 1.2 | -7% | **-26%** |
| 22 | **AG** | 2,430 | 138.13 | 1.9 | 892 | 138.13 | 1.2 | 700 | 135.99 | 1.2 | -2% | **-36%** |
| 1 | **AU** | 3.02 | 0.14 | 3.4 | 1.556 | 0.14 | 2.6 | 1.5 | 0.14 | **2.6** | -3% | **-24%** |
| 2 | **AU** | 0.413 | 0.05 | 1.4 | 0.147 | 0.05 | 0.8 | 0.147 | 0.05 | 0.8 | 0% | **-40%** |
| 3 | **AU** | 4.71 | 0.12 | 3.4 | 4.71 | 0.12 | 3.0 | 0.185 | 0.13 | 0.4 | 9% | **-87%** |
| 20 | **AU** | 5.35 | 0.84 | 1.8 | 5.13 | 0.84 | 1.7 | 1.5 | 0.46 | 1.2 | **-45%** | **-33%** |
| 21 | **AU** | 2.7 | 0.20 | 2.2 | 1.483 | 0.20 | 1.5 | 1.483 | 0.20 | 1.5 | 0% | **-33%** |
| 22 | **AU** | 7.84 | 0.39 | 2.3 | 6.528 | 0.39 | 2.0 | 1.5 | 0.31 | 1.3 | **-20%** | **-45%** |
| 1 | **CU%** | 1.965 | 0.30 | 1.6 | 1.577 | 0.30 | 1.3 | 1.4 | 0.29 | 1.2 | -3% | **-26%** |
| 2 | **CU%** | 0.54 | 0.07 | 1.9 | 0.402 | 0.07 | 1.4 | 0.402 | 0.07 | 1.4 | 0% | **-25%** |
| 3 | **CU%** | 0.022 | 0.01 | 0.7 | 0.012 | 0.01 | 0.1 | 0.012 | 0.01 | 0.1 | -1% | **-79%** |
| 20 | **CU%** | 0.254 | 0.04 | 1.7 | 0.216 | 0.04 | 1.5 | 0.216 | 0.04 | 1.5 | 0% | **-10%** |
| 21 | **CU%** | 0.232 | 0.02 | 1.6 | 0.145 | 0.02 | 1.3 | 0.145 | 0.02 | 1.3 | 0% | **-19%** |
| 22 | **CU%** | 0.365 | 0.02 | 1.7 | 0.18 | 0.02 | 1.2 | 0.18 | 0.02 | 1.2 | 0% | **-27%** |
| 1 | **PB%** | 5.31 | 0.37 | 3.0 | 4.79 | 0.37 | 2.8 | 4.79 | 0.37 | **2.8** | 0% | -6% |
| 2 | **PB%** | 13.15 | 1.26 | 2.2 | 5.85 | 1.26 | 1.4 | 5.85 | 1.26 | 1.4 | 0% | **-36%** |
| 3 | **PB%** | 12.7 | 3.22 | 1.5 | 6.02 | 3.22 | 0.8 | 6.02 | 3.22 | 0.8 | 0% | **-45%** |
| 20 | **PB%** | 15.1 | 2.44 | 1.5 | 15.1 | 2.44 | 1.3 | 15 | 2.44 | 1.3 | 0% | **-12%** |
| 21 | **PB%** | 23.44 | 3.09 | 1.6 | 17.58 | 3.09 | 1.3 | 15 | 3.00 | 1.3 | -3% | **-21%** |
| 22 | **PB%** | 53.53 | 2.31 | 2.0 | 14.9 | 2.31 | 1.3 | 14.9 | 2.31 | 1.3 | 0% | **-36%** |
| 1 | **ZN%** | 0.48 | 0.17 | 1.0 | 0.48 | 0.16 | 0.9 | 0.48 | 0.16 | 0.9 | -1% | **-10%** |
| 2 | **ZN%** | 32.18 | 1.04 | 3.8 | 7.09 | 1.04 | 1.7 | 7.09 | 1.04 | 1.7 | 0% | **-55%** |
| 3 | **ZN%** | 1.34 | 0.72 | 0.7 | 1.19 | 0.72 | 0.6 | 1.19 | 0.72 | 0.6 | 0% | **-20%** |
| 20 | **ZN%** | 8.5 | 1.13 | 1.3 | 3.3 | 1.13 | 1.0 | 3.3 | 1.13 | 1.0 | 0% | **-22%** |
| 21 | **ZN%** | 29.5 | 0.90 | 2.3 | 6.63 | 0.90 | 1.4 | 6.63 | 0.90 | 1.4 | 0% | **-40%** |
| 22 | **ZN%** | 14.15 | 1.11 | 2.1 | 11.7 | 1.11 | 1.8 | 10 | 1.09 | 1.7 | -2% | **-19%** |

Table 14-10: Outlier Cutting Analysis for the Oxide Zone

| Code | Metal | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | **AG** | 107 | 25.00 | 1.0 | 107 | 25.00 | 0.9 | 107 | 25.00 | 0.9 | 0% | **-11%** |
| 41 | **AG** | 125 | 43.12 | 1.1 | 125 | 43.12 | 1.0 | 125 | 43.12 | 1.0 | 0% | -7% |
| 42 | **AG** | 236 | 28.50 | 1.7 | 107.8 | 28.50 | 1.1 | 107.8 | 28.50 | 1.1 | 0% | **-38%** |
| 44 | **AG** | 358 | 34.70 | 1.8 | 358 | 34.70 | 1.7 | 358 | 34.70 | 1.7 | 0% | -6% |
| 40 | **AU** | 34.6 | 1.70 | 2.5 | 31.258 | 1.70 | 2.3 | 5 | 1.16 | 1.3 | -32% | **-49%** |
| 41 | **AU** | 0.108 | 0.05 | 0.8 | 0.1 | 0.05 | 0.7 | 0.1 | 0.05 | 0.7 | 0% | **-10%** |
| 42 | **AU** | 2.82 | 0.55 | 1.4 | 2.63 | 0.55 | 1.2 | 1.5 | 0.46 | 0.9 | -17% | **-35%** |
| 44 | **AU** | 2.14 | 0.12 | 2.7 | 2.14 | 0.12 | 2.5 | 1.5 | 0.11 | **2.3** | -6% | **-17%** |
| 40 | **CU%** | 0.132 | 0.02 | 1.5 | 0.13 | 0.02 | 1.4 | 0.13 | 0.02 | 1.4 | 0% | -6% |
| 41 | **CU%** | 0.011 | 0.00 | 0.8 | 0.009 | 0.00 | 0.7 | 0.009 | 0.00 | 0.7 | 3% | **-16%** |
| 42 | **CU%** | 0.23 | 0.02 | 2.2 | 0.136 | 0.02 | 1.6 | 0.136 | 0.02 | 1.6 | 0% | **-28%** |
| 44 | **CU%** | 1.875 | 0.09 | 3.0 | 1.875 | 0.09 | 2.7 | 1.4 | 0.08 | **2.4** | -6% | **-19%** |
| 40 | **PB%** | 8.74 | 0.78 | 1.8 | 7.59 | 0.78 | 1.6 | 7.59 | 0.78 | 1.6 | 0% | -9% |
| 41 | **PB%** | 0.46 | 0.12 | 1.5 | 0.41 | 0.12 | 1.4 | 0.41 | 0.12 | 1.4 | 0% | -9% |
| 42 | **PB%** | 6.25 | 0.58 | 2.5 | 3.86 | 0.58 | 1.9 | 3.86 | 0.58 | 1.9 | 0% | **-26%** |
| 44 | **PB%** | 2.46 | 0.47 | 1.4 | 2.46 | 0.47 | 1.2 | 2.46 | 0.47 | 1.2 | 0% | **-12%** |
| 40 | **ZN%** | 5.98 | 0.56 | 1.6 | 5.36 | 0.56 | 1.5 | 5.36 | 0.56 | 1.5 | 0% | **-10%** |
| 41 | **ZN%** | 1.27 | 0.53 | 0.8 | 1.2 | 0.53 | 0.8 | 1.2 | 0.53 | 0.8 | 0% | -9% |
| 42 | **ZN%** | 5.44 | 0.55 | 2.2 | 3.18 | 0.55 | 1.6 | 3.18 | 0.55 | 1.6 | 0% | **-28%** |
| 44 | **ZN%** | 12 | 0.95 | 2.0 | 10.95 | 0.95 | 1.8 | 10 | 0.94 | 1.8 | -1% | **-14%** |

Table 14-11: Outlier Cutting Analysis for the North Felsite Zone

| Code | METAL | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | **AG** | 3,180 | 82.80 | **2.8** | 2,323.83 | 97.56 | **2.1** | 700 | 87.34 | 1.6 | 5% | **-40%** |
| 23 | **AG** | 328 | 40.87 | 1.4 | 177.08 | 40.81 | 0.9 | 177.1 | 40.81 | 0.9 | 0% | **-38%** |
| 24 | **AG** | 451 | 55.39 | 1.7 | 426.73 | 73.12 | 1.2 | 426.7 | 73.46 | 1.2 | **33%** | **-30%** |
| 4 | **AU** | 4.71 | 0.10 | **3.4** | 4.71 | 0.12 | **2.8** | 1.5 | 0.10 | 2.0 | 0% | **-41%** |
| 23 | **AU** | 11.2 | 0.56 | **2.7** | 4.244 | 0.56 | 1.7 | 2 | 0.47 | 1.5 | -16% | **-43%** |
| 24 | **AU** | 2.61 | 0.45 | 1.7 | 2.356 | 0.50 | 1.2 | 2 | 0.48 | 1.1 | 7% | **-32%** |
| 4 | **CU%** | 11.2 | 0.14 | **4.2** | 11.2 | 0.18 | **3.4** | 2 | 0.15 | 2.0 | 6% | **-53%** |
| 23 | **CU%** | 0.276 | 0.02 | 1.8 | 0.207 | 0.02 | 1.5 | 0.2 | 0.02 | 1.5 | -1% | **-17%** |
| 24 | **CU%** | 0.831 | 0.06 | 1.8 | 0.417 | 0.08 | 1.1 | 0.2 | 0.07 | 0.9 | **10%** | **-50%** |
| 4 | **PB%** | 58.81 | 1.13 | **3.3** | 42.79 | 1.44 | **2.5** | 18 | 1.32 | **2.2** | **17%** | **-34%** |
| 23 | **PB%** | 10.65 | 0.79 | 2.0 | 3.95 | 0.79 | 1.1 | 3 | 0.77 | 1.0 | -3% | **-49%** |
| 24 | **PB%** | 4.56 | 0.62 | 1.8 | 3.94 | 0.76 | 1.4 | 3 | 0.71 | 1.3 | **15%** | **-31%** |
| 4 | **ZN%** | 21.5 | 0.90 | **2.7** | 16.56 | 1.15 | **2.0** | 10 | 1.09 | 1.8 | **21%** | **-31%** |
| 23 | **ZN%** | 11.9 | 0.50 | **2.7** | 4.39 | 0.50 | 1.5 | 4.39 | 0.50 | 1.5 | -1% | **-45%** |
| 24 | **ZN%** | 11.45 | 0.85 | **2.1** | 5.9 | 0.91 | 1.6 | 5 | 0.88 | 1.5 | 3% | **-28%** |

**Table 14-12: Outlier Cutting Analysis for the South Skarn Zone**

| Code | Metal | Max | Mean | CV | Max | Mean | CV | Max | Mean | CV | Mean | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | **AG** | 305 | 121.92 | 1.0 | 182 | 121.92 | 0.5 | 182 | 121.922 | 0.5 | 0% | **-44%** |
| 31 | **AG** | 1,150 | 58.31 | **2.3** | 555.14 | 59.18 | 1.7 | 555.14 | 59.182 | 1.7 | 1% | **-26%** |
| 32 | **AG** | 1,480 | 73.09 | **2.5** | 1,271.27 | 73.09 | 2.1 | 700 | 68.578 | 1.8 | -6% | **-27%** |
| 30 | **AU** | 0.484 | 0.17 | 1.1 | 0.272 | 0.17 | 0.6 | 0.272 | 0.1736 | 0.6 | 0% | **-45%** |
| 31 | **AU** | 11.7 | 0.36 | **3.3** | 7.997 | 0.36 | 2.8 | 2.5 | 0.28 | **2.0** | **-23%** | **-40%** |
| 32 | **AU** | 2.04 | 0.08 | **2.4** | 2.04 | 0.08 | 2.2 | 2.04 | 0.0778 | 2.2 | 0% | **-6%** |
| 30 | **CU%** | 1.08 | 0.29 | 1.4 | 0.586 | 0.29 | 0.8 | 0.5 | 0.2573 | 0.8 | **-11%** | **-44%** |
| 31 | **CU%** | 0.516 | 0.02 | **2.9** | 0.343 | 0.02 | 2.3 | 0.343 | 0.0235 | **2.3** | 2% | **-21%** |
| 32 | **CU%** | 2.5 | 0.06 | **3.8** | 2.5 | 0.06 | 3.5 | 0.5 | 0.0437 | 2.0 | **-27%** | **-46%** |
| 30 | **PB%** | 4.39 | 2.24 | 0.9 | 4.39 | 2.24 | 0.6 | 4.39 | 2.239 | 0.6 | 0% | **-33%** |
| 31 | **PB%** | 10.95 | 0.75 | **2.1** | 7.7 | 0.76 | 1.7 | 7.7 | 0.759 | 1.7 | 2% | **-16%** |
| 32 | **PB%** | 26.52 | 1.11 | **3.0** | 22.82 | 1.11 | 2.5 | 15 | 1.044 | **2.3** | -6% | **-24%** |
| 30 | **ZN%** | 4.12 | 1.90 | 0.9 | 4.12 | 1.90 | 0.7 | 4.12 | 1.902 | 0.7 | 0% | **-25%** |
| 31 | **ZN%** | 5.08 | 0.37 | **2.0** | 3.34 | 0.38 | 1.6 | 3.34 | 0.378 | 1.6 | 1% | **-21%** |
| 32 | **ZN%** | 22.6 | 0.98 | **2.9** | 16.22 | 0.98 | 2.3 | 8 | 0.857 | 1.8 | **-12%** | **-37%** |

## 14.7 Specific Gravity Estimation

Bulk densities were based on a total of 3,146 individual measurements taken by Southern Silver field personnel from key mineralized zones throughout the La Bocona and South Skarn zones along with the Skarn Front Zone, the Las Victorias Zone and to a lesser extent, the Blind and El Sol Zones. These density values ranged from 1.04 t/m$^3$ to 5.33 t/m$^3$ and average to 2.89 t/m$^3$ however the mean increases slightly within the mineralized zones. Specific gravities were calculated on a block-by-block basis by interpolating the SG measurements using inverse distance to the second power and limited within the individual mineralized zone solids. A default density of 2.85 t/m$^3$ was assigned to any blocks that were not assigned a calculated value.

**Table 14-13: Statistics for SG Measurements**

| Zone | Zone Code | Length (m) | Maximum | Mean | CV |
|---|---|---|---|---|---|
| **Blind Zone** | **1** | 72.01 | 4.45 | 2.81 | 0.10 |
| | **2** | 132.39 | 4.12 | 2.94 | 0.11 |
| | **3** | 95.76 | 3.92 | 2.89 | 0.11 |
| | **4** | 5.28 | 2.87 | 2.85 | 0.01 |
| **Las Victorias** | **5** | 40.25 | 5.33 | 3.09 | 0.19 |
| **Gold HW** | **10** | 3 | 3.08 | 2.79 | 0.06 |

| Zone | Zone Code | Length (m) | Maximum | Mean | CV |
|---|---|---|---|---|---|
| El Sol | 11 | 15.55 | 3.50 | 2.92 | 0.08 |
| | 12 | 40.38 | 3.41 | 2.83 | 0.08 |
| | 13 | 29.65 | 3.52 | 3.08 | 0.06 |
| | 14 | 30.1 | 3.19 | 2.92 | 0.07 |
| | 15 | 2.35 | 3.13 | 2.93 | 0.06 |
| | 16 | 19.62 | 3.56 | 2.83 | 0.09 |
| | 17 | 6.95 | 2.98 | 2.71 | 0.07 |
| | 18 | 7.85 | 3.22 | 2.88 | 0.09 |
| **Skarn Zone** | **20** | 475.01 | 4.16 | 3.20 | 0.08 |
| **Muralla Zone** | **21** | 100.95 | 3.60 | 2.83 | 0.10 |
| | **22** | 122.1 | 3.93 | 2.87 | 0.09 |
| | **25** | 43.2 | 3.21 | 2.75 | 0.05 |
| **North Felsite** | **104** | 803.2 | 4.73 | 3.01 | 0.12 |
| | **23** | 69 | 4.34 | 2.90 | 0.08 |
| | **24** | 34.25 | 3.67 | 2.82 | 0.10 |
| **La Bocona** | **101** | 21.25 | 3.41 | 2.93 | 0.11 |
| | **102** | 25.3 | 3.41 | 2.89 | 0.08 |
| | **103** | 4.45 | 3.17 | 2.86 | 0.05 |
| **South Skarn** | **30** | 3.8 | 2.94 | 2.75 | 0.08 |
| | **31** | 135.05 | 3.40 | 2.67 | 0.09 |
| | **32** | 430.1 | 4.35 | 2.89 | 0.12 |
| **La Bocona Oxide** | **40** | 95 | 2.98 | 2.56 | 0.12 |
| | **42** | 73.2 | 3.10 | 2.50 | 0.05 |
| | **44** | 72.97 | 3.26 | 2.72 | 0.10 |
| **Dyke** | **50** | 4.05 | 3.73 | 2.61 | 0.13 |
| **Total** | **-** | **3,014.02** | **5.33** | **2.94** | **0.12** |
| **All** | **-** | 4,333.83 | 5.33 | 2.89 | 0.12 |

## 14.8 Variography

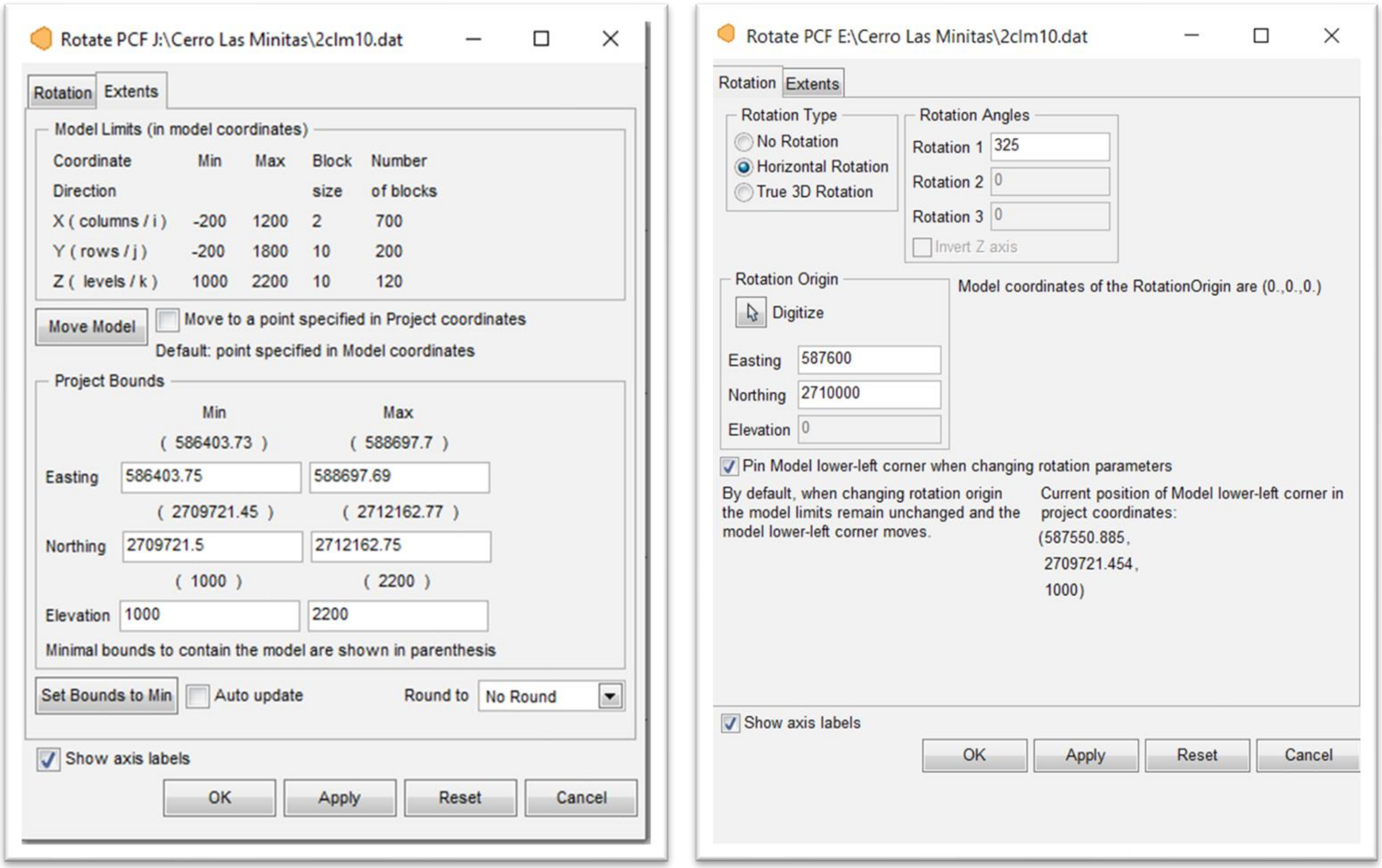
Experimental variograms and variogram models in the form of correlograms were generated for silver, gold, copper, lead and zinc grades. However, the individual zones do not have sufficient data to generate meaningful variogram results. For this reason, it was decided at this time to use inverse distance to the third power for the Skarn zone and inverse distance to the second power for all other zones as the interpolator.

## 14.9 Block Model Definition

The block model used to estimate the resources was defined according to the limits specified in Figures 14-18, 14-19 and 14-20. The block model is orthogonal and non-rotated, reflecting the orientation of the deposit. The chosen block size was 10 m by 10 m by 2 m, roughly reflecting the drill hole spacing (i.e., 4–6 blocks between drill holes) which is spaced at approximately 50 m centres. Note: MineSight™ uses the centroid of the blocks as the origin.

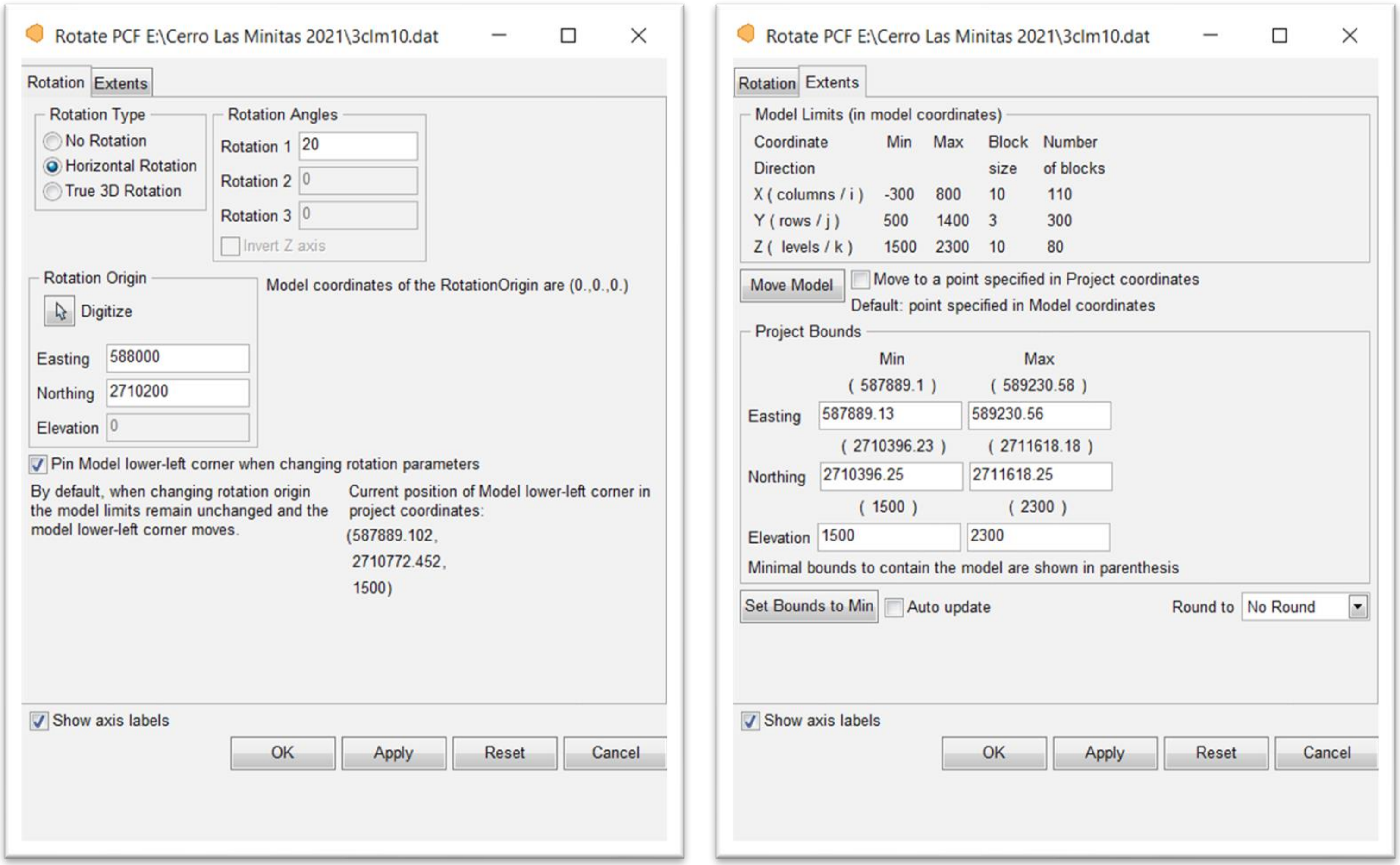
It should be noted that the South Skarn employs sub-blocking as opposed to partial percentage for the coding of the block models. In this case the parent block size is 10 m X 10 m X 2 m while the sub-block size is 0.5 m X 0.5 m X 0.3 m.

**Figure 14-23: Dimensions, Origin and Orientation for the Skarn, Blind and El Sol Zone Block Model**



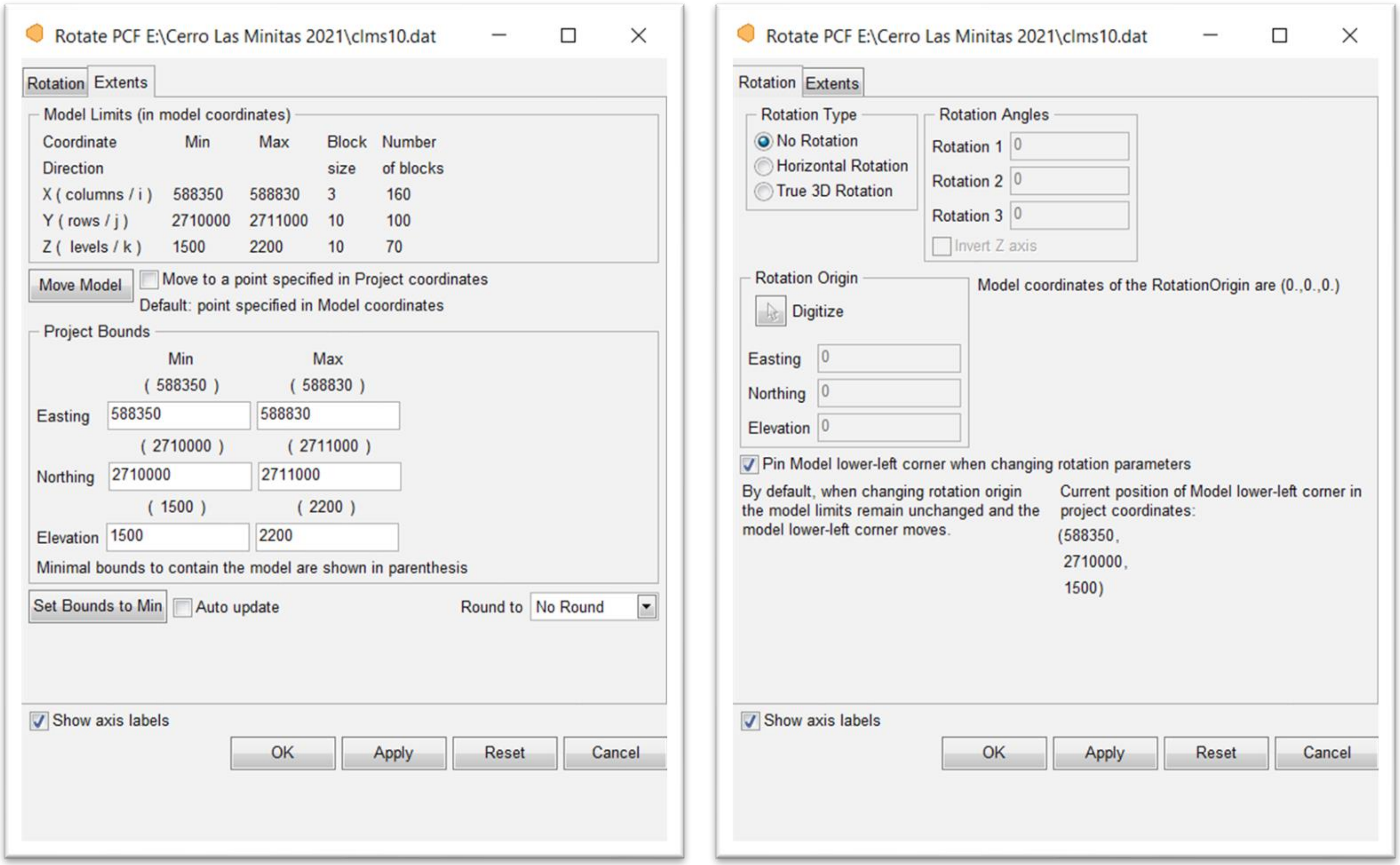

Source: Kirkham, 2024

**Figure 14-24: Dimensions, Origin and Orientation for the La Bocona and North Felsite Zones Block Model**




Source: Kirkham, 2024

**Figure 14-25: Dimensions, Origin and Orientation for the South Skarn Zone Block Model**




Source: Kirkham, 2024

## 14.10 Resource Estimation Methodology

The resource estimation plan includes the following items:

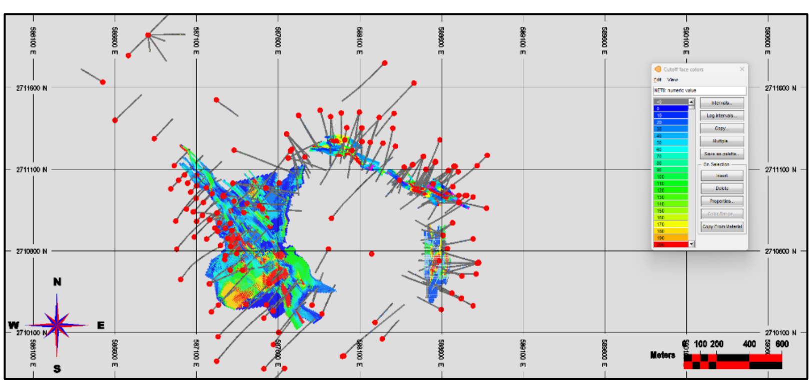
- mineralized zone code and percentage of modelled mineralization in each block; and
- estimated block silver, gold, copper, lead, and zinc grades by inverse distance to the third power, using a two-pass estimation strategy for the mineralized zone. The two passes enable better estimation of local metal grades and infill of interpreted solids.
- interpolation of potentially deleterious elements; arsenic, antimony and iron.
- interpolation of important contributors to “potential acid mine drainage” such as calcium% and sulphur%.

Furthermore, the Skarn Zone is a deposit that poses a number of challenges with respect to modelling and interpolation. The first challenge is that, based on data and observations, the mineralization, and more importantly, the grade is layered or banded. In addition, due to the abrupt change in strike of the deposit and undulations using a standard oriented ellipse to guide the estimation process does not account for, nor does it adequately deal with, significant changes in dip, and more importantly, the layered deposits that are angled.

Grades in the model have been estimated using inverse distance. In an attempt to adequately account for the changes in strike and dip, a *relative elevation* modelling approach has been used. Distances relative to the footwall contact of the domains are stored in both model blocks and composited drill hole samples. These Footwall Distance Values (FWDIS) are linked during interpolation to ensure that samples will only correlate with data within its stratigraphic position.

These relative elevations essentially *flatten out* the deposit for interpolation. Using relative elevations are a reflection of the continuity of the mineralization in relation to the orientation of the deposit. The grade model for the Skarn zone has been developed using the relative elevation approach and anisotropic search ellipsoids.

**Figure 14-26: Plan View of Skarn Deposit Illustrating Estimation Challenges**




Source: Kirkham, 2024.

Table 14-14 summarizes the search ellipse dimensions for the two estimation passes for each zone.

**Table 14-14: Search Ellipse Parameters for the Cerro Las Minitas Deposit**

| Zone | Pass | Major Axis | Semi-Major Axis | Minor Axis | 1st Rotation Angle Azimuth | 2nd Rotation Angle Dip | 3rd Rotation Angle | Min. No. Of Comps | Max. No. Of Comps | Max. Samples per Drill Hole |
|---|---|---|---|---|---|---|---|---|---|---|
| Blind | 1 | 100 | 100 | 20 | 50 | -90 | 0 | 2 | 12 | 4 |
| El Sol | 1 | 100 | 100 | 20 | 225 | -80 | 0 | 2 | 12 | 4 |
| Las Victorias | 1 | 100 | 100 | 20 | 225 | -80 | 0 | 2 | 12 | 4 |
| Skarn Front | 1 | 100 | 100 | 20 | 145 | -75 | 0 | 2 | 12 | 4 |
| La Boconas Sulphide | 1 | 60 | 60 | 60 | 50 | -90 | 0 | 3 | 9 | 3 |
| La Boconas Oxide | 1 | 60 | 60 | 60 | 0 | 0 | 0 | 3 | 9 | 3 |
| North Felstie | 1 | 60 | 60 | 20 | 20 | -80 | 0 | 3 | 9 | 3 |
| South Skarn | 1 | 100 | 100 | 100 | 0 | 0 | 0 | 2 | 12 | 4 |
| Blind | 2 | 150 | 150 | 25 | 50 | -90 | 0 | 1 | 12 | 4 |
| El Sol | 2 | 150 | 150 | 25 | 225 | -80 | 0 | 1 | 12 | 4 |
| Las Victorias | 2 | 150 | 150 | 25 | -80 | 0 | 0 | 1 | 12 | 4 |
| Skarn Front | 2 | 150 | 150 | 25 | 280 | -75 | 0 | 1 | 12 | 4 |
| La Boconas Sulphide | 2 | 100 | 100 | 100 | 0 | 0 | 0 | 2 | 9 | 3 |
| La Boconas Oxide | 2 | 100 | 100 | 100 | 0 | 0 | 0 | 2 | 9 | 3 |
| North Felsite | 2 | 120 | 120 | 20 | 20 | -80 | 0 | 4 | 9 | 3 |
| South Skarn | 2 | 100 | 100 | 20 | 225 | -80 | 0 | 2 | 12 | 4 |

## 14.11 Resource Validation

A graphical validation was completed on the block model. This type of validation serves the following purposes:

- checks the reasonableness of the estimated grades based on the estimation plan and the nearby composites;
- checks that the general drift and the local grade trends compare to the drift and local grade trends of the composites;
- ensures that all blocks in the core of the deposit have been estimated;
- checks that topography has been properly accounted for;
- checks against manual approximate estimates of tonnages to determine reasonableness; and
- inspects for and explains potentially high-grade block estimates in the neighbourhood of the extremely high assays.

A full set of cross sections, long sections and plans were used to digitally check the block model; these showed the block grades and composites. There was no indication that a block was wrongly estimated, and it appears that every block grade could be explained as a function of the surrounding composites and the applied estimation plan.

The validation techniques included the following:

- visual inspections on a section-by-section and plan-by-plan basis;
- use of grade-tonnage curves;
- swath plots comparing kriged estimated block grades with inverse distance and nearest neighbour estimates; and
- inspection of histograms showing distance from first composite to nearest block, and average distance to blocks for all composites (this gives a quantitative measure of confidence that blocks are adequately informed in addition to assisting in the classification of resources).

## 14.12 Mineral Resource Classification

Mineral resources were estimated in conformity with generally accepted CIM *Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines* (2003). Mineral resources are not mineral reserves and do not have demonstrated economic viability.

The mineral resources may be impacted by further infill and exploration drilling that may result in an increase or decrease in future resource evaluations. The mineral resources may also be affected by subsequent assessment of mining, environmental, processing, permitting, taxation, socio-economic and other factors. There is insufficient information in this early stage of study to assess the extent to which the mineral resources will be affected by factors such as these that are more suitably assessed in a scoping or conceptual study. As such, a Preliminary Economic Assessment is recommended.

Mineral resources for the Cerro Las Minitas deposit were classified according to the *CIM Definition Standards for Mineral Resources and Mineral Reserves* (2014) by Garth David Kirkham, P.Geo., an “independent qualified person” as defined by National Instrument 43-101.

Drill hole spacing in the Cerro Las Minitas deposit is sufficient for preliminary geostatistical analysis and evaluating spatial grade variability. Kirkham Geosystems Ltd. is, therefore, of the opinion that the amount of sample data is adequate to demonstrate very good confidence in the grade estimates for the deposit.

The estimated blocks were classified according to the following:

- confidence in interpretation of the mineralized zones;
- number of data used to estimate a block;
- number of composites allowed per drill hole; and

- distance to nearest composite used to estimate a block.

The classification of resources was based primarily on distance to the nearest composite; however, all of the quantitative measures, as listed here, were inspected and taken into consideration. In addition, the classification of resources for each zone was considered individually by virtue of their relative depth from surface and the ability to derive meaningful geostatistical results.

Blocks were classified as indicated if they were within approximately 50 m of a composite and were interpolated with a minimum of two drill holes. Note: There were no blocks classified as Measured resources. Blocks were classified as Inferred if the nearest composite was less than 100 m from the block being estimated. Furthermore, an interpreted boundary was created for the indicated and inferred threshold in order to exclude orphans and reduce "spotted dog" effect. The remaining blocks were unclassified and may be considered as geologic potential for further exploration.

Furthermore, in consideration for the requirement for resources to possess a "reasonable prospect of eventual economic extraction" (RP3E), underground mineable shapes were created that displayed continuity based on cut-off grades and classification. Additionally, these RP3E shapes also took into account must-take material that may fall below cut-off grade but will be extracted by mining in the event that adjacent economic material is extracted making below cut-off material by virtue of the mining costs being paid for.

## 14.13 Sensitivity of the Block Model to Selection Cut-off Grade

The mineral resources are sensitive to the selection of cut-off grade. Table 14-14 shows the total resources for all metals at varying NSR cut-off grades. The reader is cautioned that these values should not be misconstrued as a mineral reserve. The reported quantities and grades are only presented as a sensitivity of the resource model to the selection of cut-off grades. All resources listed by cut-off grade deomotrate a reasoanble expectation of eventual economic extraction as per NI43-101 Form F1, Instruction 2.

Note: The base case cut-off grades (bolded) presented in Tables 14.5 and 14.6 are based on potentially underground, mineable resources at the base case of $60 NSR.

**Table 14-15: Sensitivity Analyses at Various NSR Cut-Off Grades for Indicated Resources**

| Indicated | Cutoff | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|---|
| **Blind Zone** | 40 | 4,161 | 89.17 | 72.67 | 1.56 | 1.49 | 0.04 | 0.08 |
| | 50 | 3,277 | 101.13 | 82.38 | 1.79 | 1.67 | 0.04 | 0.09 |
| | **60** | **2,614** | **112.93** | **92.22** | **2.02** | **1.84** | **0.04** | **0.10** |
| | 70 | 2,112 | 124.31 | 101.76 | 2.24 | 2.00 | 0.05 | 0.11 |
| | 80 | 1,552 | 142.00 | 116.21 | 2.60 | 2.23 | 0.05 | 0.13 |
| **El Sol Zone** | 40 | 1,739 | 90.31 | 65.78 | 1.68 | 1.75 | 0.03 | 0.07 |
| | 50 | 1,547 | 95.93 | 70.07 | 1.78 | 1.86 | 0.03 | 0.08 |
| | **60** | **1,252** | **105.52** | **77.05** | **1.94** | **2.07** | **0.04** | **0.08** |

| Indicated | Cutoff | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|---|
| | 70 | 997 | 116.06 | 83.16 | 2.18 | 2.28 | 0.04 | 0.09 |
| | 80 | 830 | 124.27 | 89.28 | 2.34 | 2.43 | 0.04 | 0.10 |
| **Skarn Front** | 40 | 10,548 | 116.94 | 84.69 | 3.35 | 0.62 | 0.06 | 0.17 |
| | 50 | 8,980 | 129.50 | 93.68 | 3.74 | 0.70 | 0.06 | 0.18 |
| | **60** | **7,626** | **142.83** | **104.24** | **4.12** | **0.76** | **0.06** | **0.19** |
| | 70 | 6,861 | 151.57 | 111.65 | 4.35 | 0.82 | 0.06 | 0.20 |
| | 80 | 6,106 | 161.03 | 119.77 | 4.60 | 0.88 | 0.07 | 0.20 |
| **La Bocona/North Felsite** | 40 | 2,242 | 118.20 | 105.80 | 1.31 | 1.78 | 0.17 | 0.21 |
| | 50 | 2,045 | 125.20 | 112.39 | 1.39 | 1.90 | 0.18 | 0.22 |
| | **60** | **1,807** | **134.60** | **121.19** | **1.49** | **2.06** | **0.19** | **0.23** |
| | 70 | 1,554 | 146.10 | 132.41 | 1.60 | 2.27 | 0.21 | 0.23 |
| | 80 | 1,367 | 155.90 | 142.34 | 1.72 | 2.47 | 0.22 | 0.22 |
| **Total** | 40 | 18,690 | 108.43 | 82.79 | 2.55 | 1.06 | 0.06 | 0.14 |
| | 50 | 15,849 | 119.80 | 91.45 | 2.84 | 1.17 | 0.07 | 0.16 |
| | **60** | **13,299** | **132.32** | **101.62** | **3.14** | **1.27** | **0.07** | **0.17** |
| | 70 | 11,524 | 142.76 | 110.18 | 3.41 | 1.36 | 0.08 | 0.18 |
| | 80 | 9,855 | 154.22 | 119.78 | 3.69 | 1.44 | 0.08 | 0.19 |

Note: Bolded rows represent the base line mineral resource estimate.

**Table 14-16: Sensitivity Analyses at Various NSR Cut-Off Grades for Inferred Resources**

| Inferred | Cutoff | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|---|
| **Blind Zone** | 40 | 2,191 | 84.76 | 65.63 | 1.58 | 1.11 | 0.16 | 0.08 |
| | 50 | 1,924 | 90.25 | 70.01 | 1.69 | 1.17 | 0.18 | 0.08 |
| | **60** | **1,697** | **94.93** | **73.83** | **1.78** | **1.22** | **0.20** | **0.08** |
| | 70 | 1,438 | 100.31 | 78.29 | 1.87 | 1.29 | 0.21 | 0.08 |
| | 80 | 1,219 | 104.93 | 82.07 | 1.96 | 1.34 | 0.22 | 0.08 |
| **Las Victorias** | 40 | 1,541 | 146.71 | 116.43 | 2.07 | 1.75 | 0.63 | 0.12 |
| | 50 | 1,483 | 150.71 | 119.71 | 2.13 | 1.81 | 0.64 | 0.12 |
| | **60** | **1,417** | **155.21** | **123.60** | **2.20** | **1.86** | **0.65** | **0.12** |
| | 70 | 1,310 | 162.51 | 130.27 | 2.30 | 1.95 | 0.67 | 0.13 |
| | 80 | 1,211 | 169.45 | 136.97 | 2.41 | 2.03 | 0.68 | 0.14 |
| **El Sol Zone** | 40 | 1,571 | 79.96 | 50.45 | 1.82 | 1.52 | 0.03 | 0.05 |

| Inferred | Cutoff | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|---|
| | 50 | 1,406 | 84.00 | 53.57 | 1.91 | 1.59 | 0.03 | 0.05 |
| | **60** | **1,168** | **89.80** | **57.24** | **2.07** | **1.68** | **0.03** | **0.06** |
| | 70 | 713 | 105.92 | 69.15 | 2.41 | 2.00 | 0.03 | 0.06 |
| | 80 | 566 | 114.00 | 74.86 | 2.61 | 2.13 | 0.03 | 0.06 |
| **Skarn Front** | 40 | 17,974 | 102.74 | 87.09 | 2.11 | 0.53 | 0.04 | 0.28 |
| | 50 | 14,998 | 114.18 | 98.01 | 2.34 | 0.59 | 0.05 | 0.30 |
| | **60** | **12,444** | **126.29** | **109.56** | **2.59** | **0.66** | **0.05** | **0.32** |
| | 70 | 10,514 | 137.69 | 121.05 | 2.81 | 0.73 | 0.05 | 0.33 |
| | 80 | 9,081 | 147.56 | 130.72 | 2.98 | 0.79 | 0.05 | 0.35 |
| **La Bocona/North Felsite** | 40 | 3,031 | 115.10 | 112.39 | 1.47 | 1.33 | 0.20 | 0.12 |
| | 50 | 2,889 | 118.60 | 115.72 | 1.53 | 1.37 | 0.21 | 0.12 |
| | **60** | **2,666** | **123.90** | **120.48** | **1.61** | **1.44** | **0.22** | **0.13** |
| | 70 | 2,386 | 130.90 | 127.75 | 1.69 | 1.53 | 0.23 | 0.13 |
| | 80 | 2,041 | 140.40 | 137.99 | 1.79 | 1.64 | 0.24 | 0.14 |
| **South Skarn** | 40 | 5,862 | 103.83 | 107.58 | 1.03 | 1.51 | 0.16 | 0.07 |
| | 50 | 4,780 | 117.38 | 122.26 | 1.13 | 1.72 | 0.18 | 0.08 |
| | **60** | **4,036** | **128.91** | **134.04** | **1.25** | **1.91** | **0.19** | **0.08** |
| | 70 | 3,125 | 147.88 | 154.23 | 1.42 | 2.19 | 0.22 | 0.09 |
| | 80 | 2,577 | 163.29 | 170.20 | 1.56 | 2.45 | 0.23 | 0.11 |
| **Total** | 40 | 32,171 | 103.87 | 91.36 | 1.80 | 0.93 | 0.12 | 0.20 |
| | 50 | 27,480 | 113.95 | 101.03 | 1.96 | 1.03 | 0.13 | 0.21 |
| | **60** | **23,428** | **124.13** | **110.67** | **2.14** | **1.13** | **0.14** | **0.21** |
| | 70 | 19,486 | 136.24 | 122.75 | 2.33 | 1.23 | 0.15 | 0.23 |
| | 80 | 16,696 | 146.45 | 132.71 | 2.49 | 1.33 | 0.16 | 0.24 |

Notes: **1.** The current Resource Estimate was prepared by Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd. The effective date of the mineral resource estimate is March 20, 2024. **2.** All mineral resources have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum ("CIM") definitions, as required under National Instrument 43-101 ("NI43-101"). **3.** Mineral resources were constrained using continuous mining units demonstrating reasonable prospects of eventual economic extraction. **4.** NSR values were calculated from the interpolated block values using relative recoveries and prices between the component metals depending of concentrate to which they are reporting to. **5.** Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. **6.** An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. **7.** The $60/t NSR cut-off value was calculated using average long-term prices of $22.50/oz. silver, $1,850/oz. gold, $3.78/lb. copper, $0.94/lb. lead and $1.25/lb. zinc. Metallurgical work from locked cycle testwork produced three saleable concentrates for the Skarn zone and testwork on a composite of the Blind, El Sol and Las Victorias Zones produced two saleable concentrates. This work, along with marketing studies were used to decide the NSR cut-off value. **8.** Bolded rows represent the base line mineral resource estimate.

## 14.14 Mineral Resource Statement

The Qualified Person evaluated the resource in order to ensure that it meets the condition of "reasonable prospects of eventual economic extraction" as suggested under NI 43-101. The criteria considered were confidence, continuity and economic cut-off. The resource listed below is considered to have "reasonable prospects of eventual economic extraction".

The Mineral Resource Estimate updates the previously reported estimate utilizing updated metal prices, operating costs and metallurgical recoveries.

Note that mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. In addition, these resource statements include inferred resources that have a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Table 14-17 shows the Mineral Resource Statement for the Cerro Las Minitas deposit.

**Table 14-17: Base-Case Total Mineral Resources at $60 NSR Cut-Off (effective date March 20, 2024)**

| Indicated Resources | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|
| Blind Zone | 2,614 | 112.93 | 92.22 | 2.02 | 1.84 | 0.04 | 0.10 |
| El Sol | 1,252 | 105.52 | 77.05 | 1.94 | 2.07 | 0.04 | 0.08 |
| Skarn Front | 7,626 | 142.83 | 104.24 | 4.12 | 0.76 | 0.06 | 0.19 |
| North Felsite/La Bocona | 1,807 | 134.60 | 121.19 | 1.49 | 2.06 | 0.19 | 0.23 |
| **Total** | **13,299** | **132.32** | **101.62** | **3.14** | **1.27** | **0.07** | **0.17** |
| **Inferred Resources** | **Tonnes (kt)** | **NSR (US$/t)** | **Ag (g/t)** | **Zn (%)** | **Pb (%)** | **Au (g/t)** | **Cu (%)** |
| Blind Zone | 1,697 | 94.93 | 73.83 | 1.78 | 1.22 | 0.20 | 0.08 |
| Las Victorias | 1,417 | 155.21 | 123.60 | 2.20 | 1.86 | 0.65 | 0.12 |
| El Sol | 1,168 | 89.80 | 57.24 | 2.07 | 1.68 | 0.03 | 0.06 |
| Skarn Front | 12,444 | 126.29 | 109.56 | 2.59 | 0.66 | 0.05 | 0.32 |
| North Felsite/La Bocona | 2,666 | 123.90 | 120.48 | 1.61 | 1.44 | 0.22 | 0.13 |
| South Skarn | 4,036 | 128.91 | 134.04 | 1.25 | 1.91 | 0.19 | 0.08 |
| **Total** | **23,428** | **124.13** | **110.67** | **2.14** | **1.13** | **0.14** | **0.21** |

Notes: **1.** The current Resource Estimate was prepared by Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd. The effective date of the mineral resource estimate is March 20, 2024. **2.** All mineral resources have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum ("CIM") definitions, as required under National Instrument 43-101 ("NI43-101"). **3.** Mineral resources were constrained using continuous mining units demonstrating reasonable prospects of eventual economic extraction. **4.** NSR values were calculated from the interpolated block values using relative recoveries and prices between the component metals depending of concentrate to which they are reporting to. **5.** Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. **6.** An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. **7.** The $60/t NSR cut-off value was calculated using average long-term prices of $22.50/oz. silver, $1,850/oz. gold, $3.78/lb. copper, $0.94/lb. lead and $1.25/lb. zinc. Metallurgical work from locked cycle testwork produced three saleable concentrates for the Skarn zone and testwork on a composite of the Blind, El Sol and Las Victorias Zones produced two saleable concentrates. This work, along with marketing studies were used to decide the NSR cut-off value.

**Table 14-18: Oxide Mineral Resource Estimate for CLM Project at a US$60/t NSR Cut-Off**

| La Bocona Oxide | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Au (g/t) |
|---|---|---|---|---|
| Inferred | 139 | 103.41 | 111.61 | 1.37 |

Notes: The $60/t NSR cut-off value was calculated using average long-term prices of $20/oz. silver, $1,850/oz. gold. Base metals were not recovered in the leach circuit. Metallurgical work from batch test work recovered 74% silver from oxidized composites from the Blind – El Sol zones. Gold recovery was not assessed and is estimated at 70% for the purposes of this report. This work, along with marketing studies were used to decide the NSR cut-off value. All prices are stated in $USD. The effective date of the mineral resource estimate is March 20, 2024.

## 14.15 Discussion with Respect to Potential Material Risks to the Resources

The current political and socio-economic climate in Mexico poses risks and uncertainties that could delay or even stop development as reported within the Fraser Institute Annual Report 2022. Mexico has been steadily declining for the past five years and ranks in the lower quartile on all metrics that gauge risk and uncertainty. Recent developments related to nationalization of resources along with a likely ban on open pit mining pose a risk to all projects.

It is difficult to gauge or qualify the level or extents of the risks however, all companies working in Mexico must continue to be aware of the potential risks and develop mitigation strategies.

Apart from political and socio-economic risks there are no other known environmental, permitting, legal, taxation, title or other relevant factors that materially affect the resources at Cerro Las Minitas.

# 15 MINERAL RESERVE ESTIMATES

This section is not relevant to this technical report.

# 16 MINING METHODS

## 16.1 Introduction

The Cerro Las Minitas Project is a deposit that extends from near surface to over one km in depth and ranges in width from approximately 2 m to greater than 20 m. Although some parts of the deposit are near the surface, this deposit has been selected for underground extraction using bulk mining methods. Due to the proximity to an active, albeit a small-scale operation, backfill was considered for both longitudinal and transverse stoping methods. Other bulk mining methods (sub level caving, long hole stoping using pillars) were not considered for this study due to the potential to impact the nearby operation.

## 16.2 Geotechnical and Hydrological Considerations

### 16.2.1 Hydrogeology Considerations

For this Preliminary Economic Assessment, mine water pumping requirements were assumed to be 20-40 l/s throughout the life of the project. As this project continues to advance, data collection, and evaluation on the potential mine water ingress will be completed to improve the accuracy of this assumption.

### 16.2.2 Geotechnical

#### 16.2.2.1 Collected Data

A geotechnical data collection program was undertaken to investigate ground conditions specific to the CLM Project and to capture information pertinent to characterising and understanding the mechanical behaviour of the different materials expected to be encountered during mining activities.

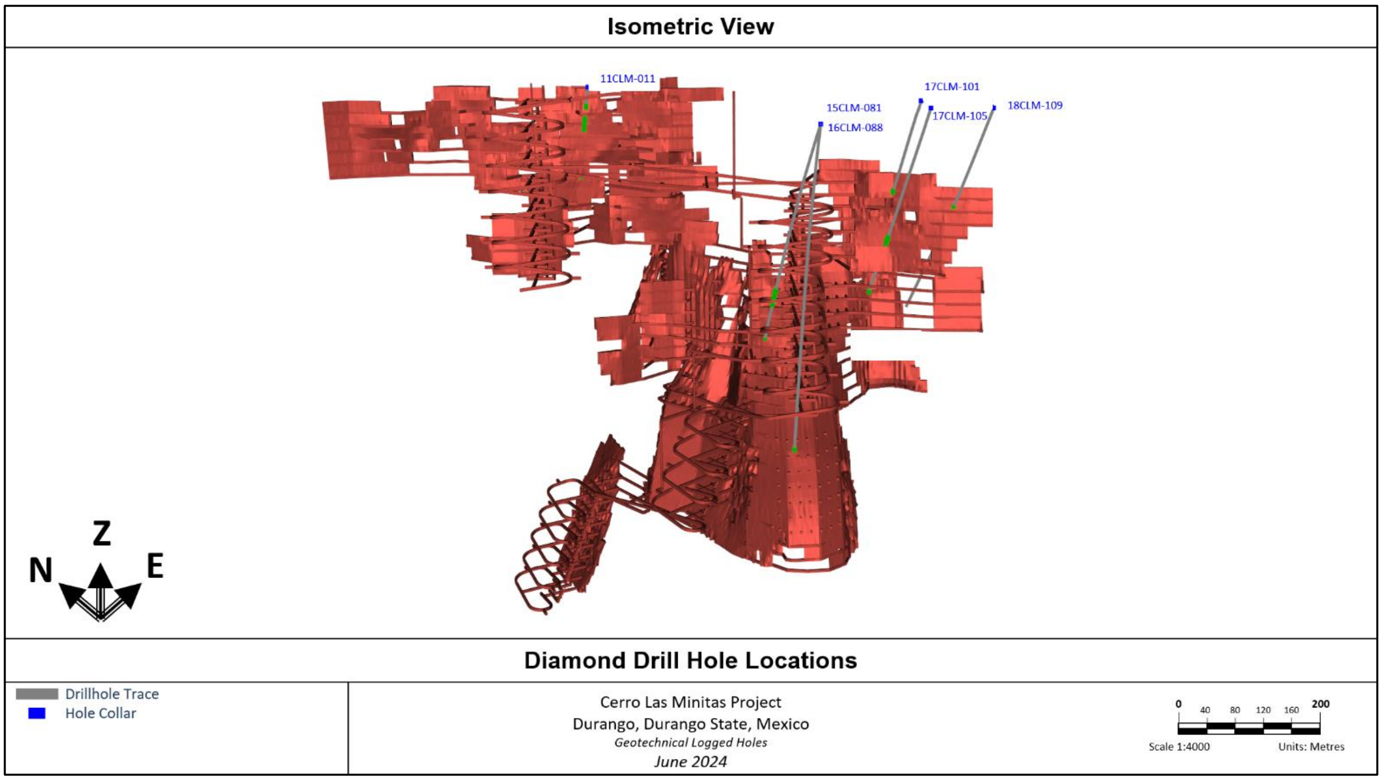
A total of 931.3 m of drill core was logged geotechnically for the CLM project via photo logging of core photographs. Due to the lack of mark up on the drill core, photo logging was difficult and was simplified from core block to core block (i.e. 3 m intervals). In addition, a database containing drill hole information, geological logging and RQD measurements was made available and reviewed as part of this study.

The holes that were used for the study are summarised in Table 16-1 and illustrated with respect to the proposed mine plan in Figure 16-1.

Table 16-1: Geotechnical Logged Drillholes (DHID)

| DHID | Easting | Northing | Elevation (m) | Depth (m) | Dip | Azimuth | From (m) | To (m) | Zone |
|---|---|---|---|---|---|---|---|---|---|
| 11CLM-011 | 587233.6 | 2710267.0 | 2104.4 | 834.0 | -55 | 42.9 | 93.0 | 131.5 | Blind & El Sol |
| 15CLM-081 | 587233.2 | 2710266.8 | 2104.4 | 798.0 | -75 | 40.0 | 423.0 | 700.0 | Skarn Front |
| 16CLM-088 | 587568.5 | 2710232.4 | 2109.2 | 528.0 | -60 | 46.0 | 651.0 | 747.0 | Skarn Front |
| 17CLM-101 | 587511.7 | 2710187.6 | 2105.2 | 601.0 | -60 | 42.0 | 319.2 | 549.0 | Las Victorias |
| 17CLM-105 | 587602.0 | 2710099.9 | 2101.4 | 579.0 | -60 | 38.5 | 198.0 | 494.0 | Las Victorias |
| 18CLM-109 | 587233.6 | 2710267.0 | 2104.4 | 834.0 | -55 | 42.9 | 219.0 | 285.0 | Las Victorias |

Figure 16-1: Geotechnically Logged Diamond Drill Hole Locations




Source: Entech, 2024.

### 16.2.2.2 Rock Mass Characterisation

Characterisation of the rock mass for CLM was carried out using the Q system after Potvin (1988). A collective rock mass characterisation methodology was employed, which was considered appropriate for scoping purposes due to limited geotechnical data currently available. The collected data were assessed for the hangingwall, footwall, and mineralisation domains and summarised in Table 16-2, Table 16-3, and Table 16-4 respectively.

**Table 16-2: Summary of Q Values for the Immediate (10 m) Hangingwall Domain**

| Hangingwall | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Immediate HW (10 m) | | RQD | Jn | Jr | Ja | Jw | SRF | Q' | Q | Q' Rock Mass Class |
| All Lithologies | Best | 100.00 | 2.00 | 3.00 | 1.00 | 1.00 | 1.00 | 150.00 | 150.00 | Very Good |
| | Worst | 6.00 | 12.00 | 1.50 | 8.00 | 1.00 | 5.00 | 0.018 | 0.002 | Extremely Poor |
| | Expected | 86.30 | 4.00 | 3.00 | 3.00 | 1.00 | 2.50 | 21.58 | 8.63 | Good |

**Table 16-3: Summary of Q Values for the Immediate (10 m) Footwall Domain**

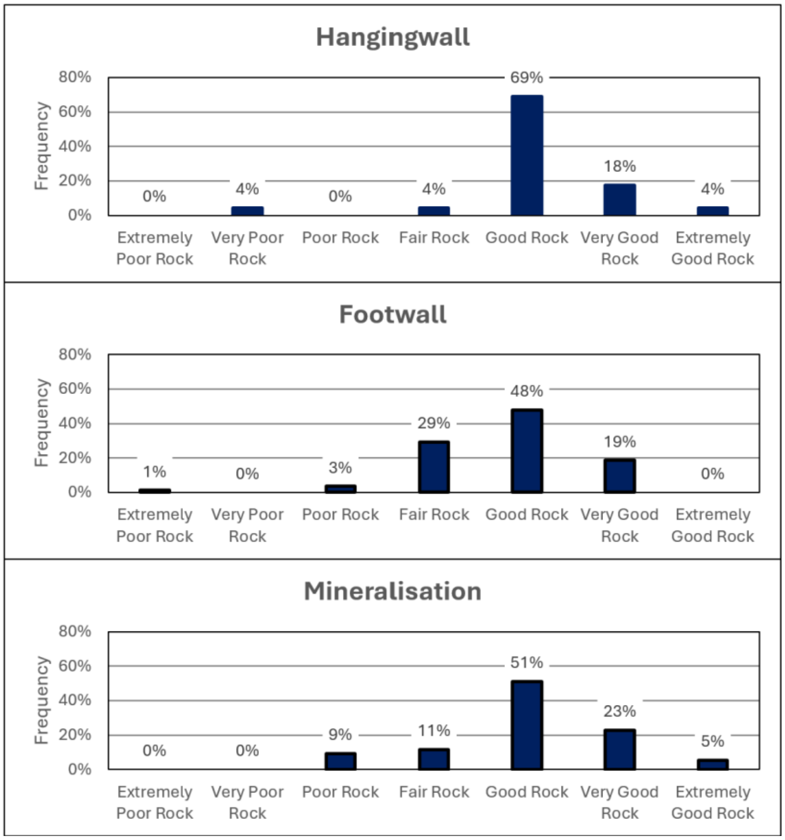
| Footwall | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Immediate FW (10 m) | | RQD | Jn | Jr | Ja | Jw | SRF | Q' | Q | Q' Rock Mass Class |
| All Lithologies | Best | 100.00 | 2.00 | 3.00 | 1.00 | 1.00 | 1.00 | 150.00 | 150.00 | Very Good |
| | Worst | 0.00 | 15.00 | 1.50 | 3.00 | 1.00 | 5.00 | 0.00 | 0.00 | Extremely Poor |
| | Expected | 84.45 | 6.00 | 3.00 | 3.00 | 1.00 | 2.50 | 14.03 | 5.63 | Good |

**Table 16-4: Summary of Q Values for the Mineralisation Domain**

| Mineralisation | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mineralised Zone | | RQD | Jn | Jr | Ja | Jw | SRF | Q' | Q | Q' Rock Mass Class |
| All Lithologies | Best | 100.00 | 2.00 | 3.00 | 1.00 | 1.00 | 1.00 | 150.00 | 150.00 | Very Good |
| | Worst | 15.00 | 15.00 | 1.50 | 4.00 | 1.00 | 7.50 | 0.375 | 0.05 | Very Poor |
| | Expected | 82.10 | 6.00 | 3.00 | 3.00 | 1.00 | 2.50 | 13.68 | 5.47 | Good |

The estimated rock conditions for each of the domains are predominantly good rock or better, with some localised zones of poorer conditions. Each domain is illustrated in Figure 16-2 and demonstrates that generally good ground conditions are predicted.

**Figure 16-2: Estimated Domain Conditions (Q System, Potvin 1988)**




Source: Entech, 2024.

In general, the observations are summarised as follows:

- Rock mass conditions are generally quite uniform across the deposit, with HW rock mass conditions being only slightly better than FW and Mineralised Zone rock mass conditions.
- Poor rock mass conditions appear to be quite discrete, and most likely associated with localised structures (i.e. narrow fault/shear zones).
- Based on the volumetric percentage breakdown by lithology from intersections of the drill core, the dominant lithologies comprising respective geotechnical domains, and thus likely to govern stope wall behaviour are summarised below:
  - HW: Limestone (38.5%), Skarn (25.0%) and Monzonite (19.8%); and,
  - FW: Limestone (41.9%), Skarn (18.6%) and Monzonite (16.3%).

Conservative ratings for joint alteration and roughness profile discontinuity parameters were assigned due to difficulty photo logging. Default planarity and roughness profiles were undulating and rough. Joint alteration was observed to be generally low, with either a being clean surface or hardened coating. Two to two and a half joint sets are expected to be similar with what is to be observed underground or slightly higher due to sampling orientation bias with the drilling primarily on the side of the HW of the deposit area.

#### 16.2.2.3 Stope Sizes

A stope stability assessment was completed for stoping in the Blind, El Sol, Las Victorias, and Skarn Front zones, for both Longitudinal and Transverse mining methods using the Modified Stability Graph Method (MSG).

The maximum stope spans considered were drawn from practical dimensions used at other operations and was not tailored for anticipated ground conditions to be encountered CLM as summarised in Table 16-5.

**Table 16-5: Maximum Stope Spans for Cerro Las Minitas**

| Method | Height (m) | Length (m) | Width (m) |
|---|---|---|---|
| Longitudinal Longhole Stoping | 25 | 20 | <~18-20 |
| Transverse* Longhole Stoping | 25 | 20-25 | >~18-20 |

* Transverse only considered in consistently wide mineralisation over a minimum strike length and height of mineralisation of 80 m x 80 m.

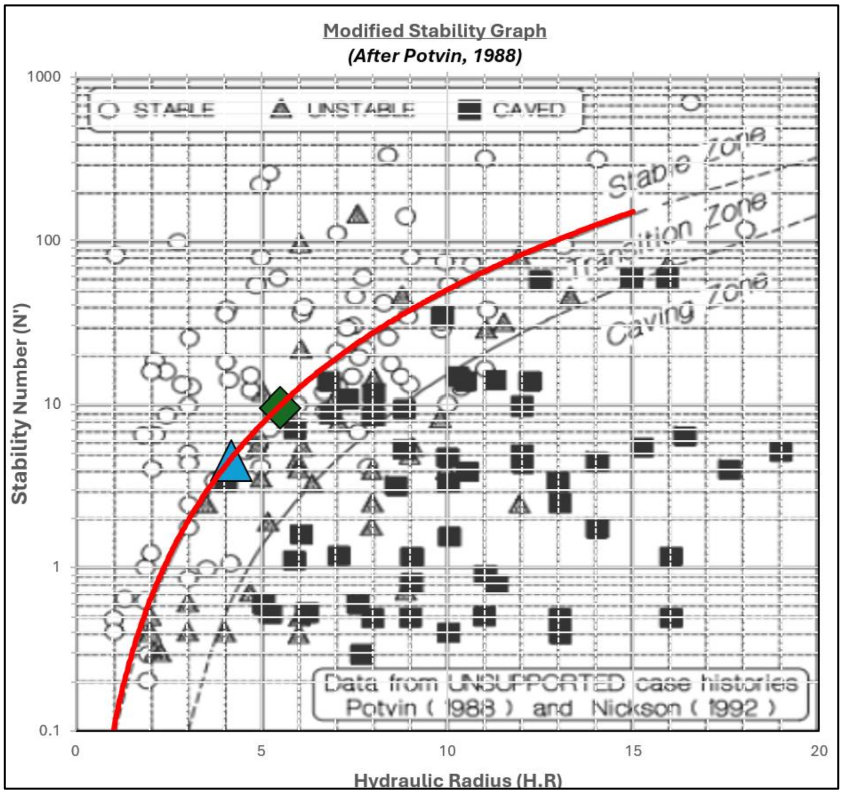
Assumptions made in the calculation of Stability Number (N'):

- Average mineralised zone dip of 65°
- 25 m high stopes for both longitudinal and transverse stoping methods.
- Factor A – While there is currently no laboratory rock strength or in-situ stress measurements available, stress is not considered to be an issue for CLM. This is due to the estimated intact rock strength (R4-R5) and the ability to withstand stress effects for relatively shallow mining depths (600 mbs). A Factor A of 1.0 has been used in the analysis.
- Factor B – Joints which form a shallow oblique angle with the free face are most likely to become unstable and thus are deemed most critical in terms of stope face stability (low factor B value). As there is no structural data available, a Factor B of 0.2 was assigned denoting the worst case.
- Factor C – The hypothetical worst-case joint set used in determining Factor B was subsequently used to determine Factor C. The likely failure mechanism(s) for Footwall and Hangingwall exposures were identified as sliding and gravity fall/slabbing induced type failures respectively. A Factor C of 5.5 for the HW and 4.0 for the FW was used in the analysis.

Allowable stopes spans were calculated for the footwall and hangingwall exposures for single lift (25 m floor to floor). An iterative process based on the range of calculated N' values was carried out to determine appropriate stope dimensions by plotting values onto the 'stable curve' from the database of unsupported stopes. Transverse stopes were designed where the mineralisation thickness was approximately 20 m and extends up-dip and along strike for 100 m in each direction. Longitudinal stopes are proposed where mineralisation thickness is typically less than 18 m or the thicker zones are less continuous.

Figure 16-3 illustrates the recommended values or range for stope parameters based on assessed stope spans.

**Figure 16-3: Chart of HW and FW exposures plotted based on expected stoping conditions to achieve stable unsupported stope spans at CLM (green: HW; blue: FW)**




Source: Entech, 2024.

#### 16.2.2.4 Geotechnical - Ground Support

For cost estimation purposes, ground support regimes for development were assumed however consistent with other operations that use similar sized openings in good ground conditions. For mine development, ground support consisting of 2.4 m rock bolts and mesh was assumed for all development with cable bolts in all intersections. For intersections in capital and operating development, eight cable bolts (6 m long) and four cable bolts (6 m long) were considered respectively. A summary of the assumed bolting plan is summarised in Table 16-6.

**Table 16-6: Excavation and Ground Support Standards for Cerro Las Minitas**

| Excavation Type | Profile | | | Support Type | Back Support | | Wall Support | |
|---|---|---|---|---|---|---|---|---|
| | Width | Height | Shape | | Length | Spacing | Length | Spacing |
| Capital Lateral | 5.5 m | 6.0 m | Arch | Bolts & Mesh | 2.4 m | 1.2 m | 2.4 m | 1.2 m |
| Operating Lateral | 5.0 m | 5.5 m | Arch | Bolts & Mesh | 2.4 m | 1.2 m | 2.4 m | 1.2 m |

Support was also considered for stoping activities with six cable bolts (6 m long) assumed for every 20 m panel.

#### 16.2.2.5 Geotechnical - Backfill

The bulk mining methods considered for Cerro Las Minitas are proposed to use paste backfill for stope support. For costing purposes, the following cement binder was considered and has been observed at other operations:

- Stope plug (7 m) with 6.0 % cement; and,
- Main pour (18 m) with 3.0 % cement.

The mining study considered all stope voids would be backfilled. Future backfill studies are proposed in future study work to further refine cost estimates. The assumed price for cement is US$270/t.

#### 16.2.2.6 Geotechnical – Stand-off and Pillar Sizes

Development was positioned to allow for a minimum 2:1 pillar size (minimum lateral offset is 2 x height of opening) where the pillar width was typically a minimum of 10 m. For positioning ramp infrastructure, a minimum of 50 m was considered.

## 16.3 Mine Dilution and Mining Recovery

Mining factors are used to account for the combination of dilution and recovery that affects the material quality and quantity of an operation. Dilution is waste material that enters the material movement stream and often has two negative impacts:

- Increased cost (mining, processing, treatment and increasing the storage of tailings); and,
- Increased mined material loss (through processing and impacting on mining recoveries).

There are multiple sources of dilution, which can be classified in the following two categories:

- Planned dilution; and,
- Unplanned dilution.

Planned dilution is additional waste that is deliberately mined concurrently with the target mineralised material, allowing the mineralised material to be recovered albeit at an overall lower grade.

Unplanned dilution is waste material that unintentionally finds its way into the plant-feed during extraction and can be from a variety of sources including:

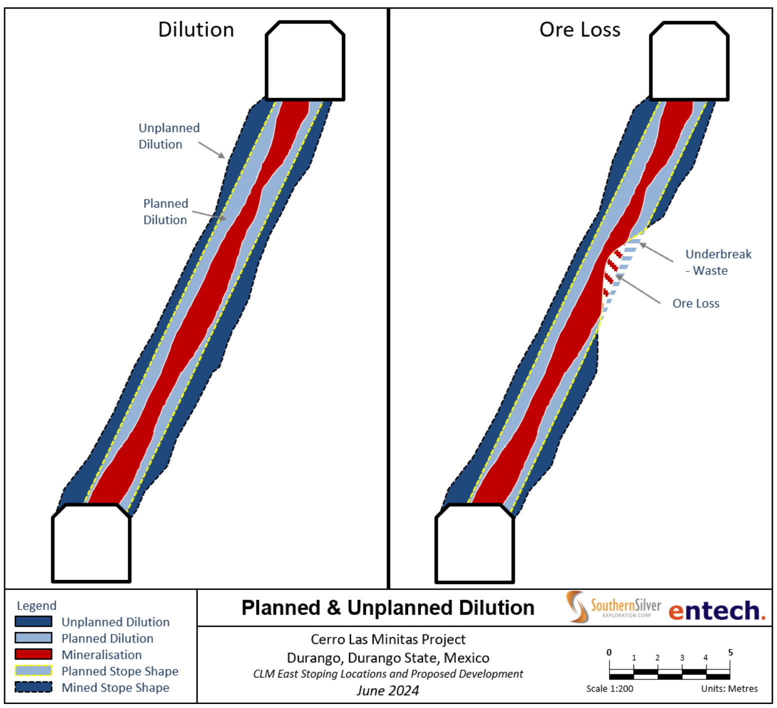
- Over-break during mining;
- Backfill dilution from adjacent stopes;
- Mucking of waste material (or backfill or road base material) during the mucking of mineralised material;

- Misrouting and dumping of waste material on the plant-feed stockpile; and,
- Misrouting and dumping of waste in mineralized material locations (stockpiles, mineralized material passes) leading to a mixing of mineralised material and waste rock.

Mining loss has a significant impact on the mining business, with a reduction of revenue through the loss of mineralised material. Mining loss can occur in a variety of different ways such as poor blasting, poor recovery of blasted muck, and weak ground conditions impacting on the access to the mineralised material, among others. Mining loss was considered as an allowance for a reduction in production and revenue.

An example of dilution and underbreak due to blasting performance is illustrated in Figure 16-4. Underbreak in waste is an economic benefit; however, it also reflects that the operation is not achieving the targeted mining shape.

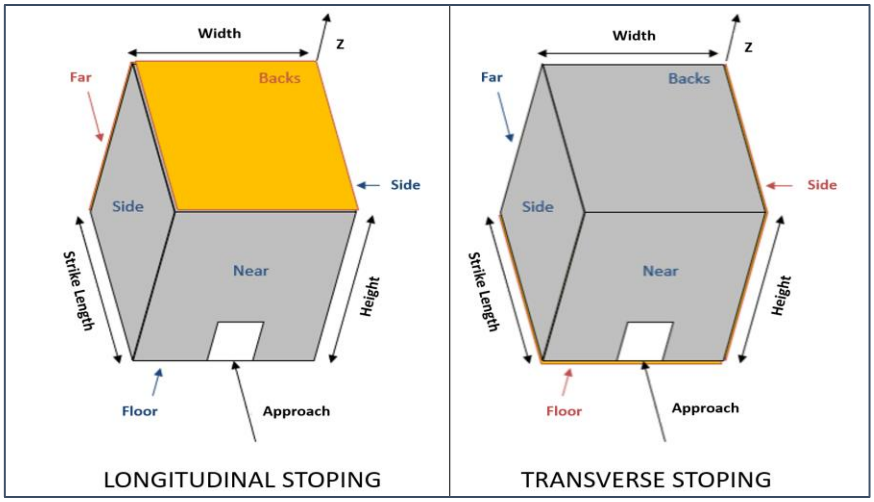
**Figure 16-4: Dilution and Mining Loss - Longhole Stoping**




Source: Entech, 2024.

For preliminary design at Cerro Las Minitas, planned dilution and unplanned rock dilution was accounted for using the Datamine Mineable Stope Optimiser® (MSO). Unplanned fill dilution and mining loss was applied as a factor to the shapes created by MSO within the schedule. A diagram of the mining shapes and the contact surfaces to which the fill dilution was applied is illustrated in Figure 16-5.

**Figure 16-5: Stope Shapes (Longitudinal, left, and Transverse, right) and Fill Dilution Contacts (Orange)**




Source: Entech, 2024.

A summary of the surface contacts is shown in Figure 16-5, where mineralisation and waste are included in the mining shape, while fill is added as a factor during post-processing. A summary of the depth of failure by contact type is provided in Table 16-7.

**Table 16-7: Mineralisation (M), Waste (W) and Fill (F) Surface Contacts for Each Mining Method**

| Method | Side | Near | Far | Backs | Floor |
|---|---|---|---|---|---|
| Longitudinal Longhole Stoping | W/W | M | F | F | M |
| Depth of Failure | 0.5/0.5 | 0.0 | 0.5 | 0.5 | 0.0 |
| Transverse Longhole Stoping | M/F | W | W | M | F |
| Depth of Failure | 0.0/0.5 | 0.5 | 0.5 | 0.0 | 0.5 |

A prudent approach was taken due to the preliminary nature of the study. Mining recovery for stoping was assumed to be 93% and 97% for development. Unless dilution was interrogated during the MSO process, dilution was assigned zero grade. A summary of the dilution and recovery factors is presented in Table 16-8.

**Table 16-8: Dilution and Recovery Summary**

| Description | Value |
|---|---|
| Total Rock Dilution - Stoping[1] | 24.6% |
| Total Rock Dilution - Development[2] | 5% |
| Fill Dilution – Top Down[3] | 4.5% |
| Fill Dilution – Bottom Up[3] | 4.5% |
| Development Recovery | 97% |
| Stoping Recovery | 93% |

Note: **1.** Included in MSO Shape as Planned and Unplanned Dilution (stoping only). **2.** Applied to Development only (mineralisation only). **3.** Applied as Factor to the volume of the shape (assumed density of backfill 2.0 t/m$^3$).

## 16.4 Proposed Mining Methods

Based on the parameters of the deposit, longhole open stoping (LHOS) was selected as the mining method. Two variations of longhole open stoping were considered, depending on the extent and width of the mineralisation. Where the mineralisation is narrower, longitudinal LHOS was considered, and for wider zones, transverse LHOS is proposed. Both methods use paste backfill as the primary backfill type.

A sublevel spacing of 25 m was selected with a maximum stope strike length of 20 m and maximum widths of approximately 20 m. Due to the size of the excavations, transverse mining will be sequenced bottom-up to minimise backfill failure while longitudinal will be top-down. Table 16-9 summarises the dimensions and mining direction for each method.

**Table 16-9: Stope Dimensions by Mining Method**

| Method | Mineralisation Width | Length | Height | Width | Mining Direction[1] |
|---|---|---|---|---|---|
| Longitudinal | ≤~18-20 m | 20 m | 25 m | ≤~18-20 m | Top-Down |
| Transverse | ≥~18-20 m | ≥20 m | 25 m | ~18-20 m | Bottom-Up |

Note: **1.** Predominate direction indicated. Some sequencing variances may occur.

### 16.4.1 Net Smelter Return (NSR)

A Net Smelter Return (NSR) model was used to estimate the revenue for each block. Preliminary process recoveries, concentrate properties, smelting terms, refining costs, and transportation costs were assumed to determine the final value of metal in each concentrate. The value of each metal was then divided by the estimated feed grade to arrive at a grade multiplier for each metal. These grade multipliers were then applied to the block grades and summed to arrive at the block value.

The unit sales prices of each metal are summarised in Table 16-10. These values differ slightly from the values from the financial model, due to the timing of the study and adjustments to consensus pricing.

**Table 16-10: Unit Sale Price per Metal and Exchange Rate**

| Metal | Unit | Sale Price ($USD) - MSO | Sale Price ($USD) Financial Model |
|---|---|---|---|
| Silver | oz | 22.50 | 23.00 |
| Zinc | lb | 1.25 | 1.25 |
| Lead | lb | 0.94 | 1.00 |
| Copper | lb | 3.78 | 3.90 |
| Gold | oz | 1,850.00 | 1,850.00 |

Based on the NSR values presented in Table 16-10, multipliers estimated by Entech are summarized in Table 16-11 and were used in the MSO process.

**Table 16-11: Grade Multipliers ($USD / unit) Used to Estimate NSR in the Block Model**

| Metal | Unit | Grade Multiplier[1] | Grade Multiplier |
|---|---|---|---|
| | | Skarn Zone | Non-Skarn Zone |
| Silver | $ / g | 0.546 | 0.362 |
| Zinc | $ /% | 15.591 | Nil |
| Lead | $ /% | 13.409 | Nil |
| Copper | $ /% | 48.682 | Nil |
| Gold | $ /g | 34.447 | 40.472 |

Note: **1.** Final multiplier is lower for gold (25.997) than what was included in MSO inputs. The impact of including material below the economic cut-off was negligible.

### 16.4.2 Cut-Off Value

A Cut-Off Value (COV) is used to segregate material by whether the revenue in a block exceeds the costs of extraction and processing of that block. There were three COVs used to assess mining at Cerro Las Minitas: Fully Costed; Incremental; and, Marginal COV.

The fully costed COV represents the mineralized material must meet to cover all the associated operating and sustaining capital costs of extraction and processing.

The incremental COV can be used when the operation has invested in development and access infrastructure and no further investment in development is required to access the material on existing designs. At this stage the COV can exclude the costs of development and partially exclude the costs of sustaining capital. The incremental cut-off would only require that the material value exceed the costs of the incremental surface handing, processing, G&A, mining, and a partial allocation of the sustaining capital.

The marginal COV can be used when the operation has committed to mining and treatment of mineralized material and this process will not generate additional mining costs. At this stage the COV can exclude all mining costs, as these costs will occur whether the material is treated or sent to the waste facility. The marginal COV would only require that the material value exceed the costs of the incremental surface handing, processing, and G&A.

A summary of the included costs in calculating COV are summarised in Table 16-12.

**Table 16-12: Costs to be Included in the Various Cut-Off Values**

| Cut-Off Value | G&A | Processing | Surface Handling | Mining | Sustaining Capital | Operating Development |
|---|---|---|---|---|---|---|
| Fully Costed | Y | Y | Y | Y | Y | Y |
| Incremental | Y | Y | Y | Y | Partial | N |
| Marginal | Y | Y | Y | N | N | N |

The Cut-Off value was based on previous works completed on Cerro Las Minitas and is summarised in Table 16-13.

**Table 16-13: Summary of the Various Cut-Off Values – Preliminary Estimates**

| COV Type | Unit | Sale Price ($USD) |
|---|---|---|
| Fully Costed | NSR / t | 65.5 |
| Incremental | NSR / t | 60 |
| Marginal | NSR / t | 20 |

### 16.4.3 Stope Design Parameters

Transverse and longitudinal LHOS both used the same set of stope shapes for design and the key parameters used to generate the shapes are summarised in Table 16-14. Following generation of the shapes, a preliminary evaluation (orphan analysis) was completed to test whether the selected shapes would pay for required development. The parameters used to complete the orphan analysis are summarised in Table 16-15.

**Table 16-14: Preliminary MSO Parameters**

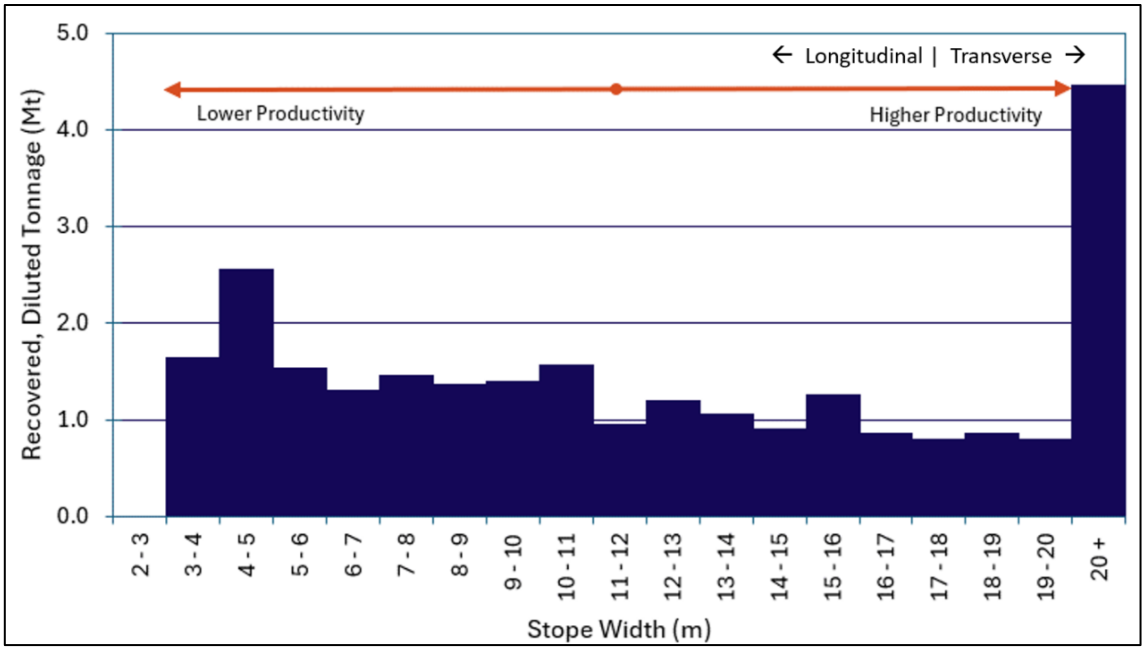
| Parameter | Unit | Value |
|---|---|---|
| COV | $US /t NSR | 60 |
| Minimum Mining Width | m | 2.5 |
| Height | m | 25 |
| Strike Length | m | 5 |
| HW Dilution | m | 0.5 |
| FW Dilution | m | 0.5 |

**Table 16-15: Key Economic Screening Parameters**

| Parameter | Unit | Value |
|---|---|---|
| Development – Capital – Lateral | $/m | 6,000 |
| Development – Operating – Lateral | $/m | 2,700 |
| Development – Capital – Vertical | $/m | 6,000 |
| Allocated Mining Costs | $/t mined | 38 |
| Allocated Milling, G&A Costs | $/t mined | 20 |
| Revenue Factor | $ / NSR mined | 1 |

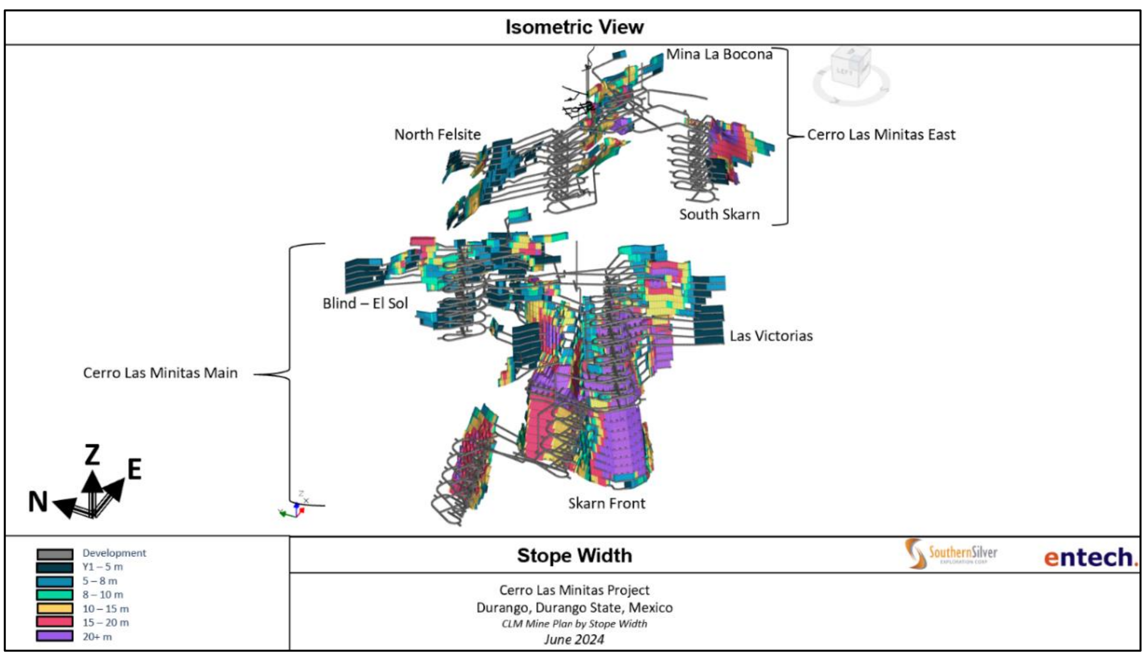
During the orphan process, the stope width was also assessed to considered whether longitudinal or transverse stoping would be preferred. Typically, the wider the stope, the higher productivity can be expected. Figure 16-6 and Figure 16-7 illustrate the stope width as well as whether it was excluded from further analyses during the orphan process. Overall, the average stope width was approximately 16.5 m.

**Figure 16-6: MSO Selection following Orphans and Width**




Source: Entech, 2024.

**Figure 16-7: Stope Shape Width for Cerro Las Minitas**




Source: Entech, 2024.

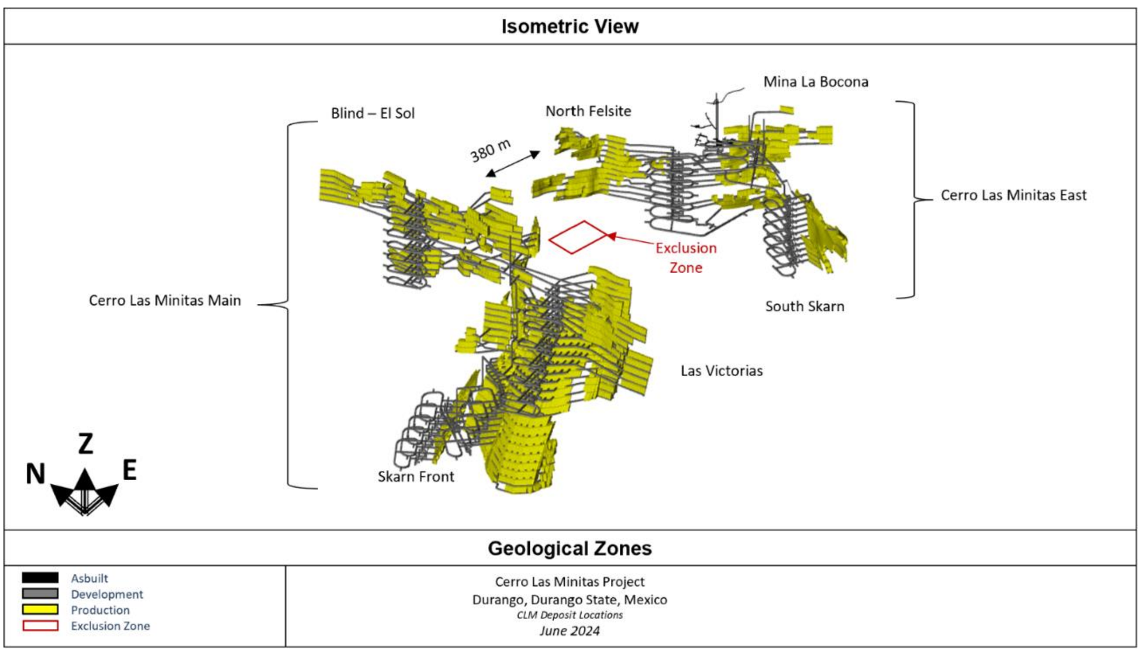
## 16.5 Underground Mine Design

### 16.5.1 Mine Operations

Due to the distance between the various geological deposits, the project is separated into two separate underground designs. The Cerro Las Minitas Main, the larger of the two designs, accesses the Blind, El Sol, Las Victorias, and Skarn Front deposits. The Cerro Las Minitas East accesses, Mina La Bocona, and South Skarn deposits are accessed from a second portal and are located to the east of the Cerro Las Minitas Main.

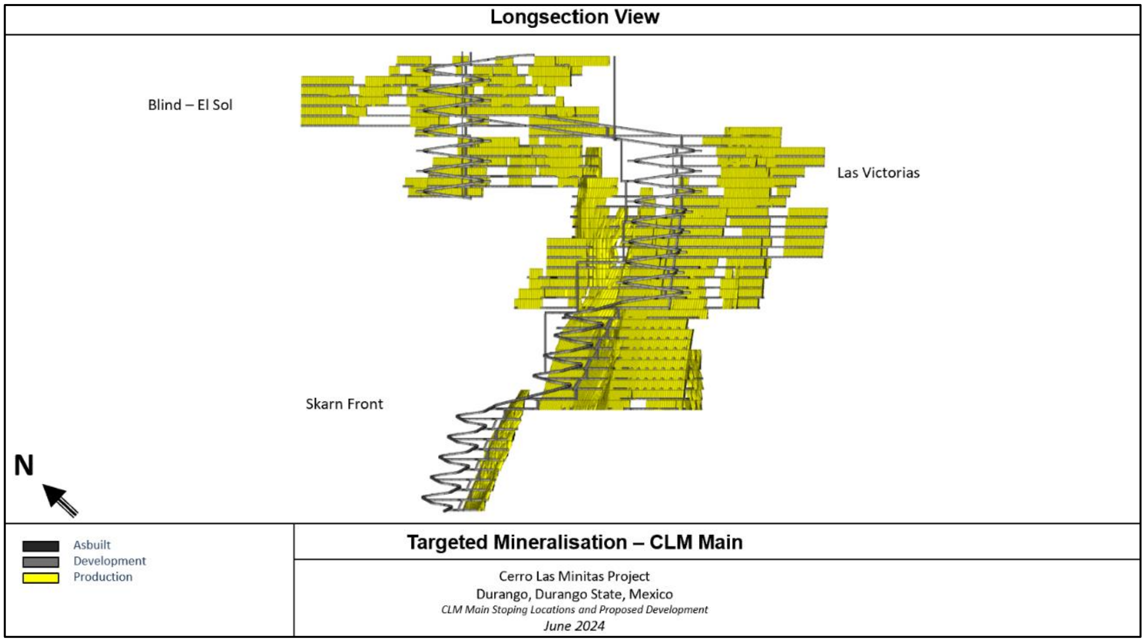
The outputs from MSO for Cerro Las Minitas are illustrated in Figure 16-8, with additional detail provided in Figure 16-9 and Figure 16-10 for Cerro Las Minitas Main and Cerro Las Minitas East respectively. An exclusion zone exists in the centre of the deposit due to Southern Silver not owning the entire surface and underground rights for a specific claim. While inconvenient, the proposed development was positioned on the hangingwall side of the deposit to access the Skarn Front mineralisation.

**Figure 16-8: Geological Domain for CLM**



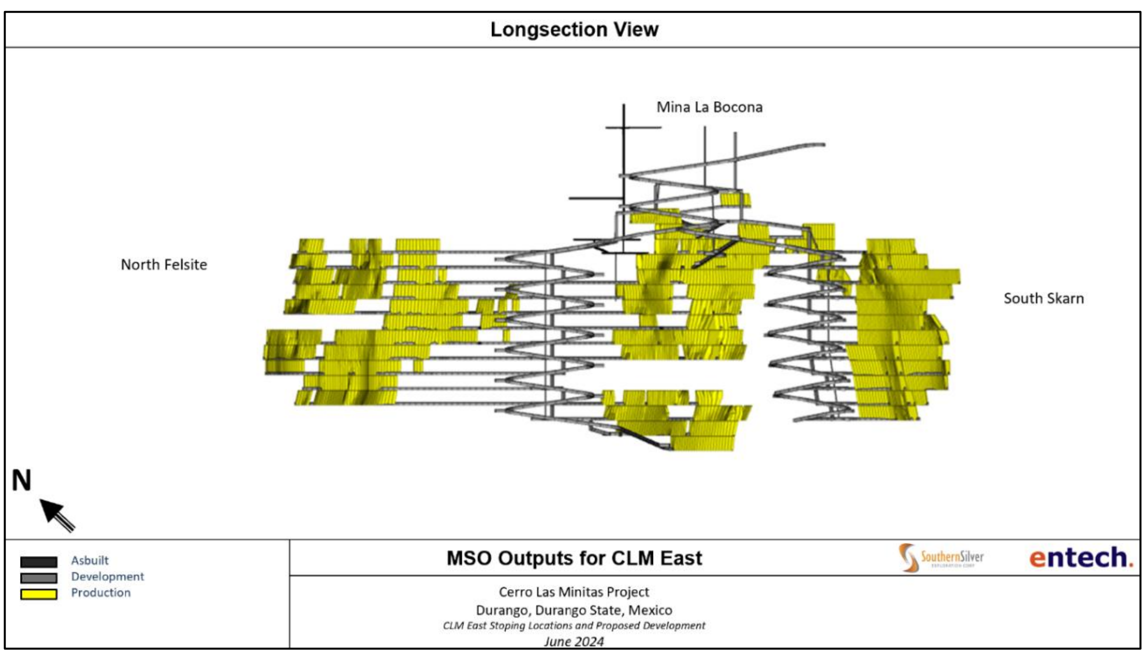

Source: Entech, 2024.

**Figure 16-9: CLM Main Proposed Development and Stoping**




Source: Entech, 2024.

**Figure 16-10: CLM East Proposed Development and Stoping**




Source: Entech, 2024.

### 16.5.2 Development

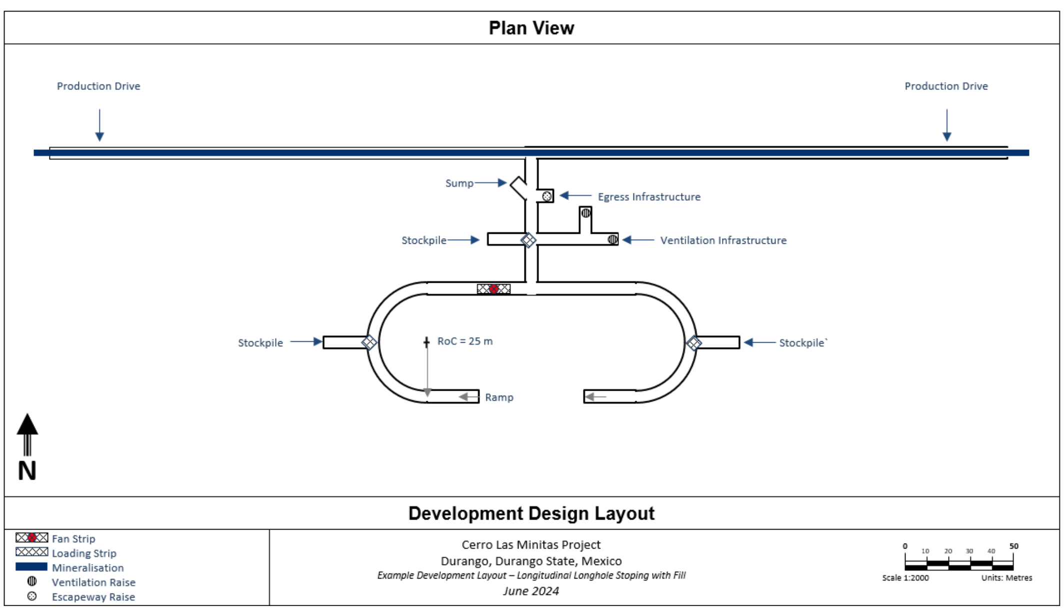
The development design incorporates a minimum stand-off distance of 50 m to locate the ramp away from mineralisation. This distance is assumed to avoid damage to the ramp due to ground stress changes and blasting from stope extraction. This stand-off distance also allows sufficient space between the ramp and the mineralized body for the excavation of the level accesses, stockpiles, and sumps.

A ramp mined with an arched profile will be excavated to a width of 5.5 m and a height of 6.0 m. This profile allows sufficient room to accommodate current underground fleet as well as secondary ventilation ducting and service piping. Other planned development includes the following:

- Access drifts;
- Sills (development on mineralisation);
- Operating waste development (sills mining material below cut-off);
- Sumps, escapeways and accesses to the escapeways;
- Return airways and accesses to the return airways;
- Stockpiles; and,
- Footwall drifts, where required.

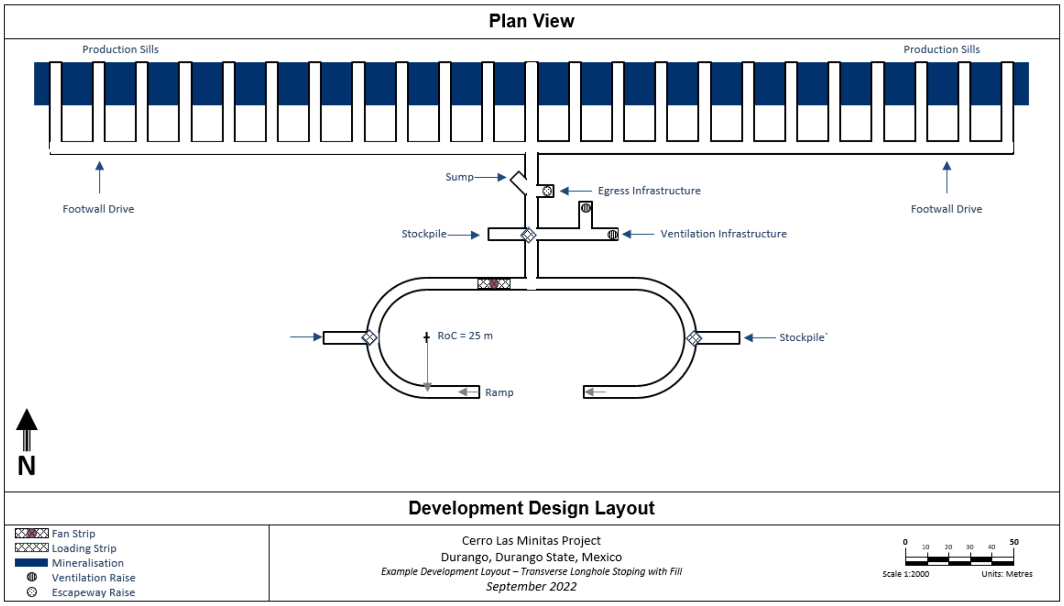
Typical level layouts for longitudinal and transverse are provided in Figure 16-11 and Figure 16-12 respectively.

**Figure 16-11: Cerro Las Minitas Longitudinal Longhole Stoping Level Layout**




Source: Entech, 2024.

**Figure 16-12: Cerro Las Minitas Transverse Longhole Stoping Level Layout**




Source: Entech, 2024.

The various development profiles are shown in Table 16-16.

**Table 16-16: Development Profiles for Cerro Las Minitas Project**

| Development Type | Profile Shape | Width (m) | Height (m) |
|---|---|---|---|
| Ramp | Arch | 5.5 | 6.0 |
| Access | Arch | 5.5 | 6.0 |
| Stockpile | Arch | 5.5 | 6.0 |
| Sump | Arch | 5.5 | 5.5 |
| Ventilation Accesses | Arch | 5.5 | 6.0 |
| Escapeway Access | Arch | 5.5 | 6.0 |
| Footwall Drive | Arch | 5.5 | 6.0 |
| Production Drift | Arch | 5.0 | 5.5 |
| Escapeway Raises | Circular | 1.8 | - |
| Ventilation Raises ( > 20 m ) | Circular | 5.0 | - |
| Ventilation Raises ( ≤ 20 m ) | Rectangle | 5.0 | 5.5 |

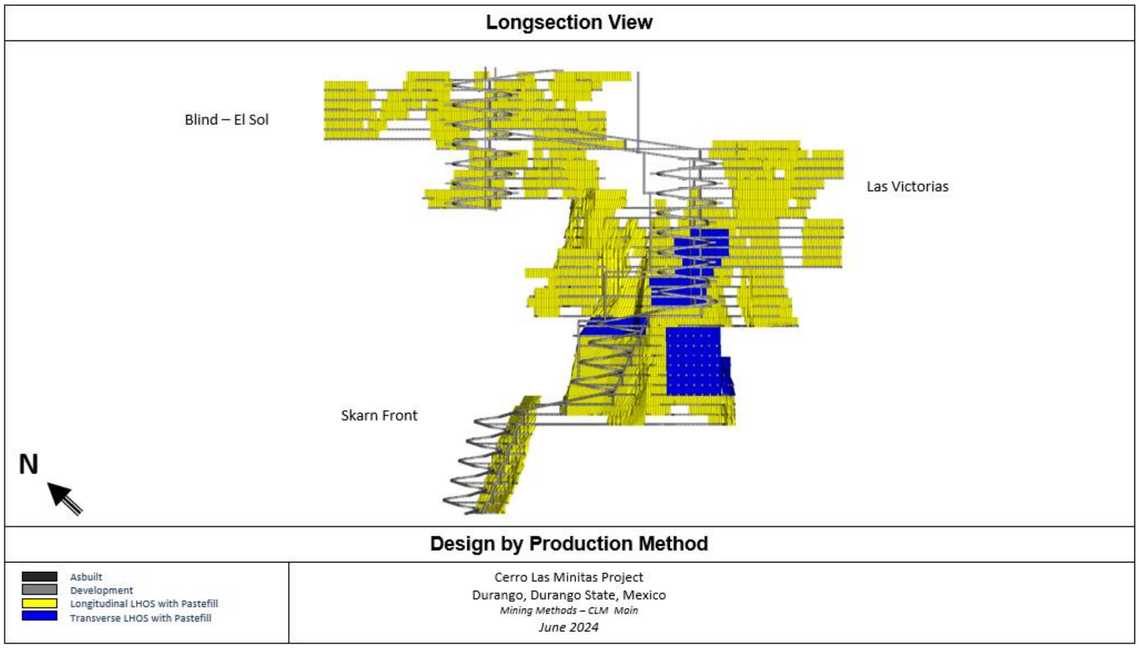
### 16.5.3 Production

The mining methods selected for the different locations within mining blocks are as follows:

- Longitudinal longhole stoping pastefill, where mineralisation is narrow ( ≤ ~18-20 m width); and,
- Transverse longhole stoping with pastefill, where mineralisation is wide ( > ~18-20 m width).

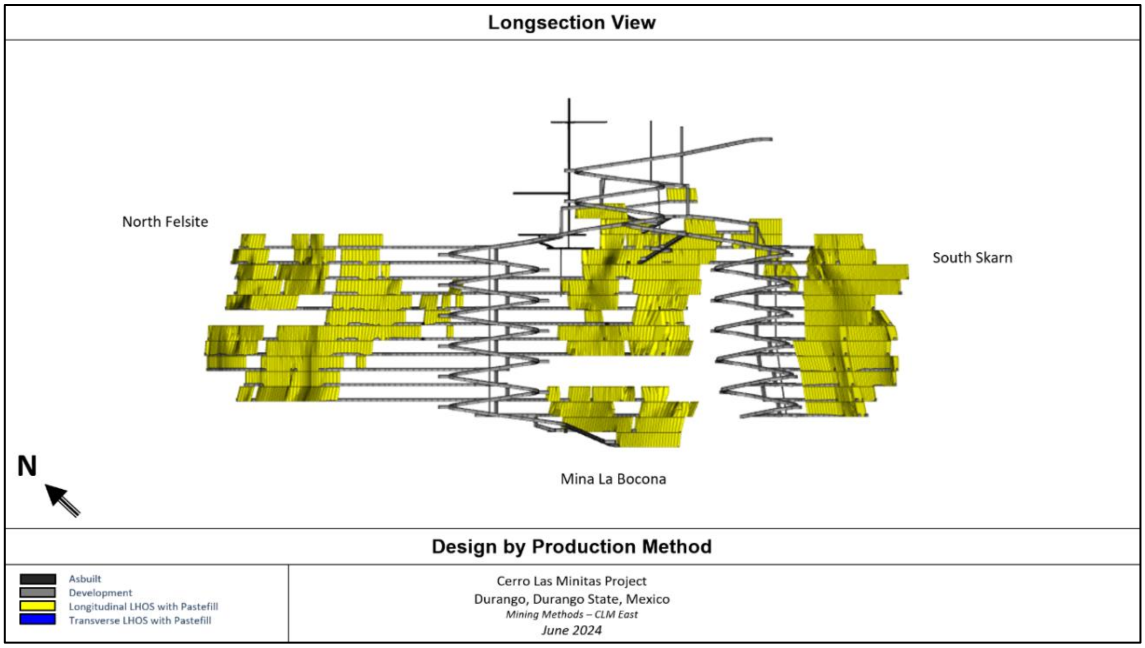
Figure 16-13 and Figure 16-14 illustrate the selected mining method that is proposed for Cerro Las Minitas Main and Cerro Las Minitas East respectively. In addition to the mining methods, the stope shapes coded by NSR are illustrated in Figure 16-15.

**Figure 16-13: Proposed Mining Method for Cerro Las Minitas Main**



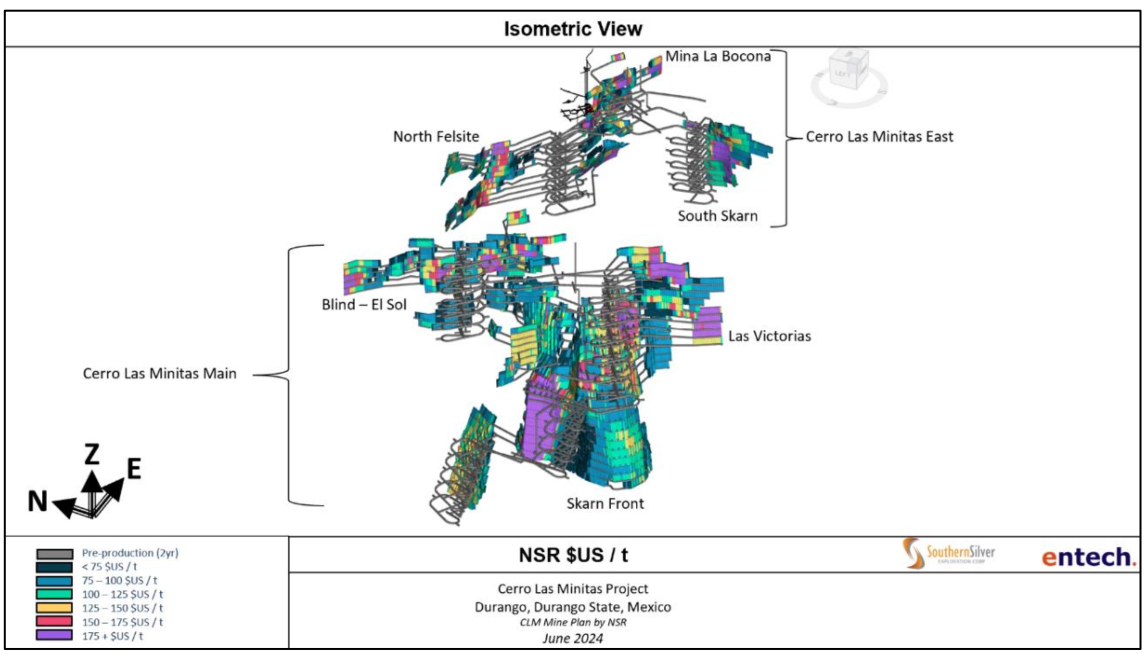

Source: Entech, 2024.

**Figure 16-14: Proposed Mining Method for Cerro Las Minitas East**




Source: Entech, 2024.

**Figure 16-15: Proposed Stope Shapes by NSR ($US /t) for Cerro Las Minitas**




Source: Entech, 2024.

## 16.6 Mine Schedule

### 16.6.1 Activity and Equipment Rates

Contractor mining is currently proposed for the CLM project to minimise up front capital and achieve higher productivities. The development rates used are inclusive of the time taken to drill, blast, muck, and install ground support. These rates are similar to observations by Entech at other operations in Mexico and similar mining jurisdictions. Contractors would expect to achieve 175 – 250 m/mth per jumbo with the proposed single heading advance rates summarized in Table 16-17.

**Table 16-17: Development Activity and Equipment Rates Cerro Las Minitas**

| Activity | Units | Single Heading Rate |
|---|---|---|
| Lateral Development - Capital | m / day | 3.5* |
| Lateral Development - Operating | m / day | 1.75 |
| Vertical Development | m / day | 2 |

*5.25 m / day is only at the start of the operation (initial ~1000 m), until the first production level is reached.

Production rates are broken into specific activities, due to the longer duration for each. The equipment is set to meet the capacity of each individual activity, which can only be completed sequentially. All drilling activities use a modern longhole drill rig, while both production activities use stope loaders. The truck loading and hauling rates are factored into the production activity rates.

The scheduling rates for the mine plan are summarized in Table 16-18.

**Table 16-18: Production Activity and Equipment Rates Cerro Las Minitas**

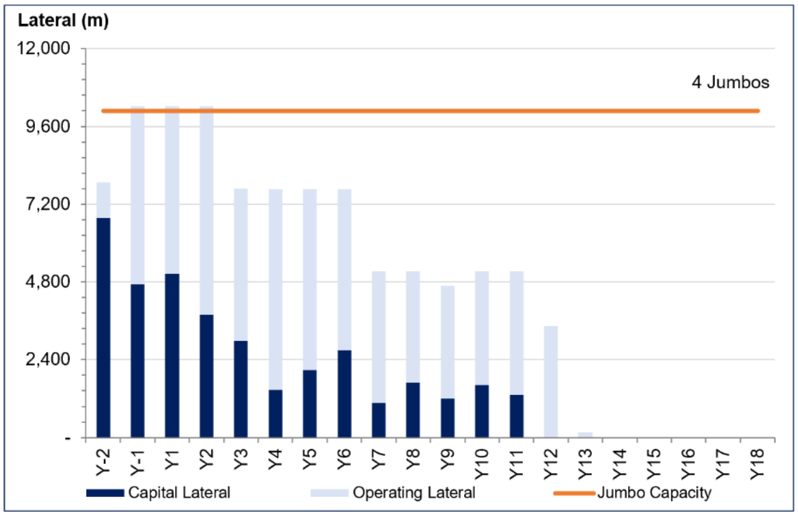
| Activity | Units | Activity Rate |
|---|---|---|
| Drilling – Reamer | m / day | 125 |
| Drilling – Slot | m / day | 250 |
| Drilling – Production | m / day | 250 |
| Drilling – Cablebolt | m / day | 250 |
| Drilling – Fill/Breather | m / day | 125 |
| Stope Mucking - Longitudinal | t / day | 200 – 750 |
| Stope Mucking - Transverse | t / day | 350 - 750 |
| Pastefill | $m^3$ / day | 1,800 |

Stope loader productivity was adjusted based on the loader tram distance for longitudinal stoping. For transverse stoping, the footwall drive profile was selected to allow for truck access and for truck loading at an adjacent drawpoint. The 21-t capable loaders were scaled down to approximately 15 t to allow for efficiency losses (equipment availability, fill factors, and operator effectiveness) for stoping and development mucking activities and scaled down to 16 t for truck loading. It is expected that operators could achieve an average of 50 buckets per shift (scaled down for longer trams) when in production and 60 buckets a shift for development and truck loading.

### 16.6.2 Lateral Development

There are up to four (4) jumbos proposed for mine for development, which are considered sufficient to meet the estimated annual lateral development requirements. The annual lateral development schedule is illustrated in Figure 16-16 and development by category is summarized in Table 16-19.

**Figure 16-16: Annual Lateral Development Schedule for Cerro Las Minitas**




Source: Entech, 2024.

**Table 16-19: Total and Annual Lateral Development Schedule for Cerro Las Minitas**

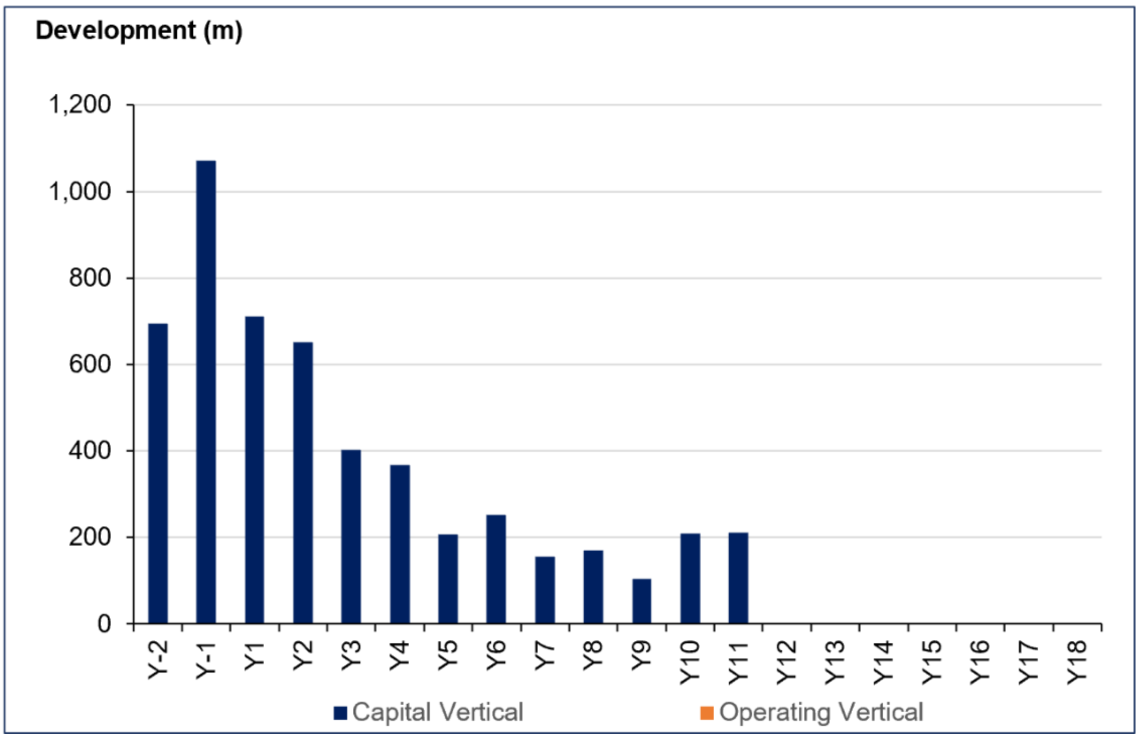
| Development Lateral | Capital | Ramp | Access | Other | Operating | Sills | Other | Total |
|---|---|---|---|---|---|---|---|---|
| | km | km | km | km | km | km | km | km |
| **Year \ Total** | **36.4** | **15.2** | **7.3** | **13.9** | **61.6** | **58.2** | **3.4** | **98.0** |
| Y-02 | **6.8** | 3.9 | 1.0 | 1.9 | **1.1** | 0.9 | 0.2 | **7.9** |
| Y-01 | **4.7** | 1.9 | 1.0 | 1.8 | **5.5** | 5.1 | 0.4 | **10.2** |
| Y01 | **5.0** | 1.9 | 1.0 | 2.1 | **5.2** | 4.8 | 0.4 | **10.2** |
| Y02 | **3.8** | 1.2 | 0.7 | 1.9 | **6.4** | 6.0 | 0.4 | **10.2** |
| Y03 | **3.0** | 1.1 | 0.7 | 1.2 | **4.7** | 4.0 | 0.7 | **7.7** |
| Y04 | **1.5** | 0.6 | 0.3 | 0.5 | **6.2** | 5.7 | 0.5 | **7.7** |
| Y05 | **2.1** | 0.8 | 0.5 | 0.9 | **5.6** | 5.5 | 0.1 | **7.7** |
| Y06 | **2.7** | 1.2 | 0.5 | 1.0 | **5.0** | 4.9 | 0.1 | **7.7** |
| Y07 | **1.1** | 0.5 | 0.1 | 0.5 | **4.1** | 4.0 | 0.1 | **5.1** |
| Y08 | **1.7** | 0.7 | 0.5 | 0.5 | **3.4** | 3.4 | 0.0 | **5.1** |
| Y09 | **1.2** | 0.5 | 0.3 | 0.5 | **3.5** | 3.3 | 0.2 | **4.7** |
| Y10 | **1.6** | 0.6 | 0.4 | 0.6 | **3.5** | 3.4 | 0.1 | **5.1** |
| Y11 | **1.3** | 0.4 | 0.3 | 0.6 | **3.8** | 3.7 | 0.1 | **5.1** |
| Y12 | **0.0** | 0.0 | 0.0 | 0.0 | **3.4** | 3.4 | 0.0 | **3.4** |
| Y13 | **0.0** | 0.0 | 0.0 | 0.0 | **0.2** | 0.2 | 0.0 | **0.2** |

### 16.6.3 Vertical Development

Vertical development is completed by a combination of longhole mining techniques and raiseboring. For ventilation raises greater than 25 m in length, a 5.0 m diameter raisebore is proposed. For shorter raises, longhole blasting is proposed to excavate a profile of 5.5 m by 5.0 m. Egress raises will be completed by a 1.8 m diameter raisebore. For scheduling, a development rate of 2 m per day was applied to all vertical development.

The annual vertical development schedule is illustrated in Figure 16-17, while the total and initial lateral development schedule is summarized in Table 16-20.

**Figure 16-17: Annual Vertical Development Schedule for Cerro Las Minitas**




Source: Entech, 2024.

**Table 16-20: Total and Annual Vertical Development Schedule for Cerro Las Minitas**

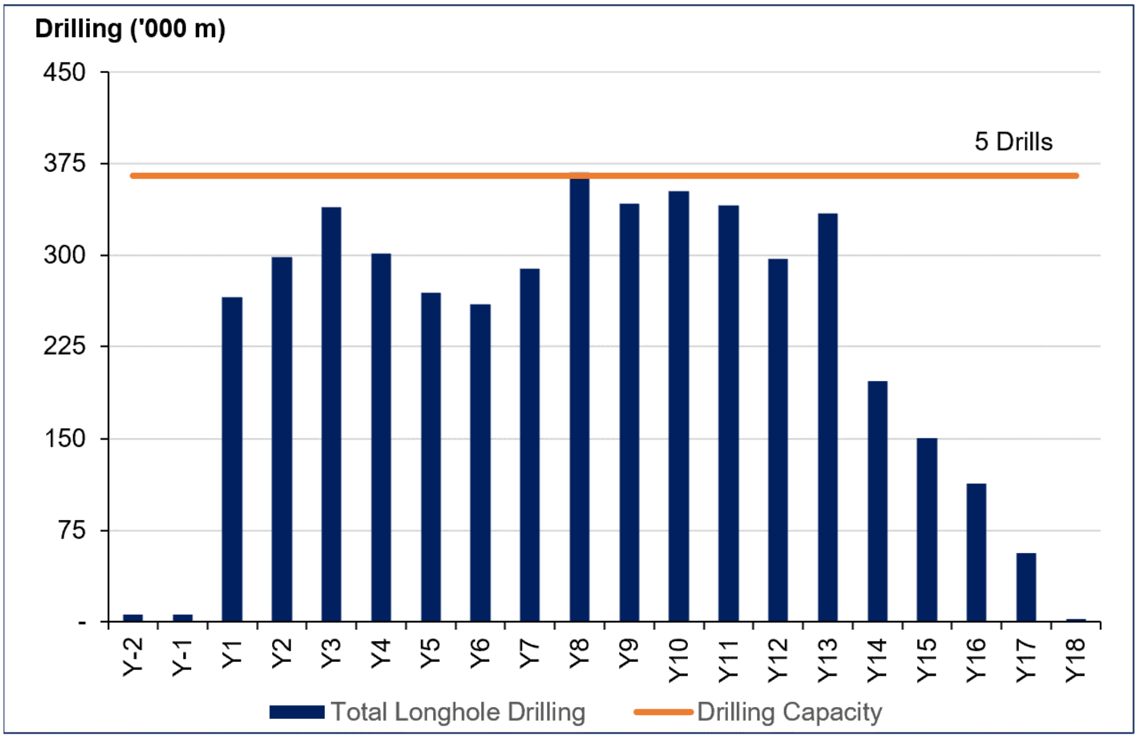
| Development | Ventilation | Egress | Total |
|---|---|---|---|
| Vertical | km | km | km |
| **Year \ Total** | **3.0** | **2.2** | **5.2** |
| Y-02 | 0.4 | 0.3 | **0.7** |
| Y-01 | 0.7 | 0.4 | **1.1** |
| Y01 | 0.5 | 0.3 | **0.7** |
| Y02 | 0.4 | 0.3 | **0.7** |
| Y03 | 0.2 | 0.2 | **0.4** |
| Y04 | 0.3 | 0.1 | **0.4** |
| Y05 | 0.1 | 0.1 | **0.2** |
| Y06 | 0.2 | 0.1 | **0.3** |
| Y07 | 0.1 | 0.1 | **0.2** |
| Y08 | 0.1 | 0.1 | **0.2** |
| Y09 | 0.1 | 0.1 | **0.1** |
| Y10 | 0.1 | 0.1 | **0.2** |
| Y11 | 0.1 | 0.1 | **0.2** |

### 16.6.4 Longhole Drilling

Longhole drilling productivity is expected to be 125 – 250 m per day depending on the drilling activity undertaken. For the Cerro Las Minitas mine, up to four longhole drill rigs are estimated to meet the estimated annual drilling requirements.

The annual longhole drilling schedule is illustrated in Figure 16-18 while the total and initial longhole drilling schedule is summarized in Table 16-21.

**Figure 16-18: Annual Longhole Drilling Schedule for Cerro Las Minitas**




Source: Entech, 2024.

**Table 16-21: Total and Annual Longhole Drilling Schedule for Cerro Las Minitas**

| Drilling | Production | Cable bolt | Other | Total |
|---|---|---|---|---|
| | km | km | km | km |
| **Year \ Total** | **4,421.4** | **160.6** | **34.0** | **4,616.0** |
| Y-02 | 0.0 | 0.4 | 5.7 | **6.1** |
| Y-01 | 0.0 | 1.2 | 5.0 | **6.2** |
| Y01 | 248.5 | 12.3 | 5.0 | **265.7** |
| Y02 | 283.0 | 11.3 | 3.8 | **298.1** |
| Y03 | 323.8 | 12.7 | 2.6 | **339.2** |
| Y04 | 288.6 | 10.8 | 1.8 | **301.2** |
| Y05 | 258.7 | 8.5 | 1.7 | **269.0** |
| Y06 | 249.6 | 8.2 | 2.2 | **259.9** |
| Y07 | 278.3 | 9.9 | 0.9 | **289.1** |
| Y08 | 352.9 | 13.8 | 1.4 | **368.0** |
| Y09 | 329.2 | 12.1 | 1.1 | **342.4** |
| Y10 | 339.0 | 12.1 | 1.5 | **352.5** |
| Y11 | 327.5 | 11.9 | 1.4 | **340.8** |
| Y12 | 287.3 | 9.6 | 0.0 | **296.9** |
| Y13 | 323.4 | 11.0 | 0.0 | **334.4** |
| Y14 | 192.0 | 5.5 | 0.0 | **197.6** |
| Y15 | 146.7 | 4.2 | 0.0 | **150.9** |
| Y16 | 109.9 | 3.2 | 0.0 | **113.2** |
| Y17 | 55.4 | 1.3 | 0.0 | **56.7** |
| Y18 | 23.1 | 0.5 | 0.0 | **23.6** |
| Y19 | 4.6 | 0.1 | 0.0 | **4.7** |

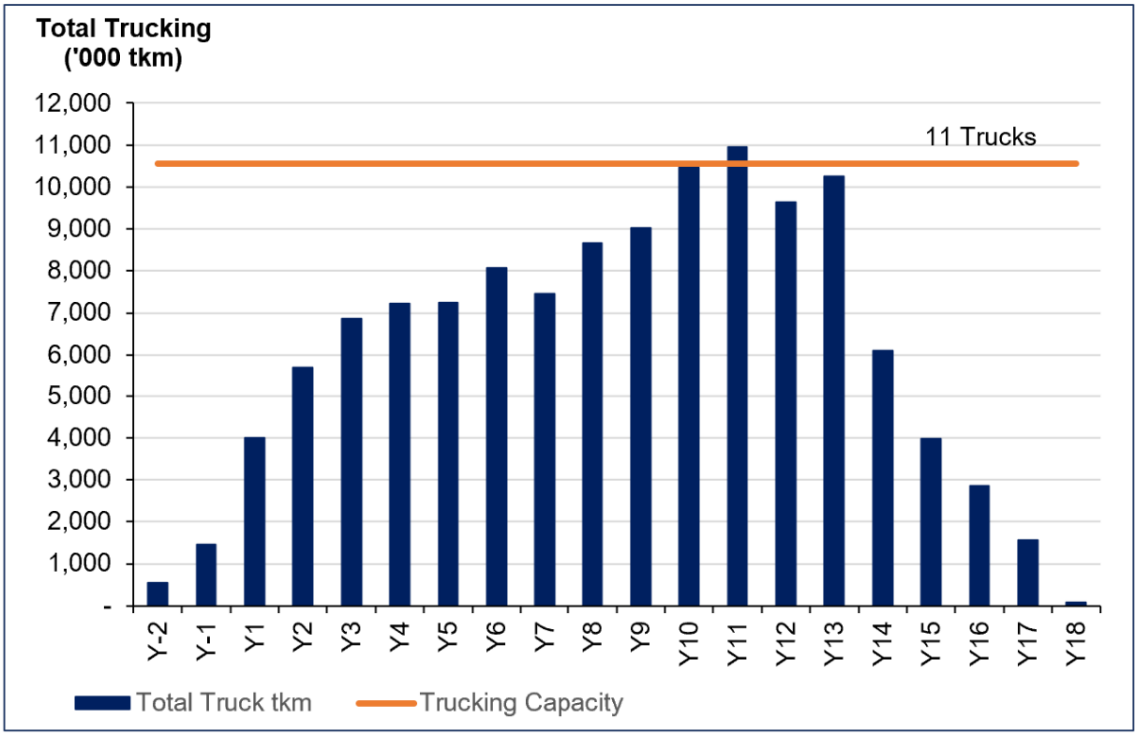
### 16.6.5 Material Movement

The load-and-haul fleet is proposed to comprise of large and efficient fleet of 21-t loaders and 63-t trucks. The estimated annual quantities are summarized in Table 16-22 and the trucking requirements illustrated in Figure 16-19.

**Table 16-22: Load and Haul Fleet for Cerro Las Minitas**

| Equipment Type | Description | Annual Peak Requirements |
|---|---|---|
| Development Loaders | LH621 | 2 |
| Production Loaders | LH621 | 5 |
| Truck Loaders | LH621 | 2 |
| Trucks | TH663 | 11 |

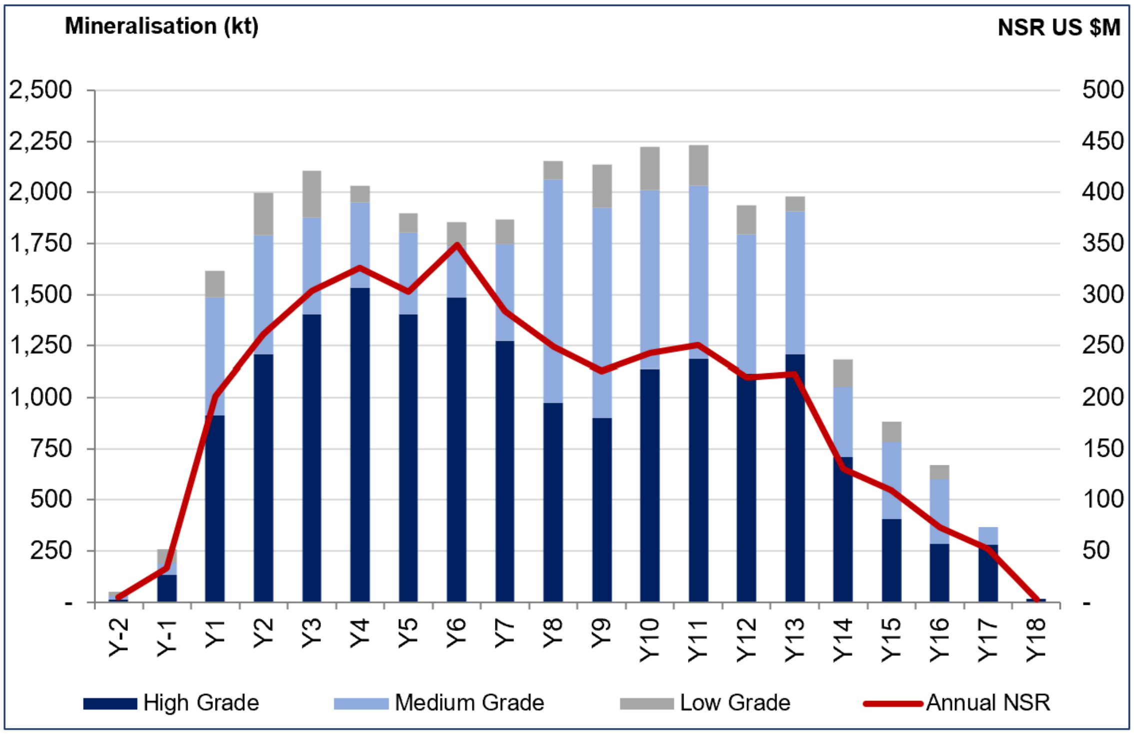
**Figure 16-19: Annual Trucking Requirements & Capacity (Peak)**




Source: Entech, 2024.

Annual mineralisation movement is illustrated in Figure 16-19 by stockpile desitnation and summarized in Table 16-23 by activity type. Cut of value (COV) for the High Grade stockpile, Medium Grade stockpile, and Low Grade stockpile are $100/t NSR, $70 /t NSR, and $30/t NSR respectively. The purpose of the stockpiles is to allow higher grading mineralisation to be preferentially processed allowing a lower grade stockpile to build over time.

**Figure 16-20: Annual Mineralized Material Production Schedule for Cerro Las Minitas**




Source: Entech, 2024.

**Table 16-23: Total and Annual Material Movement Schedule for Cerro Las Minitas**

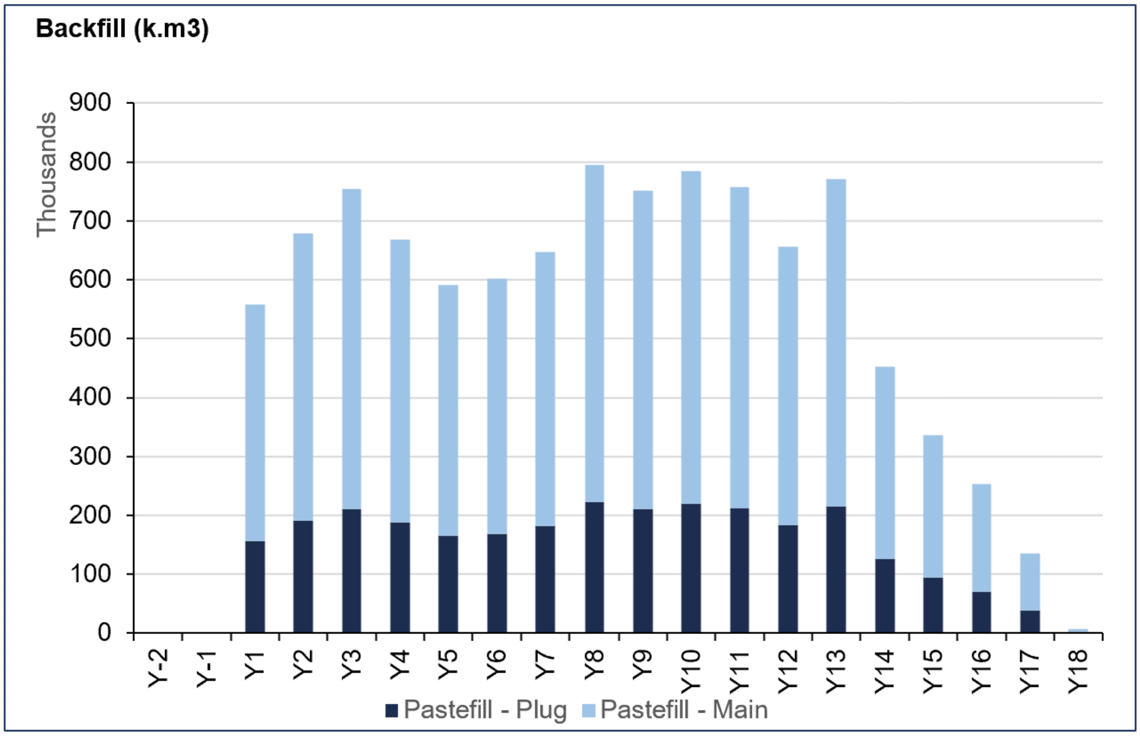
| Mined Material | Waste | Development | Production | Mineralisation | Total |
|---|---|---|---|---|---|
| | kt | kt | kt | kt | kt |
| **Year \ Total** | **4,652.0** | **3,636.2** | **25,991.5** | **29,627.6** | **34,279.6** |
| Y-02 | 643.1 | 51.2 | 0.0 | **51.2** | **694.3** |
| Y-01 | 614.8 | 258.4 | 0.0 | **258.4** | **873.2** |
| Y01 | 533.8 | 342.1 | 1,272.7 | **1,614.8** | **2,148.6** |
| Y02 | 489.8 | 375.9 | 1,621.7 | **1,997.6** | **2,487.4** |
| Y03 | 390.2 | 254.9 | 1,852.2 | **2,107.1** | **2,497.2** |
| Y04 | 306.9 | 337.4 | 1,693.7 | **2,031.1** | **2,338.0** |
| Y05 | 292.7 | 348.6 | 1,548.3 | **1,896.9** | **2,189.5** |
| Y06 | 358.5 | 282.1 | 1,572.7 | **1,854.8** | **2,213.3** |
| Y07 | 191.5 | 229.0 | 1,638.5 | **1,867.5** | **2,059.0** |
| Y08 | 250.1 | 172.4 | 1,979.7 | **2,152.2** | **2,402.3** |
| Y09 | 154.1 | 238.5 | 1,899.2 | **2,137.7** | **2,291.8** |
| Y10 | 201.2 | 228.3 | 1,992.8 | **2,221.1** | **2,422.3** |
| Y11 | 164.4 | 275.1 | 1,957.3 | **2,232.3** | **2,396.8** |
| Y12 | 55.8 | 232.4 | 1,703.4 | **1,935.8** | **1,991.6** |
| Y13 | 5.1 | 9.9 | 1,968.1 | **1,978.0** | **1,983.2** |
| Y14 | 0.0 | 0.0 | 1,182.8 | **1,182.8** | **1,182.8** |
| Y15 | 0.0 | 0.0 | 883.6 | **883.6** | **883.6** |
| Y16 | 0.0 | 0.0 | 672.4 | **672.4** | **672.4** |
| Y17 | 0.0 | 0.0 | 365.0 | **365.0** | **365.0** |
| Y18 | 0.0 | 0.0 | 156.7 | **156.7** | **156.7** |
| Y19 | 0.0 | 0.0 | 30.6 | **30.6** | **30.6** |

### 16.6.6 Backfill

All production voids are proposed to be filled with paste backfill. When mining top-down, binder content will likely be higher for the plug (the initial pour of approximately 7 m of the 25 m high stope void) to reduce the amount of dilution when the fill is exposed from below. When mining bottom-up, the fill is proposed to have a lower binder content, given that the exposure is primarily to side of the stope. For costing purposes, the plug is to contain 6% binder and the main pour to contain 3% binder.

The annual backfill profile is illustrated in Figure 16-21 while the total and initial annual backfill schedule is summarized in Table 16-24.

**Figure 16-21: Annual Backfill Schedule for Cerro Las Minitas**




Source: Entech, 2024.

**Table 16-24: Total and Y1-5 Annual Backfill Schedule for Cerro Las Minitas**

| Backfill | Plug Pour (000's m³) | Body Pour (000's m³) | Total Backfill (000's m³) |
|---|---|---|---|
| **Year \ Total** | **2,874.1** | **7,390.5** | **10,264.5** |
| Y-02 | 0.0 | 0.0 | **0.0** |
| Y-01 | 0.0 | 0.0 | **0.0** |
| Y01 | 156.4 | 402.2 | **558.6** |
| Y02 | 190.2 | 489.1 | **679.3** |
| Y03 | 211.3 | 543.2 | **754.5** |
| Y04 | 187.2 | 481.5 | **668.7** |
| Y05 | 165.6 | 425.8 | **591.4** |
| Y06 | 168.4 | 432.9 | **601.3** |
| Y07 | 181.3 | 466.1 | **647.4** |
| Y08 | 222.8 | 572.8 | **795.6** |
| Y09 | 210.2 | 540.6 | **750.8** |
| Y10 | 219.7 | 564.9 | **784.5** |
| Y11 | 212.2 | 545.5 | **757.7** |
| Y12 | 183.5 | 471.9 | **655.5** |
| Y13 | 215.7 | 554.7 | **770.5** |
| Y14 | 126.7 | 325.8 | **452.4** |
| Y15 | 94.3 | 242.4 | **336.6** |
| Y16 | 70.7 | 181.7 | **252.3** |
| Y17 | 37.9 | 97.3 | **135.2** |
| Y18 | 16.5 | 42.4 | **58.9** |
| Y19 | 3.7 | 9.5 | **13.2** |

### 16.6.7 Processing Feed

Mined mineralisation will be delivered by the underground fleet to a surface stockpile (ROM) for processing. The total and initial annual processing plant feed schedule is summarized in Table 16-25 and the mineral resource breakdown in Table 16-26. The mining sequence is Illustrated in Figure 16-24 and shows production from both portals throughout the life of the mine. The estimated net operating profit by level based on the estimated screening parameters (Table 16-15) is illustrated in Figure 16-25.

**Table 16-25: Annual Processing Plant Feed Schedule for Cerro Las Minitas**

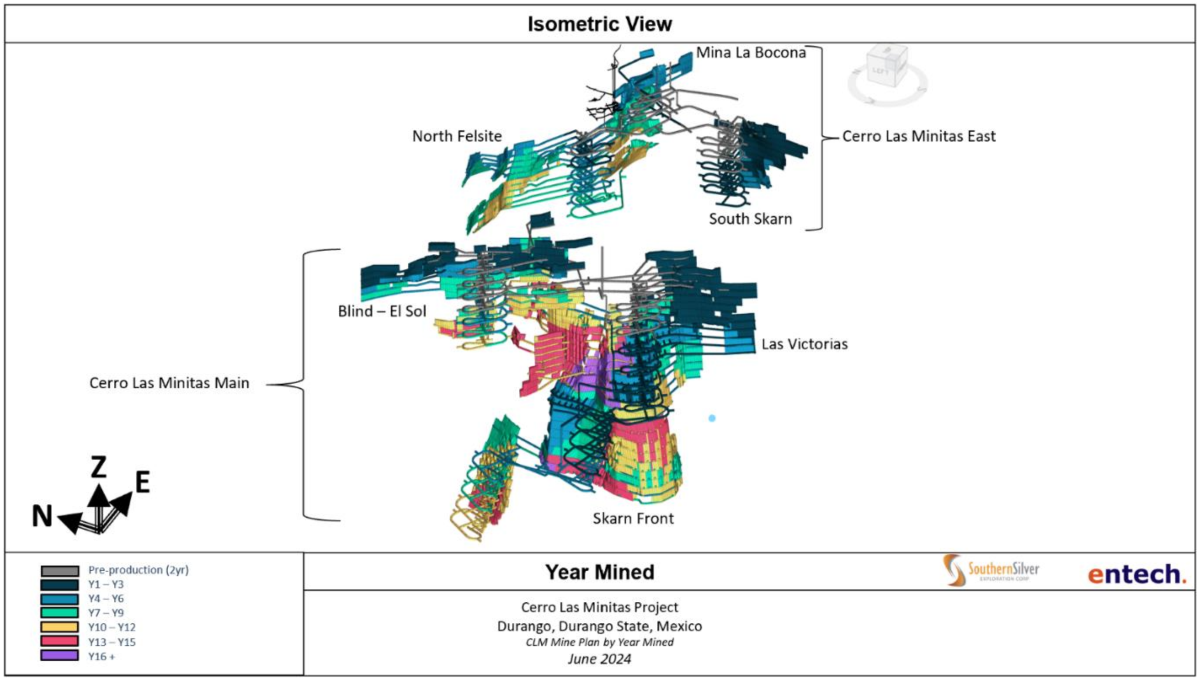
| | Tonnes (kt) | Ag (g/t) | Zn (%) | Pb (%) | Cu (%) | Au (g/t) | Ag (Moz) | Zn (Mlb) | Pb (Mlb) | Cu (Mlb) | Au (koz) | NSR ($M USD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year \ Total** | **29,456.707** | **104.1** | **2.41** | **1.06** | **0.19** | **0.11** | **98.55** | **1,564.66** | **689.17** | **123.52** | **101.11** | **1,849.6** |
| Y-02 | 51.192 | 67.8 | 0.98 | 1.36 | 0.03 | 0.04 | 0.11 | 1.11 | 1.53 | 0.04 | 0.06 | **2.1** |
| Y-01 | 258.434 | 95.9 | 1.88 | 1.64 | 0.13 | 0.27 | 0.80 | 10.73 | 9.35 | 0.73 | 2.23 | **15.0** |
| Y01 | 1,614.818 | 93.8 | 1.84 | 1.38 | 0.18 | 0.30 | 4.87 | 65.65 | 49.16 | 6.52 | 15.34 | **91.4** |
| Y02 | 1,997.606 | 105.8 | 1.84 | 1.67 | 0.11 | 0.25 | 6.79 | 80.98 | 73.52 | 4.79 | 16.06 | **127.5** |
| Y03 | 2,107.061 | 125.3 | 2.10 | 1.61 | 0.11 | 0.18 | 8.49 | 97.62 | 75.01 | 5.18 | 12.05 | **159.3** |
| Y04 | 2,031.151 | 137.6 | 2.63 | 1.60 | 0.15 | 0.12 | 8.99 | 117.85 | 71.52 | 6.91 | 7.94 | **168.7** |
| Y05 | 1,896.858 | 134.8 | 2.98 | 1.25 | 0.15 | 0.12 | 8.22 | 124.69 | 52.47 | 6.41 | 7.53 | **154.3** |
| Y06 | 1,854.818 | 155.0 | 3.99 | 1.44 | 0.11 | 0.10 | 9.24 | 162.97 | 59.06 | 4.41 | 5.95 | **173.4** |
| Y07 | 1,867.515 | 120.1 | 3.27 | 1.18 | 0.13 | 0.09 | 7.21 | 134.46 | 48.51 | 5.30 | 5.38 | **135.3** |
| Y08 | 2,152.151 | 97.2 | 1.78 | 1.17 | 0.18 | 0.06 | 6.72 | 84.38 | 55.51 | 8.35 | 4.44 | **126.2** |
| Y09 | 2,137.707 | 88.9 | 1.62 | 0.83 | 0.22 | 0.06 | 6.11 | 76.56 | 39.34 | 10.45 | 4.07 | **114.6** |
| Y10 | 2,221.081 | 84.1 | 2.04 | 0.65 | 0.27 | 0.06 | 6.00 | 100.04 | 32.06 | 13.12 | 4.06 | **112.7** |
| Y11 | 2,232.343 | 89.8 | 1.83 | 0.62 | 0.33 | 0.07 | 6.44 | 90.11 | 30.45 | 16.27 | 5.16 | **120.9** |
| Y12 | 1,935.768 | 87.9 | 2.13 | 0.60 | 0.29 | 0.06 | 5.47 | 90.99 | 25.76 | 12.25 | 3.51 | **102.7** |
| Y13 | 1,978.040 | 93.2 | 1.76 | 0.69 | 0.30 | 0.07 | 5.93 | 76.69 | 29.92 | 12.88 | 4.65 | **111.3** |
| Y14 | 1,182.788 | 78.4 | 2.56 | 0.61 | 0.22 | 0.03 | 2.98 | 66.84 | 15.82 | 5.66 | 1.19 | **55.9** |
| Y15 | 883.596 | 65.7 | 4.43 | 0.61 | 0.06 | 0.02 | 1.87 | 86.36 | 11.82 | 1.11 | 0.58 | **35.0** |
| Y16 | 672.414 | 64.2 | 3.58 | 0.41 | 0.11 | 0.02 | 1.39 | 53.11 | 6.01 | 1.65 | 0.35 | **26.0** |
| Y17 | 365.050 | 73.7 | 5.18 | 0.28 | 0.17 | 0.05 | 0.87 | 41.66 | 2.27 | 1.40 | 0.54 | **16.2** |
| Y18 | 16.374 | 94.1 | 5.15 | 0.25 | 0.29 | 0.07 | 0.05 | 1.86 | 0.09 | 0.10 | 0.04 | **0.9** |

**Table 16-26: Mining Resource Category Summary**

| Classification | % | Tonnes (kt) | Ag(g/t) | Zn (%) | Pb (%) | Cu (%) | Au (g/t) |
|---|---|---|---|---|---|---|---|
| **Measured** | 0.0 | - | - | - | - | - | - |
| **Indicated** | 33.1 | 9,759.0 | 107.5 | 3.35 | 1.21 | 0.18 | 0.08 |
| **Inferred** | 56.7 | 16,695.8 | 120.7 | 2.29 | 1.16 | 0.23 | 0.14 |
| **Dilution[1]** | 10.2 | 3,001.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **100** | **29,457** | **104.06** | **2.41** | **1.06** | **0.19** | **0.11** |

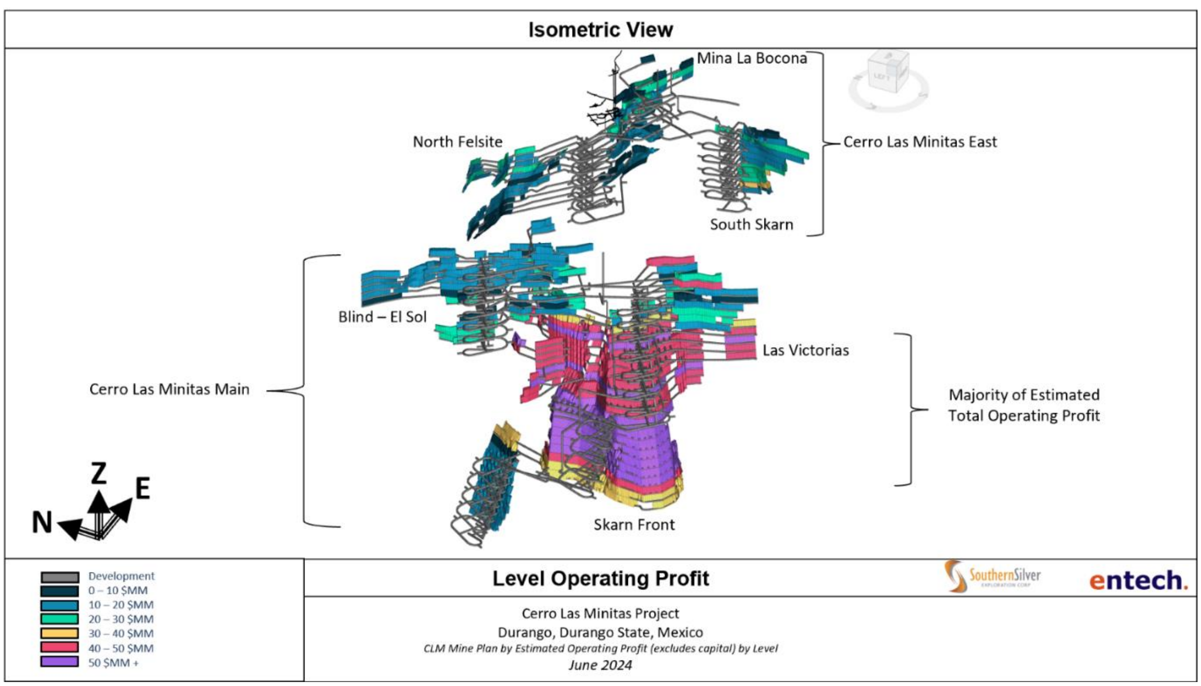
Note: **1.** Dilution is non-mineralised material outside of the proposed stopes that already include planned and unplanned dilution.

**Figure 16-22: Mining Sequence for CLM Main and CLM East**




Source: Entech, 2024.

**Figure 16-23: Estimated Net Operating Profit by Level**




Source: Entech, 2024.

## 16.7 Underground Infrastructure and Services

### 16.7.1 Portals

There are two (2) portal locations planned for Cerro Las Minitas: one for the CLM Main and another for CLM East. CLM East will be active for the first 13 years of production, while the CLM Main will be active for 18 years of production.

### 16.7.2 Primary Ventilation

The proposed ventilation system for CLM is to use a pull system with fresh air being drawn through the main ramps for each mine. For the Cerro Las Minitas Main complex an additional fresh air ventilation raise will be required to supplement airflow and reduce airspeeds along the ramp. Spent air will then exhaust out of the series of exhaust vent raises to surface access from each production level.

The ventilation circuit for each underground project was imported into Ventsim®, an industry-standard software used in ventilation modelling to model the flows predicted for the mine. The ventilation demand was estimated based on Mexican regulations that require a minimum ventilation airflow of 75 CFM per HP (0.047$m^3$/s per kW) of mobile equipment.

A primary surface fan system sized approximately 1,960 kW is proposed to be installed on surface at Cerro Las Minitas Main. The of fan is estimated to provide a total of 330 $m^3$/s to the underground workings. The ventilation demand is summarised in Table 16-27 and the ventilation installations at Cerro Las Minitas Main illustrated in Figure 16-24.

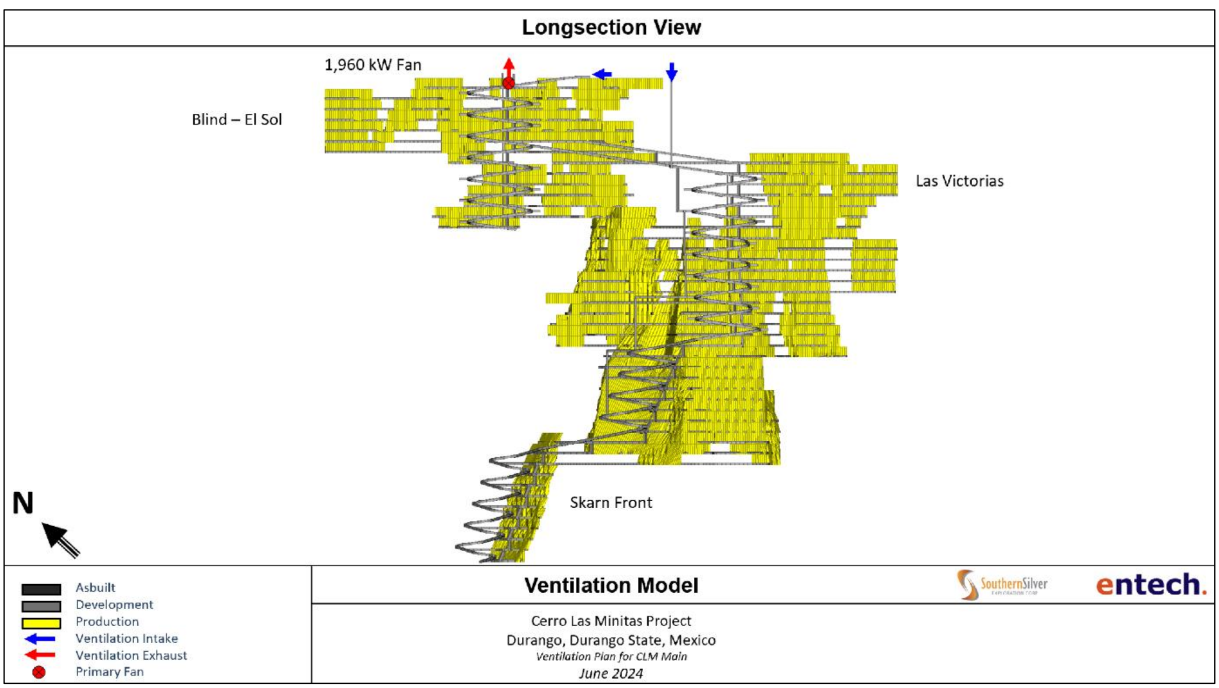
A primary fan sized approximately 1,420 kw is proposed to be installed on surface at Cerro Las Minitas East. The setup is estimated to provide a total of 280 $m^3$/s to the underground workings. The ventilation demand is summarised in Table 16-27 and the ventilation fan installations for Cerro Las Minitas East is illustrated in Figure 16-25.

**Table 16-27: Ventilation Demand Estimate for Cerro Las Minitas - Main**

| Equipment/Unit | Model | Quantity (#) | Engine Power (kW) | Utilisation | Requirement ($m^3/s$) |
|---|---|---|---|---|---|
| Truck[1] | TH663i | 7 | 565 | 60% | 150.1 |
| Loader[1] | LH621i | 6 | 375 | 57% | 77.0 |
| Development Drill | DD421 | 3 | 122 | 17% | 4.1 |
| Production Drill | DL421 | 3 | 122 | 17% | 4.1 |
| Ancillary | Utimec 1600 Agitator | 1 | 170 | 56% | 7.6 |
| Ancillary | Charmec MF 605 D | 1 | 120 | 40% | 3.8 |
| Ancillary | Spraymec 6050 W | 1 | 82 | 40% | 2.6 |
| Ancillary | JCB 527 – 55 | 2 | 63 | 43% | 3.3 |
| Ancillary | 140H | 1 | 123 | 60% | 3.0 |
| Ancillary | FMX 440 4X4 | 1 | 324 | 21% | 2.7 |
| Light Vehicle | Hilux Single Cab | 10 | 122 | 17% | 12.3 |
| **Subtotal** | - | - | - | - | **270.7** |
| **Mine Leakage** | 16% | - | - | - | **43.3** |
| **Total** | - | - | - | - | **314.1** |

Note: 1. Utilization of Available Hours (83.9%) multiplied by Mechanical Availability (90% truck, 85% loader) multiplied by time spent underground (80%).

**Figure 16-24: Primary Ventilation Layout of Cerro Las Minitas – Main**

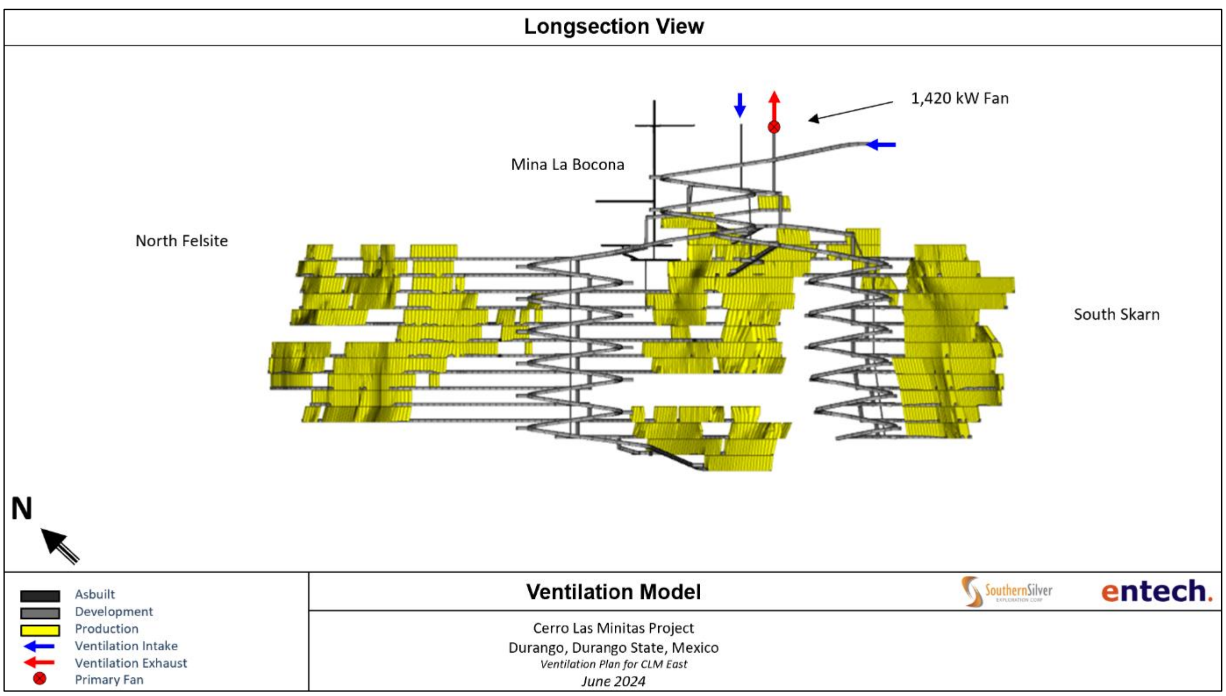



Source: Entech, 2024.

**Table 16-28: Ventilation Demand Estimate for Cerro Las Minitas - East**

| Equipment/Unit | Model | Quantity (#) | Engine Power (kW) | Utilisation | Requirement ($m^3/s$) |
|---|---|---|---|---|---|
| Truck | TH663i | 4 | 565 | 60% | 75.1 |
| Loader | LH621i | 3 | 375 | 57% | 38.5 |
| Development Drill | DD421 | 2 | 122 | 17% | 2.1 |
| Production Drill | DL421 | 2 | 122 | 17% | 2.1 |
| Ancillary | Utimec 1600 Agitator | 1 | 170 | 56% | 3.8 |
| Ancillary | Charmec MF 605 D | 1 | 120 | 40% | 1.9 |
| Ancillary | Spraymec 6050 W | 1 | 82 | 40% | 1.3 |
| Ancillary | JCB 527 – 55 | 1 | 63 | 43% | 1.6 |
| Ancillary | 140H | 1 | 123 | 60% | 4.4 |
| Ancillary | FMX 440 4X4 | 1 | 324 | 21% | 4.1 |
| Light Vehicle | Hilux Single Cab | 5 | 122 | 17% | 6.1 |
| **Subtotal** | - | - | - | - | **141.0** |
| **Mine Leakage** | 16% | - | - | - | **22.6** |
| **Total** | - | - | - | - | **163.6** |

**Figure 16-25: Primary Ventilation Layout of Cerro Las Minitas – East**




Source: Entech, 2024.

### 16.7.3 Auxiliary Ventilation

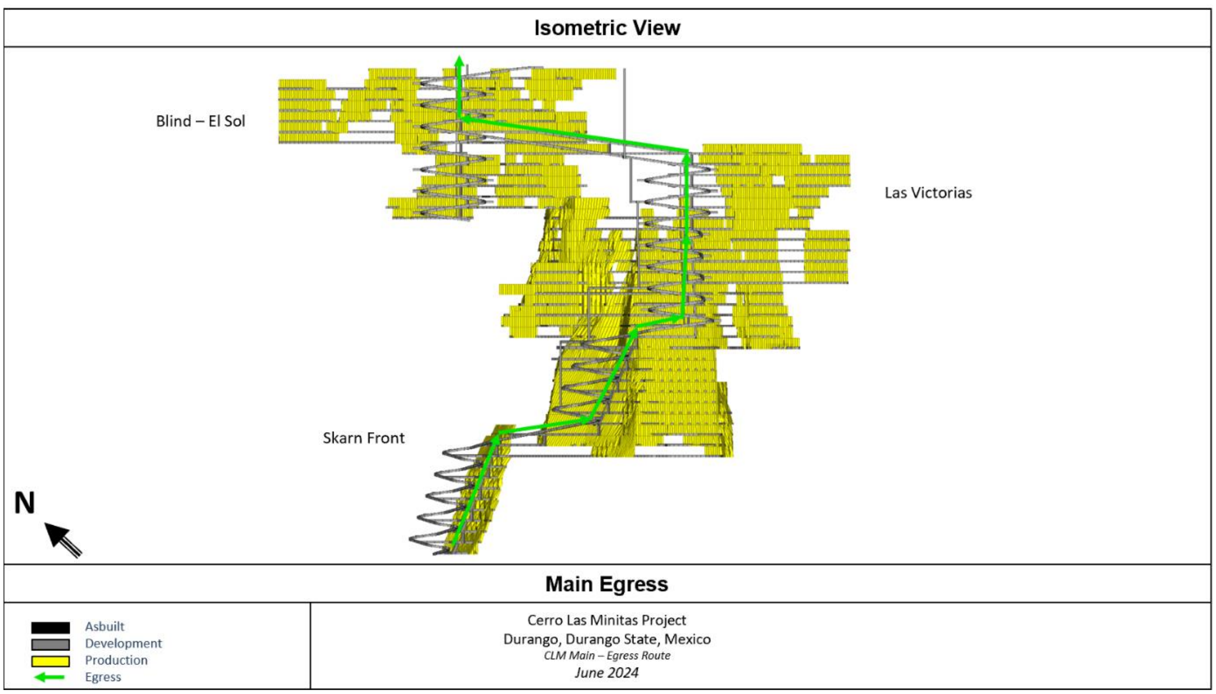
Where headings are located outside of the primary ventilation circuit, auxiliary fans are required to push the air to the active face. A variety of secondary fans, typically 110 kW in size, will be installed to deliver the required airflow through flexible ducting to the working headings. The overall aim is to deliver up to approximately 15-25 $m^3/s$ of airflow to the active headings depending on requirements. As levels are configured for truck loading to occur in flow-through ventilation, the auxiliary ventilation is predominantly to cater for mucking activities.

### 16.7.4 Secondary Means of Egress and Refuge Chambers

A secondary means of egress will be excavated between each level, with a connection from the top level of each mine to surface. Egress raises will be developed between levels via raisebore, then outfitted with emergency egress ladderways and access double doors installed in a wall to reduce entry of smoke and other contaminants.

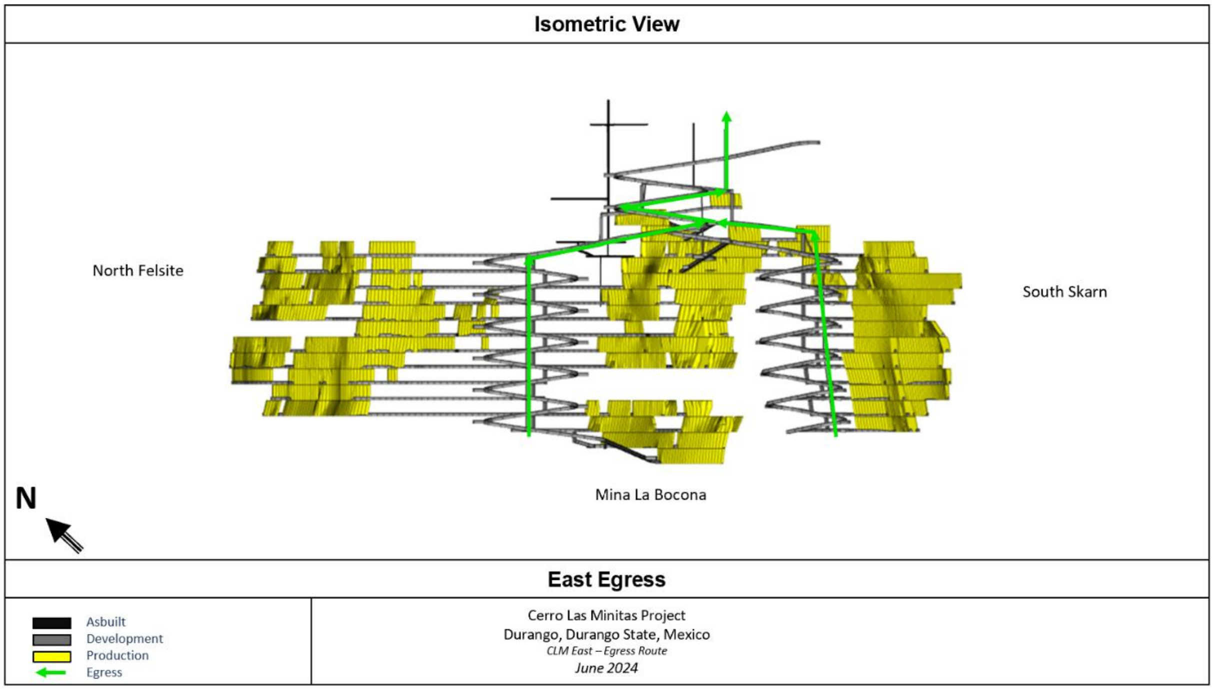
An emergency alarm system to notify personnel of an emergency, as well as stench gas installed on surface at the entrance to the main ramp and in the compressed air line. The escape routes for both CLM Main and CLM East are illustrated Figure 16-26 and Figure 16-27 respectively.

**Figure 16-26: Egress Layout of Cerro Las Minitas – Main**




Source: Entech, 2024.

**Figure 16-27: Egress Layout of Cerro Las Minitas – East**



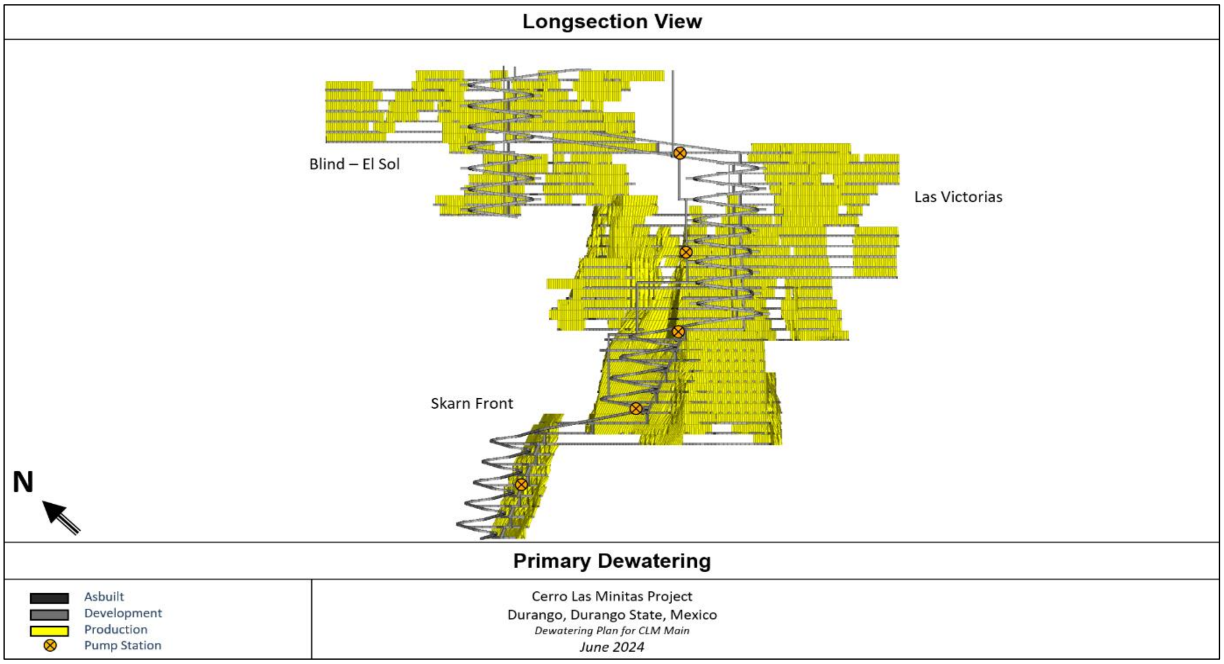

Source: Entech, 2024.

### 16.7.5 Water Management

Currently proposed for the Cerro Las Minitas project is a series of helical rotor pumps capable of pumping mine water up to containing 5% solids. The proposed system is to maintain solids within the pumped water and transport it to surface for desliming and potential use for processing or reuse underground. Both dewatering systems are to incorporate an eight-inch (8”) Schedule 40 steel pipe to surface that is capable of handing approximately 80 l/s. The pumping system is proposed to be comprised of three (3) 75 kw pumps (2 duty, 1 standby) capable of pumping ~40 l/s over 200-240 m of head. For Cerro Las Minitas Main, 5 pump stations are proposed, with three (3) pump stations at Cerro Las Minitas East.

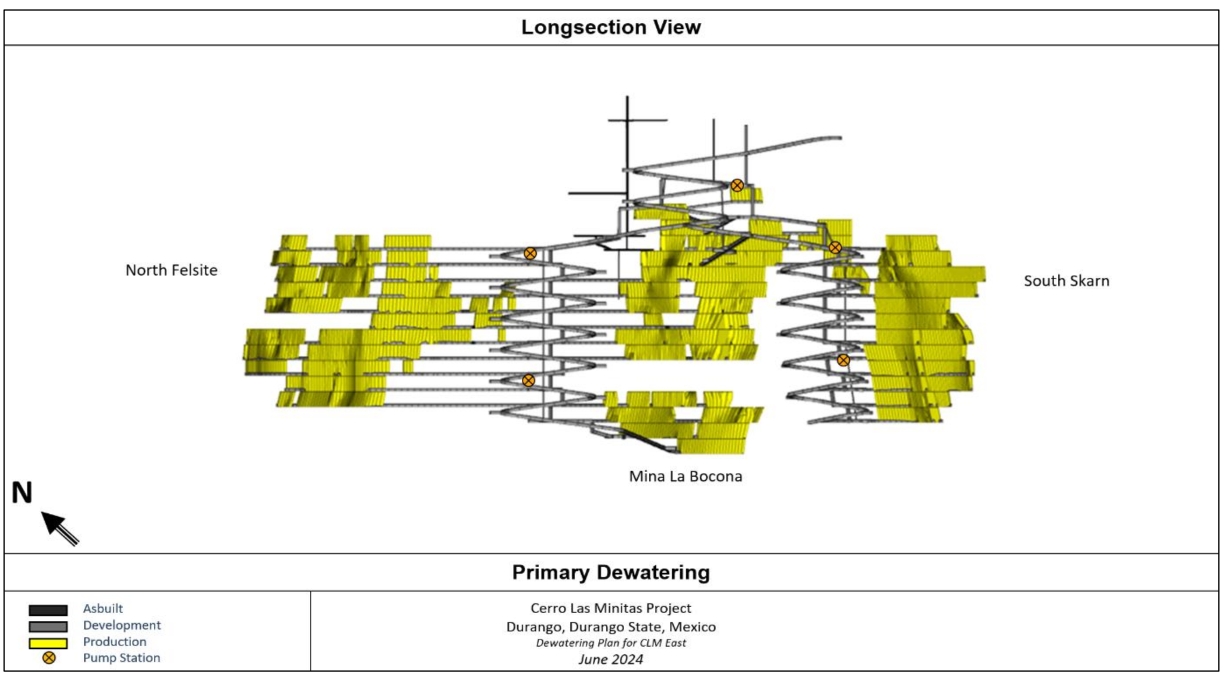
Figure 16-28 and Figure 16-29 illustrate the proposed pumping stations for the project. The primary pump stations will be supported by travelling helical-rotor pumps (skid mounted) that will be periodically moved with the advancing development. Additional 8-15 kW sump pumps with compliment the system and have been included in the cost estimate.

**Figure 16-28: Proposed Primary Dewatering - CLM Main**




Source: Entech, 2024.

**Figure 16-29: Proposed Primary Dewatering - CLM East**




Source: Entech, 2024.

### 16.7.6 Compressed Air

A single air compressor installed on surface at each portal is proposed to support compressed air needs. The compressed air is transferred through a single four-inch pipe that is routed via main ramps and service holes between levels. All compressors will be installed with an air accumulator.

### 16.7.7 Electrical Power

Electrical power is supplied by the site power station located at the processing facility. The power station produces energy at 4,160 V and is routed through the mine to the primary substations. Power is then stepped down via a transformer for use by plant and equipment. Several electrical transformers are strategically located underground to provide the necessary power for mining activities.

An estimate that includes equipment utilisation for plant and the mobile fleet has been summarised in Table 16-29.

**Table 16-29: Cerro Las Minitas Power Estimate (Mining Activities Only)**

| Year | Power Consumption (MWh) | Average Size (kW) |
|---|---|---|
| -2 | 38,353 | 4,378 |
| -1 | 41,387 | 4,725 |
| 1 | 51,388 | 5,866 |
| 2 | 54,141 | 6,181 |
| 3 | 53,491 | 6,106 |
| 4 | 52,547 | 5,999 |
| 5 | 51,912 | 5,926 |
| 6 | 52,391 | 5,981 |
| 7 | 50,256 | 5,737 |
| 8 | 52,845 | 6,033 |
| 9 | 51,861 | 5,920 |
| 10 | 52,856 | 6,034 |
| 11 | 52,593 | 6,004 |
| 12 | 49,028 | 5,597 |
| 13 | 47,046 | 5,371 |
| 14 | 40,900 | 4,669 |
| 15 | 38,724 | 4,421 |
| 16 | 37,237 | 4,251 |
| 17 | 34,985 | 3,994 |
| 18 | 2,837 | 324 |

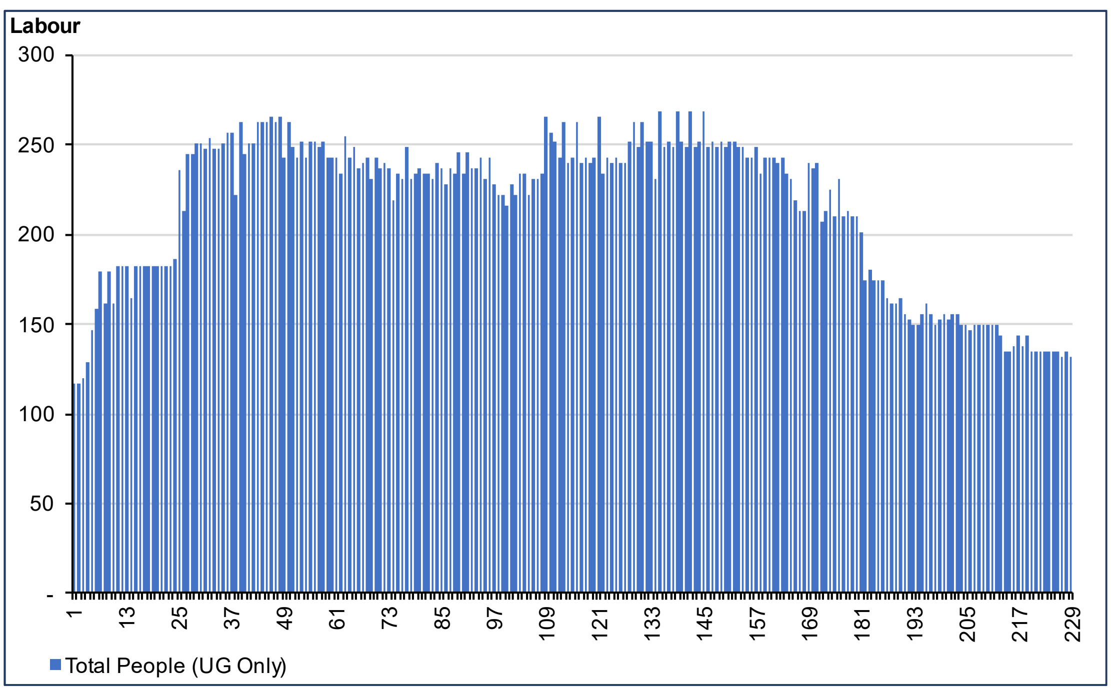
## 16.8 Mine Personnel

The Cerro Las Minitas Project is proposed to operate seven (7) days a week with two (2) 12-hr shifts each day of the year. It is assumed that the contractor and operation would select an equal time rotation (for example, 2 weeks on, 2 weeks off) to attract and retain labour. The maximum labour quantities (mining only) are summarised in Table 16-30 and illustrated on a monthly basis in Figure 16-30.

**Table 16-30: Cerro Las Minitas Mine Personnel Estimate**

| Position Description | Headcount (max) |
|---|---|
| Underground Manager | 1 |
| Senior Managers | 4 |
| Senior Engineers, Geologist, Surveyor, Geotechnical | 7 |
| Engineers, Geologists, Surveyors, Geotechnical | 20 |
| Samplers, Offsiders, Technicians | 26 |
| Stores, Administration | 6 |
| Maintenance Supervision | 4 |
| Mining Labour | 141 |
| Maintenance Labour | 60 |
| **Total** | **269** |

**Figure 16-30: Mine Personnel Estimate (monthly, total positions)**




Source: Entech, 2024.

# 17 RECOVERY METHODS

## 17.1 Overview

The conceptual design for the processing facility was based on recent metallurgical test work. Specifically, the basis of the design for the flotation circuit was the results and conditions from a locked cycle test (LCT) completed on Skarn Front Master Composite (PJ5287-LCT1).

Based on the metallurgical test and analyses described in Section 13 of this report, the design of the plant follows modern conventional practice. Cerro Las Minitas is a large polymetallic mineralized skarn deposit (silver, lead, zinc, copper) that will be mined as an underground mine. The Cerro Las Minitas plant will be designed to process 1,934,500 t of plant feed annually (5,300 t/d) to produce copper, lead/silver, and zinc concentrates. The processing plant consists of a two-stage crushing circuit followed by a single stage ball mill grinding circuit followed by copper, lead, zinc, and pyrite flotation circuits to produce copper, lead/silver, zinc, and pyrite concentrates.

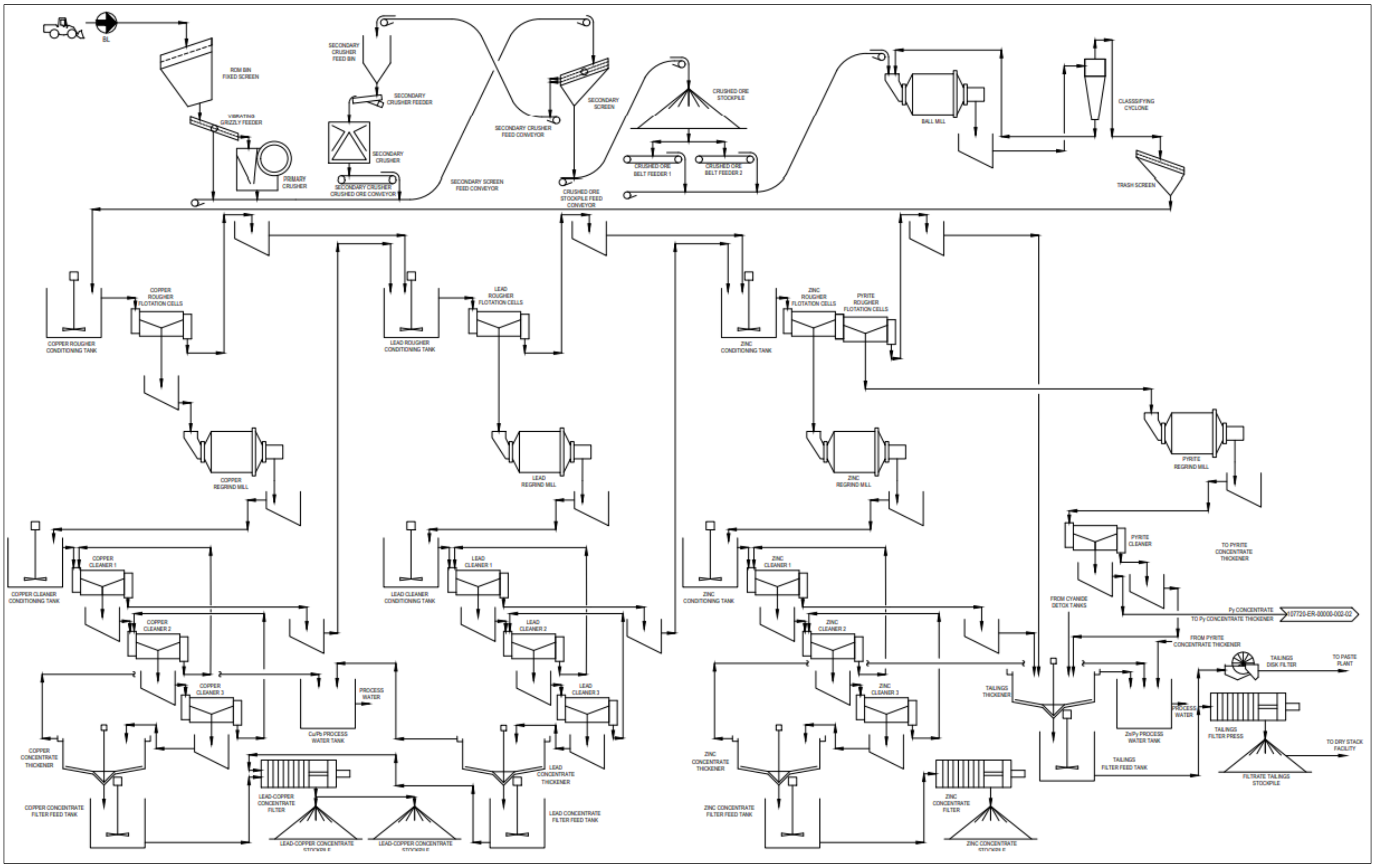
Process unit operations that will be used include:

- Primary and secondary crushing
- Single stage ball mill and classification
- Sequential flotation for copper, lead, and zinc with rougher flotation, rougher concentrate regrinding, and three stages of cleaner flotation
- Pyrite rougher flotation of zinc rougher tails, rougher concentrate regrinding and one stage cleaner flotation to produce a pyrite concentrate
- Concentrate thickening, filtering, and loading
- Pyrite concentrate and tailing dewatering and filtering
- Ultrafine grinding
- Cyanide leaching and counter current decantation (CCD)
- Merrill Crowe process
- Refinery
- Cyanide destruction

## 17.2 Process Flowsheet

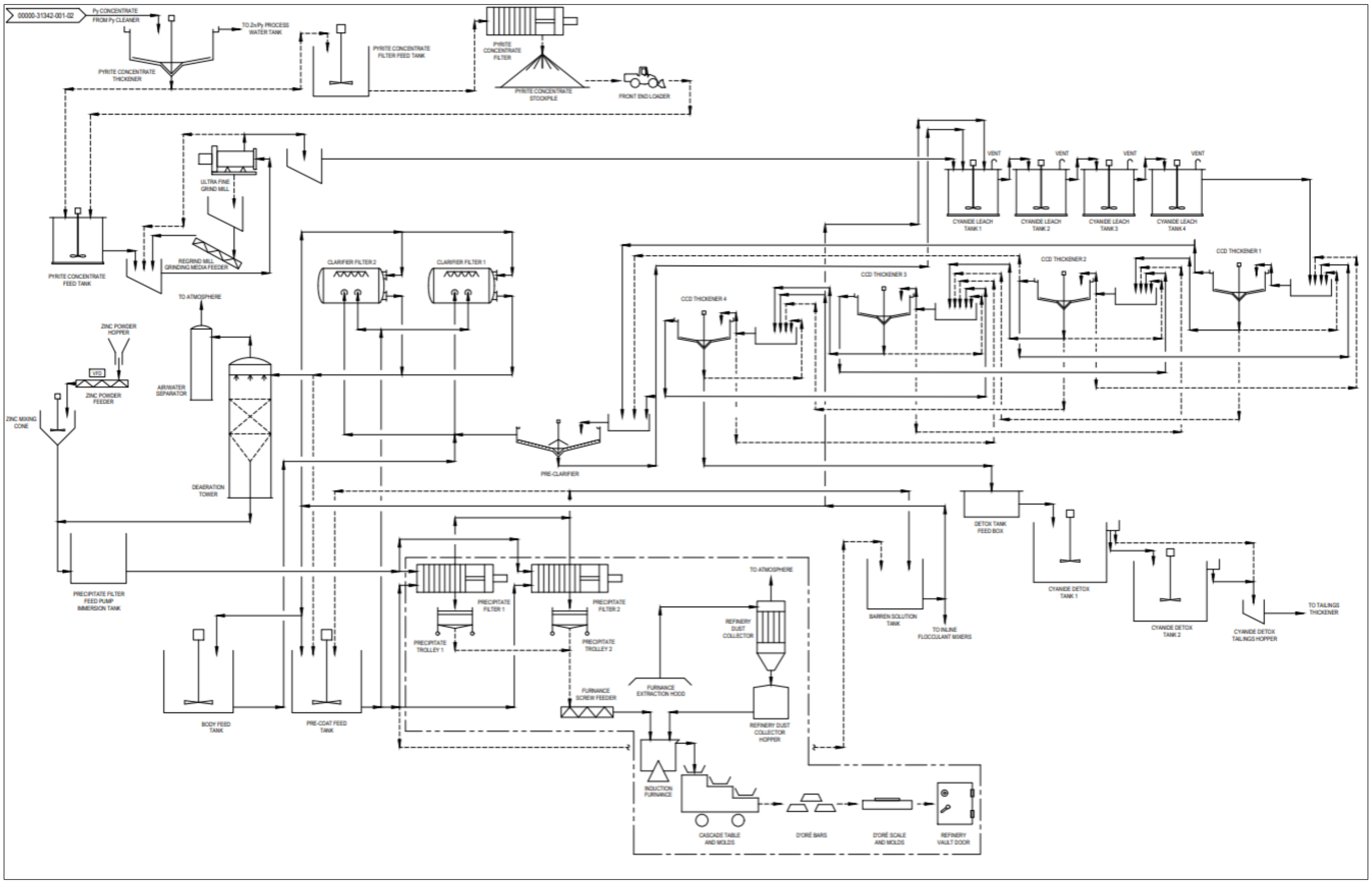
A summary diagram of the overall process flowsheet for the crushing and concentrator circuit is presented in Figure 17-1 with the hydrometallurgical plant (hydroplant) presented in Figure 17-2.

**Figure 17-1: Simplified Flowsheet – Crushing and Concentrating Circuit**




Source: Ausenco, 2024.

**Figure 17-2: Simplified Flowsheet – Hydroplant**




Source: Ausenco, 2024.

## 17.3 Process Design

Process design criteria developed for the Project are based on a 5,300 t/d (1,934,500 t/a) plant design. The crushing circuit was designed to operate with an overall availability of 70%. The filtration (concentrate and tailings) facilities were designed to operate with an overall availability of 80%, and the remainder of the processing facilities were designed to operate with an overall availability of 92%. Table 17-1 is a summary of the main components of the process design criteria used for the study.

**Table 17-1: Process Design Criteria**

| Description | Unit | Value |
|---|---|---|
| **General** | | |
| Mining Method | t/a | Underground |
| Total Mineralized Material Tonnage | Mt | 32.5 |
| Life of Mine | Years | 23 |
| **Plant Throughput** | | |
| Overall Plant Feed | t/a | 1,934,500 |
| Overall Plant Feed | t/d | 5,300 |
| **Operating Schedule** | | |
| Shift/Day | - | 2 |
| Hours/Shift | h | 12 |
| Hours/Day | h | 24 |
| Days/Year | d | 365 |
| **Unit Operation Availability** | | |
| Crushing, Primary and Secondary | % | 70 |
| Crushing Rate | t/h | 315 |
| Grinding and Flotation | % | 92 |
| Grinding and Flotation Rate | t/h | 240 |
| Concentrate Dewatering and Filtering | % | 80 |
| Hydroplant | % | 92 |
| Hydroplant Leach Rate | t/h | 7.2 |
| **Plant Feed Grade (LOM)** | | |
| Copper (Cu) | % | 0.19 |
| Lead (Pb) | % | 1.06 |
| Zinc (Zn) | % | 2.41 |
| Gold (Au) | g/t | 0.11 |
| Silver (Ag) | g/t | 104.06 |
| **Plant Feed Grade (design)** | | |
| Copper (Cu) | % | 0.18 |
| Lead (Pb) | % | 1.57 |
| Zinc (Zn) | % | 3.10 |
| Gold (Au) | g/t | 0.19 |
| Silver (Ag) | g/t | 111 |
| **Plant Feed Characteristics** | | |
| Solids Specific Gravity | - | 2.96 |
| Percent Moisture (by Weight) | % | 3.0 |
| Bond Abrasion Index, Ai | g | 0.3 |
| BWI (Ball Mill), 80$^{th}$ percentile | kWh/t | 12.7 |
| **Crushing & Stockpiling** | | |
| Feed size, $F_{100}$ | mm | 400 |
| Feed size, $F_{80}$ | mm | 211 |
| Crushing circuit product size, $P_{80}$ | mm | 8 |
| **Grinding Plant** | | |
| Product size, $P_{80}$ | microns | 100 |
| **Ultrafine Grind** | | |
| Product size, $P_{80}$ | microns | 10 |

The following items summarize the process operations required to extract copper, lead/silver, zinc, and gold from the plant feed:

- The primary crushing circuit will be fed directly from haul trucks.
- Size reduction of the mineralized material by a primary jaw crusher.
- The crushed material will be conveyed to a closed-circuit secondary crushing circuit. Crushed material will be conveyed onto a crushed material stockpile. Crushed material will be 80 percent passing 8 mm.
- Crushed material will be reclaimed from the stockpile by belt feeders onto the ball mill feed conveyor.
- Grinding will be carried out in a conventional ball mill circuit to deliver a product size of 80 percent passing 100 microns to the flotation circuit. The ball mill will operate in closed circuit with hydrocyclones.
- The flotation plant will consist of sequential selective flotation circuits to produce copper, lead, and zinc concentrates. Each circuit will consist of rougher flotation, rougher concentrate regrinding, and three stage cleaner flotation.
- Final copper, lead, and zinc concentrates will be thickened, filtered, and loaded on trucks for shipment.
- Final flotation tailing will be thickened to recycle water to the process. The thickened slurry will be filtered and conveyed to the TSF or to the tailing paste backfill plant.
- Water from tailing and concentrate dewatering will be recycled for reuse in the process. Plant water stream types include process/reclaim water, fresh/fire water, gland water, and potable water.
- Zinc rougher tails will be floated to produce a pyrite concentrate. Pyrite flotation will consist of rougher flotation, rougher concentrate regrinding, and a one stage cleaner flotation.
- Pyrite concentrate will be thickened and reground using an IsaMill to a $P_{80}$ of 10 µm.
- Ultrafine grind slurry will be leached in the cyanide leaching circuit, which will consist of four, mechanically agitated leach tanks operating in series.
- A four-stage CCD washing circuit will be used to recover pregnant leach solution (PLS) from the cyanide leached slurry.
- The PLS from the CCD circuit will be pumped into a clarifying filter to remove suspended solids. The filtered PLS flows through a deaeration tower and zinc is then added to the filtered, deaerated solution which is pumped to the precipitate filter. The precipitate, including precious metals, is recovered in the filter.
- Barren solution flows to a barren solution tank for reuse in the plant.
- The washed leach residue slurry from the CCD circuit will be treated using an INCO ($SO_2/O_2$) process to reduce the $CN_{WAD}$ cyanide concentration to <5 mg/L.
- Storage, preparation, and distribution of reagents will be provided in the process plant. Reagents include lime ($Ca(OH)_2$), zinc sulfate monohydrate ($ZnSO_4 \cdot H_2O$), sodium cyanide (NaCN), copper sulfate pentahydrate

($CuSO_4 \cdot 5H_2O$), sodium isopropyl xanthate (SIPX), Aerophine 3418A, Aerophine 3894, methyl isobutyl carbinol (MIBC), flocculant, diatomaceous earth (DE), zinc powder, refinery flux, and antiscalant.

- Air compressors and receivers will supply air for process plant operations, maintenance, and laboratory services. Blowers will supply air for the flotation cells.

### 17.3.1 Crushing Operations

The primary crushing circuit will be fed directly from haul trucks. A vibrating grizzly feeder will separate fines from coarse material entering the jaw crusher.

Size reduction of the mineralized material by a primary jaw crusher to reduce the material size from a $F_{100}$ of 400 mm to a $P_{80}$ of 80 mm. Crushed mineralized material be conveyed directly onto a secondary screen with a bottom deck aperture of 15 mm. A magnet will be installed over the transfer conveyor to remove tramp metal ahead of the screen.

The screen oversize material discharges onto a conveyor that discharges into a secondary crusher feed bin. A vibrating feeder feeds the material into the secondary cone crusher. Secondary crusher product will discharge to a conveyor and then back into the secondary screen feed conveyor which feeds the crushed material from both primary and secondary crusher to secondary screen.

The undersize product from the secondary screen ($P_{80}$ = 8 mm) will be conveyed to a crushed material stockpile with a live capacity of 3,786 t (12 h live capacity at nominal feed rate).

### 17.3.2 Fine Plant Feed Storage

The crushed mineralized material will be withdrawn from the stockpile using two feed reclaim belt feeders at a combined rate of 240 t/h.

A mill feed bin dust vent will be installed to collect dust at the mill feed bin. A dust collector will be installed to collect dust around the discharge of the mill feed bin/mill feed reclaim feeders. Collected dust will be discharged onto the mill feed conveyor, ahead of the discharge from the mill feed bin reclaim feeders.

Collected dust will be returned into the mill feed material bin. The mill feed reclaim rate will be monitored by a belt scale mounted on the mill feed conveyor.

### 17.3.3 Grinding

The grinding circuit will be designed to reduce the crushed mineralized material from an $F_{80}$ of 8 mm to a $P_{80}$ of 100 µm. Mineralized material will be ground to final product size in a single stage overflow ball mill.

Grinding will be performed in a rubber lined ball mill, 5.0 m inside diameter x 8.1 m effective grinding length (EGL) ball mill powered by a fixed speed 3,510 kW motor, operated in closed circuit with hydrocyclones using stainless steel media. The ball mill will discharge over a trommel screen. The undersized material will fall through the trommel into the mill discharge sump. The trommel underflow will be pumped to the primary cyclones. The trommel product will be washed by process solution sprays and ball chips will be rejected out the end of the trommel into a tote bin.

Slurry will be pumped using variable speed horizontal centrifugal slurry pumps to a hydrocyclone cluster containing eight cyclones (six operating, two standby). Hydrocyclone underflow will flow by gravity to the ball mill. Hydrocyclone overflow (final grinding circuit product) will flow onto a trash screen. Trash screen oversize will be collected periodically into a trash bin and the screen undersize will flow by gravity to the copper flotation conditioning tank.

Flotation feed will be sampled by primary samplers and analyzed by the onstream analyzer for metallurgical control prior to flotation.

A belt weigh scale will measure the new feed to the ball mill providing a signal for adjusting belt feeder speed and makeup solution addition. Grinding media will be fed onto the mill feed conveyor downstream from the scale.

Two jib cranes will be used, one crane will be used to service the mill and provide other hoisting services in the process area, while the other one will service the hydrocyclone. The grinding area will be equipped with a sump and pump for clean-up purposes.

The grinding circuit is an enclosed plant. The floor will be concrete on grade with containment walls to contain spills within the floor area. The floor will be sloped to sumps that will pump the contained liquids and solids back to the mill feed. Steel framed maintenance platforms with steel grating will be provided.

Grinding balls will be added to the ball mill by a ball loading system. Air compressors and an instrument air dryer will provide service and instrument air for operations and maintenance.

### 17.3.4 Copper Flotation and Regrind

Cyclone overflow will flow by gravity to a conditioning tank. The copper conditioning tank will discharge to a bank of rougher flotation cells. The copper flotation circuit will consist of five rougher cells operated in series followed by regrind and three stages of cleaner flotation.

The rougher circuit will consist of five 10 $m^3$ flotation tank cells. Flotation will be performed at a natural pH. The copper rougher concentrate will be pumped to the copper regrind mill. Product from the regrind mill will report to the copper cleaner circuit.

The copper cleaner row consists of five 1.5 $m^3$ forced air first cleaner cells, two 1.5 $m^3$ forced air second cleaner cells, and one 1.5 $m^3$ forced air third cleaner cell. Reground rougher concentrate is sent to the copper first cleaner flotation cell. Concentrate from the first cleaner flotation cells will be pumped to the second cleaner cells. Concentrate from the second cleaner cells will be pumped to the third cleaner cell. Tailing from the third cleaner circuit will flow to the second cleaner flotation circuit. Tailing from the second cleaner cells will flow to the first cleaner flotation circuit. Copper rougher tailing and copper first cleaner tailing will flow by gravity into the lead rougher conditioning tank. Concentrate from the third cleaner cell (final copper concentrate) will flow by gravity to the copper concentrate thickener. The concentrate and tail samples cut by the samplers will be analyzed for process control by an onstream analyzer.

Reagents (Zinc Sulfate, A-3894, sodium metabisulfite, and MIBC) will be added to the copper flotation circuit.

A concrete containment slab on grade and containment walls will contain process spills. A sump pump will transfer the contained solids and liquid back to the copper flotation circuit.

### 17.3.5 Lead Flotation and Regrind

Copper rougher tailing and copper first cleaner tailing will flow by gravity to the lead rougher conditioning tank. Discharge from the lead rougher conditioning tank will be pumped to the lead rougher flotation cells. The lead flotation circuit will consist of one row of five rougher cells followed by a regrind mill and three stages of cleaner flotation.

The lead rougher circuit will consist of one row of five 20 $m^3$ forced air cells with a drop between each cell. Flotation will be performed at a natural pH. The lead rougher concentrate will be pumped to the lead regrind mill. Product from the regrind mill will report to the lead cleaner conditioning tank. Reground lead rougher concentrate will flow by gravity from the lead cleaner conditioning tank to the lead first cleaner flotation cells.

The lead cleaner row will consist of five 3 $m^3$ forced air first cleaner cells, three 3 $m^3$ forced air second cleaner cells, and two 3 $m^3$ forced air third cleaner cells. Reground lead rougher concentrate will be sent to the lead first cleaner flotation cell. Concentrate from the first cleaner flotation cells will be pumped to the second cleaner cells. Concentrate from the second cleaner cells will be pumped to the third cleaner cells. Tailing from the third cleaner circuit will flow to the second cleaner flotation circuit. Tailing from the second cleaner cells will flow to the first cleaner flotation circuit. Lead rougher tailing and lead first cleaner tailing will flow by gravity into the zinc rougher conditioning tank. Concentrate from the third cleaner cells (final lead concentrate) will flow by gravity to the lead concentrate thickener. The concentrate and tail samples cut by the samplers will be analyzed for process control by an onstream analyzer.

Reagents (3418A, sodium cyanide, zinc sulphate and MIBC) will be added to the lead flotation circuit.

A concrete containment slab on grade and containment walls will contain process spills. A sump pump will transfer the contained solids and liquid back to the lead flotation circuit.

### 17.3.6 Zinc Flotation and Regrind

Lead rougher tailing and lead first cleaner tailing will flow by gravity to the zinc rougher conditioning tank. Discharge from the zinc rougher conditioning tank will be pumped to the zinc rougher flotation cells. The zinc flotation circuit will consist of one row of five rougher cells followed by a regrind mill and three stages of cleaner flotation.

The rougher circuit will consist of one row of five 50 $m^3$ forced air cells with a drop between each cell. Flotation will be performed at a pH = 10 to 11. The zinc rougher concentrate will be pumped to the zinc regrind mill. Product from the regrind mill will report to the zinc cleaner circuit.

The zinc cleaner row will consist of five 8 $m^3$ forced air first cleaner cells, four 8 $m^3$ forced air second cleaner cells, and three 8 $m^3$ forced air third cleaner cells. Reground zinc rougher concentrate will be sent to the zinc first cleaner flotation cell. Concentrate from the first cleaner flotation cells will be pumped to the second cleaner cells. Concentrate from the second cleaner cells will be pumped to the third cleaner cells. Tailing from the third cleaner circuit will flow to the second cleaner flotation circuit. Tailing from the second cleaner cells will flow to the first cleaner flotation circuit.

Concentrate from the third cleaner cells (final zinc concentrate) will flow by gravity to the zinc concentrate thickener. The concentrate and tail samples cut by the samplers will be analyzed for process control by an onstream analyzer.

Tailing from the zinc rougher tailing and will flow through four 30 $m^3$ pyrite rougher flotation cells. The pyrite rougher concentrate will be pumped to the pyrite regrind mill. Product from the regrind mill will report to the pyrite cleaner flotation cells. Concentrate from the single stage cleaner cells (final pyrite concentrate) will flow by gravity to the pyrite concentrate thickener. Pyrite rougher tailing and pyrite cleaner tailing (final tail) will flow to the tailing thickener.

Milk of lime and copper sulfate will be added to the zinc rougher conditioning tank to adjust pH. Milk of lime, SIPX, and copper sulfate, and MIBC may be added to the zinc flotation circuit. SIPX will be stage added to the rougher cells and milk of lime may be stage added to the cleaner cells.

A concrete containment slab on grade and containment walls will contain rain runoff and process spills. A sump pump will transfer the contained solids and liquid back to the zinc flotation circuit.

Air compressors, air receivers, and instrument air dryer will be installed for general plant operation and maintenance. A bridge crane will be installed for maintenance of the flotation and regrind equipment.

### 17.3.7 Copper Concentrate Dewatering

Concentrate from the copper third cleaner flotation cells will be directed to a copper concentrate thickener. The concentrate thickener overflow will be pumped to the Cu/Pb process water tank. The concentrate thickener underflow will be pumped to an agitated storage tank and then to a pressure filter. Filter cake will discharge to a stockpile. Filter will have a shared duty for copper and lead concentrate.

Filtrate and filter wash water will be returned to the feed box of the copper concentrate thickener.

### 17.3.8 Lead Concentrate Dewatering

Concentrate from the lead third cleaner flotation cells will be directed to a lead concentrate thickener. The concentrate thickener overflow will be pumped to the Cu/Pb process water tank. The concentrate thickener underflow will be pumped to an agitated storage tank and then to a pressure filter. Filter cake will discharge to a stockpile. Filter will have a shared duty for copper and lead concentrate.

Filtrate and filter wash water will be returned to the feed box of the lead concentrate thickener.

### 17.3.9 Zinc Concentrate Dewatering

Concentrate from the zinc third cleaner flotation cells will be directed to a zinc concentrate thickener. The concentrate thickener overflow will be pumped Zn process water tank. The concentrate thickener underflow will be pumped to an agitated storage tank and then to a pressure filter. Filter cake will discharge to a stockpile.

Filtrate and filter wash water will be returned to the feed box of the zinc concentrate thickener.

### 17.3.10 Concentrate Loadout

Concentrates (copper, lead, and zinc) will be reclaimed by front-end loader onto highway haulage trucks. A truck scale and a concentrate truck sampler will be located near the concentrate load out area.

A wheel washing system will be installed near the load out area to clean off concentrate from the haulage trucks before they leave the concentrate building.

### 17.3.11 Pyrite Concentrate Dewatering

Concentrate from the pyrite cleaner flotation cells will be directed to a pyrite concentrate thickener. The concentrate thickener overflow will be pumped back to the thickener feed for dilution and thickener spray bar to control froth or to the process water tank. The concentrate thickener underflow will be pumped to the pyrite concentrate feed tank for the hydroplant.

### 17.3.12 Ultrafine Grind

The pyrite concentrate produced from concentrator will undergo processing in the hydroplant to recover the precious metals.

The pyrite concentrate from the pyrite concentrate thickener underflow will be pumped to the pyrite concentrate feed tank and diluted with process water to reach the target density ahead of ultrafine grinding. The diluted pyrite concentrate will then be reground in a regrind IsaMill to a product $P_{80}$ of 10 µm before entering the concentrate leach tank.

### 17.3.13 Concentrate Leach

The ultrafine grind slurry will be leached in the cyanide leaching circuit, which will consist of four, mechanically agitated leach tanks operating in series.

The cyanide leaching circuit will include:

- Four 5.8 m diameter 6.3 m high leaching tanks
- Associated material handling (agitators)

Sodium cyanide, for gold, silver dissolution, will be added to the leach circuit. Milk of lime will be used to maintain the operating pH of the leach circuit between 10.5 and 11.0.

Air will be introduced into the circuit to maintain the oxygen to leach level at 7.75 nm$^3$ oxygen per tonne solids in the circuit. The leach circuit will have a 24-hr retention time, equally distributed across the four tanks. Slurry exiting the leach circuit will flow by gravity to the CCD circuit to recover pregnant solution from leached slurry.

The leach circuit will be serviced by a vertical cantilevered centrifugal sump pump, which will return spillage to a nearby leach tank.

### 17.3.14 CCD Circuit

A four-stage CCD washing circuit will be used to recover pregnant solution from the cyanide leached slurry.

The washing circuit will include:

- Four 8.0 m diameter thickeners
- Associated material handling and storage systems (feed boxes, pumps, sump pumps, pump boxes.)

The leached slurry will feed to the first CCD thickener and underflow from the first thickener will be fed to the subsequent CCD thickener. The process will repeat until the solids flow reports to the last CCD thickener (CCD No. 4). The underflow of CCD No. 4 will be pumped to a cyanide destruction circuit as washed tailings. The barren solution from the Merrill Crowe circuit will be added to CCD No. 4 as process wash water. Overflow solution from the final CCD thickener will flow in a counter current mode to the preceding thickener. The overflow from the first CCD thickener will flow to a CCD overflow tank which will feed the Merrill Crowe process.

The washing ratio, the flow rate of washing barren solution from the Merrill Crowe plant to the solids in the thickener underflow flow rate, will be 4.5:1 to achieve an overall CCD washing performance efficiency of higher than 99%.

Settling of solids will be aided by the addition of diluted flocculant at each stage of CCD.

### 17.3.15 Merrill Crowe Precipitation and Refinery

The gold and silver will be recovered by zinc cementation. The Merrill-Crowe plant will have a capacity of 85 $m^3$/hr.

The pregnant leach solution (PLS) from the CCD circuit will be pumped to a PLS tank. The solution will then be pumped to a clarifying filter in the Merrill-Crowe circuit which removes suspended solids. The filtered PLS flows through the deaeration column where oxygen is removed. Zinc is then added to the filtered, deaerated solution which is pumped to the precipitate filters. The precipitate, including precious metals, is recovered in the filter. Barren solution flows to a barren solution tank for reuse in the plant.

Precious metal recovery from solution to zinc precipitate will be about 99.5%.

The wet filter cakes from the Merrill-Crowe circuits will be transferred to retort pans, which are then put into a retort furnace to remove water and mercury. Water and then mercury are sequentially volatilized from the precipitate by heating the precipitate under a partial vacuum. The exhaust gases pass through multiple stages of condensers that drain mercury and water to a collection vessel. The last traces of mercury are removed from the retort gas by a packed bed of sulfur-impregnated carbon before being released to the atmosphere. The retort will be operated in batches.

The dried filter cake will be mixed with flux and then transferred to an electric arc furnace where it is smelted to produce doré.

### 17.3.16 Cyanide Destruction

The washed leach residue slurry from the CCD circuit will be treated using a sulphur dioxide ($SO_2$)-$O_2$ process to reduce the $CN_{WAD}$ cyanide concentration to <5 mg/L.

The cyanide destruction circuit will include:

- Two cyanide destruction 3.8 m in diameter x 4.3 m high reaction tanks
- Associated material handling systems (pumps, pump boxes, sump pumps).

Thickened, washed tailings slurry from the final CCD thickener, with solids concentration of approximately 50%, will be pumped to the cyanide destruction tanks. In the $SO_2$–$O_2$ process, sodium metabisulphite, copper sulfate, oxygen, and milk of lime will be added to oxidize residual free and $CN_{WAD}$ to cyanate, thereby reducing the $CN_{WAD}$ concentration to the target level prior to final tailings disposal. The cyanide destruction circuit will consist of two mechanically agitated tank, providing a residence time of 1 hr for each tank.

Oxygen will be provided from the oxygen plant as required and will be added to the cyanide destruction tank. $CN_{WAD}$ levels of the cyanide destruction discharge will be measured by analysis of regularly collected samples.

The cyanide destruction circuit will be serviced by a dedicated sump pump. Any spillage within this area will be returned to the cyanide destruction feed box.

### 17.3.17 Tailing Dewatering

Tailing from the pyrite rougher flotation row (low sulfide sulfur) will flow to a high rate tailing thickener. Thickener overflow will be pumped from the tailing thickener overflow tank to the process water tank. Thickener underflow from the tailing thickener will be pumped by variable speed horizontal centrifugal slurry pump to an agitated storage tank and then to two pressure filters operated in parallel. Filter cake will discharge to a conveyor and will be transported using a series of conveyors to the tailing storage facility or to the tailing paste backfill plant.

### 17.3.18 Process Consumables

Reagent types and dosages were established in the metallurgical programs conducted at Blue Coast Research between 2018 and 2020 and discussed in Section 13. The grinding media consumption was calculated based on an estimated Bond abrasion index from similar process facilities and adjusted based on vendor recommendation for use of high chrome media. The same wear rate was assumed for both primary grinding and regrinding applications. This approach was taken since no Bond abrasion index data is presently available for the Cerro Las Minitas mineralization.

Reagents requiring receiving, handling, mixing, and distribution systems include lime ($Ca(OH)_2$), zinc sulfate monohydrate ($ZnSO_4 \cdot H_2O$), sodium cyanide ($NaCN$), copper sulfate pentahydrate ($CuSO_4 \cdot 5H_2O$), sodium isopropyl xanthate (SIPX), Aerophine 3418A, Aerophine 3894, methyl isobutyl carbinol (MIBC), flocculant, diatomaceous earth (DE), zinc powder, refinery flux, and antiscalant.

Reagent types and dosages were established between 2017 and 2023 in the various metallurgical programs conducted at Blue Coast Research Ltd. and Base Metallurgical Laboratories Ltd. The grinding media and liner consumption were calculated based on an estimated Bond abrasion index that corresponds to the 50th percentile of abrasiveness of more than 2,000 samples that were tested at SGS. This approach was taken since no Bond abrasion index data is presently available for the SMSU and MSU mineralization. Grinding media is assumed to be high chrome based on the use of stainless media during testing, in order to control Eh and ensure activation of chalcopyrite which was otherwise misplaced into the zinc concentrate.

The reagent and grinding media wear rates are presented in Table 17-2 and Table 17-3, respectively.

**Table 17-2: Project Reagents**

| Reagent Identification | Function | Usage Rate |
|---|---|---|
| **Flotation Circuit** | | **g/t mill feed** |
| Hydrated Lime | pH control and pyrite depression. Primarily added during zinc flotation. | 1,507 |
| Sodium Metabisulfite | Galena depressant during copper flotation. | 1,100 |
| Zinc Sulfate Monohydrate | Control metal ion activation (Sphalerite Depressant) during copper and lead flotation. | 323 |
| Sodium Cyanide | Depress iron sulfides, secondary zinc and pyrite depressant added during lead flotation. | 53 |
| Aerophine 3894 | Dialkyl thionocarbamate based collector used for selective copper flotation. | 21 |
| Aerophine 3418A | Promoter, a dialkyl dithiophosphinate collector used for selective galena flotation. | 7.5 |
| Copper Sulfate | Sulphide mineral activator, activate sphalerite prior to zinc flotation. | 385 |
| Sodium Isopropyl Xanthate | Collector, medium length xanthate-based collector, used for zinc flotation | 125 |
| MIBC | Low persistence alcohol based frother used to maintain a stable froth | 303 |
| Flocculant | Particle settling aid for tailings and concentrate thickeners | 22 |
| **Concentrate Leach Circuit** | | **kg/t concentrate** |
| Sodium Cyanide | Leaching medium | 1 |
| Sodium Metabisulfite | Destruction of cyanide | 1.6 |
| Copper Sulfate | Catalyst for cyanide destruction | 0.18 |
| Flocculant | Particle settling aid, used in CCD | 0.48 |
| Hydrated Lime | pH control | 0.85 |
| Diatomaceous Earth | Merrill Crowe process filters | 1.32 |
| Zinc powder | Merrill Crowe process gold precipitation | 0.045 |
| Refinery Flux | Refinery process | 1,000 |

**Table 17-3: Consumables**

| Consumable | Usage Rate |
|---|---|
| Primary Crusher - Liners | 2 sets per year |
| Secondary Crusher - Liners | 3 sets per year |
| Ball Mill - Liners | 0.8 sets per year |
| Cu Regrind Mill - Liners | 0.8 sets per year |
| Pb Regrind Mill - Liners | 0.8 sets per year |
| Zn Regrind Mill - Liners | 0.8 sets per year |
| IsaMill – Liners | 1 set per year |
| Ball Mill – Grinding media | 0.062 kg/kWh |
| Cu Regrind Mill – Grinding media | 0.045 kg/kWh |
| Pb Regrind Mill – Grinding media | 0.045 kg/kWh |
| Zn Regrind Mill – Grinding media | 0.045 kg/kWh |
| IsaMill – Grinding media | 0.045 kg/kWh |

## 17.4 Plant Services

### 17.4.1 Water System

Total water requirements for the Cerro Las Minitas processing plant are estimated to be about 0.171 $m^3$/t (equivalent to around 38 $m^3$/h). This water requirement includes dust suppression at the crushing circuit, water addition in the grinding circuit, hydroplant circuit, gland water, and reagent makeup water. The mineralized material is assumed to yield a moisture content of at least 3%. The process plant will have separate process water for Cu/Pb flotation circuit and Zn flotation circuit. The hydroplant circuit will have separate process water from the flotation circuit.

### 17.4.2 Air Service

Two separate air supply systems will service the process plant. Low-pressure air for the flotation cells will be supplied by air blowers. High-pressure air for the overall process plant will be supplied by plant air compressors.

Instrumentation service air will be provided from plant air compressors. Compressed air will be dried and stored in air receivers for distribution to various instruments. Filtration air will also be provided from plant air compressors.

An air compressor and receiver will be installed for operation and maintenance at the fine crushing facility, at the Tailing filter plant, at the assay laboratory, and at the plant maintenance shop.

### 17.4.3 Quality Control

The plant will be designed for installation of an onstream x-ray sampling and analysis system for plant control. Automatic samplers will also be provided on selected streams in order to calculate the plant material balance and for control of the process. In addition, density and particle size metres will be installed in the cyclone feed sump to control the grind. Particle size will be monitored on the primary grinding, copper, lead, and zinc regrind cyclone overflows for process control. pH control loops will meter lime to the zinc circuit. The assay data will be fed back to a central control room and will be used to optimize process conditions. Routine samples of intermediate products and final products will be collected from automatic samplers and analyzed in an assay laboratory where standard assays will be performed. The data obtained will be used for product quality control and routine process optimization. Feed and tailing samples will also be collected and subjected to routine assay.

The assay laboratory will consist of a full set of assay instruments for base metal analysis, including an atomic absorption spectrophotometer (AAS), fire assay, and other determination instruments such as pH and redox potential metres.

### 17.4.4 Auxiliary Systems

Auxiliary systems such as reagent mixing and storage, maintenance and office requirements, laboratory, etc. are listed but not necessarily detailed for this study. Estimates for such items were based on other similar projects. The reagent consumption was estimated from the laboratory flotation tests and data from other properties. The grinding media consumption was estimated from comminution testing and data from other properties.

## 17.5 Power

The electrical power consumption was based on an equipment list with connected kW, discounted for operating time per day and anticipated operating load level. The Cerro Las Minitas process facility has an estimated annual 21.1 megawatt (MW) total connected load and 16.8 MW total demand load. This translates to US$4.22 per tonne of plant feed processed (LOM average). The unit cost for electrical power is estimated to be $0.096 per kWh. See Section 21.5.3.1 for power consumption by area. Electrical power will be supplied by the electrical grid.

# 18 PROJECT INFRASTRUCTURE

## 18.1 Overview

Infrastructure at the Cerro Las Minitas Project includes on-site infrastructure such as earthworks development, site facilities and buildings, on-site roads, water management systems, and site electrical power facilities. Off-site infrastructure includes site access roads, fresh water supply, power supply, piping, construction camp, and tailings storage facility. The site infrastructure will include:

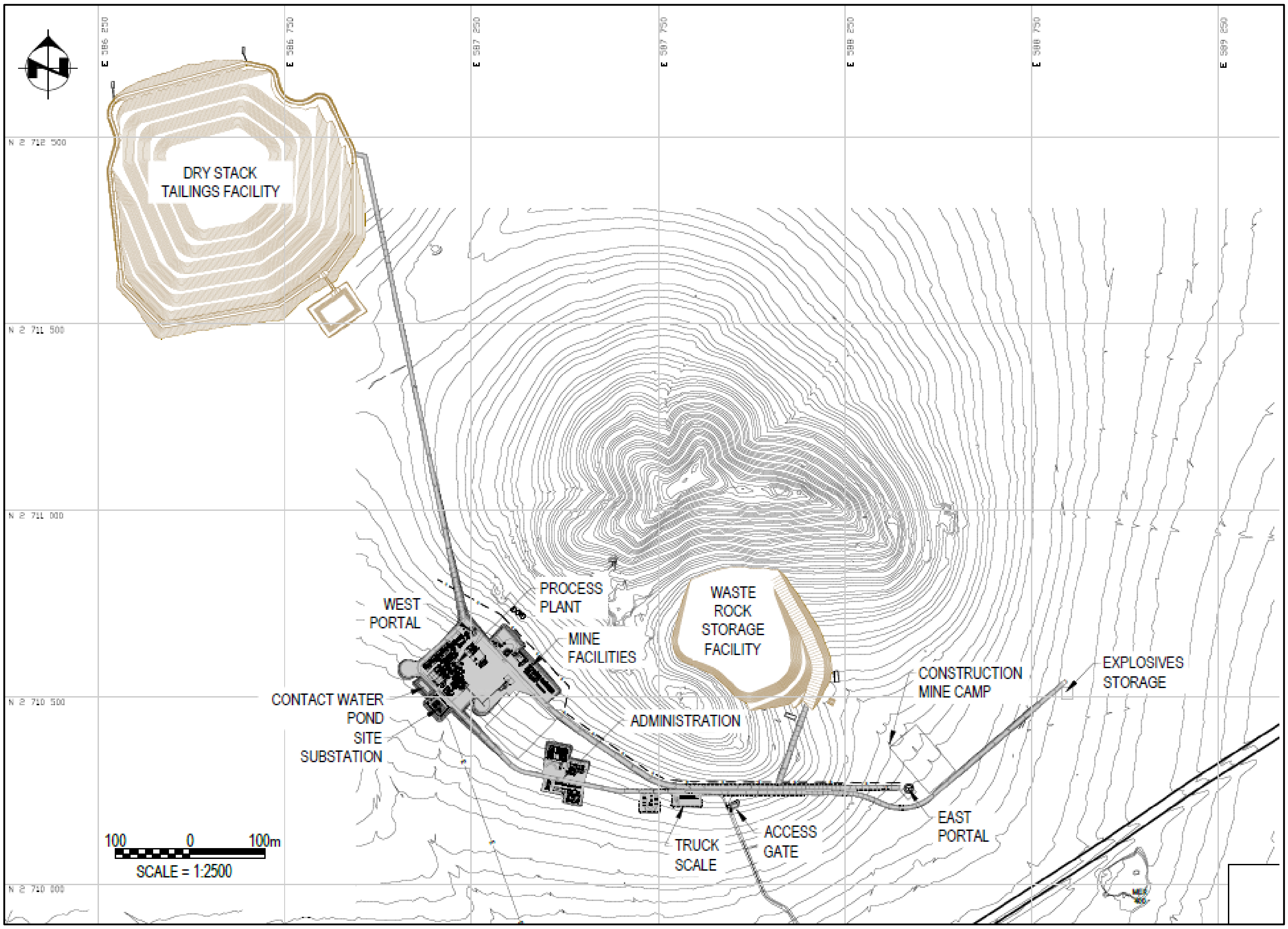
- Mine facilities include haul roads, mine offices, mine dry, truck shop, fuel station and wash bay.
- Common facilities, including an entrance/exit gatehouse, truck scale, parking lot, administration building, a medical office, training/safety room, warehouse, laboratory, power distribution facilities, construction camp area, light vehicle roads and explosive storage area.
- Process facilities housed in the process plant, including crushing and grinding plant, flotation cells, concentrate filtration, cyanide leach plant, CCD area, Merrill-Crowe plant, refinery, gold room, tailings filtration, paste plant, plant dry, and reagents storage.
- Other infrastructure includes ROM stockpile, contact water pond, waste rock storage facility (WRSF) and dry stack tailings facility (DSTF).

Site selection and location for project infrastructure was guided by the following considerations:

- The facilities described above must be located on the Cerro Las Minitas project permit boundary.
- Locating the waste rock storage facility close to the underground portals to reduce haul distance.
- The facilities should be located at a site that takes advantage of sloped natural terrain to adequately drain surface water and reduce earthworks.
- Separate heavy mine vehicle traffic from non-mining, light vehicle traffic.
- Locate the process plant near an existing primary access road.
- Place mining, administration, and process plant staff offices close together to limit walking distances between them.

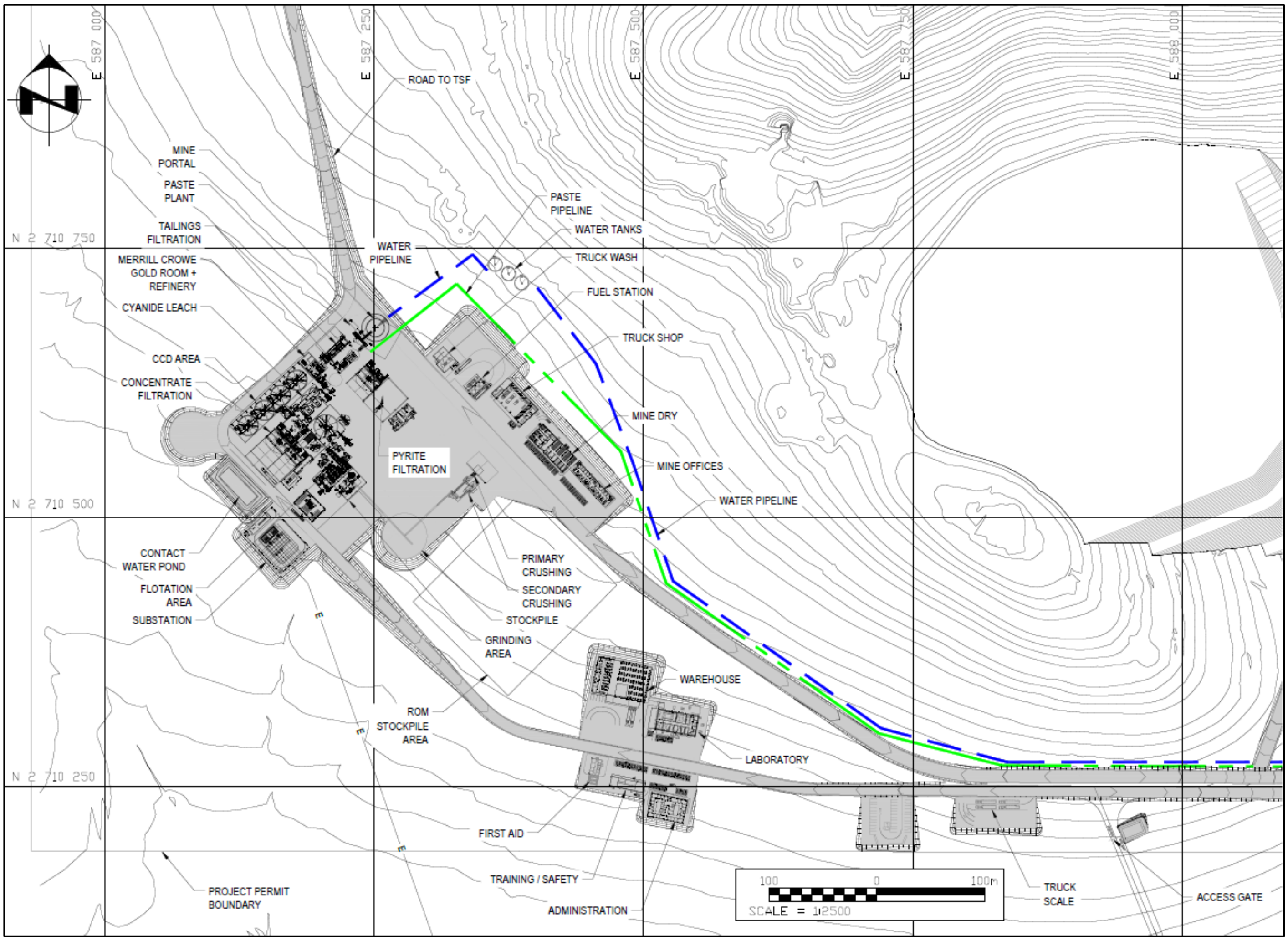
Figure 18-1 shows the proposed site layout and Figure 18-2 shows the proposed locations of the processing plant, warehouse and shop, and administration buildings.

**Figure 18-1: Proposed Site Layout**




Source: Ausenco, 2024.

**Figure 18-2: Proposed Location of the Processing Plant and Other Buildings**




Source: Ausenco, 2024.

## 18.2 Off-Site Infrastructure

### 18.2.1 Site Access

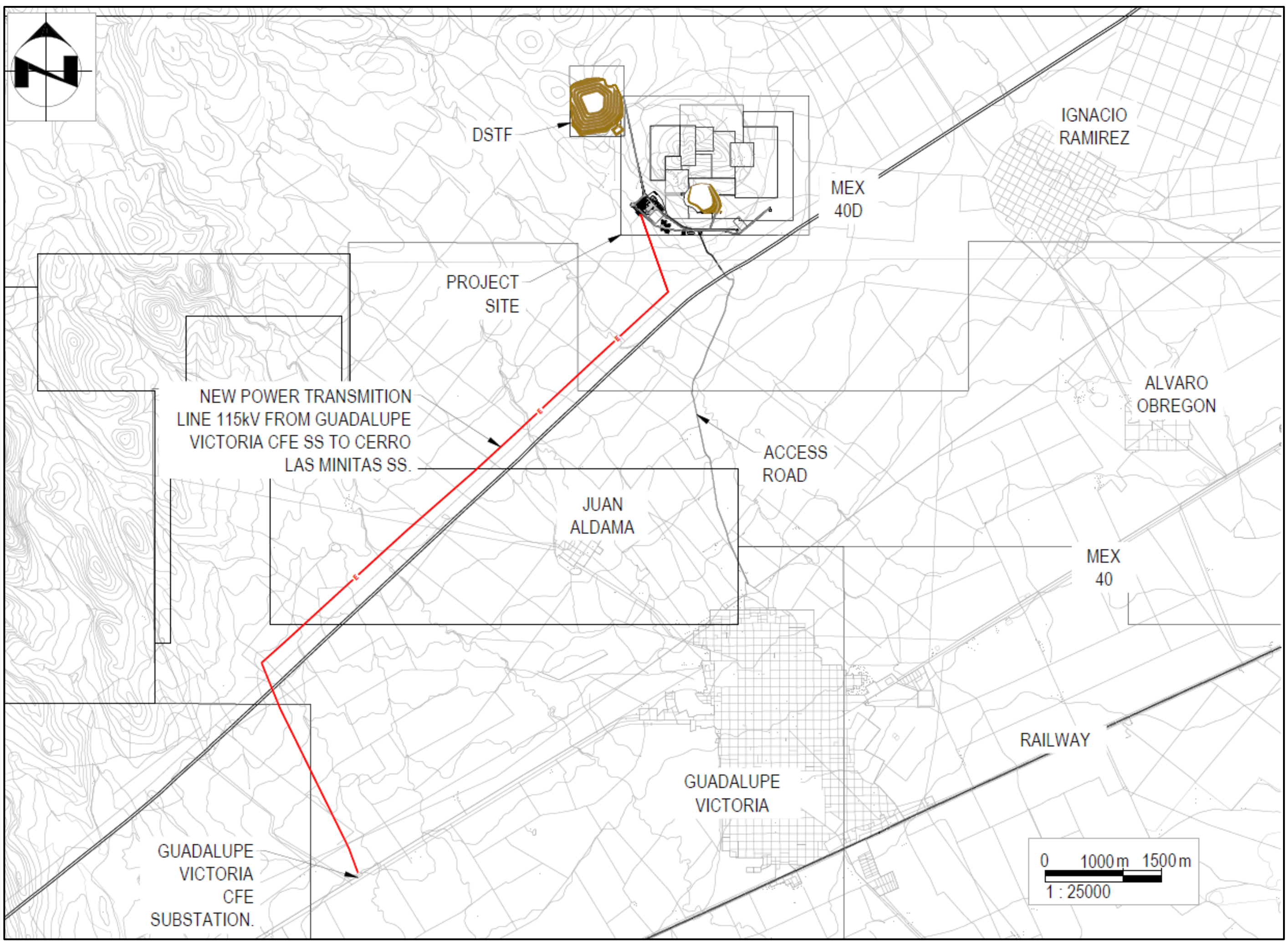
The Cerro Las Minitas project is located about 70 km to the northeast of the city of Durango in Durango State, Mexico, approximately 6 km northwest from the town of Guadalupe Victoria. The project site is 1 km away from the Federal Highway 40D, a four-lane divided paved toll highway. In the project vicinity, paved Federal Highway 40 runs through Guadalupe Victoria and runs parallel to Highway 40D. There is a road from Guadalupe Victoria to the site with a bridge over 40D. There is also a railway service station in Guadalupe Victoria operated by Linea Coahuila Durango, S.A. de C.V. which feeds into the national Ferromex network.

### 18.2.2 Electrical Power

The project will have a maximum electrical load demand of 21.1 MW with an average operating load of 16.8 MW. A 115 kV overhead electrical power transmission line, 13 kms in length, will run on self-supported steel towers to site from the Comision Federal de Electricidad (CFE) Substation in Guadalupe Victoria, as shown in Figure 18-3.

The site substation will distribute power to various areas of the project including the process plant, administration building and mining areas. Distribution lines will be constructed at the project site to provide stepped-down power to the site facilities.

**Figure 18-3: Electrical Power Transmission**




Source: Ausenco, 2024.

### 18.2.3 Water Supply

It is assumed that make-up water will be mainly supplied from the underground mine dewatering. Preliminary hydrogeological studies are ongoing to accurately estimate the dewatering rate, aquifer availability and water quality. The process plant will have a total water requirement of approximately 38 $m^3$/hr. Underground mine dewatering is expected to exceed these requirement, hence a make-up water well field has not been assumed for this study. Locations for a potential well field to supply domestic water or additional process makeup water have not been identified to date.

### 18.2.4 Logistics

Process and mining equipment will be procured both domestically in Mexico, and from international origins. Special handling requirements will be necessary for some of the equipment and considerations will need to be made to prevent theft, accidents, or unsafe conditions while shipments are in-route. There are plenty of transportation providers that serve the Mexico market that can provide the specialized resources necessary to transport over dimensional or heavy weight equipment into the project. The port infrastructure and roads leading to the project are currently in good condition to handle the volumes and types of shipments needed.

The port of Mazatlán on the Pacific is the closest commercial port to the project. However, this port does not have many inbound routings to Mexico so the project will most likely use the port of Manzanillo in the Pacific. In the Gulf of Mexico, the project will most likely use the port of Altamira mainly for cargo to and from Europe and other countries. For cargo originating in Canada and the US, the project will most likely use Nuevo Laredo in Tamaulipas or Piedras Negras in Coahuila as the border crossing points. In all these cases, access to the mine will be through major highways.

Concentrates (copper, lead, and zinc) may be reclaimed by a front-end loader onto highway haulage trucks for transport to the port for shipment to international smelters. Depending on the ultimate marketing needs, concentrate may also be bagged at the project site. If the marketing plan allows for ocean lots above 5,000 tonnes the port of Mazatlan will be the ideal port to use for Asia bound cargo. Otherwise, for smaller lots the port of Manzanillo will provide the project more flexibility in ocean routings.

Because of its proximity to the project, transportation by rail may also be an option for the project. For inbound cargo to the mine, rail could be used for intermodal from the US and Canada or other types of cargo. For outbound cargo with concentrates, rail could be an option for shipments out of the port of Altamira. Rail to Manzanillo or Lazaro Cardenas may not be very efficient due to the design of the rail network in Mexico.

## 18.3 On-Site Infrastructure

### 18.3.1 Site Preparation

The site infrastructure areas will be cleared, and topsoil will be removed prior to initiating construction activities. Topsoil removed will be stockpiled around the site for use during closure and reclamation activities. Drains, safety bunds and backfilling with granular material and aggregates for road and building platforms construction are all elements of the initial site development. Site civil work includes design for the following infrastructure:

- Light vehicle on-site roads and haul roads
- Site access roads
- Mine and process facilities platforms and foundations
- ROM stockpile area
- Waste rock storage area
- Dry stack tailings storage area
- Water management facilities, ditches, and drainage channels.

### 18.3.2 On-Site Roads

The project site has unpaved roads connecting the access road to the gatehouse. In addition to the existing roads on site, new roads will be constructed linking the guard house, the administration building, the process plant, and the explosive storage buildings. On-site haul roads run separate from light vehicle access roads for safety. Haul roads will link the portals, the mine facilities, the WRSF and the DSTF.

### 18.3.3 Fuel

Diesel will be supplied to trucks and light vehicles. There will be two vessels containing at least 22,000 L of diesel each, for total of 44,000 L.

### 18.3.4 Mining Infrastructure

#### 18.3.4.1 Truck Shop/Wash

The truck shop/wash is a pre-engineered building with a concrete floor, overhead crane, and overhead doors with fire protection and alarm systems. There will be a total of four maintenance bays. Two maintenance bays will be assigned to preventive maintenance, one will be for corrective maintenance, and the last bay will be multipurpose. Additionally, a single truck wash bay will be located adjacent to the fuel storage area.

#### 18.3.4.2 Mine Offices

The mine office is a modular building for underground operations. The building is equipped with fire protection, utilities, and an alarm system.

#### 18.3.5 Process Plant Infrastructure

##### 18.3.5.1 Plant Warehouse/Shop

The plant warehouse/shop is a pre-engineered building with concrete floor, overhead doors, fire protection and alarm systems. This building will be used for general storage, to store equipment spares for the process plant, to maintain and store light vehicles assigned to the plant, and repair and maintain process plant equipment as necessary.

##### 18.3.5.2 Assay Laboratory

The assay laboratory is a one-story pre-engineered building comprised of storage area, office, scale room, AA room, wet lab, and met labs. This building is equipped with fire protection and an alarm system. The laboratory requires hoods with ventilation.

##### 18.3.5.3 Refinery and Gold Room

The refinery and gold room will be constructed with thick concrete floors and walls complete with a heavy duty building enclosure, entry gates, CCTVs, motion sensors, and alarm. The facility will be monitored 24 hr/d by the security personnel. Access to the refinery and gold room will be restricted to authorized personnel only.

The gold and silver recovery and smelting areas will be provided with sufficient ventilation to mitigate the potential impact of off-gas produced from the melting furnace and dust generated from flux mixing.

Gold–silver doré products will be stored in the dedicated safe in the gold room. Doré product transportation will be undertaken by contractors using armour trucks.

There will be a fenced area for controlled entry and exit of the armoured transport vehicle to prevent unauthorized entries into the refinery and gold room, while the armoured vehicle is entering or exiting the facility.

##### 18.3.5.4 Material Handling

The material from the underground will be diverted to two main destinations depending on the grade and material type. A portion of the barren stripped NAG material will be crushed and conveyed to the DSTF for embankment construction, with the balance hauled to the WRSF.

The mineralized material will be hauled to the primary crusher, ROM stockpile or lime stockpile area.

#### 18.3.6 Ancillary Facilities

##### 18.3.6.1 Gate House and Truck Scale

The gate house is a security modular office with a lockable gate and communications to the main site. The truck scale is located just west to the main access road by the guard house.

#### 18.3.6.2 Medical and Training Facilities

The medical and training facilities are modular buildings located near the administration building. The medical facilities consist of first aid and emergency response rooms for on-site treatment and headquarters for mine rescue team. The training facilities include rooms for personnel screening during rotations in and out of site and for safety induction training. Both facilities are equipped with fire protection and an alarm system.

#### 18.3.6.3 Administration Building

The main administration building is a modular, single level building comprised of lunch facilities, offices, meeting rooms, washrooms, desks, fire protection, and alarm systems. The offices will have space for relevant processing plant and administrative employees.

### 18.3.7 Buildings

The buildings for each area are listed in Table 18-1.

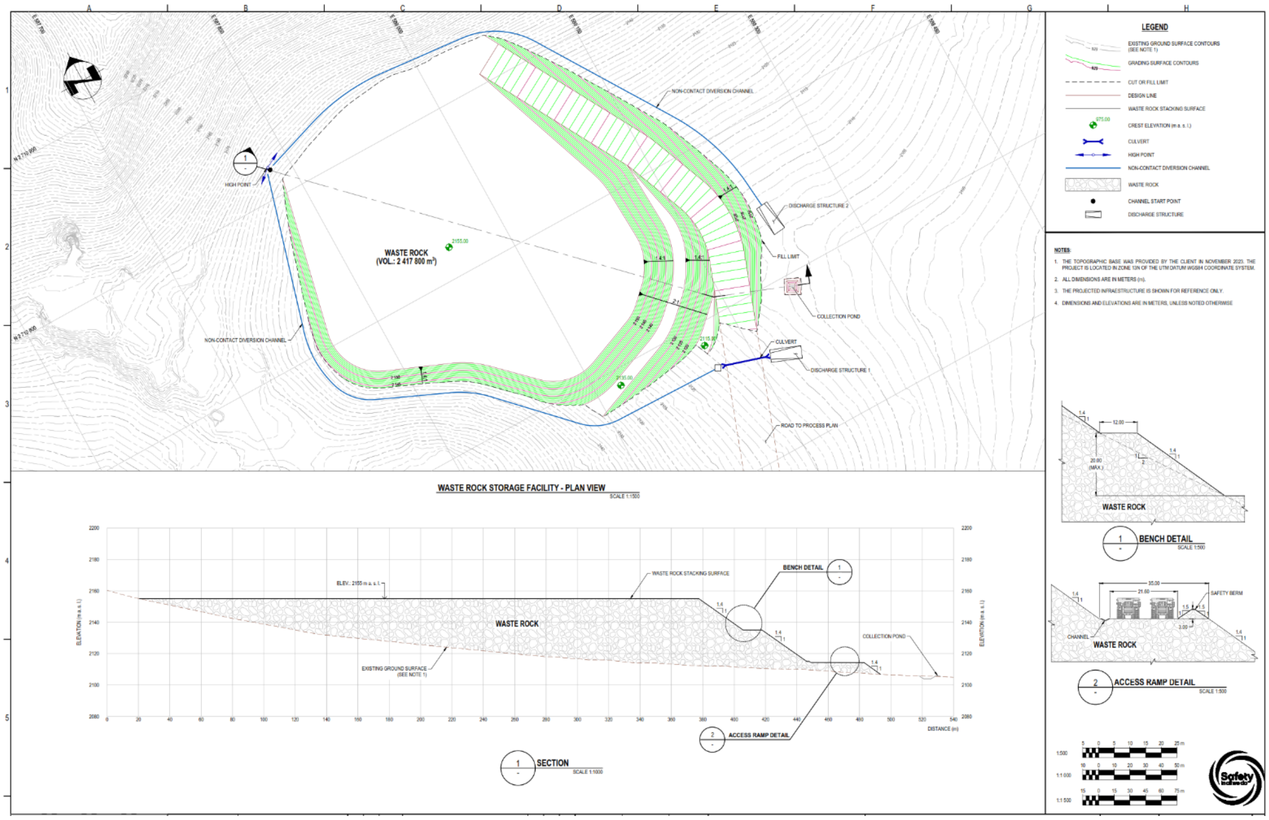
**Table 18-1: On-Site Building List**

| Name of Building | Building Type | Geometry of building | | | | |
|---|---|---|---|---|---|---|
| | | Width (m) | Length (m) | Height (m) | Area ($m^2$) | Volume ($m^3$) |
| Truck Shop | Pre-Engineered Building | 21 | 40 | 18 | 840 | 15120 |
| Mine Offices | Modular Building | 10 | 42 | 3 | 420 | 1260 |
| Explosives Storage | Masonry Building | 30 | 30 | 5 | 900 | 4500 |
| Concentrate Handling | Pre-Engineered Building | 40 | 10 | 15 | 400 | 6000 |
| Refinery and Gold Room | Pre-cast concrete walls and cladding roof | 13 | 25 | 6 | 325 | 1950 |
| Gatehouse | Modular Building | 4 | 6 | 3 | 24 | 72 |
| Administration Building | Modular Building | 22 | 34 | 3 | 748 | 2244 |
| Plant Warehouse/Shop | Pre-Engineered Building | 33 | 50 | 8 | 1650 | 13200 |
| Assay Laboratory | Pre-Engineered Building | 19 | 38 | 3 | 722 | 2166 |
| Reagents Storage | Pre-Engineered Building | 17 | 49 | 4.5 | 833 | 3749 |
| Mine Change house | Modular Building | 18 | 45 | 3 | 810 | 2430 |
| Plant Change house | Modular Building | 12 | 24 | 3 | 288 | 864 |
| Medical Facilities | Modular Building | 9 | 23 | 3 | 207 | 621 |
| Training Building | Modular Building | 8 | 31 | 3 | 248 | 744 |

### 18.3.8 Waste Rock Storage

All non-mineralized rock material will be stored in the Waste Rock Storage Facility (WRSF) located between the mine portals. Figure 18-4 shows the WRSF proposed design.

**Figure 18-4: Waste Rock Storage Facility (WRSF)**




Source: Ausenco, 2024.

The WRSF will be built in uniform uncompacted lifts through haul truck end-dumping methods. The ultimate facility geometry will consist of 20m-high lifts, 12m-wide benches, local slopes of 1.4H:1V (angle of repose) and a maximum overall slope of 2H:1V. A 20-m wide ramp will allow two-way access to haul trucks. The WRSF has a capacity of 2.5M $m^3$ and a maximum height of 43 m.

Surface water runoff around the WRSF will be managed through two diversion channels that will discharge non-contact water to the environment. Discharge structure and sediment controls are considered for the diversion channels. A seepage collection pond is located at the toe of the facility to collect contact water. The pond is fully lined and contact water will be pumped back to the process plant for re-use.

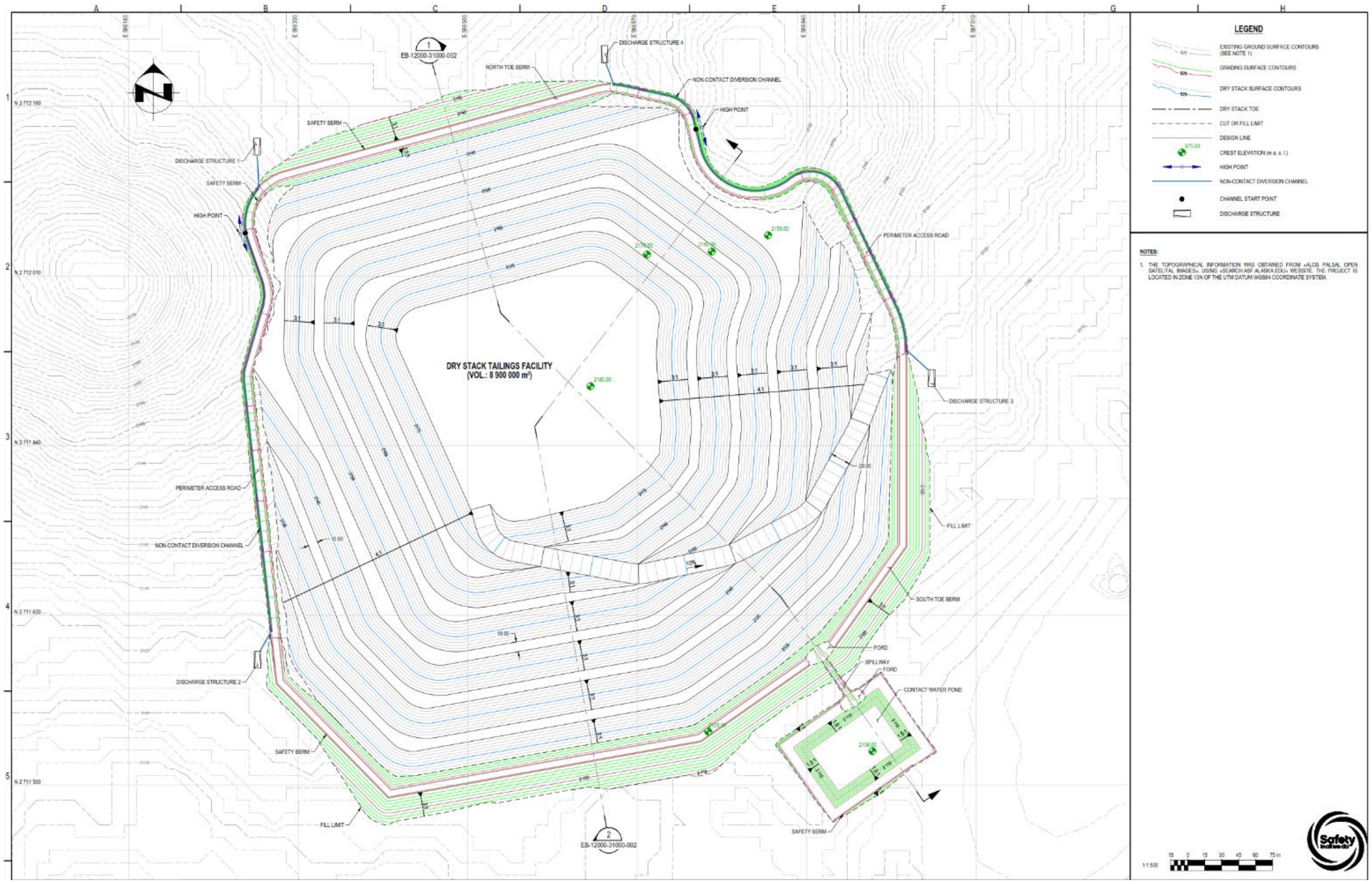
### 18.3.9 Dry Stack Tailings Facility (DSTF)

The DSTF provides secure confinement of tailings and the protection of the regional groundwater and surface water during mine operations and closure. Tailings not used as paste backfill for the underground mine operations will be hauled and permanently stored in the DTSF. The design of the DSTF was in accordance with the Mexican Environmental Regulation NOM-141-SEMARNAT-2003 and the Global Industry Standard on Tailings Management (GISTM). The design of the DSTF considered the following:

- Fully lined dry stack foundation with a seepage collection system to limit possible constituents of concern migrating outside the facility.
- Control, collection, and removal of water from the facility during operations for recycle as process water to the maximum practical extent.
- Progressive reclamation in the form of tailings slope cover.

Approximately 16 Mt of tailings will be stored in the DSTF. Construction of the DSTF will be completed in a single phase with an ultimate height of 55 m. The DSTF footprint will occupy approximately 41 ha. The general arrangement of the DSTF is shown in Figure 18-5.

**Figure 18-5: Dry Stack Tailings Facility General Arrangement**




Source: Ausenco, 2024.

#### 18.3.9.1 Topography and Drainage

The proposed DSTF site is in the northwest side of the site in between low-elevation hills. The terrain natural drainage flows southeast. In general, the site and surrounding area has a semi-flat topography with some bedrock exposed or near ground surface. Most of the site is covered in alluvial soils previously used for farming. It is assumed that surface soil conditions throughout the site consist primarily of alluvial soil consisting of sandy clay with some of gravel.

At this time, near-surface ground water has not been thoroughly investigated and a comprehensive analysis of the area expected flows after the construction of the DSTF has not been completed.

#### 18.3.9.2 Hazard Classification

The design standards for the DSTF are based on the relevant federal and international guidelines for construction of tailings facilities. The following regulations and guidelines were used to determine the hazard classification and suggested minimum target levels for some design criteria, such as the inflow design flood (IDF) and seismic criteria:

- NOM-141-SEMARNAT-2003 that establishes design guidelines for tailings storage facilities in Mexico.
- International Council on Mining and Metals' 2020 Global Industry Standard on Tailings Management (GISTM, 2020).
- Canadian Dam Association (CDA), 2013 Dam Safety Guidelines and Tailings Dam Technical Bulletin.

The DSTF has been classified as "high" under the GISTM guidelines due to potential impact to farmlands, infrastructure and the nearby towns. The recommended IDF during operations is defined as 1/3 between 1/1,000-year and the PMF for a high consequence classification. The design earthquake is characterized as the one in 2,475-year return period seismic events for a high consequence classification facility.

#### 18.3.9.3 Basis of Design

The DSTF design was developed by Ausenco using designs and methods that will protect against impacts to groundwater in accordance with applicable environmental regulations. The design as presented also meets geotechnical and hydrologic design criteria of GISTM (2020) for a high failure consequence facility. Two earth and rockfill stability embankments spanning the shallow valleys will be the main structures that buttress the filtered tailings. The tailings will be stacked using concepts that will provide a safe and stable facility. A seepage collection system will be placed over the fully lined basin to capture any potential seepage and limit the outflow of potential constituents of concern, if any. Tailings will be delivered to the facility via haul trucks at approximately 87% solids (by weight).

The DSTF footprint will be cleared and grubbed for foundation preparation and stability embankments construction. Basin preparation will include removal of overburden material from low points within the topography and placement over any rock outcrops. Overburden materials will be removed beneath the stability berm foundations prior to fill placement.

The DSTF stability berm will be constructed using ROM rock generated from the underground mining development. During construction, rock will be transported by the contractor from the staging area to the embankment location(s) and placed as engineered fill in controlled and compacted lifts. The stability berm slope angles for both upstream and downstream slopes will be 2.5H:1V.

Within the foundation of the facility, a series of 100 mm and 300 mm PCPE pipes will be installed to collect any seepage and convey it to the seepage collection pond at the toe of the facility. Pipes will be placed on top of the proposed liners system consisting of a 1.5 mm geomembrane liner over a 30 cm low permeability soil layer.

#### 18.3.9.4 Tailings Deposition and Return Water

Filtered tailings will be transported to the DSTF via haul trucks and stacked using end-dumping methods. Filtered tailings will be deposited in the facility, spread by a dozer into controlled lifts, and compacted by a vibratory roller. Tailings exterior slopes will be covered with a 5-metre-wide inverted trapezoidal waste rock berm. This cover will serve as erosion protection and will increase stability of the overall facility. The cover will also serve as progressive reclamation reducing closure costs at the end of the LOM.

Return water from the seepage pond will be trucked back to the process plant for reuse.

#### 18.3.9.5 DSTF Surface Water Management

During operations, permanent storm water diversion channels on the perimeter of the facility will be constructed to convey runoff around the DSTF ultimate footprint. Permanent stormwater diversion channels will remain in place during the life of the DSTF and into long-term closure. Stormwater diversion channels will be constructed at a minimum 1% grade.

Any precipitation that runs off downslope of the diversion channels and within the slopes of the DSTF will report to the impoundment area. Diversion channels will discharge non-contact water into natural drainages.

#### 18.3.9.6 Slope Stability Analysis

A section through the highest portions of the stack were selected as critical stability sections. Stability of the stack and embankments were assessed using the limit-equilibrium modelling software SLIDE2 v9.0 Slope/W, (Rocscience, 2021). Analyses were undertaken for both static and pseudo-static (earthquake loading) conditions per the NOM-141. The Mexican regulation omits minimum required factors of safety (FOS). The GISTM and CDA guidelines provided international accepted guidance on tailings storage facility designs. The minimum required FOS values in accordance with CDA guidelines are 1.5 FOS for static conditions and 1.0 FOS for pseudo static conditions. The tailings embankment is designed to withstand potential dynamic displacement without release of tailings during the maximum design earthquake event. The embankment stability analyses exceeded both static and pseudo-static requirements per the CDA guidelines.

#### 18.3.9.7 Infiltration Analysis

The objective of the infiltration analysis was to determine the discharge flow through the toe of the DSTF. To determine this discharge, the one-dimensional unsaturated flow model of the United States Salinity Laboratory, known as HYDRUS

1-D, was used (van Genuchten et al., 2008). This model is widely accepted to simulate drainage through a porous medium under saturated or unsaturated conditions.

The infiltration flow estimated, in this study, by the collection system is estimated at 0.176 L/s, corresponding to a volume of 15 $m^3$ every 24 hours.

#### 18.3.9.8 Monitoring

Instrumentation and monitoring will be required to assess the embankments and stack performances and must be incorporated in the next phase of the study. Vibrating wire piezometers (VWPs) will be installed to monitor pore pressure within the DSTF and permanent embankment fill materials. Additionally, and slope inclinometers and survey monuments will be installed in the permanent embankments to monitor slope movement and deformation.

### 18.3.10 Site Water Management

This section discusses site-wide water management, the design of water management structures, hydrology, and water balance.

#### 18.3.10.1 Climate and Hydrology

Climate data used was obtained from the Durango weather station located 27 km southeast of Cerro Las Minitas. The stations' climate averages are presented in Table 18-2. The 24-hours storm event is presented in Table 18-3.

**Table 18-2: Durango Precipitation Data**

| Parameter | Precipitation (mm) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Max | 45.5 | 33.0 | 28.8 | 21.0 | 53.0 | 64.5 | 88.0 | 80.0 | 80.0 | 37.0 | 61.6 | 39.0 |
| Min | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.7 | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Average | 7.4 | 4.5 | 2.8 | 2.8 | 8.8 | 21.8 | 29.6 | 31.0 | 25.0 | 14.1 | 10.0 | 7.4 |

**Table 18-3: Durango Design 24-hour Storm Event**

| Return Period | Precipitation (mm) |
|---|---|
| 100 | 100 |

#### 18.3.10.2 Water Management Structures

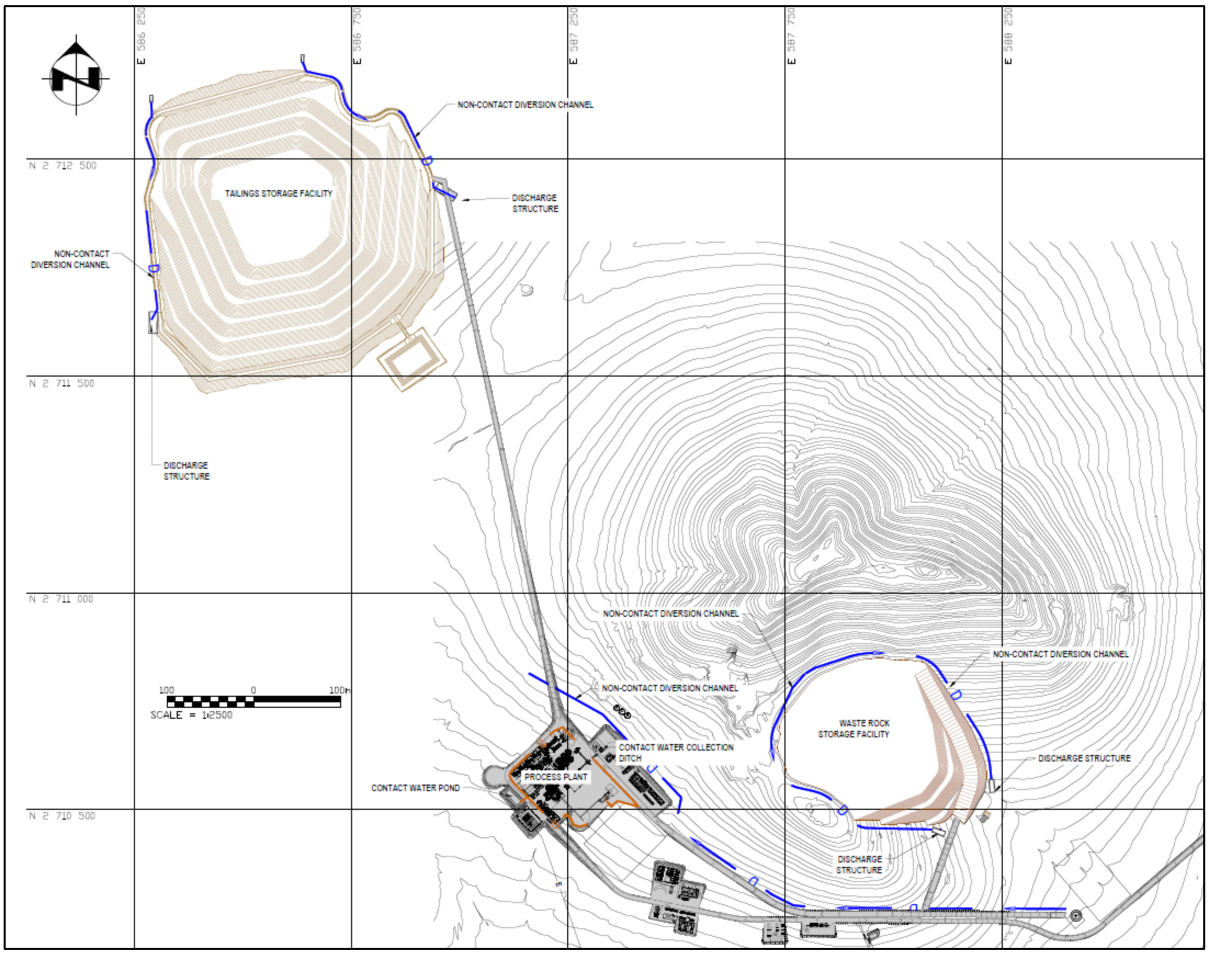
The following water management structures are anticipated to be used in Cerro Las Minitas:

- Diversion channels – diversion ditches are required to divert clean runoff away from the facilities and to minimize the amount of runoff to be collected and managed. The design criterion for the diversion ditches was the conveyance of 1:100-year peak flow without overflow.
- Collection ditches – collection ditches collect contact runoff that is not diverted by the diversion ditches. The design criterion for collection ditches was the conveyance of 1:100-year peak flow without overflow.

- Collection ponds – collection ponds are accumulation points for stormwater runoff from the collection ditches. The collection ponds' design criteria were to store 1:100-year 24hr flood with a minimum freeboard of 0.5 m. The ponds will provide a point for stormwater reuse for processing purposes or discharge outfalls for sampling and management.

Figure 18-6 shows the site water management structures.

**Figure 18-6: Site Water Management Structures**




Source: Ausenco, 2024.

#### 18.3.10.3 Site-Wide Water Balance

A preliminary site-wide water balance analysis was performed for Cerro Las Minitas and the results are summarized in this section.

In this analysis, a comparison between water requirements, and available water from the collection system was made to identify the site-wide water balance. The following water components were considered in this calculation:

- Surface runoff from precipitation on the DSTF, WRSF, and process plant.
- Seepage from the DSTF.
- Underground mine dewatering.
- Evaporation from ponds.
- Process water requirements.

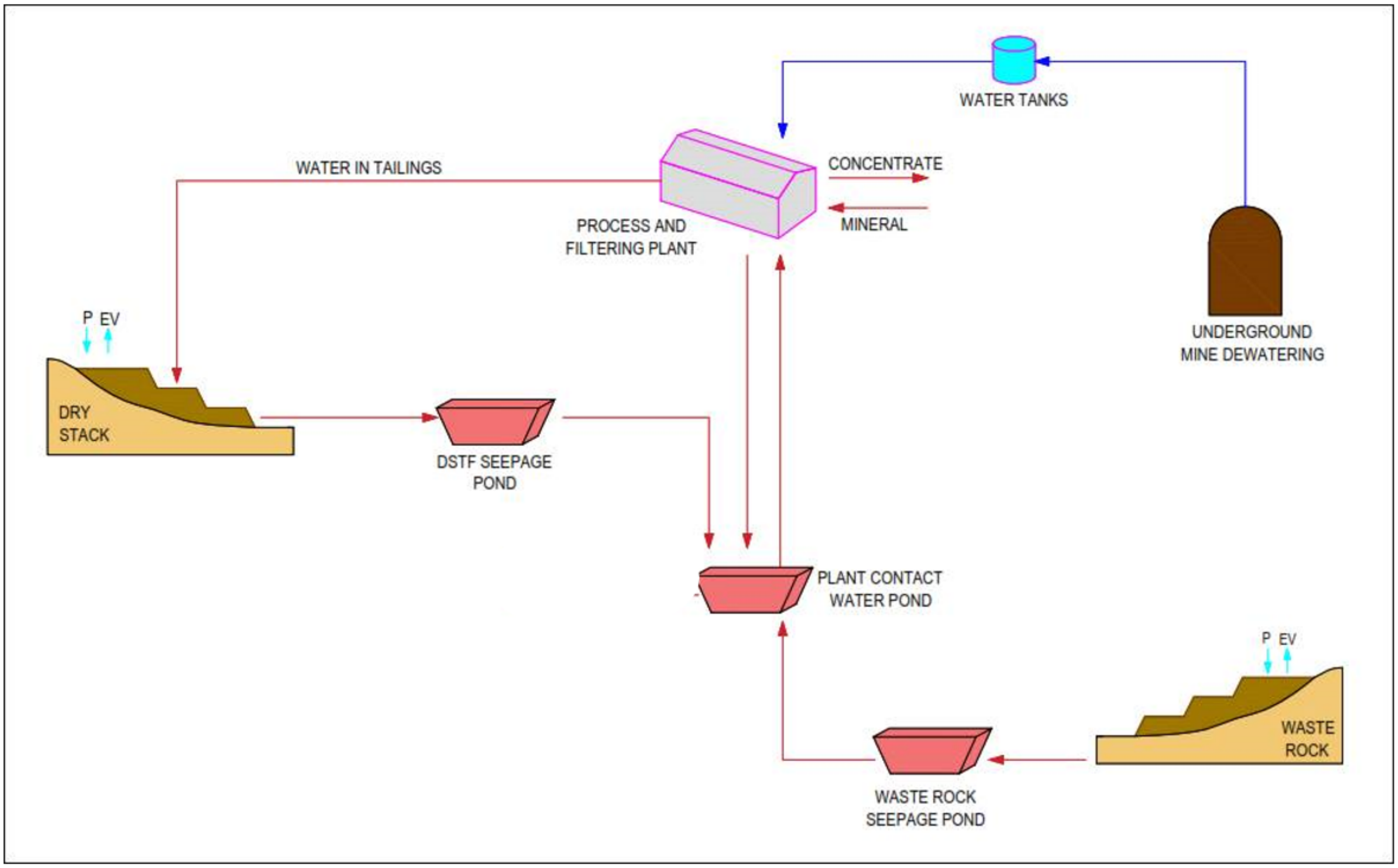
**Table 18-4: Average Conditions Site-wide Water Balance**

| Water Component | Average Conditions Rate ($m^3$/hr) |
|---|---|
| Surface Runoff | 0.0 |
| Seepage from DSTF | 0.6 |
| Underground Dewatering (assumed) | 72 |
| Evaporation from Ponds | -1 |
| Process Water Requirements | -38 |
| **Water Excess** | **33.6** |

For average conditions there is a net water surplus of 33.6 $m^3$/h, which is expected to be released to the environment. It should be noted that groundwater modelling was not conducted at the time of this report, and dewatering rates are approximated values; therefore, groundwater input must be added in the next phase of the project.

A site water management schematic considering major facilities and ponds is shown in Figure 18-7.

**Figure 18-7: Site water management schematic**




Source: Ausenco, 2024.

# 19 MARKET STUDIES AND CONTRACTS

## 19.1 Market Studies

No market studies were completed for commodity pricing as part of the 2024 PEA. Market price assumptions were based on a review of public information, industry consensus, standard practices and specific information from comparable operations in the region.

Southern Silver's management were provided with indicative smelter terms. The net payabilities and penalties for metals in concentrate are summarized in Table 19-1 below.

**Table 19-1: Refining Payabilities**

| | Ag | Au | Cu | Pb | Zn |
|---|---|---|---|---|---|
| **Cu Concentrate** | | | | | |
| Payable Metal | 90% | 90% | 90% | - | - |
| Minimum Deduction | - | - | 1 unit | - | - |
| **Pb Concentrate** | | | | | |
| Payable Metal | 95% | - | - | 95% | - |
| Minimum Deduction | 50g/t | - | - | 3 Units | - |
| **Zn Concentrate** | | | | | |
| Payable Metal | 70% | - | - | - | 85% |
| Minimum Deduction | 3oz/t | - | - | - | 8 Units |
| **Doré** | | | | | |
| Payable Metal | 99% | 99.9% | - | - | - |

Copper concentrates are widely traded and can be marketed domestically or internationally with significant optionality regarding the ultimate customer base. It is assumed that the concentrate produced is of sufficient quality to be marketable to smelters globally.

## 19.2 Commodity Price Projections

Project economics were estimated based on long-term flat metal prices of US$23.00/oz Ag, US$1,850/oz Au, US$4.00/lb Cu, US$1.00/lb Pb, and US$1.25/lb Zn. These metal prices are in accordance with consensus market forecasts from various financial institutions and are consistent with historic prices for this commodity, shown in Table 19-2, sourced from Capital IQ on June 5, 2024. The QP also considers the prices used in this study to be consistent with the range of prices being used for other project studies.

**Table 19-2: Summary of Historic Commodity Pricing**

| Metal | 3-Year Trailing Average |
|---|---|
| Silver (US$/oz) | 23.32 |
| Gold (US$/oz) | 1,903 |
| Copper (US$/lb) | 4.03 |
| Lead (US$/lb) | 0.99 |
| Zinc (US$/lb) | 1.37 |

## 19.3 Contracts

No contracts for transportation or off-take of the concentrate are currently in place, but if they are negotiated, they are expected to be within the industry norms. Similarly, there are no contracts currently in place for the supply of reagents, utilities, or other bulk commodities required to construct and operate the Project.

# 20 ENVIRONMENTAL STUDIES, PERMITTING, AND COMMUNITY IMPACT

## 20.1 Introduction

This section provides an overview of the environmental setting of the Cerro Las Minitas Mining Project. It outlines existing biological and physical baseline conditions, proposed baseline studies to support future permitting applications, existing permits, and future regulatory and permitting requirements including required management plans for water, site environmental monitoring, and waste disposal. In addition, this section also discusses socio-economic baseline conditions, the status of community consultation and engagement, and conceptual mine closure and reclamation planning for the Project.

The Project site currently operates under a permit for mine exploration issued on August 20, 2020, by the federal delegation of SEMARNAT in the state of Durango.

Once the exploration work is completed and depending on the results that it yields, it will be determined if the area will be abandoned or will continue to be used for the exploitation of the desired minerals, in case the area continues to be used, the corresponding environmental permits will be requested from SEMARNAT and compensation work will be carried out in areas surrounding the project.

Currently, the only known environmental liabilities are associated with the exploration site activities and access roads. and existing underground workings from former operations Remediation of surface disturbances and removal of wastes will be mitigated by compliance with applicable Mexican regulatory requirements.

## 20.2 Baseline and Supporting Studies

In the absence of comprehensive baseline environmental field studies for the Project area there is a reliance in this report on publicly available documentation and information available on the internet, mainly from official Mexican government websites (listed in Section 3), as well as on two key reports that were commissioned by Southern Silver as follows:

- IDEAS 2022; “Hydrological and Hydrogeological Characterization for the Cerro Las Minitas Project, Durango; report prepared by Investigación y desarrollo de acuíferos y ambiente (IDEAS) for Southern Silver, May 2022.
- IP 2024; ““Informe Preventivo” or “Preventative Report”; report prepared for Cerro Las Minitas” Mining Exploration Project (Minera Plata del Sur) by Servicios de Asesoría Forestal Profesional e Impacto Ambiental S.C.”, report originally prepared 2019 and update 2024.

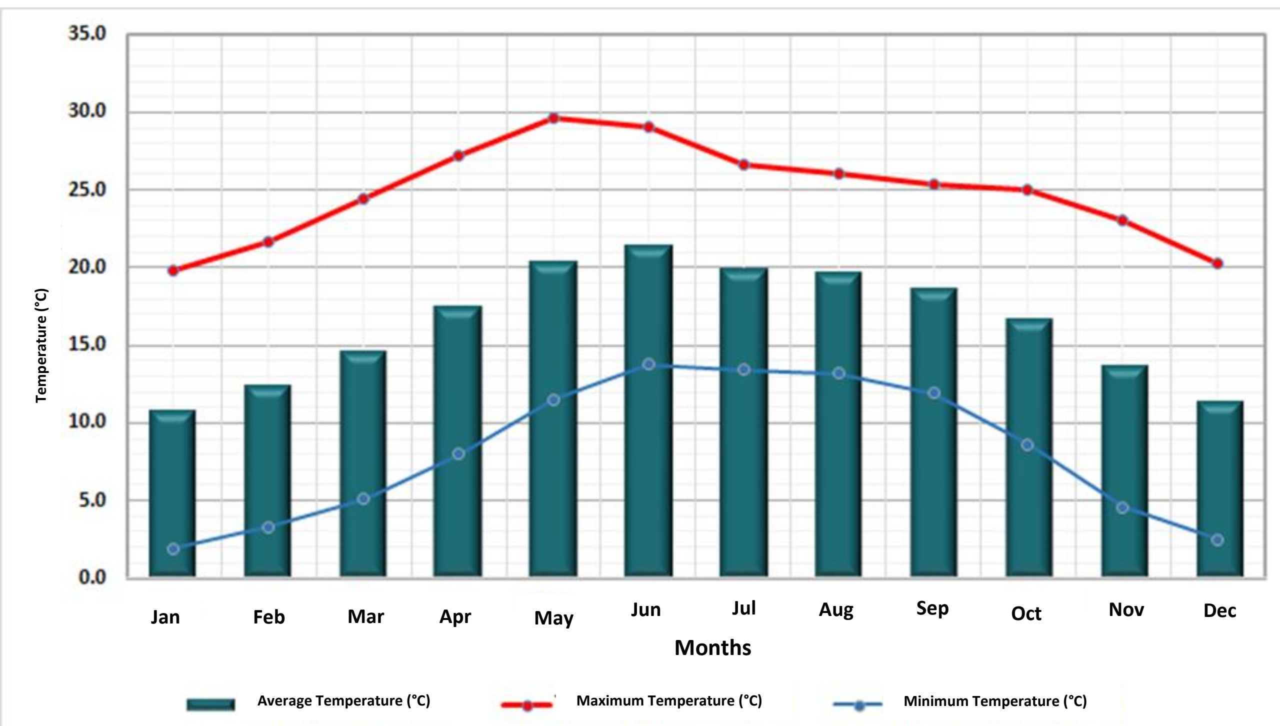
There are currently no field environmental studies conducted to date by environmental consultants in the subject areas of geochemistry, archaeology, air quality, and noise for the Project site. Field studies, focusing on the Project area will need to be conducted during the next phase of project design and to support permitting requirements. With regard to archaeological resources, a survey will need to be conducted and findings registered with the INAH (Instituto Nacional de Antropologia e Historia, National Institute of Anthropology and History).

### 20.2.1 Meteorology and Climate

Climate in the Cerro Las Minitas Project area is semiarid and temperate with hot summer months (between June and September). The winter months are cool and dry with temperature during coldest months ranging between 3°C and 18°C and the temperature during the warmest months are generally above 18°C. The average annual temperature is about 25°C. Rains occur mainly during summer season (approximately 600 mm between May and October) with approximately 10% of the annual rain occurring during the winter season (CONAGUA, 2023).

The climatological data for the Project area on temperature, precipitation, and other meteorological phenomena (such as evaporation, hail, fog and thunderstorms) are available from the climatological station "10030 Guadalupe Victoria (DGE)", which is located at coordinates 24°26´45.96´´ north latitude and 104°07´19.92´´ west longitude at an altitude above sea level of 2,000 m and at a distance from the project of approximately 6 km. This meteorological station is operated by the National Water Commission (CONAGUA, 2018) and the data were recorded during the period 1981-2010. Figure 20-1, below, shows average temperature data.

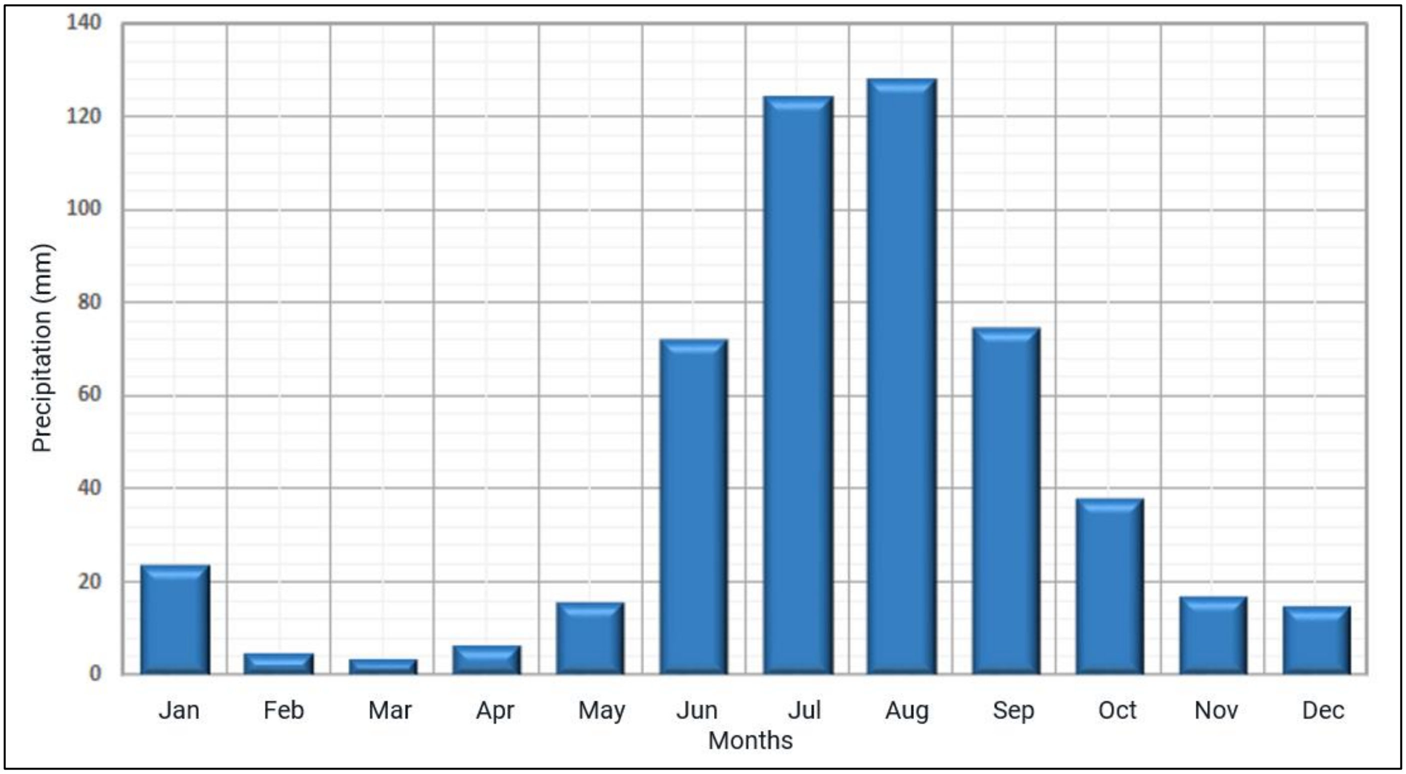
**Figure 20-1: Average Temperature Data from the Climatological Station "10030 Guadalupe Victoria"**




Source: IP Minera Plata del Sur, 2024.

The precipitation data collected by the meteorological station "10030 Guadalupe Victoria (DGE)" shows the maximum average precipitation for the month of August to be 128.2 mm, with an annual average of 526.6 mm. Precipitation data is presented in Figure 20-2, below.

**Figure 20-2: Average Monthly Precipitation Data from the Climatological Station "10030 Guadalupe Victoria"**




Source: IP Minera Plata del Sur (2024)

### 20.2.2 Hydrology

The Project is located in Hydrological Region 11 "Presidio – San Pedro", in the A "R" Basin. San Pedro" and in the Subbasin f "R. Durango." The hydrology of the area does not have any perennial surface water bodies. It is composed of seasonal ephemeral flows during the rainy months of June to October.

### 20.2.3 Groundwater Studies

In May 2022, hydrogeological studies were completed by IDEAS (2022) that were semi-regional in nature using official public sources, the last of which were published in 2020. The results are not considered definitive due to a lack of recent data obtained from site fieldwork. The report is based on the official data from the Nation Water Commission (CONAGUA) most recently updated in 2006 and 2014.

The Project is located in the northwestern central portions of the Madero-Victoria aquifer, within the area known as the Guadalupe Valley. Based on the interpreted geological, geophysical, and hydrogeological evidence, the aquifer has been characterized as unconfined, heterogeneous and anisotropic in type, made up of alluvial sediments of variable texture in its upper portion and with thickness reaching a few tens of meters in the center of the valley. The lower portion of the aquifer is hosted in a sequence of volcanic rocks, predominately acid tuffs, rhyolites and ignimbrites, and to a lesser extent basalts, which present secondary permeability due to fracturing.

At greater depths, the limestones constitute deep aquifer systems that present secondary permeability due to fracturing and conditions of semi-confinement and confinement, based on the stratigraphy which includes repetitive horizons of shales and siltstones.

For locations near the study area, the depths to groundwater static levels measured in the year 2010 varied from 5 to 90 m, however, based on exploration and monitoring activities carried out by the company in recent years in the same vicinity, depths to the static level varied from 80 to 120 m.

The Project Area is situated at the boundary of two aquifers, as defined by CONAGUA – Peñón Blanco to the northeast and Madero-Victoria to the southwest. Evaluation of both aquifers based on combining data from the Public Registry of Water Rights (REPDA) and that of registered water concession holders indicates that both aquifers may be over-exploited leaving insufficient available volume to grant new concessions. However, the Project does have the right to use water extracted from mine workings (dewatering) for exploration and exploitation (Aqua de Laboreo de Minas) according to National Water Law.

In February 2017, three groundwater samples were analyzed (one from the Puro Corazón mine and two from the La Bocana mine) to determine the quality of the water in relation to physicochemical and microbiological parameters for future use of the water in a possible mineralized material processing plant and provide groundwater quality information to the authorities of the Ejidos Guadalupe Victoria and Ignacio Ramírez.

The results of the 14 parameters analyzed from the three groundwater samples are presented in Table 20-1.

**Table 20-1: Results of Water Quality in the Project Area**

| Parameter | Unit | Mine Puro Corazon 017clmpc-1 | Mine La Bocona 017clmlb-2 | Mine La Bocona 017clmlb-1 | Maximum Permissible Limit note 1 |
|---|---|---|---|---|---|
| pH | SU | 7.7 | 8.4 | 7.6 | 6.5 –8.5 |
| Color | CU | <2.0 | <2.0 | <2.0 | 20 |
| Turbidity | NTU | <0.5 | <0.5 | <0.5 | 5 |
| Total hardness | mg/L | 481.12 | 378.3 | 407.4 | 500 |
| Calcium hardness | mg/L | 358.9 | 310.4 | 323.98 | Not Specified |
| Arsenic | mg/L | <0.005 | <0.005 | <0.005 | 0.025 |
| Cyanide | mg/L | <0.02 | <0.02 | <0.02 | 0.07 |
| Copper | mg/L | 1.23 | <0.1 | <0.1 | 2 |
| Mercury | mg/L | <0.0005 | <0.0005 | <0.0005 | 0.006 |
| Zinc | mg/L | 6.12 | 0.67 | 0.74 | Not Specified |
| Total Coliform | NMP/100mL | <2 | <2 | <2 | <1.1 or Not detectable |
| Fecal Coliform | NMP/100mL | <2 | <2 | <2 | <1.1 or Not detectable |
| Escherichia coli | NMP/100mL | <2 | <2 | <2 | <1.1 or Not detectable |
| Lead | mg/L | 0.0015 | 0.002 | 0.001 | 0.01 |

Source: IDEAS, 2022. Note **1.**: This column presents reference parameters of the Official Mexican Standard NOM-127-SSA1-2021, which establishes the permissible limits of water quality for human use and consumption, which was published in the Official Gazette of the Federation on May 2, 2022.

Regarding the presence of metals in the groundwater analyzed, the concentrations of various elements may be due to the proximity of the alteration halo relative to the mineralized area and the migration of leached metals from the mineralized zones. Alternatively, the presence of metals can result from industrial activity; however, the lack of industrial activity in the area suggests that these metals are the result of natural processes rather than from anthropogenic activity. In some regions, however, the source of elevated metal concentrations has been attributed to fertilizer products and agricultural or livestock activities. Subsequent studies are required to investigate the origin of metal concentrations within the study area using a systematic sampling and monitoring methodology.

### 20.2.4 Flora

The Mexican Forest Service reports that the predominant flora in the area are grasses, small trees and shrubs, and several varieties of cacti, with larger trees found near springs and streams. A brief description of the most important types of vegetation found in and around the Cerro Las Minitas area and the dominant species belonging to each category are described in Table 20-2 and Table 20-3.

**Table 20-2: Types of Land Use and Vegetation Present in and around the Project Area**

| Vegetation Type | Description |
|---|---|
| Oak Forest | Tree, sub-barboreal or occasionally shrub communities made up of multiple species of the genus Quercus (oaks, oaks) that, in Mexico, except in very arid conditions, are located practically from 300 to 2,800 masl. It is closely related to pine forests, forming a series of mixed forests with species of both genera. |
| Crasicaule Scrub | These communities preferably grow on shallow soils on the slopes of volcanic hills, although they are also present adjacent to alluvial soils. The height of this scrub generally reaches 2 to 4 m, its density is variable, and can reach almost 100% coverage. The scrub can live with other herbaceous plants and other cylinder-shaped plants. The most common genera in this type of vegetation are Opuntia, Mimosa, Acacia, Dalea, Prosopis, Rhus, Larrea, Brickelia, Eupatorium, Buddleia, Celtis, etc. |
| Natural Grassland | This community is dominated by species of grasses and graminoids, sometimes accompanied by herbs and shrubs from different families, such as: composites, legumes, etc. Its main area of distribution is in the transition zone between xeric shrublands and various types of forests.<br>Natural Grassland develops preferably in medium-deep soils on plateaus, valley floors and gently sloping slopes, almost always igneous in nature, at altitudes between 1,100 and 2,500 m. |
| Agriculture - Annual Seasonal | The vegetative cycle of the crops that are planted depends on precipitation and the soil's ability to retain water. The most common are corn, wheat and sorghum. |

**Table 20-3: Dominant Species of the Vegetation Reported in the Tree, Shrub, Cactaceae, Succulents and Herbaceous Stratum**

| Stratum | Family | Scientific name | Common name |
|---|---|---|---|
| Arboreal | Fabaceae | *Acacia schaffneri* | Chinese huizache |
| Arboreal | Fabaceae | *Prosopis laevigata* | Mesquite |
| Shrubby | Compositae | *Baccharis salicifolia* | Jarilla |
| Shrubby | Fabaceae | *Mimosa biuncifera* | Catclaw |
| Shrubby | Oleaceae | *Forestiera angustifolia* | White stick |
| Shrubby | Anacardiaceae | *Rhus microphylla* | Agrito |

| Stratum | Family | Scientific name | Common name |
|---|---|---|---|
| Shrubby | Oleaceae | *Forestiera durangensis* | White stick |
| Cactaceae | Cactaceae | *Opuntia leucotricha* | Peach cactus |
| Cactaceae | Cactaceae | *Cylindropuntia imbricata* | Cardenche cactus |
| Cactaceae | Cactaceae | *Opuntia robusta* | Cork cactus |
| Cactaceae | Cactaceae | *Opuntia rastrera* | Creeping cactus |
| Cactaceae | Cactaceae | *Echinocereus pectinatus* | Bull's egg barrel cactus |
| Cactaceae | Cactaceae | *Mammillaria heyderi* | Barrel cactus |
| Succulents | Asparagaceae | *Dasylirion duranguense* | Sotol |
| Succulents | Agavaceae | *Agave parryi* | Agave |
| Herbaceous | Cruciferae | *Lepidium virginicum* | Little lentil |
| Herbaceous | Poaceae | *Cynodon dactylon* | Agrarista grass |
| Herbaceous | Chenopodiaceae | *Chenopodium graveolens* | Skunk epazote |
| Herbaceous | Solanaceae | *Solanum rostratum* | Bad woman |
| Herbaceous | Compositae | *Helianthus annuus* | Wild sunflower |
| Herbaceous | Solanaceae | *Physalis sulphurea* | Wild tomatillo |
| Herbaceous | Poaceae | *Bouteloua curtipendula* | Little flag grass |
| Herbaceous | Poaceae | *Boutelova gracilis* | Little bluestem grass |
| Herbaceous | Poaceae | *Lycurus phleoides* | Foxtail grass |
| Herbaceous | Poaceae | *Chloris virgata* | Indian beard grass |
| Herbaceous | Poaceae | *Muhlenbergia microsperma* | Little louse grass |
| Herbaceous | Compositae | *Xanthium strumarium L.* | Bur |
| Herbaceous | Polypodiaceae | *Astrolepis sinuata* | Fern |
| Herbaceous | Asteraceae | *Gnaphalium oxyphyllum* | Mullein |
| Herbaceous | Asteraceae | *Baileya multiradiata* | Tostona |
| Herbaceous | Asteraceae | *Stevia serrata* | Donkey's herb |
| Herbaceous | Cistaceae | *Helianthemum glomeratum* | Hen's herb |
| Herbaceous | Apiaceae | *Eryngyum calaster* | Toad's herb |
| Herbaceous | Compositae | *Conyza sophiifolia* | Horseweed |

Source: IP, 2024. Note: These species are not found in NOM-059-SEMARNAT-2010. Distribution classified as non-endemic.

### 20.2.5 Threatened Flora Species

According to IP (2024), there are no flora species identified to date on the site that are listed in NOM-059-SEMARNAT-2010 (Environmental protection - Native species of wild flora and fauna of Mexico - List of species at risk). However, a field biodiversity study was recommended to verify the absence of endangered species on the Project site.

### 20.2.6 Fauna

The information regarding the current state of the wildlife reported in the IP (2024) is based on a general review of the species present in oak forest, crasicaule scrub and natural grassland habitats that correspond to the area where the Project is located. In addition, information collected in the field during the inventory information collection was included, as well as testimonial surveys of the inhabitants of the area and the bibliographic review available for the region.

A total of 76 species of fauna (46 birds, 15 mammals, 5 amphibians, and 10 reptiles) were found on the site (including:

- Mammals – Desert cottontail (Sylvilagus audobonii), Gray fox (Urocyon cinereoargenteus), American desert hare (Lepus californicus gray), White-tailed deer (Odocoileus virginianus couesi), Coyote (Canis latrans), Racoon (Procyon lotor), Rock squirrel (Otospermophilus variegatus).
- Birds –Mourning dove (Zenaida macroura), White-winged dove (Zenaida asiatica), Turkey vulture (Cathartes aura Linnaeus), Scale quail (Callipepla squamata), Common raven (Corvus corax), American black vulture (Coragyps atratus), Red-tailed hawk (Buteo jamaicensis fuertesi), Grasshoper sparrow (Ammodramus savannarum), Vesper sparrow (Pooecetes gramineus), House finch (Haemorhous mexicanus).
- Reptiles – Texas horned lizard (Phrynosoma cornutum), Little striped whiptail (Aspidoscelis inornata chihuahuae), Sonoran gopher snake (Pituophis catenifer affinis), Tortuga Island rattlesnake (Crotalus atrox), Black-tailed rattlesnake (Crotalus molossus).

### 20.2.7 Threatened Fauna Species

Species classified as endangered in the NOM-059-SEMARNAT-2010 were identified within the Project area as under special protection or threatened. These are Accipiter cooperii (Cooper's hawk), Crotalus atrox (Western damondback rattlesnake), Crotalus pricei (Pit viper), Crotalus molossus (Black-tailed rattlesnake) that are under special protection (Pr) and the Thamnophis cyrtopsis (Black-necked garter snake) and Thamnophis eques (Mexican garter snake) as threatened (A).

### 20.2.8 Protected Natural Areas

The Project is not located within any Protected Natural Area of a state, federal and/or municipal nature that may be affected by project activities and species with status in the Official Mexican Standard NOM-059-SEMARNAT. In addition, the Project area is not located within any natural area under the use and administration of the National Commission of Natural Protected Areas (CONANP) in its categories of Biosphere Reserves, National Parks, Natural Monuments, Natural Resource Protection Areas, Flora and Fauna Protection Areas, and Sanctuaries.

According to the boundaries marked by CONABIO (National Commission for the Knowledge and Use of Biodiversity) for the regionalization of Priority Terrestrial Regions (PTRs), the state of Durango has 12 PTRs. The Project area is found outside of these regions. The nearest PTRs to the Project Area are as follows:

- Sierra de Organos (Site 67) located 58 km southwest of the Project.
- Santiaguillo-Promontorio (Site 54) located 70 km northeast of the Project.
- Cuchillas de la Zarca (Site 53) located 120 km northeast of the Project.

Therefore, there are no restrictions related to protected areas that could inherently limit the establishment of the project or require additional activities related to the principles established for PTRs.

### 20.2.9 Water and Waste Management

The aquifers in the Project area are currently not well defined and require additional site investigation. Sources of recharge, direction of groundwater movement, and aquifer zonation and connectivity require additional interpretation that will be based on an adequate groundwater monitoring and testing program and the completion of a water balance for the site.

Water sources for the project may be obtained from three possible sources:

- Water derived from dewatering the workings can be used for operational purposes.
- Water rights could be purchased from existing water rights holders.
- Negotiation of an extraction concession might be possible in the unlikely event that evaluation of the aquifers indicates a surplus.

Currently water extraction from dewatering the workings is considered as the base case for the project and an an extraction rate of 38 $m^3$/hr has been assumed for the purpose of mineral processing and other uses. This extraction rate will need to be verified. Effective water conservation measures will need to be considered for the site, including recirculation of contact water to the degree practicable, and the use of available surface water collected during seasonal rains, as permitted by regulation.

Waste and mine waste management is ruled by the General Environment Protection Act (Ley General de Protección al Ambiente), Article 3, Fraction XXXII and applicable Mexican Official Standards (NOMs). Waste has several classifications and is generated at different stages of the project.

Operations will generate different types of waste that will be managed and disposed of in such a way as to not cause adverse effects on the environment, in compliance with the current legislation. This includes the proper management of waste rock dumps, tailings, metallurgical waste, hazardous and non-hazardous residues, domestic waste and biological infectious waste. During the exploration stage, the company has applied to the Ministry of the Environment SEMARNAT to be registered as a “small quantity hazardous waste generator”.

Waste will be managed according to management plans that adhere to environmental laws. These management plans will include procedures for identifying, collecting, managing, storing and disposing of each type of waste.

## 20.3 Mexican Regulatory Framework and Permitting Considerations

There are a number of environmental permits required for operation of the project. Most of the mining regulations are at a federal level, but there are also a number regulated and approved at state and local level, as presented in Table 20-4. Three major federal permits required by the Secretary of Environmental Media and Natural Resources (SEMARNAT) prior to construction include the Environmental Impact Statement (Manifestación de Impacto Ambiental - MIA), Land Use Change (CUS), and Risk Analysis (RA). A construction permit is required from the local municipality and an archaeological release letter from the National Institute of Anthropology and History (INAH). An explosives permit is required from the Ministry of Defense before construction. A Social Impact Assessment study is required for submission to SENER prior to the construction of the electrical transmission line. State regulated permits related to the land use licenses and emergency plans must be obtained at the offices of the state government of Durango.

Guidance for federal environmental requirements is largely carried out within the General Law for Ecological Balance and Environmental Protection (Ley General Del Equilibrio Ecológico y la Protección al Ambiente, or LGEEPA). Section V of the LGEEPA authorizes SEMARNAT to grant approvals for the works specified in Article 28. The LGEEPA also contains articles for the protection of soil, water quality, flora and fauna, noise emissions, air quality and hazardous waste management. The requirements for compliance with Mexican Environmental Laws and Regulations are supported by Article 27 Section IV of the Mining Law and Articles 23 and 57 of the Mining Law Regulations.

The National Water Law grants authority to the National Water Commission (CONAGUA), an agency within SEMARNAT, to issue water concessions.

Guidance for environmental legislation is provided in a series of Mexican Official Standards (Norma Oficial Mexicana - NOMs). These regulations provide procedures, limits and guidelines and have the force of law.

**Table 20-4: Regulatory Authorizations and Permit Requirements**

| Permit | Agency | When Required | Description / Comments | Agency Process Time |
|---|---|---|---|---|
| Environmental Impact Assessment and Risk Analysis<br>(Mining & Access Road)<br><br>Note: An EIA and Risk Analysis needs to be integrated into the MIA when the project has risk factors listed in the first and second list of high-risk activities. | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Environmental and Risk Department SEMARNAT<br>Central Office | Prior to construction | The submittal should include a detailed process description along with engineering details from the Civil, Mechanical, Electrical and Fire Protection System disciplines. This should also include a description and discussion about natural resources and socioeconomic aspects, including the effects of the project in the Regional Environmental System (SAR area). The submittal should also identify the activities that will create an ecological imbalance, along with corresponding prevention and mitigation measures for the identified environmental impacts.<br>The amendments to the law approved in 2023 mandates that mining concession holders submit to SEMARNAT within the MIA a Restoration, Closure, and Post-closure Program to ensure compliance with environmental regulations. | Approximately 120 working days (Mon-Fri) |
| Land Use Change<br>(Mining, & Access Road) | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Forestry Resources SEMARNAT State Office | Prior to construction | The submittal should include:<br>Basic information of the natural resources and socioeconomic aspects of the project.<br>Description of the Regional Environmental System (SAR) and socioeconomics of the affected area.<br>Identify endangered species with flora removal<br>Provide location of areas with protected species and provide habitat conservation measures. | Approximately 160 working days |

| Permit | Agency | When Required | Description / Comments | Agency Process Time |
|---|---|---|---|---|
| | | | Describe impacts and effects caused by clearing and grubbing of flora.<br>Define forest land.<br>Identify the activities that will create an ecological imbalance.<br>Define the prevention and mitigation measures for the environmental impacts. | |
| Archaeological Release Letter<br>(Mining & Access Road) | INAH (State Office) | Prior to construction | INAH must authorize, in advance, any project work required near archeological, historic, or artistic monuments with an Archaeological Release Letter. | Approximately 120 days |
| Permit for Access, Crossings and<br>Marginal Facilities within the right of way to access the Durango-Torreon Highway (Access Road) | Secretaría de Comunicaciones y Transporte (SCT) State Office | Prior to construction | Must present the engineering project that will be carried out to connect the access road to the mine using the Durango-Torreon Highway. Must present the land acquisition where the project will be executed. | Approximately 90 days |
| Environmental Impact Assessment<br>(Power line) | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Environmental and Risk Department SEMARNAT<br>Central Office | Prior to construction | The submittal should include a detailed process description along with engineering details from the Civil, Mechanical, Electrical and Fire Protection System disciplines.<br>This should also include a description and discussion about natural resources and socioeconomic aspects, including the effects of the project in the Regional Environmental System (SAR area).<br>The submittal should also identify the activities that will create an ecological imbalance, along with corresponding prevention and mitigation measures for the identified environmental impacts. | Approximately 120 working days (Mon-Fri) |
| Land Use Change<br>(Power line) | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Forestry Resources SEMARNAT State Office | Prior to construction | The submittal should include:<br>Basic information of the natural resources and socioeconomic aspects of the project<br>Description of the Regional Environmental System (SAR) and socioeconomics of the affected area.<br>Identify endangered species with flora removal.<br>Provide location of areas with protected species and provide habitat conservation measures.<br>Describe impacts and effects caused by clearing and grubbing of flora.<br>Define forest land.<br>Identify the activities that will create an ecological imbalance. | Approximately 160 working days |

| Permit | Agency | When Required | Description / Comments | Agency Process Time |
|---|---|---|---|---|
| | | | Define the prevention and mitigation measures for the environmental impacts. | |
| Archaeological Release Letter<br>(Power line) | INAH (State office) | Prior to construction | INAH must authorize, in advance, any project work required near archeological, historic, or artistic monuments with an Archaeological Release Letter. | Approximately 120 days |
| Social Impact Studies (Power line) | Secretaría de Energía (SENER) Central Office | Prior to construction | Description of the project and its area of influence.<br>Identification and characterization of communities and towns that are in the area of influence of the project.<br>The identification, characterization, prediction and assessment of the positive and negative social impacts that could derive from the project.<br>Provide prevention and mitigation measures, and social management plans<br>The New Bill approved in 2023 prioritize the rights and interests of indigenous and Afro-Mexican peoples and communities. A social impact study should be carried out and obtain the environmental impact authorization of their mining activities on nearby populations and lands. | Approximately 90 working days |
| New Concession or Useful Allotment of Groundwater | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Comisión Nacional del Agua (CNA) | Prior Construction | This is required to extract or use groundwater from zones regulated by the Federal government for public interest. | Approximately 90 working days |
| Authorization for the Transfer of Titles and Registration. | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Comisión Nacional del Agua (CNA) | As required | This is required when the interested party has a valid concession title or assignment of rights and is registered in the real state water rights record office and wants to transfer their rights for either surface water within the same basin or groundwater within an aquifer. | Approximately 90 working days |
| Concession for the Material Extraction in Rivers Deposits | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Comisión Nacional del Agua (CNA)<br>**A MIA approved by SEMARNAT is needed to grant the Concession.** | As required | According to Article 113 of the National Water Law, this submittal is applicable for the exploitation and use of construction materials when:<br>The area is regulated by the National Water Commission.<br>The area is on land occupied by lakes, lagoons, estuaries, or natural deposits whose water is national property; and;<br>The area has riverbeds with national water currents. | Approximately 90 working days |

| Permit | Agency | When Required | Description / Comments | Agency Process Time |
|---|---|---|---|---|
| Permission to carry out Hydraulics Construction (Tailing Dam) | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Comisión Nacional del Agua (CNA)<br>State Office & Federal office<br><br>**A MIA approved by SEMARNAT is needed to grant the Concession** | Prior Construction | The submittal is needed when working within National Property regulated by National Water Commission for:<br>River-Crossing Structures<br>Flow channels<br>Channel Dams<br>Tailing Dams<br>Storage Dams<br>Bypass Constructions | Approximately 240 working days |
| Concession for Occupation of Federal Land under the Jurisdiction of National Water Commission | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Comisión Nacional del Agua (CNA) | As required | This submittal is required when there will be land use or exploitation of federal channels, riverbeds, lakes, or lagoons, as well as creeks, zones and other national assets regulated by the National Water Law. The New Bill also introduces significant changes to the National Water Law, with a primary focus on regulating water usage in mining activities to promote sustainable practices and reduce conflicts between mining companies and local communities. | Approximately 90 working days |
| Use of Explosives<br>***(Presented for evaluation)*** | Secretaria de la Defensa Nacional (SEDENA) | To buy, transport, store, or use explosives | Transactions are made in Mexico City and must comply with the following format:<br>Letter of notification from the State Governor.<br>Safety Certificate.<br>Location map of powder magazines and accessories, with reference to the places where the explosives are used and stored in relation to human occupation.<br>Relation of the type of explosives and amount to be used monthly.<br>Legal documentation of the company. | Approximately 90 working days after a Technician of SEDENA inspects visit |
| Compliance with Environmental Risk and Impact Regulations | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)<br>Procuraduría Federal de Protección al Ambiente (PROFEPA) State Office | Always | The authorization of the Environmental Impact and Risk Analysis defines rules for the construction and start-up of operations to protect the environment. | |
| Residual Water Discharge Register and Permission | Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT) | Prior to water usage | The submittal is needed when permanently, intermittently, or incidentally discharging or infiltrating sewage into national water bodies (ocean/sea, riverbeds) or lands that are national | 90 working days |

| Permit | Agency | When Required | Description / Comments | Agency Process Time |
|---|---|---|---|---|
| | Comisión Nacional del Agua (CNA)<br>State Office | | assets, with a risk of contaminating the subsoil or aquifer. | |
| Construction License | Municipality | Prior to construction | It is required to comply with the construction regulations. | Check with county |
| Land Use License | Municipality | Prior to construction | The project must be registered and approved by the County. | Check with county |

## 20.4 Closure and Reclamation

### 20.4.1 Overview

In accordance with the general work schedule of the Cerro Las Minitas Project, the abandonment phase will commence after Year 17 from the start of operations. As part of the permitting requirements, Southern Silver will prepare a detailed Closure and Reclamation Plan, which will be concurrently executed from the operation phase of the project and will be completed in the closure phase.

Conditions of the final closure and reclamation plan will depend on land use after the mining operations. It is anticipated that designated uses will be one or a combination of the following:

- Natural habitat for wild flora and fauna.
- Land with potential for livestock activities.
- Land with potential for seasonal agriculture

Mexico requires the preparation of a conceptual closure plan as part of the MIA (EIA), at the moment no financial surety (bonding) is required of mining companies. However, new approved amendments to law require that a "Social Closure Plan" should be included as part of the EIA to provide a clear framework for companies to develop and implement closure plans. According to the Mining Law, published in the DOF, the Ministry of Economy (SE) should approve mine closing plans with the opinion of SEMARNAT. The program should outline how concession holders will repair environmental damage caused by mining activities, from exploration to closure, following legal guidelines. Furthermore, once the plan is approved, the mining company must provide financial assurance, like insurance or a deposit, to ensure it follows through on its commitments.

The general guidelines and criteria for closure and recovery are described below, prioritizing the reduction of risks to health and the environment.

In Mexico, SEMARNAT requires the granting of insurance or guarantees regarding compliance with the conditions established in the authorization when, during the execution of the works, serious damage to ecosystems may occur (Article 35 of the LGEEPA).

The regulation (NOM) applicable to the closure of mine projects during exploration is NOM-120-SEMARNAT-2020 that establishes that when the exploration project is completed, the company and person in charge of the Project must carry out the restoration program. There are other regulations that establish some criteria for closure during operations.

An Environmental Protection Plan will be developed to outline the reclamation activities that will be executed following the project exploration stage. The Environmental Protection Plan will be aligned with current permits and resolution 4.1.18 of the Mexican Official Standard NOM 120 SEMARNAT 2020.

A formal Closure and Reclamation Plan has not been prepared for the Cerro Las Minitas project to date. One will be developed as the project advances through subsequent project stages of feasibility-level design.

### 20.4.2 Conceptual Closure Plan

#### 20.4.2.1 Mine Workings

The main risks associated with underground mine workings are related to the access of people or fauna that could be injured or trapped when entering the workings. The workings will be partially or totally filled with the material from the dumps, or terreros, (extraction and filling of workings from the paste plant), closure of ventilation inlets or outlets that reach the surface and closure of access to the mine openings.

In the areas around the tunnel portal, cleaning and dismantling and removal of pipes, tanks, and pumping equipment will be carried out, and signs restricting access to the area will be posted.

There will also be a cleaning and reforestation campaign with native plants.

#### 20.4.2.2 Waste Rock Dumps

Waste rock dumps will remain onsite, and stockpiles and slopes will be contoured to prevent ponding. Earthworks will be constructed, if necessary, to control and divert drainage routes towards natural creeks.

The waste dumps will be revegetated using growth media recovered and stored during the initial construction phase. Where needed and when operationally possible, land will be scarified, and native species will be planted.

Mexican regulations require a design and management plan for mine waste. Cerro Las Minitas will prepare these studies as part of permit requirements and to support feasibility level design. For baseline purposes, waste rock will be characterized for acid and metal leaching characteristics and these results will be utilized for the purpose of design for waste rock management and closure measures. Ongoing operational testing will be completed to monitor geochemical behavior and to compare with baseline predictions.

#### 20.4.2.3 Dry Stack Tailings Facility

Characteristics of the tailings will be evaluated to establish reclamation requirements. For baseline purposes, adequate acid-base accounting and toxicity tests will be carried out with leached material subject to metallurgic tests. Ongoing operational testing will be completed to monitor geochemical behavior and to compare with baseline predictions.

The following is the preliminary plan for tailings dam reclamation. Once the operation of the project is completed, recovery works will be carried out at the base and margins of the system, which include surface runoff control works to reduce wind and water erosion, smoothing of slopes on the periphery of the dam, and removal of pipes and installations.

Remaining process pond solution will be removed and disposed in compliance with NOM-001-SEMARNAT-2021. Remnant sludge will be left at the bottom of ponds and then covered and buried with a plastic geomembrane. The pond will be filled with inert waste from different mining phases. The land will then be scarified and prepared for seeding or planting with native species. Surface water drainage will be consistent with pre-mining conditions.

#### 20.4.2.4 Process Plant and Service Facilities

Recovery plant cleaning, dismantling, and closure will be carried out, as well as the recovery of equipment and material useful for the company or third parties.

All facilities will be dismantled or demolished. Major production equipment will be dismantled and sold at closure. Foundations will be removed, and holes filled to restore natural topography where possible. The land will be scarified, and native species planted and cultivated.

#### 20.4.2.5 Roads

Some roads will be left to access main areas of the site to facilitate closure and monitoring. Internal roads will be leveled and scarified to promote local plant growth via the addition of topsoil and native species planting or cultivation with seeds.

#### 20.4.2.6 Environmental Monitoring

Groundwater monitoring will be conducted for three years post closure using monitoring wells constructed to support monitoring during operations and surface water monitoring will be conducted on the main creeks.

## 20.5 Social and Community Impact

The Cerro Las Minitas project is located within the town of Guadalupe Victoria (Guadalupe Victoria Ejido & Ignacio Ramirez Ejido), in the municipality of Guadalupe Victoria, in the State of Durango.

### 20.5.1 Municipality of Guadalupe Victoria, Durango

The surface area of the municipality of Guadalupe Victoria is estimated as 1,292.75 km$^2$, which corresponds to approximately 1.05% of the land area of the state of Durango. The municipality of Guadalupe Victoria borders the municipality of Peñon Blanco to the north; Peñon Blanco and Cuencame to the east; Cuencame, Poanas, and Durango to the south; and Durango, Panuco de Coronado, and White Rock to the west.

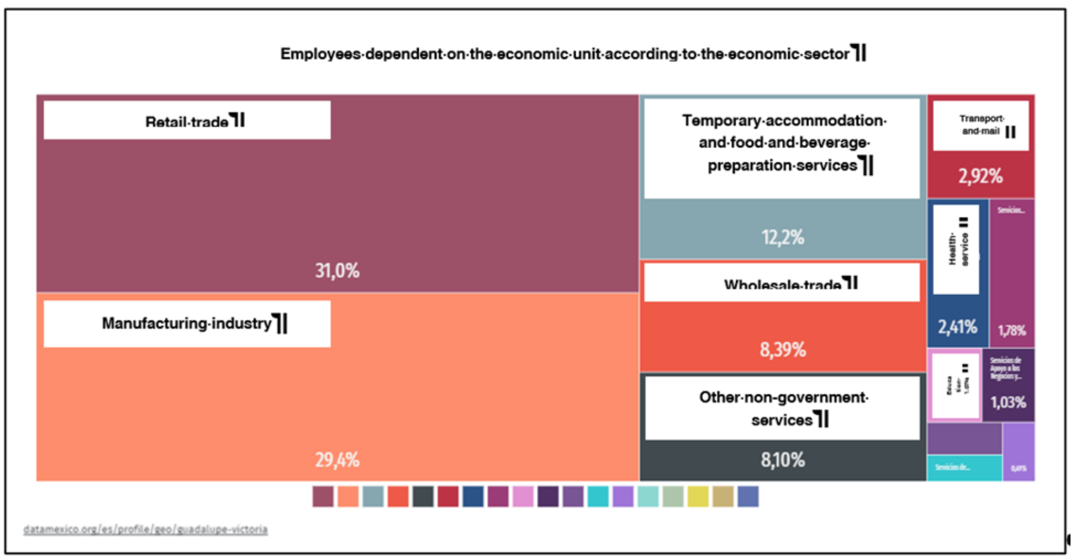
### 20.5.2 General Demographics

As of the year, 2022, the population currently registered for the municipality of Guadalupe Victoria, Durango was estimated at a total of 36,695 people, of which 18,635 are female and 18,060 are male.

The illiteracy rate for the municipality of Guadalupe Victoria for 2020 was 2.78%. Of the illiterate population, 56.6% were men and 43.4% were women. Illiteracy is defined as being 15 years of age or older and having the inability to read or write. Economic activity for the population 12 years of age or older increased from 38.7% in 2015 to 54.8% in 2022.

Approximately 31% of the workforce is employed in commerce, 29.4% in manufacturing industries, and the remainder distributed in the other economic pursuits shown the following graph.

**Figure 20-3: Employment Demographics**




Source: Cerro Las Minitas 2022 PEA Report

The health service coverage options most utilized for the municipality of Guadalupe Victoria are the SSA Health Center or Hospital, Popular Insurance, and Pharmacy Office according to the Mexican Institute of Social Security (IMSS).

### 20.5.3 Community Relationship

The Cerro Las Minitas Project will offer over 380 potential temporary and permanent jobs to the region. The Company has committed effort during the Project to supporting the local communities, including assisting with introducing and improving basic services and educational institutions.

It is of vital importance for Southern Silver to have a relationship with the population and society in the area. Southern Silver reached out to the community through its subsidiary, Minera Plata del Sur (MPS), to express the intention of developing a mining project within private and ejido property land, that would provide a socio-economic well-being for the local and foreign population that boosts local economy. Southern has entered into 20-year surface access agreements for exploration purposes with the two Ejido which overlap both the original mineral concessions and the entire mineral resource. After staking and applying for registration of the western claim block in 2017-18, the Company entered into surface access agreements with three additional Ejido whose surface rights overlap those mineral tenures. Consequently, a mutual benefit was generated as the surface owners would economically benefit from the lease of their lands, and in turn Southern Silver benefits from having access to the property to explore the mining project. In the future, a land occupation agreement for exploitation (mining) activities will be negotiated. Refer to Section 4.3 and 4.4 for details regarding current surface land access agreements for the purpose of supporting mineral exploration activities.

The Company reports, that over the years, it has fulfilled its social commitment with the community of the Guadalupe Victoria Ejido and Ignacio Ramirez Ejido, by developing a series of activities and programs that allow maintaining a healthy and pleasant relationship with the residents of the ejido. The Company maintains frequent contact with the nearby communities which provides important information regarding community needs and community projects, that are good candidates for Company support in the form of economic aid and other resources.

The main activities undertaken by Southern Silver are reported to be focused on improvements in the supply of drinking water, modification and maintenance of educational centers and maintenance of streets and main roads.

In addition, social activities and recreation for the Ejidos population is a main contribution that the Company has been supporting over the years. The support includes financial resources per request of the people and needed for the festivities and recreational activities that as a society are performed locally, such as Mother's Day, Children's Day, Christmas festivities and sport activities.

The Company reports that collaboration and contributions to improvements for the general well-being of the community has allowed growth in relationships and social ties in the area, generating a state of trust and reciprocity that has been maintained to date. The Company expects that these relationships will continue to strengthen with the development of all phases of the Cerro Las Minitas Project, which will be reflected in the employment of a portion of the population that resides at the Guadalupe Victoria Ejido and Ignacio Ramirez Ejido, as well as at the surrounding towns and communities.

## 20.6 Comments on Environmental Studies, Permitting and Social or Community Impact

The baseline environmental information provided in this report have been gathered mainly from publicly available sources as well as from reports commissioned to support the exploration phases of the Project. Currently, data is available on meteorology and climate, hydrology, groundwater, flora, and fauna in the Project area and vicinity. There is currently no data available from public or other sources for the subject areas of geochemistry, archaeology, air quality, and noise for the Project site. To support the next stage of the Project design work and to support future environmental assessment and permitting applications, site based environmental and local socioeconomic studies will need to be initiated. Groundwater, hydrology, and site water balance studies should be initiated and/or further advanced to support the next phase of the project design in the areas of groundwater studies and modelling, geochemistry studies, and further refinement of the mine water balance. The purpose of these studies would be to ensure sufficient quantity of water would be available from dewatering the mine workings to support Project requirements and to identify the need for any water treatment requirements. Based on existing documentation, no water rights in the area are currently available for purchase.

The Project is not located within any Protected Natural Area based on the government information reviewed. Therefore, there are no restrictions related to protected areas that could inherently limit the development of the project on that basis. Currently, the only known environmental liabilities are associated with the exploration site activities and access roads and existing underground workings from former operations. Remediation of surface disturbances and removal of wastes will be mitigated by compliance with applicable Mexican regulatory requirements.

Mining in Mexico is subject to a well-developed system of environmental regulation that applies from the exploration stage to mine development, operation, and ultimately through mine closure. There are several environmental permits required for the construction and operation of the Project. Most of the mining regulations are at a federal level, but there are also a number of permits regulated and approved at state and local level. Detailed presentation of permitting requirements for the Project are presented in Section 20, Table 20-4. No permits are currently held for construction or operations activities.

Over the years, the company has reported that it has actively engaged with local communities as part of its social commitment. Socio-economic studies and continued community engagement efforts will help to identify community needs and provide a basis for targeted community investment in local development projects, training, education, and employment. These activities will help to gain community support that will be required to progress the Project on a timely basis through the regulatory process.

Implementation of the recommendations provided in Section 26 will help to address and mitigate permitting and community risks.

# 21 CAPITAL AND OPERATING COSTS

## 21.1 Introduction

The capital and operating cost estimates presented in this PEA provide substantiated costs that can be used to assess the preliminary economics of the Cerro Las Minitas Project. The estimates are based on an underground mine operation as well as the construction of a process plant, tailings storage facility, and infrastructure as well as owner's costs and provisions. The processing plant capacity is 5,300 t/d (1.9 Mt/a), with a life of mine of 18 years.

All capital and operational cost estimates are presented in United States dollars (US$), with exchange rate variations factored in.

## 21.2 Capital Cost Estimate

### 21.2.1 Capital Cost Summary

The capital cost estimate conforms to Class 5 guidelines of the Association for the Advancement of Cost Engineering International (AACE International), with an estimated accuracy of +50%/-30% accuracy. The capital cost estimate was developed in Q1 2024 United States dollars based on Ausenco's in-house database of projects and advanced studies as well as experience from similar operations.

The total initial capital cost for the Cerro Las Minitas Project is US$387.8M, and the LOM sustaining cost including financing is US$176.7M. The capital cost summary is presented in Table 21-1.

**Table 21-1: Capital Cost Summary**

| WBS | WBS Description | Initial Capital (US$M) | Sustaining Capital (US$M) LOM | Total Cost (US$M) |
|---|---|---|---|---|
| 1000 | Mining | 131.0 | 160.1 | 291.1 |
| 2000 | Process Plant | 117.9 | - | 117.9 |
| 3000 | Additional Process Facilities | 13.6 | - | 13.6 |
| 4000 | On Site Infrastructure | 11.9 | - | 11.9 |
| 5000 | Off Site Infrastructure | 16.3 | - | 16.3 |
| **Total Directs** | | **290.7** | **160.1** | **450.8** |
| 6000 | Project Preliminaries | 13.1 | - | 13.1 |
| 7000 | EPCM | 25.9 | - | 25.9 |
| **Total Indirects** | | **38.9** | **-** | **38.9** |
| 8000 | Owner's Costs | 8.0 | - | 8.0 |
| 9000 | Contingency | 50.1 | - | 50.1 |
| - | Closure and Reclamation | - | 16.6 | 16.6 |
| **Project Total** | | **387.8** | **176.7** | **564.5** |

Notes: Values shown in the press release are rounded to zero decimal places. Mining indirects and contingency are contained within the capital development numbers. Totals may not sum due to rounding.

The capital cost for the project is split into initial capital and sustaining capital costs. The initial capital is any project development cost incurred during the pre-production years. Sustaining capital is the capital incurred to support production from the project.

### 21.2.2 Basis of Capital Cost Estimate

The data for the estimates has been derived from a variety of sources, including the following:

- Mining schedule;
- Conceptual engineering design by Ausenco and Entech;
- Major mechanical equipment costs are based on vendor quotations, first principles, and Ausenco's database of historical projects;
- Material take-offs (MTOs) for civil earthworks. Concrete, steel, electrical, instrumentation, in-plant piping and platework were factored by benchmarking against similar projects with equivalent technologies and unit operation;
- Topographical information considered;
- Engineering design at a PEA level;
- Cost escalation to 2024 when historical pricing is considered; and
- A contingency and growth allowance was included.

### 21.2.3 Pre-Production Mining Capital Costs (WBS 1000)

Mining at Cerro Las Minitas is proposed to be completed by mining contractors with an Owner's team providing Technical Services and site Management. The contractor will be responsible for provision of mine personnel, mining equipment, minor plant, consumables (excluding explosives, diesel, and ground control) to support mining activities. The Owner is required to provide surface infrastructure to support the mining contractor including maintenance facilities, surface plant (main pumps, fans, etc.), and other facilities (messing, wet and dry, explosive storage, wash bay, dumps, etc.).

Mining capital costs have been derived from vendor quotations and historic data collected by Entech at other underground mining operations. Pre-production mine operating costs (i.e., all mine operating costs incurred before the processing facility starts up) are capitalized. Pre-production operating costs include drill and blast, load and haul, support, and GME expenses.

The dominant capital expense is the development cost required to establish production. When considering the reallocation of operating costs and the development cost (direct and indirect costs for both lateral and vertical development) over the pre-production period, approximately US$ 96 M will be expensed.

When dividing this expense by lateral capital development (~11.5 km), this value equates to $ 8,334/m and is further detailed in Table 21-2.

**Table 21-2: Mining Development Pre-Production Costs**

| WBS Description | Initial Capital (US$M) | US$ /m |
|---|---|---|
| Direct, including diesel | 51.4 | 4,468 |
| Labour (owner) | 4.9 | 424 |
| Power | 5.4 | 467 |
| Maintenance (owner) | 1.3 | 113 |
| Other | 2.1 | 186 |
| **Subtotal** | **65.0** | **5,657** |
| Reallocation of Operating Expense | 30.8 | 2,677 |
| **Total** | **95.8** | **8,334** |

Notes: US$/m rates are calculated by dividing the costs by the capital lateral development (11,495 m) which is a subset of total lateral development of 13,260 m and total development (including vertical development) of 19,855 m over the pre-production period. Totals may not sum due to rounding.

The following items are also capitalized:

- mine services (air, water and electrical), including primary fans, primary pumps, and surface dewatering;
- electrification and distribution;
- mobilisation of contractor;
- initial paste backfill piping from surface to first production level;
- Dewatering systems and pipeline;
- surface facilities including mine administration buildings, maintenance including shop tooling and supplies, explosive magazine, and diesel fuel station;
- haul roads and surface stockpile preparation;
- mine rescue gear, safety supplies and radio communications systems; and,
- mine technical services supplies.

Table 21-3 summarizes the Mining Capital Cost estimates for the Cerro Las Minitas Project. It is the QP’s opinion that these estimates are reasonable for the location and planned mine development and can be used for a PEA.

**Table 21-3: Mining Capital Costs (Pre-Production)**

| WBS Description | Initial Capital (US$M) |
|---|---|
| Development (Direct and Indirects) | 65.0 |
| Mobile and Fixed Plant | 5.5 |
| Infrastructure / Other | 27.8 |
| Surface Infrastructure | 1.9 |
| Capitalised Operating Expenses | 30.8 |
| **Total Mining Capital** | **131.0** |

Notes: Totals may not sum due to rounding.

### 21.2.4 Process Plant Capital Costs (WBS 2000)

The definition of process equipment requirements was based on process flowsheets and process design criteria, as defined in Section 17. All major equipment was sized based on the process design criteria to derive a mechanical equipment list. Mechanical scopes of work were developed, and major equipment were sent for budgetary pricing to equipment suppliers. For mechanical equipment costs, 50% of the value was sourced from budgetary quotes; the remainder was sourced by benchmarking against other recent flotation concentrator mining projects and studies.

In support of the major installation construction contracts, engineering for the process plant was completed to a PEA-level of definition. Bulk material quantities were derived for earthworks and priced from other benchmark projects. All other quantities for electrical and instrumentation, concrete, steel, piping, cable, and platework were factored and priced.

Process plant costs are summarized in Table 21-4. Direct costs include all contractors' direct and indirect labour, permanent equipment, materials, freight, and mobile equipment associated with the physical construction of the areas.

**Table 21-4: Process Plant Capital Costs**

| WBS | WBS Description | Initial Capital (US$M) |
|---|---|---|
| 2100 | Crushing, Stockpile, and Reclaim | 18.0 |
| 2200 | Grinding | 20.5 |
| 2300 | Flotation and Regrind | 16.8 |
| 2400 | Concentrate Handling | 15.3 |
| 2500 | Tailings | 27.1 |
| 2600 | Concentrate Leach | 4.3 |
| 2700 | Precious Metal Recovery | 15.8 |
| **Total Process Plant Capital** | | **117.9** |

Notes: Totals may not sum due to rounding.

### 21.2.5 Additional Processing Facilities Capital Costs (WBS 3000)

The process plant additional facilities costs include the reagent storage, reagent preparation areas and plant services. Table 21-5 shows the mine additional facilities cost.

**Table 21-5: Additional Processing Facilities Capital Costs**

| WBS | WBS Description | Initial Capital (US$M) |
|---|---|---|
| 3100 | Reagents | 4.5 |
| 3200 | Plant Services | 9.0 |
| **Total Additional Processing Facilities Capital** | | **13.6** |

Notes: Totals may not sum due to rounding.

### 21.2.6 On-Site Infrastructure Capital Costs (WBS 4000)

In support of the major installation construction contracts, engineering for the project was completed to a PEA-level of definition. Bulk material quantities were derived for earthworks including the entire project site, process plant, DSTF, WRS and water management structures, and priced from other benchmark projects. The power requirements for the project were estimated based on the electrical equipment list developed for the process plant, power demand for the mining operations and allowances for other site requirements such as pit dewatering, lighting, etc.; the cost of the substation and cable routing was estimated based on benchmarked projects.

The buildings required for the operation were sized and costed based on benchmark projects with similar weather and conditions located in Mexico.

The breakdown of the on-site infrastructure capital costs is shown in Table 21-6.

The on-site infrastructure covers the cost of the site earthworks, site-wide electrical distribution, fuel storage, sewers, and various infrastructure buildings.

**Table 21-6: On-Site Infrastructure Capital Cost**

| WBS | WBS Description | Initial Capital (US$M) |
|---|---|---|
| 4100 | Bulk Earthworks | 2.3 |
| 4300 | HV Power Switchyard and Power Distribution | 6.5 |
| 4400 | Fuel Storage | 0.1 |
| 4500 | Sewage | 0.2 |
| 4600 | Infrastructure Buildings | 2.3 |
| 4700 | Paste Pipeline to Portal | 0.5 |
| **On-Site Infrastructure Capital** | | **11.9** |

### 21.2.7 Off-Site Infrastructure Capital Costs (WBS 5000)

The breakdown of the costs for the off-site infrastructure planned for the project is shown in Table 21-7.

The off-site infrastructure costs include building the main access road, high voltage power supply, and DSTF. The water supply is included in the mining underground dewatering capital costs.

**Table 21-7: Off-Site Infrastructure Capital Cost**

| WBS | WBS Description | Initial Capital (US$M) |
|---|---|---|
| 5100 | Main Access Road | 1.4 |
| 5300 | Power Supply | 6.3 |
| 5400 | Tailings Storage Facility | 8.6 |
| **On-Site Infrastructure Capital** | | **16.3** |

### 21.2.8 Indirect Capital Costs (WBS 6000 and 7000)

Indirect capital costs are calculated as a percentage of the direct costs and are based on Ausenco's historical project costs of similar nature. The indirect capital costs are summarized in Table 21-8 and described below.

Project indirect costs include the following:

- Field indirects. Estimated as 3.0% of the total direct non-mining cost.
- Commissioning and operation readiness. Estimated as 2.0% of the total equipment cost.
- Vendor representatives. Estimated as 2.0% of the total equipment cost.
- Equipment spares. Estimated as 5.0% of the total equipment cost.
- First fills and initial charges. Estimated as 2.5% of the total equipment cost.
- Freight and Logistics. Included in equipment direct costs.
- Engineering Services. Estimated as 10.0% of the total direct non-mining cost.
- Construction Management. Estimated as 6.0% of the total direct non-mining cost.

**Table 21-8: Indirect Capital Cost Summary**

| WBS | WBS Description | Initial Capital (US$M) |
|---|---|---|
| 6100 | Field Indirects – Temporary Construction | 4.8 |
| 6200 | Commissioning Operations Readiness | 1.4 |
| 6300 | Vendor Representatives | 1.4 |
| 6400 | Spares | 3.6 |
| 6500 | First Fills | 1.8 |
| - | Freight and Logistics | Included in Direct Costs |
| 7100 | Engineering Services | 16.2 |
| 7200 | Construction Management | 9.7 |
| **Total Indirect Costs** | | **38.9** |

Notes: Mining indirects and contingency contained within the capital development numbers.

### 21.2.9 Owner's (Corporate) Capital Costs (WBS 8000)

The Owner's costs are estimated as 4% of total direct non-mining cost and are calculated to be US$8.0 M. Owner's costs include such things as project staffing and miscellaneous expenses, pre-production labour, home office project management, home office finance, legal costs, insurance and bonds, licences, and fees.

### 21.2.10 Contingency (WBS 9000)

Contingency accounts for the difference in costs from the estimated and actual costs of materials and equipment. The level of contingency varies depending on the nature of the contract and the client's requirements. Due to uncertainties at the time the capital cost estimate was developed, it is essential that the estimate include a provision to cover the risk from these uncertainties. The contingency is estimated as 25% of the total direct and indirect non-mining cost and is calculated to be US$50.1 M. Mining costs contingency is included within the mining capital costs.

The estimate contingency does not accommodate the following:

- Abnormal weather conditions;
- Changes to market conditions affecting the cost of labour or materials;
- Changes of scope within the general production and operating parameters;
- Effects of industrial disputations;
- Financial modelling;
- Technical engineering refinement;
- Estimate inaccuracy.

## 21.3 Sustaining Capital Costs

### 21.3.1 Overview

The life of mine sustaining cost for the project is estimated at US$177M, which includes US$160.1M in mine sustaining costs and US$17M in closure costs.

### 21.3.2 Mining

Most of the estimated sustaining mining costs is comprised of the direct cost of development, which is estimated to cost approximately US$102 M. Purchases for the mine equipment (primarily fixed plant) is scheduled throughout the life of mine are capitalized through the sustaining periods of the project. The mine infrastructure costs include the following considerations:

- continuation of mining services (power supply, dewatering);
- escapeways, ventilation walls, escapeway walls; and,
- main paste pipe distribution).

Table 21-9 summarizes the Mining Sustaining Cost estimates for the Cerro Las Minitas PEA Project

**Table 21-9: Mining Sustaining Capital Costs**

| WBS Description | Sustaining Capital (US$M) |
|---|---|
| Mining (Direct and Indirect) | 113.6 |
| Mine Infrastructure Costs | 22.0 |
| Mobile and Fixed Equipment | 24.5 |
| **Total Mining Capital** | **160.1** |

Sustaining development costs include the Contractor's direct costs, margin, consumables (ground support, explosives, piping (compressed air, water), ducting, and dewatering. The development costs also include mucking from the face to the remuck for truck loading. A breakdown of the sustaining development is provided in Table 21-10.

**Table 21-10: Mining Sustaining Development Cost**

| WBS Description | Initial Capital (US$M) | US$ /m |
|---|---|---|
| Direct, including diesel | 102.0 | 4,092 |
| Labour (owner) | 3.7 | 148 |
| Power | 5.0 | 200 |
| Maintenance (owner) | 1.4 | 57 |
| Other | 1.5 | 60 |
| **Total** | **113.6** | **4,556** |

Notes: US$/m rates are calculated by dividing the costs by the capital lateral development (24,922 m) which is a subset of total lateral development of 79,880 m and total development (including vertical development) of 83,321 m over the sustaining period. Totals may not sum due to rounding.

### 21.3.3 Closure and Reclamation

The closure cost for the project is estimated at US$17M.

## 21.4 Capital Cost Estimate Exclusions

The following costs and scope are excluded from the capital cost estimate:

- Land acquisitions
- Taxes not listed in the financial analysis
- Sales taxes
- Scope changes and project schedule changes and the associated costs
- Any facilities/structures not mentioned in the project summary description
- Geotechnical unknowns/risks
- Further testwork and drilling programs

- Environmental approvals
- This study or any future project studies, including environmental impact studies
- Working capital
- Any facilities/structures not mentioned in the project summary description.

## 21.5 Operating Costs

The costs considered on-site operating costs are those related to mining, processing, tailings handling, maintenance, power, and general and administrative activities.

A summary of the operating costs is presented below in Table 21-11.

**Table 21-11: Operating Cost Summary**

| | Average Annual Cost (US$M) | US$/t processed | LOM Operating Cost (US$M) |
|---|---|---|---|
| Mine | 67.5 | 41.22 | 1,214 |
| Process | 28.9 | 15.82 | 466 |
| General & Administration | 8.2 | 4.33 | 128 |
| **Total (US$)** | **104.6** | **61.37** | **1,808** |

### 21.5.1 Basis of Estimate

Key assumptions were made to estimate the operating costs for the Project:

- Cost estimates are based on Q1 2024.
- Costs are expressed in United States Dollars (US$).
- Power cost of US$ 0.096 per kilowatt-hour (kWh) was assumed.
- A diesel cost of US$ 1.24 per liter was assumed based on current average diesel price in Mexico.
- A throughput of 5,300 t/d or 1.9 Mt/a was used for the processing plant.
- Plant crusher availability is assumed to be 70%, while the availability for the rest of the process plant is assumed to be 92%.
- ROM and concentrate grades, and recoveries are based on metallurgical testwork results described in Section 13.
- Material and equipment are purchased as new.
- Reagent consumption rates are based on metallurgical testwork results and in-house benchmarks.
- Grinding media consumption rates are based on mineral material characteristics as described in Section 13.

### 21.5.2 Mine Operating Costs

The operating costs reflect a contractor mining option which defers capital but uses the experience of a contractor for initial construction and development of the mine. Mining considers a modern and large operation using large 21-t loaders and 63-t capable trucks targeting an average daily plant feed of approximately 5,300 t/d (peak of 6,100 t/d averaged for Year 13) and 6,000 t/d when including waste development (peak of 6,800 t/d in Years 4-5). Mining costs are developed by Entech and are from Entech's cost database which includes pricing from mining contractors.

Unit operating costs are summarised in Table 21-12 and production costs in Table 21-13.

**Table 21-12: Mining Operating Cost Summary**

| Item | Total (US$ | Total (US$/t) |
|---|---|---|
| Development | 190 | 6.45 |
| Production | 1,024 | 34.77 |
| **Total Production and Development Costs** | **1,214** | **41.22** |

Operating costs are summarized as follows and are appropriate for a Preliminary Economic Assessment:

- Total underground mining operating costs are approximately $1,214 million at an average of US$41.22/t;
- Operating development (including non-capital waste development) of $3,087/m (direct costs of US$2,720/m) and averages on a per tonne basis of $6.45/t; and,
- Production costs of $34.77/t of which $29.54 are direct costs and $5.24/t are indirect costs which includes labour (mine management/technical services), maintenance, power, and other costs.

**Table 21-13: Stoping Costs (Y1-Y18)**

| Stoping Cost Centre | LoM Cost ($M) | US $/t processed |
|---|---|---|
| Drill | 206.0 | 6.99 |
| Blasting | 39.8 | 1.35 |
| Muck, Load & Haul | 298.4 | 10.13 |
| Stope Support | 24.4 | 0.83 |
| Backfill Cost (6% initial pour, 3% main pour) | 179.0 | 6.08 |
| Geology | 38.7 | 1.31 |
| Allocated Diesel | 83.8 | 2.84 |
| Allocated Labour | 46.7 | 1.59 |
| Allocated Power | 64.7 | 2.20 |
| Allocated Maintenance | 21.7 | 0.74 |
| Allocated Other Overheads | 21.2 | 0.72 |
| **Total** | **1,024.3** | **34.77** |

### 21.5.3 Process Operating Costs

The process plant for the PEA-level study consists of a crushing plant, a conventional sulphide flotation system, a concentrate leach circuit, and a refinery. The crushing plant and flotation system consists of both primary and secondary crushing, a closed-circuit ball mill grinding, and sequential flotation circuit with regrinding. Three concentrates are produced for sale (copper, lead, and zinc) and another (pyrite) produced for further processing in the concentrate leach plant. The concentrate leach plant consists of ultrafine grinding, cyanide leaching, counter-current decantation (CCD), and a Merrill Crowe process and refinery. Table 21-14 summarizes the process operating costs.

**Table 21-14: Process Operating Cost Summary**

| Operating & Maintenance | Average Annual Cost ($M) | US$/t processed | LOM Operating Cost ($M) | % |
|---|---|---|---|---|
| Electrical Power | $8.4 | $4.64 | $136.8 | 29.4% |
| Reagents | $9.4 | $5.04 | $148.6 | 31.9% |
| Consumables | $3.6 | $1.94 | $57.2 | 12.3% |
| Maintenance | $1.8 | $0.94 | $27.8 | 6.0% |
| Labour | $2.5 | $1.40 | $41.2 | 8.9% |
| Mobile Equipment | $2.9 | $1.65 | $48.7 | 10.5% |
| Fresh Water | $0.3 | $0.19 | $5.5 | 1.2% |
| **Total (US$)** | **$28.9** | **$15.82** | **$465.9** | **100.0%** |

Notes: Totals may not sum due to rounding.

#### 21.5.3.1 Power

Power consumption was estimated using the equipment list connected kW rating, discounted for operating time per day and anticipated operating load levels. A cost per kWh of $0.096 was assumed. A summary of the consumption and power costs are shown in Table 21-15 below.

**Table 21-15: Power Consumption and Cost Summary**

| Area | Average Annual MWh | Average Annual Cost ($000) | LOM Cost ($000) |
|---|---|---|---|
| Crushing | 6,058 | 582 | 9,501 |
| Grinding | 28,334 | 2,720 | 43,092 |
| Flotation and Regrind | 12,840 | 1,233 | 20,222 |
| Concentrate Handling | 2,959 | 284 | 4,719 |
| Tailings | 7,860 | 755 | 12,536 |
| Concentrate Leach | 3,930 | 377 | 6,077 |
| Precious Metal Recovery | 2,472 | 237 | 3,943 |
| Reagents | 1,598 | 153 | 2,549 |
| Process Plant Facilities | 13,301 | 1,277 | 21,214 |
| HV Power Switchyard and Power Distribution | 1,709 | 164 | 2,725 |
| Infrastructure Buildings | 6,404 | 615 | 10,214 |
| **Total** | **87,466** | **8,397** | **136,793** |

#### 21.5.3.2 Reagents

Consumption rates were estimated based on industry practice and Ausenco's internal database of recent and similar projects. The annual consumptions and project-life costs are presented below in Table 21-16.

**Table 21-16: Reagent Annual Consumption and Life of Mine Costs**

| Reagent | Average Annual Quantity (kg) | Average Annual Cost ($000) | LOM Cost ($000) | US$/t processed |
|---|---|---|---|---|
| Sodium metabisulfite (SMBS) | 2,130,143 | 2,002 | 31,773 | 1.08 |
| Copper sulphate | 714,689 | 1,919 | 30,454 | 1.03 |
| Methyl isobutyl carbinol (MIBC) | 562,469 | 1,772 | 28,115 | 0.95 |
| Sodium isopropyl xanthate (SIPX) | 232,042 | 1,056 | 16,754 | 0.57 |
| Zinc sulphate | 599,596 | 678 | 10,758 | 0.37 |
| Hydrated lime | 2,844,761 | 643 | 10,208 | 0.35 |
| Aerophine 3894 | 38,983 | 351 | 5,567 | 0.19 |
| Sodium cyanide | 126,231 | 303 | 4,807 | 0.16 |
| Flocculant | 66,717 | 300 | 4,764 | 0.16 |
| Aerophine 3418A | 13,923 | 212 | 3,360 | 0.11 |
| Diatomaceous earth | 73,391 | 107 | 1,694 | 0.06 |
| Zinc | 2,481 | 15 | 238 | 0.008 |
| Refinery flux | 3,953,992 | 6 | 88 | 0.003 |
| **Total** | **-** | **9,363** | **148,580** | **5.04** |

#### 21.5.3.3 Maintenance Parts and Consumables

The crushing and grinding liners, and grinding media are the contributing costs for consumables. Consumption and unit cost estimates are based on industry practice and Ausenco's internal database for the crusher and grinding operations. The life of mine cost for consumables is $57.2 million with an average annual cost of $3.6 million.

An allowance of 2% - 4% of the installed equipment costs was made to estimate the cost of equipment maintenance. Maintenance expenses equate to an average annual cost of $1.75 million and a life of mine cost of $27.8 million.

#### 21.5.3.4 Process Labor and Fringes

Process labor costs were derived based on an estimated staff of 114 employees for the first 15 years and 77 employees after year 16. Employee wages were determined based on prevailing annual labor rates in the area. Labor rates and fringe benefits for employees include all applicable benefits as well as applicable payroll taxes but excludes profit sharing (PTU). Table 21-17 below summarizes the labor costs.

**Table 21-17: Labor Cost Summary**

| | Staff Years 1-15 | Staff Years 16-18 | Average Salary Years 1-16 | Average Salary Years 16-18 | LOM |
|---|---|---|---|---|---|
| Administration | 5 | 5 | 120,499 | 120,499 | 10,248 |
| Operations | 72 | 49 | 18,006 | 18,663 | 21,283 |
| Maintenance | 37 | 23 | 16,105 | 16,944 | 9,721 |
| **Total** | **114** | **77** | **21,884** | **24,762** | **41,251** |

#### 21.5.3.5 Mobile Equipment

Vehicle costs are based on a scheduled number of light vehicles and mobile equipment. The costs include fuel, maintenance, spares, and tires, annual registration, and insurance fees. Mobile equipment requirements for plant operations and maintenance result in an average annual cost of $2.9 million and a life of mine cost of $48.7 million.

#### 21.5.3.6 Fresh Water Supply

The cost of water supply is based on the make-up water consumption for the processing plant and water rights cost for water pumped out of the mine. The average annual consumption of make-up water is 247,893 $m^3$. The average annual cost is $0.34 million with a life of mine cost of $5.5 million .

### 21.5.4 General and Administration

The general and administrative (G&A) operating costs cover the expenses of the operating departments, and a summary is presented in Table 21-18.

G&A costs were developed using Ausenco's in-house data on existing Mexican operations and inputs from Southern Silver. The costs were estimated based on the following items:

- Human resources (including recruiting, training and community relations);
- Infrastructure power (HVAC and administrative buildings);
- Site administration, maintenance, and security (including office equipment, garbage disposal);
- Assets operation (including non-operation-related vehicles);
- Health and safety (including personal protective equipment, hospital service cost);
- Environmental (including sampling, DSTF operation);
- IT and telecommunications (including hardware and support services); and
- Contract services (including insurance, sanitation, licence fees and legal fees).

The total annual G&A cost was estimated at US$8.2 M/a during production or US$4.25/t plant feed.

Table 21-18: General and Administrative Costs Summary

| Item | Average Annual Cost ($000) | US$/t plant feed processed |
|---|---|---|
| G&A Maintenance | 282.0 | 0.15 |
| Personnel | 1,364.1 | 0.71 |
| Human Resources | 1,315.9 | 0.68 |
| Site Administration | 64.0 | 0.03 |
| Health and Safety | 153.0 | 0.08 |
| Environmental | 560.0 | 0.29 |
| IT/Communications | 760.0 | 0.39 |
| Contract Services, Insurance, Legal | 3,308.0 | 1.71 |
| Administrative Costs | 424.0 | 0.22 |
| **Total** | **8,231** | **4.25** |

Notes: Totals may not sum due to rounding.

# 22 ECONOMIC ANALYSIS

## 22.1 Forward-Looking Information Cautionary Statements

The results of the economic analyses discussed in this Section represent forward-looking information as defined under Canadian securities law. 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. Information that is forward looking includes the following:

- Mineral resource estimate.
- Assumed commodity prices and exchange rates.
- The proposed mine production plan.
- Projected mining and process recovery rates.
- Assumptions as to mining dilution and ability to mine in areas previously exploited using mining methods as envisaged the timing and amount of estimated future production.
- Sustaining costs and proposed operating costs.
- Assumptions as to closure costs and closure requirements.
- Assumptions as to environmental, permitting, and social risks.

Additional risks to the forward-looking information include:

- Changes to costs of production from what is assumed.
- Unrecognized environmental risks.
- Unanticipated reclamation expenses.
- Unexpected variations in quantity of mineralized material, grade, or recovery rates.
- Accidents, labour disputes and other risks of the mining industry.
- 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 as to the availability of electrical power, and the power rates used in the operating cost estimates and financial analysis.

- Ability to maintain the social license to operate.
- Changes to interest rates.
- Changes to tax rates.

## 22.2 Methodologies Used

The project has been evaluated using a discounted cash flow (DCF) analysis based on a 5% discount rate. Cash inflows consist of annual revenue projections. Cash outflows consist of capital expenditures, including pre-production costs, operating costs, taxes, and royalties. These are subtracted from the inflows to arrive at the annual cash flow projections.

Cash flows are taken to occur at the mid-point of each period. It must be noted that tax calculations involve complex variables that can only be accurately determined during operations and, as such, the actual post-tax results may differ from those estimated. A sensitivity analysis was performed to assess the impact of variations in metal prices, discount rate, head grade, recovery, total operating cost, and total capital costs.

The capital and operating cost estimates developed specifically for this project are presented in Section 21. The economic analysis has been run on a constant dollar basis with no inflation.

## 22.3 Financial Model Parameters

The economic analysis was performed assuming the metal prices of US$23.00/oz Ag, US$1,850/oz Au, US$4.00/lb Cu, US$1.00/lb Pb, and US$1.25/lb Zn; these prices are based on historic metal pricing, consensus analyst estimates and recently published economic studies as discussed in Section 19. The forecasts used are meant to reflect the average metals price expectation over the life of the Project. No price inflation or escalation factors were taken into account. Commodity prices can be volatile, and there is the potential for deviation from the forecast.

The economic analysis also used the following assumptions:

- Construction period of two years.
- Total operating mine life of 17 years following construction.
- Cost estimates in constant Q2 2024 US$ with no inflation or escalation factors considered.
- Results based on 100% ownership with a no private royalty applicable to the resource.
- Capital cost funded with 100% equity (no financing cost assumed).
- All cash flows discounted to start of construction period using mid-period discounting convention.
- All metal products are sold in the same year they are produced.
- Project revenue is derived from the sale of copper, lead, and zinc concentrates with gold and silver credits payable and the sale of a doré product.

- No contractual arrangements currently exist for offtake of products.

#### 22.3.1 Taxes

The project has been evaluated on a post-tax basis to provide an approximate value of the potential economics based on guidance provided by the Company's external tax advisors. The tax model calculations are based on the tax regime as of the date of the PEA technical report. At the effective date of this report, the Project is assumed to be subject to the Mexican Corporate Income Tax rate of 30%, a mandated Employee Profit Sharing rate of 10% of profit up to a maximum of 25% of salaries paid, a government SMD Mining Royalty rate of 7.5% based on operating profit and a government EMD Mining Royalty rate of 0.5% based on gross revenue derived from precious metals. Depreciation on capital equipment, development, and exploration cost as permitted by Mexican tax regulations has been applied. The tax schedule calculated over the life of the Project result in a total tax, profit share, and government royalty payable of US$588.4M.

Details of the tax assumptions incorporated into the post-tax financial model are as follows:

- In Mexico two federal duties (or royalties) are applicable to the mining sector. A 7.5% Special Mining Duty (SMD) is applied to the equivalent of EBITDA. An additional 0.5% Extraordinary Mining Duty (EMD) applies to the revenue derived from precious metal sales including gold and silver and excluding revenue derived from the sale of copper, zinc and lead. Both duties are deductible for federal income tax, but the EMD is not deductible for the SMD and no costs are deductible for the EMD;
- A federal employee profit sharing is applied as the lesser of 10% of annual taxable profit and 25% of annual payroll. This is deductible for federal income tax;
- A federal income tax rate of 30% is applicable on taxable profit;
- The following general categories of annual straight-line tax depreciation rates are applied to construction and sustaining capital costs;
  - Buildings, tailings facilities, and earthworks depreciate at 5% annually;
  - Pre-production operating costs associated with underground mine developments are expensed;
  - Mining and processing machinery depreciates at 12% annually;
- The State of Durango and its regional municipalities (collectively) do not have a separate income tax on taxable profit but do have five types of other taxes and charges: (i) property tax; (ii) emission of gases into atmosphere; (iii) emission of pollutants into air, land, and water; (iv) material extraction; and (v) waste safety deposit. Annual property tax is assumed at 0.2% and applied to the annual depreciated book value of land and buildings, but not applied to mining and processing machinery and underground development. The other four items are considered not appliable or not financially material;
- It is assumed that there is no change in ownership (control) of the legal entity owning the mine;
- No considerations are made for project financing and construction or operational debt;
- No delays or challenges with IVA (VAT) refunds;

- Start-up and commissioning costs are apportioned to the respective tax depreciation categories for the individual capital estimate items; and
- US$25M of pre-construction carry-forward tax attributes (losses/amortization).

## 22.4 Economic Analysis

The economic analysis was performed assuming a 5% discount rate. On a pre-tax basis, the NPV discounted at 5% is US$887.5M; the internal rate of return (IRR) is 30.0%, and the payback period is 3.2 years. On a post-tax basis, the NPV discounted at 5% is US$501.1M; the IRR is 21.2%, and the payback period is 4.0 years. A summary of project economics is tabulated in Table 22-1. The analysis was done on an annual cashflow basis; the cashflow output is shown in Table 22-2 and cashflow is represented graphically in Figure 22-1 on a post-tax basis.

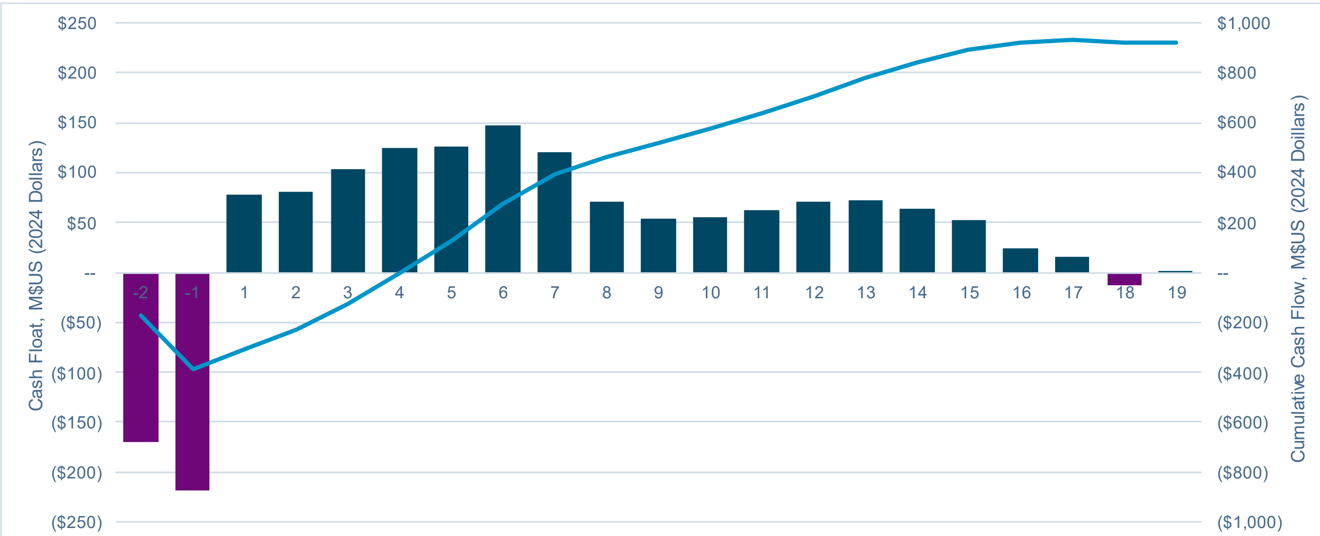
Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

**Table 22-1: Economic Analysis Summary Table**

| General | Units | LOM Total / Avg. | |
|---|---|---|---|
| Silver Price | US$/oz | 23.00 | |
| Gold Price | US$/oz | 1,850 | |
| Copper Price | US$/lb | 4.00 | |
| Lead Price | US$/lb | 1.00 | |
| Zinc Price | US$/lb | 1.25 | |
| Mine Life | Years | 17.1 | |
| Total Mineralized Material Processed | Mt | 29.46 | |
| Total Waste | Mt | 4.65 | |
| Avg. AgEq Head Grade | g/t | 256.8 | |
| **Production** | **Units** | **LOM Total / Avg.** | |
| Avg. Head Grade – Ag | g/t | 104.1 | |
| Avg. Head Grade – Au | g/t | 0.11 | |
| Avg. Head Grade – Cu | % | 0.19 | |
| Avg. Head Grade – Pb | % | 1.06 | |
| Avg. Head Grade – Zn | % | 2.41 | |
| Avg. Recovery Rate – Ag | % | 93.3 | |
| Avg. Recovery Rate – Au | % | 48.6 | |
| Avg. Recovery Rate – Cu | % | 70.0 | |
| Avg. Recovery Rate – Pb | % | 87.0 | |
| Avg. Recovery Rate – Zn | % | 93.2 | |
| Total Payable Metal – Ag | M oz | 83.9 | |
| Annual Payable Metal – Ag | M oz/a | 4.9 | |
| Total Payable Metal – Au | k oz | 47.1 | |
| Annual Payable Metal – Au | k oz/a | 2.8 | |
| Total Payable Metal – Cu | M lbs | 83.3 | |
| Annual Payable Metal – Cu | M lbs/a | 4.9 | |
| Total Payable Metal – Pb | M lbs | 570 | |
| Annual Payable Metal – Pb | M lbs/a | 33.4 | |
| Total Payable Metal – Zn | M lbs | 1,240 | |
| Annual Payable Metal – Zn | M lbs/a | 72.7 | |
| **Operating Costs** | **Units** | **LOM Total / Avg.** | |
| Mining Cost | US$/t mined | 37.32 | |
| Mining Cost | US$/t milled | 41.22 | |
| Processing Cost | US$/t milled | 15.82 | |
| G&A Cost | US$/t milled | 4.33 | |
| Operating Cash Costs*, co-product basis | US$/oz AgEq | 9.30 | |
| Total Cash Costs**, co-product basis | US$/oz AgEq | 12.32 | |
| All-in Sustaining Costs (AISC)***, co-product basis | US$/oz AgEq | 13.23 | |
| **Capital Costs** | **Units** | **LOM Total / Avg.** | |
| Initial Capital (Incl. Capitalized Opex) | US$M | 387.8 | |
| Sustaining Capital | US$M | 160.1 | |
| Closure Costs | US$M | 16.6 | |
| **Financials** | **Units** | **Pre-Tax** | **Post-Tax** |
| NPV (Discounted at 5%) | US$M | 887.5 | 501.1 |
| IRR | % | 30.0 | 21.2 |
| Payback | Years | 3.2 | 4.0 |

*Operating cash costs consist of mining costs, processing costs, and G&A. **Total cash costs consist of operating cash costs plus transportation cost, and off-site treatment & refining, transport costs. ***AISC consists of total cash costs plus sustaining capital, and closure cost.

**Figure 22-1: Free Cash Flow – Post Tax**




Source: Ausenco, 2024.

**Table 22-2: Cashflow Statement on an Annualized Basis**

| Macro Assumptions | Units | Total / Avg. | -2 | -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver Price | $/oz | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Gold Price | $/oz | 1,850.0 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 | 1,850.00 |
| Copper Price | $/lb | 4.0 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Lead Price | $/lb | 1.0 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Zinc Price | $/lb | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| **Revenue** | **$mm** | **4,470** | **--** | **--** | **275.0** | **294.5** | **338.8** | **371.1** | **355.8** | **413.2** | **336.9** | **268.7** | **245.1** | **257.8** | **265.0** | **258.3** | **253.4** | **211.6** | **169.3** | **88.3** | **63.6** | **3.2** | **--** |
| Off-Site Costs | $mm | (585.7) | -- | -- | (33.7) | (35.4) | (40.2) | (46.2) | (45.9) | (57.0) | (47.2) | (33.0) | (28.6) | (33.4) | (31.7) | (33.4) | (30.0) | (31.1) | (30.8) | (15.6) | (11.8) | (0.5) | -- |
| Royalties | $mm | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Operating Cost | $mm | (1,807.8) | -- | -- | (106.3) | (120.2) | (123.2) | (123.3) | (116.8) | (115.8) | (116.0) | (126.6) | (124.5) | (128.2) | (128.6) | (119.4) | (116.5) | (87.8) | (67.1) | (49.6) | (36.6) | (1.5) | -- |
| **EBITDA** | **$mm** | **2,076** | **--** | **--** | **135.0** | **138.9** | **175.4** | **201.6** | **193.2** | **240.5** | **173.7** | **109.1** | **92.1** | **96.2** | **104.7** | **105.4** | **106.9** | **92.8** | **71.5** | **23.0** | **15.2** | **1.1** | **--** |
| Initial Capex | $mm | (387.8) | (170.3) | (217.5) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Sustaining Capex | $mm | (160.1) | -- | -- | (29.4) | (22.2) | (16.7) | (13.3) | (11.1) | (15.2) | (6.6) | (9.7) | (11.4) | (9.5) | (8.9) | (0.8) | (1.3) | (2.9) | (0.8) | (0.4) | (0.0) | (0.0) | -- |
| Closure Capex | $mm | (16.6) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | (16.6) | -- |
| Change in Working Capital | $mm | -- | -- | -- | (16.9) | (1.0) | (3.3) | (2.4) | 1.0 | (4.3) | 5.9 | 5.5 | 1.7 | (0.7) | (0.6) | 0.2 | 0.1 | 2.3 | 2.6 | 5.3 | 1.3 | 3.1 | 0.2 |
| **Pre-Tax Unlevered Free Cash Flow** | **$mm** | **1,512** | **(170.3)** | **(217.5)** | **88.7** | **115.8** | **155.4** | **185.9** | **183.1** | **221.0** | **173.0** | **104.8** | **82.3** | **86.0** | **95.1** | **104.9** | **105.8** | **92.2** | **73.3** | **28.0** | **16.5** | **(12.5)** | **0.2** |
| Pre-Tax Cumulative Unlevered Free Cash Flow | $mm | | (170.3) | (387.8) | (299.1) | (183.3) | (27.9) | 158.0 | 341.0 | 562.0 | 735.0 | 839.8 | 922.2 | 1,008.2 | 1,103.3 | 1,208.2 | 1,314.0 | 1,406.2 | 1,479.4 | 1,507.4 | 1,523.9 | 1,511.4 | 1,511.6 |
| Payback (Years) | | 3.2 | -- | -- | -- | -- | -- | 3.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SMD Royalty Payable | $mm | (155.6) | -- | -- | (10.1) | (10.4) | (13.2) | (15.1) | (14.5) | (18.0) | (13.0) | (8.2) | (6.9) | (7.2) | (7.8) | (7.9) | (8.0) | (7.0) | (5.4) | (1.7) | (1.1) | -- | -- |
| EMD Royalty Payable | $mm | (9.9) | -- | -- | (0.6) | (0.7) | (0.8) | (0.9) | (0.8) | (0.9) | (0.7) | (0.6) | (0.6) | (0.6) | (0.6) | (0.5) | (0.6) | (0.4) | (0.2) | (0.1) | (0.1) | (0.0) | -- |
| PTU Payable | $mm | (7.9) | -- | -- | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.5) | (0.4) | -- | -- | -- |
| Income Tax Payable | $mm | (415.0) | -- | -- | -- | (22.8) | (37.1) | (44.1) | (41.6) | (54.4) | (38.0) | (24.1) | (20.7) | (21.8) | (24.0) | (24.3) | (24.7) | (20.8) | (14.9) | (1.6) | -- | -- | -- |
| **Post-Tax Unlevered Free Cash Flow** | **$mm** | **923.2** | **(170.3)** | **(217.5)** | **77.5** | **81.3** | **103.8** | **125.3** | **125.6** | **147.1** | **120.7** | **71.4** | **53.6** | **56.0** | **62.2** | **71.7** | **72.0** | **63.6** | **52.2** | **24.2** | **15.3** | **(12.5)** | **0.2** |
| Post-Tax Cumulative Unlevered Free Cash Flow | $mm | | (170.3) | (387.8) | (310.3) | (229.0) | (125.2) | 0.1 | 125.7 | 272.8 | 393.5 | 464.9 | 518.5 | 574.4 | 636.6 | 708.3 | 780.3 | 843.8 | 896.1 | 920.3 | 935.5 | 923.1 | 923.2 |
| Payback (Years) | | 4.0 | -- | -- | -- | -- | -- | 4.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Production Summary** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Resource Mined | kt | 29,457 | 51 | 258 | 1,615 | 1,998 | 2,107 | 2,031 | 1,897 | 1,855 | 1,868 | 2,152 | 2,138 | 2,221 | 2,232 | 1,936 | 1,978 | 1,183 | 884 | 672 | 365 | 16 | -- |
| Total Waste Mined | kt | 4,652 | 643 | 615 | 534 | 490 | 390 | 307 | 293 | 359 | 192 | 250 | 154 | 201 | 164 | 56 | 5 | -- | -- | -- | -- | -- | -- |
| Total Material Mined | kt | 34,109 | 694 | 873 | 2,149 | 2,487 | 2,497 | 2,338 | 2,190 | 2,213 | 2,059 | 2,402 | 2,292 | 2,422 | 2,397 | 1,992 | 1,983 | 1,183 | 884 | 672 | 365 | 16 | -- |
| Total Resource Milled | kt | 29,457 | -- | -- | 1,924 | 1,895 | 1,940 | 1,935 | 1,935 | 1,935 | 1,940 | 1,935 | 1,935 | 1,935 | 1,940 | 1,935 | 1,935 | 1,935 | 1,353 | 672 | 365 | 16 | -- |
| Mill Head Grade - Ag | g/t | 104.1 | -- | -- | 93.4 | 109.0 | 132.6 | 141.7 | 133.8 | 150.3 | 117.2 | 100.8 | 94.7 | 90.2 | 96.4 | 89.4 | 94.5 | 65.5 | 56.7 | 64.2 | 73.7 | 94.1 | -- |
| Mill Head Grade - Au | g/t | 0.11 | -- | -- | 0.28 | 0.25 | 0.17 | 0.13 | 0.13 | 0.11 | 0.10 | 0.07 | 0.06 | 0.06 | 0.07 | 0.06 | 0.07 | 0.04 | 0.03 | 0.02 | 0.05 | 0.07 | -- |
| Mill Head Grade - Cu | % | 0.19% | -- | -- | 0.17% | 0.11% | 0.12% | 0.16% | 0.15% | 0.10% | 0.13% | 0.18% | 0.24% | 0.28% | 0.35% | 0.31% | 0.30% | 0.18% | 0.07% | 0.11% | 0.17% | 0.29% | -- |
| Mill Head Grade - Pb | % | 1.06% | -- | -- | 1.42% | 1.73% | 1.68% | 1.64% | 1.25% | 1.42% | 1.16% | 1.22% | 0.85% | 0.68% | 0.65% | 0.61% | 0.70% | 0.58% | 0.56% | 0.41% | 0.28% | 0.25% | -- |
| Mill Head Grade - Zn | % | 2.41% | -- | -- | 1.83% | 1.88% | 2.20% | 2.71% | 2.94% | 3.86% | 3.17% | 1.84% | 1.60% | 2.11% | 1.87% | 2.12% | 1.75% | 2.13% | 3.47% | 3.58% | 5.18% | 5.15% | -- |
| **Processing** | | | | | | | | | | | | | | | | | | | | | | | |
| Contained Metal - Ag | koz | 98,550 | -- | -- | 5,779 | 6,642 | 8,269 | 8,814 | 8,321 | 9,351 | 7,310 | 6,268 | 5,889 | 5,613 | 6,013 | 5,561 | 5,881 | 4,073 | 2,465 | 1,387 | 865 | 50 | -- |
| Contained Metal - Au | koz | 101 | -- | -- | 18 | 15 | 10 | 8 | 8 | 7 | 6 | 4 | 4 | 4 | 5 | 4 | 5 | 3 | 1 | 0 | 1 | 0 | -- |
| Contained Metal - Cu | mlbs | 123.5 | -- | -- | 7 | 5 | 5 | 7 | 6 | 4 | 5 | 8 | 10 | 12 | 15 | 13 | 13 | 8 | 2 | 2 | 1 | 0 | -- |
| Contained Metal - Pb | mlbs | 689.2 | -- | -- | 60 | 72 | 72 | 70 | 53 | 61 | 50 | 52 | 36 | 29 | 28 | 26 | 30 | 25 | 17 | 6 | 2 | 0 | -- |
| Contained Metal - Zn | mlbs | 1,565 | -- | -- | 77 | 79 | 94 | 116 | 125 | 165 | 136 | 78 | 68 | 90 | 80 | 90 | 75 | 91 | 104 | 53 | 42 | 2 | -- |
| Recovered Metal - Ag | koz | 91,928 | -- | -- | 5,391 | 6,196 | 7,713 | 8,221 | 7,761 | 8,723 | 6,819 | 5,847 | 5,493 | 5,235 | 5,609 | 5,187 | 5,485 | 3,800 | 2,300 | 1,294 | 807 | 46 | -- |
| Recovered Metal - Au | koz | 49.2 | -- | -- | 8.6 | 7.4 | 5.0 | 3.8 | 3.9 | 3.3 | 2.9 | 2.0 | 1.8 | 1.7 | 2.2 | 1.8 | 2.2 | 1.3 | 0.6 | 0.2 | 0.3 | 0.0 | -- |
| Recovered Metal - Cu | mlbs | 86.5 | -- | -- | 5.1 | 3.2 | 3.5 | 4.7 | 4.5 | 3.1 | 3.8 | 5.3 | 7.2 | 8.2 | 10.5 | 9.2 | 9.1 | 5.3 | 1.4 | 1.2 | 1.0 | 0.1 | -- |
| Recovered Metal - Pb | mlbs | 599.6 | -- | -- | 52.2 | 62.7 | 62.6 | 60.9 | 46.5 | 52.7 | 43.3 | 45.4 | 31.7 | 25.2 | 24.1 | 22.8 | 25.8 | 21.7 | 14.6 | 5.2 | 2.0 | 0.1 | -- |
| Recovered Metal - Zn | mlbs | 1,458 | -- | -- | 72.2 | 73.4 | 87.7 | 107.8 | 116.8 | 153.6 | 126.3 | 73.1 | 63.6 | 84.0 | 74.5 | 84.3 | 69.5 | 84.7 | 96.5 | 49.5 | 38.8 | 1.7 | -- |
| Cu Concentrate (dry) | kt | 145.3 | -- | -- | 8.6 | 5.4 | 5.8 | 7.9 | 7.6 | 5.3 | 6.3 | 9.0 | 12.0 | 13.9 | 17.7 | 15.4 | 15.3 | 9.0 | 2.4 | 1.9 | 1.6 | 0.1 | -- |
| Cu Concentrate (wet) | kt | 158.8 | -- | -- | 9.4 | 5.9 | 6.4 | 8.7 | 8.3 | 5.7 | 6.9 | 9.8 | 13.2 | 15.1 | 19.3 | 16.8 | 16.7 | 9.8 | 2.7 | 2.1 | 1.8 | 0.1 | -- |
| Pb Concentrate (dry) | kt | 418.4 | -- | -- | 36.5 | 43.8 | 43.7 | 42.5 | 32.5 | 36.8 | 30.2 | 31.7 | 22.1 | 17.6 | 16.8 | 15.9 | 18.0 | 15.1 | 10.2 | 3.6 | 1.4 | 0.1 | -- |
| Pb Concentrate (wet) | kt | 457.3 | -- | -- | 39.8 | 47.8 | 47.8 | 46.5 | 35.5 | 40.2 | 33.0 | 34.6 | 24.2 | 19.2 | 18.4 | 17.4 | 19.7 | 16.5 | 11.1 | 4.0 | 1.5 | 0.1 | -- |
| Zn Concentrate (dry) | kt | 1,237 | -- | -- | 61.3 | 62.2 | 74.4 | 91.4 | 99.1 | 130.3 | 107.1 | 62.0 | 54.0 | 71.3 | 63.2 | 71.5 | 58.9 | 71.8 | 81.9 | 42.0 | 32.9 | 1.5 | -- |
| Zn Concentrate (wet) | kt | 1,351.7 | -- | -- | 66.9 | 68.0 | 81.3 | 99.9 | 108.3 | 142.4 | 117.1 | 67.8 | 59.0 | 77.9 | 69.0 | 78.2 | 64.4 | 78.5 | 89.5 | 45.9 | 36.0 | 1.6 | -- |
| Total Payable Metal - Ag | koz | 83,930 | -- | -- | 4,948 | 5,711 | 7,119 | 7,552 | 7,091 | 7,913 | 6,170 | 5,380 | 5,068 | 4,770 | 5,150 | 4,723 | 5,045 | 3,402 | 2,010 | 1,131 | 705 | 40 | -- |
| Total Payable Metal - Au | koz | 47.1 | -- | -- | 8.2 | 7.1 | 4.8 | 3.6 | 3.8 | 3.2 | 2.8 | 1.9 | 1.8 | 1.7 | 2.1 | 1.7 | 2.1 | 1.2 | 0.6 | 0.2 | 0.3 | 0.0 | -- |

| Macro Assumptions | Units | Total / Avg. | -2 | -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Payable Metal - Cu | mlbs | 83.3 | -- | -- | 4.9 | 3.1 | 3.3 | 4.5 | 4.4 | 3.0 | 3.6 | 5.1 | 6.9 | 7.9 | 10.1 | 8.8 | 8.7 | 5.1 | 1.4 | 1.1 | 0.9 | 0.1 | -- |
| Total Payable Metal - Pb | mlbs | 569.6 | -- | -- | 49.6 | 59.6 | 59.5 | 57.9 | 44.2 | 50.1 | 41.1 | 43.1 | 30.1 | 23.9 | 22.9 | 21.7 | 24.6 | 20.6 | 13.8 | 5.0 | 1.9 | 0.1 | -- |
| Total Payable Metal - Zn | mlbs | 1,240 | -- | -- | 61.4 | 62.4 | 74.6 | 91.6 | 99.3 | 130.6 | 107.4 | 62.2 | 54.1 | 71.4 | 63.3 | 71.7 | 59.1 | 72.0 | 82.0 | 42.1 | 33.0 | 1.5 | -- |
| Total Payable Metal - AgEq | koz AgEq | 194,331 | -- | -- | 11,959 | 12,806 | 14,729 | 16,133 | 15,471 | 17,965 | 14,646 | 11,682 | 10,658 | 11,209 | 11,521 | 11,231 | 11,017 | 9,201 | 7,362 | 3,839 | 2,765 | 137 | -- |
| **Revenue - Ag** | **$mm** | **1,930** | **--** | **--** | **114** | **131** | **164** | **174** | **163** | **182** | **142** | **124** | **117** | **110** | **118** | **109** | **116** | **78** | **46** | **26** | **16** | **1** | **--** |
| **Revenue - Au** | **$mm** | **87** | **--** | **--** | **15** | **13** | **9** | **7** | **7** | **6** | **5** | **4** | **3** | **3** | **4** | **3** | **4** | **2** | **1** | **0** | **0** | **0** | **--** |
| **Revenue - Cu** | **$mm** | **333** | **--** | **--** | **20** | **12** | **13** | **18** | **17** | **12** | **14** | **21** | **28** | **32** | **41** | **35** | **35** | **21** | **6** | **4** | **4** | **0** | **--** |
| **Revenue - Pb** | **$mm** | **570** | **--** | **--** | **50** | **60** | **60** | **58** | **44** | **50** | **41** | **43** | **30** | **24** | **23** | **22** | **25** | **21** | **14** | **5** | **2** | **0** | **--** |
| **Revenue - Zn** | **$mm** | **1,549** | **--** | **--** | **77** | **78** | **93** | **115** | **124** | **163** | **134** | **78** | **68** | **89** | **79** | **90** | **74** | **90** | **103** | **53** | **41** | **2** | **--** |
| **Total Revenue** | **$mm** | **4,470** | **--** | **--** | **275** | **295** | **339** | **371** | **356** | **413** | **337** | **269** | **245** | **258** | **265** | **258** | **253** | **212** | **169** | **88** | **64** | **3** | **--** |
| Royalties | $mm | | | | | | | | | | | | | | | | | | | | | | |
| Total Operating Costs | $mm | 1,808 | -- | -- | 106 | 120 | 123 | 123 | 117 | 116 | 116 | 127 | 124 | 128 | 129 | 119 | 116 | 88 | 67 | 50 | 37 | 2 | -- |
| Mine Operating Cost | $mm | 1,214.4 | -- | -- | 68.4 | 82.6 | 85.1 | 85.3 | 78.8 | 77.8 | 77.9 | 88.6 | 86.4 | 90.2 | 90.6 | 81.4 | 78.5 | 49.8 | 38.9 | 31.5 | 21.3 | 1.3 | -- |
| Process Cost - Power | $mm | 136.8 | -- | -- | 8.6 | 8.5 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 7.6 | 4.6 | 4.2 | 0.0 | -- |
| Process Cost - Reagents | $mm | 148.6 | -- | -- | 9.7 | 9.6 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 9.8 | 6.8 | 3.4 | 1.8 | 0.1 | -- |
| Process Cost - Consumables | $mm | 57.2 | -- | -- | 3.7 | 3.7 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 2.6 | 1.3 | 0.7 | 0.0 | -- |
| Process Cost - Maintenance | $mm | 27.8 | -- | -- | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.3 | 0.6 | 0.3 | 0.0 | -- |
| Process Cost - Labour | $mm | 41.3 | -- | -- | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 0.0 | -- |
| Process Cost - Mobile Equipment | $mm | 48.7 | -- | -- | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 0.0 | -- |
| Process Cost - Fresh Water Supply | $mm | 5.5 | -- | -- | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.1 | 0.0 | -- |
| G&A Cost | $mm | 127.6 | -- | -- | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 4.1 | 4.1 | 4.1 | -- | -- |
| Total Operating Cost Per Tonne | *$/t Milled* | *61.37* | -- | -- | 55.26 | 63.41 | 63.50 | 63.74 | 60.35 | 59.84 | 59.78 | 65.44 | 64.34 | 66.27 | 66.30 | 61.74 | 60.20 | 45.37 | 49.54 | 73.81 | 100.23 | 94.17 | -- |
| **Cash Costs (By-Product Basis)** | | | | | | | | | | | | | | | | | | | | | | | |
| Total Cash Cost * | US$/oz AgEq | 12.32 | -- | -- | 11.71 | 12.15 | 11.09 | 10.51 | 10.51 | 9.62 | 11.14 | 13.66 | 14.36 | 14.42 | 13.92 | $13.61 | 13.29 | 12.92 | 13.29 | 17.00 | 17.51 | 15.19 | -- |
| All-in Sustaining Cost ** | US$/oz AgEq | 13.23 | -- | -- | 14.17 | 13.89 | 12.22 | 11.33 | 11.23 | 10.46 | 11.59 | 14.49 | 15.43 | 15.26 | 14.69 | $13.68 | 13.41 | 13.23 | 13.41 | 17.10 | 17.52 | 136.19 | -- |
| **Total Initial Capital** | **$mm** | **388** | **170** | **218** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** | **--** |
| Mining | $mm | 129.1 | 66.8 | 62.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mining - Other | $mm | 1.9 | 0.7 | 1.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Process Plant | $mm | 117.9 | 47.2 | 70.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Additional Process Facilities | $mm | 13.6 | 5.4 | 8.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| On Site Infrastructure | $mm | 19.6 | 7.9 | 11.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Off Site Infrastructure | $mm | 8.6 | 3.5 | 5.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Project Preliminaries | $mm | 13.1 | 5.2 | 7.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Project Delivery | $mm | 25.9 | 10.3 | 15.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Owners Costs | $mm | 8.0 | 3.2 | 4.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total Provisions | $mm | 50.1 | 20.1 | 30.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Total Sustaining Capital** | **$mm** | **160.1** | **--** | **--** | **29.4** | **22.2** | **16.7** | **13.3** | **11.1** | **15.2** | **6.6** | **9.7** | **11.4** | **9.5** | **8.9** | **0.8** | **1.3** | **2.9** | **0.8** | **0.4** | **0.0** | **0.0** | **--** |
| Mining - Development | $mm | 135.5 | -- | -- | 27.6 | 21.5 | 15.7 | 10.0 | 10.5 | 13.3 | 5.8 | 8.7 | 6.0 | 8.7 | 7.4 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | -- |
| Mining - Equipment | $mm | 24.6 | -- | -- | 1.8 | 0.7 | 1.0 | 3.3 | 0.6 | 1.9 | 0.8 | 1.0 | 5.4 | 0.8 | 1.5 | 0.7 | 1.2 | 2.8 | 0.8 | 0.3 | -- | -- | -- |
| **Closure Cost** | **$mm** | **16.6** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16.6 | -- |
| **Total Offsite Charges** | **$mm** | **585.7** | **--** | **--** | **33.7** | **35.4** | **40.2** | **46.2** | **45.9** | **57.0** | **47.2** | **33.0** | **28.6** | **33.4** | **31.7** | **33.4** | **30.0** | **31.1** | **30.8** | **15.6** | **11.8** | **0.5** | **--** |
| Total Transport Cost (Road and Ocean Freight) | $mm | 202.7 | -- | -- | 11.9 | 12.4 | 13.8 | 15.9 | 15.7 | 19.5 | 16.3 | 11.5 | 9.8 | 11.6 | 11.0 | 11.6 | 10.3 | 10.9 | 10.8 | 5.5 | 4.1 | 0.2 | -- |
| Total Treatment Charges | $mm | 300.8 | -- | -- | 16.6 | 17.3 | 19.7 | 23.2 | 23.7 | 30.2 | 25.0 | 16.3 | 14.0 | 17.1 | 15.7 | 17.1 | 14.8 | 16.6 | 17.6 | 8.9 | 6.9 | 0.3 | -- |
| Total Penalty Charges | $mm | 29.9 | -- | -- | 2.1 | 2.4 | 2.5 | 2.7 | 2.3 | 2.7 | 2.3 | 2.0 | 1.5 | 1.5 | 1.4 | 1.5 | 1.4 | 1.4 | 1.2 | 0.5 | 0.4 | 0.0 | -- |
| Total Refining Charges | $mm | 52.3 | -- | -- | 3.1 | 3.3 | 4.1 | 4.4 | 4.2 | 4.6 | 3.7 | 3.3 | 3.3 | 3.2 | 3.6 | 3.3 | 3.4 | 2.3 | 1.3 | 0.7 | 0.5 | 0.0 | -- |

## 22.5 Sensitivity Analysis

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV5% and IRR of the Project using the following variables: metal price, discount rate, total operating cost, and initial capital cost. Table 22-3 shows a summary of the post-tax sensitivity results. Table 22-4 shows a summary of the pre-tax sensitivity results.

As shown in Figure 22-2 and Figure 22-3, the sensitivity analysis revealed that the Project is most sensitive to commodity price, head grade, and operating cost and less sensitive to initial capital cost.

**Table 22-3: Post-Tax Sensitivity Summary**

**Post-Tax NPV (US$M) Sensitivity to Discount Rate**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Discount Rate | -20% | -10% | -- | 10% | 20% |
| 3.0% | $285 | $553 | $818 | $1,082 | $1,345 |
| 5.0% | $195 | $419 | $642 | $863 | $1,084 |
| 8.0% | $122 | $312 | $501 | $689 | $876 |
| 10.0% | $39 | $190 | $340 | $490 | $638 |
| 12.0% | ($3) | $128 | $258 | $387 | $516 |

**Post-Tax IRR % Sensitivity to Discount Rate**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Discount Rate | -20% | -10% | -- | 10% | 20% |
| 3.0% | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 5.0% | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 8.0% | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 10.0% | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 12.0% | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |

**Post-Tax NPV (US$M) Sensitivity to Initial Capital Cost**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Capital Cost | -20% | -10% | -- | 10% | 20% |
| (20%) | $196 | $386 | $575 | $763 | $950 |
| (10%) | $159 | $349 | $538 | $726 | $913 |
| -- | $122 | $312 | $501 | $689 | $876 |
| 10% | $86 | $276 | $464 | $652 | $840 |
| 20% | $49 | $239 | $427 | $615 | $803 |

**Post-Tax IRR Sensitivity to Initial Capital Cost**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Capital Cost | -20% | -10% | -- | 10% | 20% |
| (20%) | 14.1% | 20.9% | 26.7% | 32.0% | 36.9% |
| (10%) | 11.8% | 18.2% | 23.7% | 28.7% | 33.2% |
| -- | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 10% | 8.3% | 14.0% | 19.0% | 23.4% | 27.5% |
| 20% | 6.8% | 12.4% | 17.1% | 21.3% | 25.2% |

**Post-Tax NPV (US$M) Sensitivity to Operating Cost**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Operating Cost | -20% | -10% | -- | 10% | 20% |
| (20%) | $274 | $463 | $650 | $838 | $1,025 |
| (10%) | $198 | $388 | $576 | $763 | $951 |
| -- | $122 | $312 | $501 | $689 | $876 |
| 10% | $47 | $237 | $426 | $614 | $802 |
| 20% | ($30) | $161 | $351 | $540 | $727 |

**Post-Tax IRR Sensitivity to Operating Cost**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Operating Cost | -20% | -10% | -- | 10% | 20% |
| (20%) | 14.7% | 20.0% | 24.8% | 29.1% | 33.2% |
| (10%) | 12.4% | 18.0% | 23.0% | 27.5% | 31.7% |
| -- | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 10% | 7.2% | 13.8% | 19.2% | 24.1% | 28.5% |
| 20% | 4.0% | 11.4% | 17.2% | 22.3% | 26.9% |

**Post-Tax NPV (US$M) Sensitivity to Head Grade**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Head Grade | -20% | -10% | -- | 10% | 20% |
| (20%) | ($134) | $20 | $172 | $324 | $475 |
| (10%) | ($5) | $166 | $337 | $507 | $676 |
| -- | $122 | $312 | $501 | $689 | $876 |
| 10% | $250 | $458 | $664 | $871 | $1,077 |
| 20% | $377 | $603 | $828 | $1,053 | $1,278 |

**Post-Tax IRR Sensitivity to Head Grade**

| | Commodity Price | | | | |
|---|---|---|---|---|---|
| Head Grade | -20% | -10% | -- | 10% | 20% |
| (20%) | 0.0% | 6.1% | 11.6% | 16.3% | 20.4% |
| (10%) | 5.0% | 11.4% | 16.7% | 21.3% | 25.5% |
| -- | 9.9% | 16.0% | 21.2% | 25.8% | 30.1% |
| 10% | 14.1% | 20.0% | 25.3% | 30.0% | 34.4% |
| 20% | 17.8% | 23.8% | 29.1% | 33.9% | 38.5% |

**Table 22-4: Pre-Tax Sensitivity Summary**

**Pre-Tax NPV (US$M) Sensitivity to Discount Rate**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Discount Rate | | -20% | -10% | -- | 10% | 20% |
| | 3.0% | $541 | $949 | $1,357 | $1,765 | $2,173 |
| | 5.0% | $410 | $753 | $1,096 | $1,438 | $1,781 |
| | 8.0% | $306 | $597 | $887 | $1,178 | $1,469 |
| | 10.0% | $185 | $417 | $648 | $879 | $1,111 |
| | 12.0% | $123 | $324 | $525 | $725 | $926 |

**Pre-Tax IRR % Sensitivity to Discount Rate**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Discount Rate | | -20% | -10% | -- | 10% | 20% |
| | 3.0% | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 5.0% | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 8.0% | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 10.0% | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 12.0% | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |

**Pre-Tax NPV (US$M) Sensitivity to Initial Capital Cost**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Capital Cost | | -20% | -10% | -- | 10% | 20% |
| | (20%) | $379 | $670 | $961 | $1,252 | $1,543 |
| | (10%) | $343 | $633 | $924 | $1,215 | $1,506 |
| | -- | $306 | $597 | $887 | $1,178 | $1,469 |
| | 10% | $269 | $560 | $851 | $1,142 | $1,432 |
| | 20% | $232 | $523 | $814 | $1,105 | $1,396 |

**Pre-Tax IRR Sensitivity to Initial Capital Cost**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Capital Cost | | -20% | -10% | -- | 10% | 20% |
| | (20%) | 20.4% | 29.0% | 36.6% | 43.5% | 49.9% |
| | (10%) | 17.9% | 25.9% | 33.0% | 39.4% | 45.4% |
| | -- | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 10% | 13.8% | 21.1% | 27.4% | 33.2% | 38.5% |
| | 20% | 12.2% | 19.2% | 25.2% | 30.7% | 35.7% |

**Pre-Tax NPV (US$M) Sensitivity to Operating Cost**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Operating Cost | | -20% | -10% | -- | 10% | 20% |
| | (20%) | $536 | $827 | $1,118 | $1,409 | $1,700 |
| | (10%) | $421 | $712 | $1,003 | $1,294 | $1,584 |
| | -- | $306 | $597 | $887 | $1,178 | $1,469 |
| | 10% | $191 | $481 | $772 | $1,063 | $1,354 |
| | 20% | $75 | $366 | $657 | $948 | $1,239 |

**Pre-Tax IRR Sensitivity to Operating Cost**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Operating Cost | | -20% | -10% | -- | 10% | 20% |
| | (20%) | 21.6% | 28.4% | 34.6% | 40.3% | 45.7% |
| | (10%) | 18.8% | 26.0% | 32.4% | 38.2% | 43.7% |
| | -- | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 10% | 12.3% | 20.6% | 27.6% | 33.8% | 39.6% |
| | 20% | 8.4% | 17.6% | 25.0% | 31.5% | 37.5% |

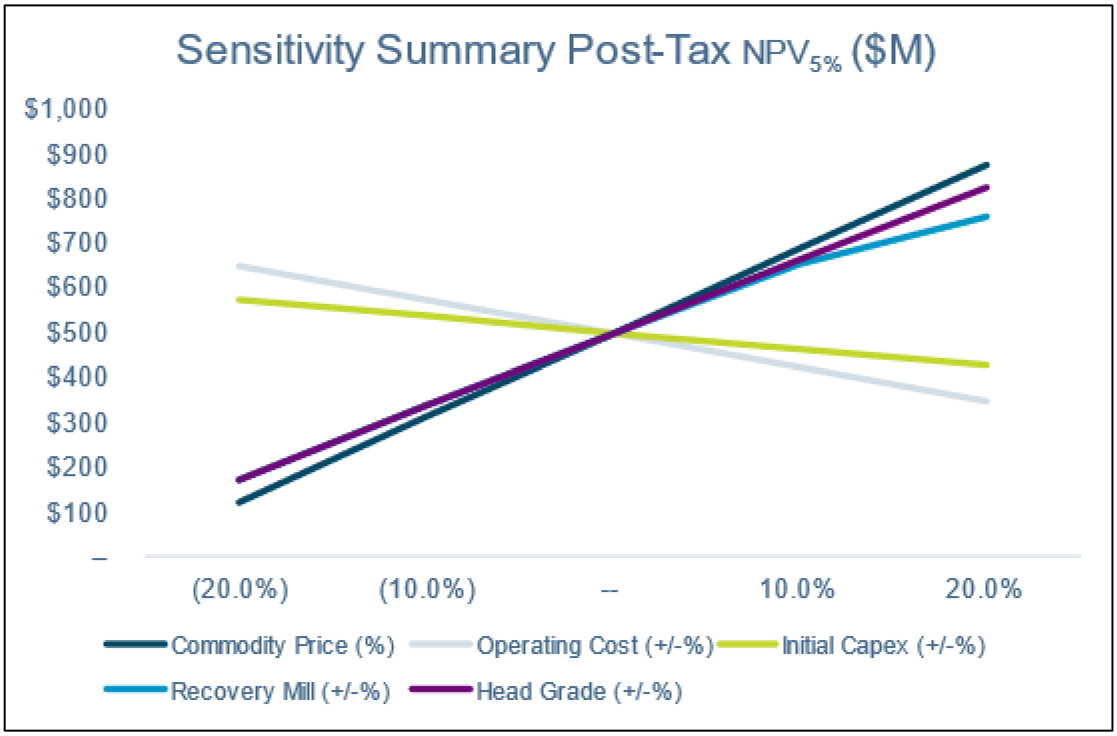
**Pre-Tax NPV (US$M) Sensitivity to Head Grade**

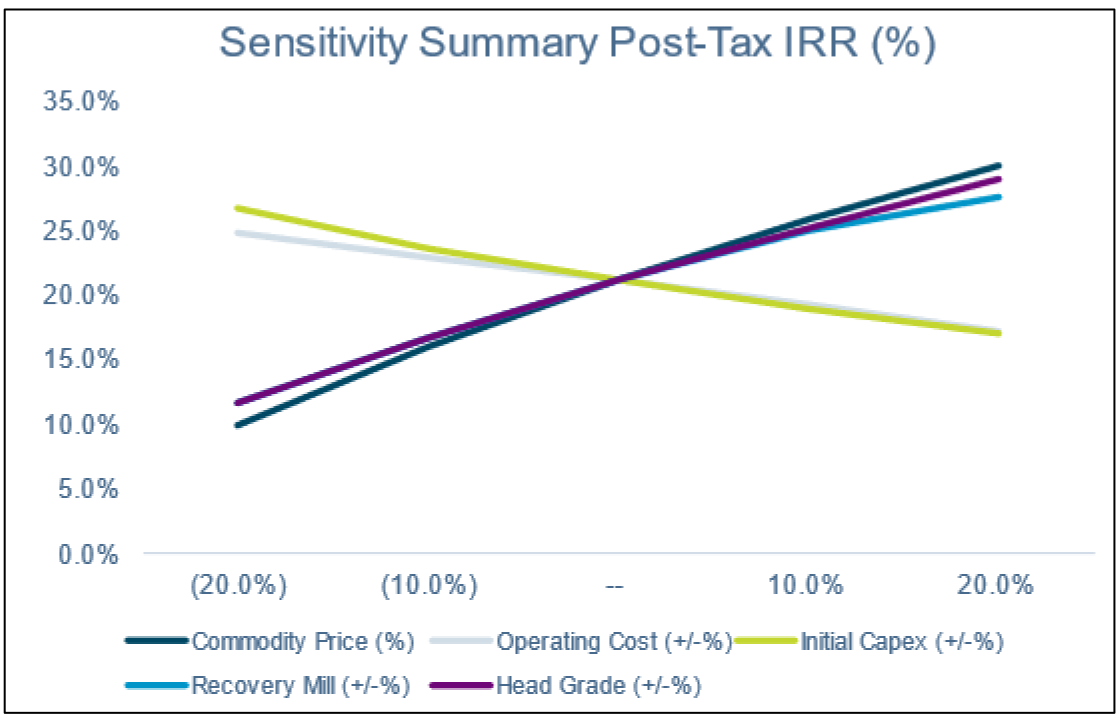
| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Head Grade | | -20% | -10% | -- | 10% | 20% |
| | (20%) | ($84) | $148 | $381 | $614 | $847 |
| | (10%) | $111 | $373 | $634 | $896 | $1,158 |
| | -- | $306 | $597 | $887 | $1,178 | $1,469 |
| | 10% | $501 | $821 | $1,141 | $1,461 | $1,781 |
| | 20% | $696 | $1,045 | $1,394 | $1,743 | $2,092 |

**Pre-Tax IRR Sensitivity to Head Grade**

| | | Commodity Price | | | | |
|---|---|---|---|---|---|---|
| Head Grade | | -20% | -10% | -- | 10% | 20% |
| | (20%) | 1.4% | 10.8% | 17.8% | 23.7% | 29.1% |
| | (10%) | 9.5% | 17.6% | 24.2% | 30.2% | 35.6% |
| | -- | 15.7% | 23.4% | 30.0% | 36.1% | 41.7% |
| | 10% | 21.0% | 28.6% | 35.3% | 41.6% | 47.4% |
| | 20% | 25.7% | 33.4% | 40.3% | 46.8% | 52.8% |

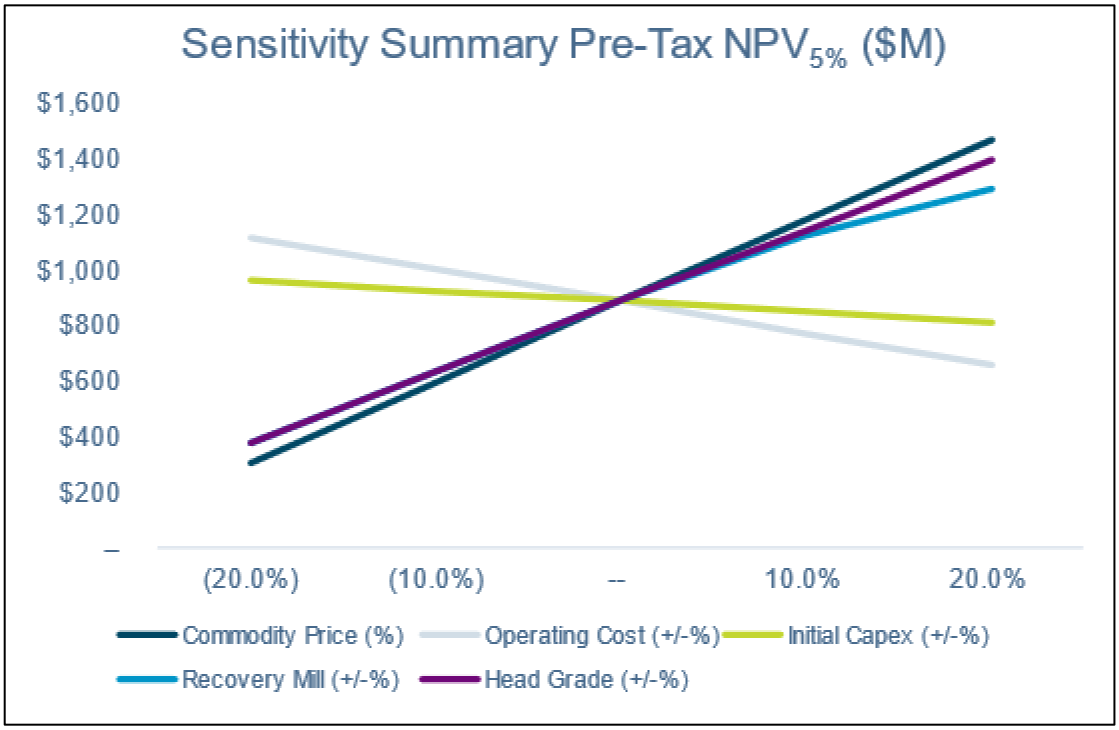
**Figure 22-2: Post-Tax NPV and IRR Sensitivity Results**

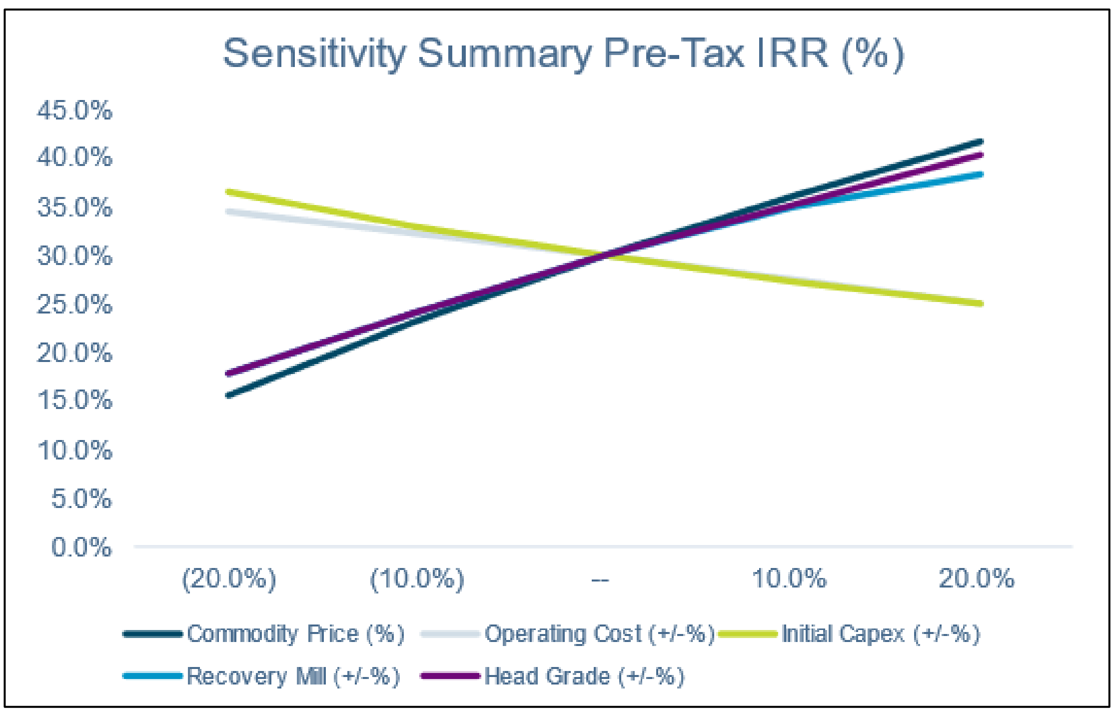



Source: Ausenco, 2024.

**Figure 22-3: Pre-Tax NPV and IRR Sensitivity Results**




Source: Ausenco, 2024.

# 23 ADJACENT PROPERTIES

The Cerro Las Minitas property is located 70 km northeast of the City of Durango, capital of the state of Durango, and 6 km northwest of the town of Guadalupe Victoria, in the municipality of Guadalupe Victoria, Durango. All mineral ground surrounding the Cerro Las Minitas concessions is held under concessions of Industrias Peñoles. Industrias Peñoles does not publish nor make public data or information related to their exploration activities.

# 24 OTHER RELEVANT DATA AND INFORMATION

This section is not relevant to this report.

# 25 INTERPRETATION AND CONCLUSIONS

## 25.1 Introduction

The QPs note 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 Cerro Las Minitas property is located 70 km northeast of the City of Durango, the capital of the state of Durango, and 6 km northwest of the town of Guadalupe Victoria, in the municipality of Guadalupe Victoria, Durango, Mexico. The property consists of 26 mining concessions encompassing 31, 716 ha.

The surface access to the area of the mineral resource is controlled by the Ejidos of Guadalupe Victoria and Ignacio Ramirez. Southern Silver's Mexican subsidiary Minera Plata del Sur S.V. has 25-year surface access exploration agreements covering the common ground of the Guadalupe Victoria Ejido and the Ignacio Ramirez Ejido that lies within the Cerro Las Minitas concessions. On the CLM West claims, surface rights are owned by the Ejido communities of Francisco I Madero, Geronimo Hernandez, Librado Rivera and Guadalupe Victoria. Exploration agreements with these Ejido communities are in the process of being finalized and are summarized below. Similarly, agreements with individual Ejido landowners are negotiated as needed to cover deeded lands.

The status of the agreements with each relevant stakeholder is as follow:

- **Guadalupe Victoria**: Signed and registered 20-year Exploration Access Agreement, June 18, 2005. This was completed as part of permitting for core drilling in the Area of the Cerro Las Minitas Project.
- **Ignacio Ramirez**: Signed and registered 20-year Exploration Access Agreement, May 29, 2018. This was completed as part of permitting for core drilling in the Area of the Cerro Las Minitas Project.
- **Librado Rivera**: Signed and registered for an 8-year Exploration Access Agreement, Dec 2, 2017.
- **Francisco I Madero**: Signed and registered for an 8-year Exploration Access Agreement, Feb 2, 2018.
- **Geronimo Hernandez**: Signed and registered for an 8-year Exploration Access Agreement, Feb 3, 2018.
- Discussions with the private ranch owners are ongoing. Exploration activity is approved in most cases.

## 25.3 Geology and Mineralization

Mineral resources on the Cerro Las Minitas project are hosted within a prominent domal uplift of Cretaceous marine sediments cored by an intrusive porphyry complex. Contact metasomatic (skarnoid) deposits of Ag, Zn, Pb, Cu and Au are known to occur at various locations in the contact zone around the central intrusive complex, as well as at the margins of some dykes that emanate from the main intrusive complex.

Mineralization discovered to date on the Cerro Las Minitas project can be broadly classified into two genetically related deposit types; Skarn and Carbonate Replacement Deposits.

## 25.4 Exploration, Drilling and Analytical Data Collection in Support of Mineral Resource Estimation

Since acquisition of the property in 2010, diamond drilling; geological mapping; geochemical rock, soil and acacia sampling; shallow and deep-seated IP surveys; a ground gravity survey; and an airborne magnetic survey have been completed. Geological mapping, sampling and some trenching has been conducted periodically to define and delineate targets for continued exploration drilling.

A total of 218 holes totaling 93,494 metres have been drilled at Cerro Las Minitas resulting in the delineation of six mineral deposits: the Blind; El Sol, Las Victorias, Skarn Front, South Skarn and Mina La Bocona/North Felsite deposits and several additional target areas of high exploration potential.

The Blind and El Sol deposits comprise multiple sub-vertical northwest-southeast trending zones of semi-massive to massive sulphide mineralization. Mineralization is hosted in the skarnoid- and hornfels-altered margins of monzonite and felsite dykes may be localized along through-going structures or occur as replacements within stratigraphic units. The mineralized zones can be traced for up to 1000 metres along strike and up to 800 metres down dip.

Sulphide mineralization in the Skarn Front and parts of the South Skarn and La Bocona deposits is localized at the outer boundary of the skarnoid alteration zone surrounding the Central Monzonite Intrusion at or near the transition to the recrystallized/marbleized carbonate sediments (marmorized zone). Mineralization on the western side of the Central Monsonite Intrusion can be trace for up to 1300 metres along strike and up to 1000 metres depth. Similarly, mineralization on the eastern side of the Intrusion is localized within the Skarnoid zone and is traced laterally by drilling for up to 850 metres strike and up to 500 metres down dip.

Initial drilling in 2011 targeted skarnoid and replacement deposits in the margin of the central Intrusion in the Santo Nino, Mina La Bocona and the North Felsite zones and also tested several Induced Polarization geophysical targets both within the Central Intrusion and outboard of the known zones of mineralization in gravel covered areas. This initial 11-hole drill program successfully identified extensions to the Santo Nino zone mineralization approximately 100m vertically underneath the lowest historic workings, confirmed previous drill results at the North Skarn and Mina La Bocona targets and resulted in the discovery of the Blind zone, a new high-grade target outboard of the El Sol shaft in a gravel covered field.

Drilling in 2015 continued to expand the overall size of the Blind and El Sol deposits and identify new zones of high-grade mineralization. This and subsequent drilling delineated these mineralized zones for up to 1000 metres strike and up to 650 metres depth.

Drilling in 2017 by Southern Silver successfully outlined the Skarn Front as a zone of mineralization, located at depth beneath the Blind and El Sol Zones. Mineralization occurs on the outer edge of the skarnoid alteration zone surrounding the Central Monzonite Intrusion at or near the transition into marble and forms the primary geological control on the distribution of sulphide mineralization.

Subsequent geological modelling suggests that intersections between the sub-vertical, northwest-trending mineralized zones of the Blind and El Sol deposits and the generally more shallowly dipping Skarn Front may localize higher-grade shoots of mineralization which may be in part responsible for higher grade intervals identified in some of the 2017 drilling.

Exploration in 2018 targeted two new step-out targets with further drill testing. Mineralization in the Skarn Front is open for approximately 300 metres along strike to the southeast of drill holes 18CLM-117 in what is now termed the Las Victorias zone and up to 250 metres along strike to the northeast, where the zone wraps around the northern margin of the Central Intrusion, in the North Skarn zone.

In 2017/18, seven additional claims were staked totalling 20,746.60 ha to the south and west of the existing claims to cover prospective, gravel-covered ground. These claims are collectively known as the CLM West claim group. Over 6400 rock chip and float samples have been collected in the CLM West claims to date and identify a >12 kilometre long northwest-southeast-trending corridor of anomalous precious-metal and pathfinder values that display a distinct zoning pattern consistent with modelled vertical and lateral zonation within a large epithermal vein system. Multiple distinct clusters and trends are seen in the metal distribution in the samples which provide potential future targets for further exploration on the property. Drill testing in 2018 successfully discovered silver mineralization as well as wide intercepts of anomalous pathfinder elements such as As and Sb which provide compelling follow-up targets.

Drilling in 2020-22 confirmed laterally extensive skarnoid-style mineralization in the South Skarn La Bocona and North Felsite deposits which are located on the eastern side of the Central Monzonite Intrusion. In each of these deposits, mineralization occurs adjacent to the central intrusion, features similar replacement styles and variability in metal assemblage, but tends to be more galena biased and is generally associated with elevated silver values when compared to the Skarn Front mineralization.

Drilling also identified manto-styled mineralization within the La Bocona deposit which occurs as replacements in the hanging wall of the skarnoid mineralized zone within variably altered marble-skarn-hornfels. The mineralization is strongly silver-enriched with elevated lead, arsenic and gold values. The upper portion of the mineralized zone is strongly oxidized and makes up in part the small oxide resource identified in the current mineral resource update.

## 25.5 Metallurgical Testwork

The flotation results obtained consistently confirm the robust nature of the flotation sequence and the ability of the flowsheet to manage fluctuations in head grade without significant loss of concentrate grade or recovery. The recoveries and grades used in the economic assessment are regarded as reasonable.

## 25.6 Mineral Resource Estimate

The updated Mineral Resource estimate features multiple sulphide resources from eight mineral deposits, a small oxide resource. These resources serve as an update of the previously reported deposits utilizing current metal pricing and metallurgical recoveries. The resource statement is reported using an NSR cut-off and reports average grades on a AgEq and $US/t NSR basis.

Note that mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. In addition, these resource statements include inferred resources that have a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Table 25-1 shows the Mineral Resource Statement for the Cerro Las Minitas deposit.

**Table 25-1: Base-Case Total Mineral Resources at $60 NSR Cut-Off**

| Indicated Resources | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Zn (%) | Pb (%) | Au (g/t) | Cu (%) |
|---|---|---|---|---|---|---|---|
| Blind Zone | 2,614 | 112.93 | 92.22 | 2.02 | 1.84 | 0.04 | 0.10 |
| El Sol | 1,252 | 105.52 | 77.05 | 1.94 | 2.07 | 0.04 | 0.08 |
| Skarn Front | 7,626 | 142.83 | 104.24 | 4.12 | 0.76 | 0.06 | 0.19 |
| North Felsite/La Bocona | 1,807 | 134.60 | 121.19 | 1.49 | 2.06 | 0.19 | 0.23 |
| **Total** | **13,299** | **132.32** | **101.62** | **3.14** | **1.27** | **0.07** | **0.17** |
| **Inferred Resources** | **Tonnes (kt)** | **NSR (US$/t)** | **Ag (g/t)** | **Zn (%)** | **Pb (%)** | **Au (g/t)** | **Cu (%)** |
| Blind Zone | 1,697 | 94.93 | 73.83 | 1.78 | 1.22 | 0.20 | 0.08 |
| Las Victorias | 1,417 | 155.21 | 123.60 | 2.20 | 1.86 | 0.65 | 0.12 |
| El Sol | 1,168 | 89.80 | 57.24 | 2.07 | 1.68 | 0.03 | 0.06 |
| Skarn Front | 12,444 | 126.29 | 109.56 | 2.59 | 0.66 | 0.05 | 0.32 |
| North Felsite/La Bocona | 2,666 | 123.90 | 120.48 | 1.61 | 1.44 | 0.22 | 0.13 |
| South Skarn | 4,036 | 128.91 | 134.04 | 1.25 | 1.91 | 0.19 | 0.08 |
| **Total** | **23,428** | **124.13** | **110.67** | **2.14** | **1.13** | **0.14** | **0.21** |

Notes: **1.** The current Resource Estimate was prepared by Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd., and has an effective date of May 20, 2024. **2.** All mineral resources have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum ("CIM") definitions, as required under National Instrument 43-101 ("NI43-101"). **3.** Mineral resources were constrained using continuous mining units demonstrating reasonable prospects of eventual economic extraction. **4.** NSR values were calculated from the interpolated block values using relative recoveries and prices between the component metals depending of concentrate to which they are reporting to. **5.** Mineral resources are not mineral reserves until they have demonstrated economic viability. Mineral resource estimates do not account for a resource's mineability, selectivity, mining loss, or dilution. **6.** An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. **7.** The $60/t NSR cut-off value was calculated using average long-term prices of $22.50/oz. silver, $1,850/oz. gold, $3.78/lb. copper, $0.94/lb. lead and $1.25/lb. zinc. Metallurgical work from locked cycle testwork produced three saleable concentrates for the Skarn zone and testwork on a composite of the Blind, El Sol and Las Victorias Zones produced two saleable concentrates. This work, along with marketing studies were used to decide the NSR cut-off value. **8.** All figures are rounded to reflect the relative accuracy of the estimate and therefore numbers may not add precisely.

**Table 25-2: Oxide Mineral Resource Estimate for CLM Project Utilizing a US$60/t NSR Cut-off Value**

| La Bocona Oxide | Tonnes (kt) | NSR (US$/t) | Ag (g/t) | Au (g/t) |
|---|---|---|---|---|
| **Inferred** | **139** | **103.41** | **111.61** | **1.37** |

Notes: The $60/t NSR cut-off value was calculated using average long-term prices of $20/oz. silver, $1,850/oz. gold. Base metals were not recovered in the leach circuit. Metallurgical work from batch test work recovered 74% silver from oxidized composites from the Blind – El Sol zones. Gold recovery was not assessed and is estimated at 70% for the purposes of this report. This work, along with marketing studies were used to decide the NSR cut-off value. All prices are stated in $USD. The effective date of the mineral resource estimate is May 20, 2024.

## 25.7 Mining Methods

Contract mining was selected due to the benefit of deferring of capital and the higher NPV (after tax) estimated due to the current tax regime in Mexico. A contractor can also supply existing mining systems, equipment, and access to key mining personnel to help deliver the ~8-10 km lateral development over the initial 6 years.

Mining at the Cerro Las Minitas deposit is proposed to use longhole stoping over 25 m sublevels in predicted good ground conditions. The mine plan considers paste backfill and a modern fleet of 21-t loaders and 63-t trucks. The mine plan is estimated to produce upwards of 6,900 tpd (waste and plant feed) sourced from CLM Main and CLM East. With a 2-year ramp up, the mine plan meets the targeted plant feed of 5,300 tpd and can sustain that production for a period of 14 years.

The mine plan targets the higher margin material in the South Skarn while development advances to the highest margin material in the Skarn Front. The Skarn Front begins production in Year 4, and peak metal production occurs in Year 8 with approximately 17.8 Moz Ag equivalent being produced. Average metal production from Year 1 to Year 15 is approximately 12.4 Moz Ag equivalent.

## 25.8 Recovery Methods

The conceptual flowsheet has been developed based on results of metallurgical testwork to date on samples of mineralized material types expected to be processed during the life of the mine. The preliminary testwork established that sequential flotation to produce copper, lead/silver, and zinc concentrates is possible.

The flowsheet was designed for a nameplate capacity throughput of 5,300 t/d (1,934,500 t/a). Conventional mineral processing technologies were selected to produce copper, lead/silver, and zinc concentrates as well as a pyrite concentrate for concentrate leaching to extract precious metal. The feed rate to the plant facilitates a simple crushing and grinding circuit with two stages of crushing and a single stage of ball milling. Four flotation streams consisting of rougher and cleaner flotation with regrind produces the four concentrates. The pyrite concentrate is further processed to extract gold in the hydrometallurgical plant with cyanide leaching, counter-current decantation, and a Merrill Crowe process. A portion of the tailings will be used as mine backfill material, while the remaining portion will be disposed in a filtered TSF.

Additional metallurgical testwork will better define the metallurgical response and assess the effect of mineralized material variability and optimize reagent schemes.

## 25.9 Project Infrastructure

The Cerro Las Minitas Project includes on-site infrastructure such as earthworks development, site facilities and buildings, on-site roads, water management systems, and site electrical power facilities. Off-site infrastructure includes site access roads, power supply, piping, and a tailings storage facility. The site infrastructure will include:

- Mine facilities include haul roads, mine offices, mine dry, truck shop, fuel station and wash bay.
- Common facilities, including an entrance/exit gatehouse, truck scale, parking lot, administration building, a medical office, training/safety room, warehouse, laboratory, power distribution facilities, construction camp area, light vehicle roads and explosive storage area.
- Process facilities housed in the process plant, including crushing and grinding plant, flotation cells, concentrate filtration, cyanide leach plant, CCD area, Merrill-Crowe plant, refinery, gold room, tailings filtration, paste plant, plant dry, and reagents storage.
- Other infrastructure includes ROM stockpile, contact water pond, waste rock storage facility (WRSF) and dry stack tailings facility (DSTF).

The Cerro Las Minitas property is located approximately 6 km northwest of the town of Guadalupe Victoria, Durango and 70 km northeast of the City of Durango, the capital of the state of Durango. The property can be reached from the City of Durango via Interstate Highway 40D (toll road) and Highway 40 (free access), the road from Francisco I. Madero to Cuencamé. There is no access to Interstate Highway 40D from Cerro Las Minitas, although the highway bisects the property. A graded dirt road leads from Guadalupe Victoria north to the area of the Cerro and affords easy access to the project.

A 115 kV overhead electrical power transmission line, 13 kms in length, will run on self-supported steel towers to site from the CFE Substation in Guadalupe Victoria.

Fresh water will be sourced from the underground mine and pumped to the process plant where a freshwater tank will be located.

Site selection and location for project infrastructure was guided by the following considerations:

- The facilities described above must be located on the Cerro Las Minitas project permit boundary.
- Locating the waste rock storage facility close to the underground portals to reduce haul distance.
- The facilities should be located at a site that takes advantage of sloped natural terrain to adequately drain surface water and reduce earthworks.
- Separate heavy mine vehicle traffic from non-mining, light vehicle traffic.
- Locate the process plant near an existing primary access road.
- Place mining, administration, and process plant staff offices close together to limit walking distances between them.

## 25.10 Markets and Contracts

No market studies were completed for commodity pricing as part of the 2024 PEA. Market price assumptions were based on a review of public information, industry consensus, standard practices and specific information from comparable operations in the region. Southern Silver's management were provided with indicative smelter terms.

## 25.11 Environmental, Permitting and Community

The baseline environmental information provided in this report have been gathered mainly from publicly available sources as well as from reports commissioned to support the exploration phases of the Project. Currently data is available on meteorology and climate, hydrology, groundwater, flora, and fauna in the Project area and vicinity. There is currently no data available from public or other sources for the subject areas of geochemistry, archaeology, air quality, and noise for the Project site. To support the next stage of the Project design work and to support future environmental assessment and permitting applications, site based environmental and local socioeconomic studies will need to be initiated. Groundwater, hydrology, and site water balance studies will need to be initiated and/or further advanced to support the next phase of the project design in the areas of groundwater studies and modelling, geochemistry studies, and further refinement of the mine water balance. The purpose of these studies would be to ensure that sufficient quantity of water would be available from dewatering the mine workings to support Project requirements and to identify the need for any water treatment requirements. Based on existing documentation, no water rights in the area are currently available for purchase.

The Project is not located within any Protected Natural Areas based on the government information reviewed. Therefore, there are no restrictions related to protected areas that could inherently limit the development of the project on that basis. Currently, the only known environmental liabilities are associated with the exploration site activities, access roads, and existing underground workings from former operations. Remediation of surface disturbances and removal of wastes will be mitigated by compliance with applicable Mexican regulatory requirements.

Mining in Mexico is subject to a well-developed system of environmental regulation that applies from the exploration stage to mine development, operation, and ultimately through mine closure. There are several environmental permits required for the construction and operation of the Project. Most of the mining regulations are at a federal level, but there are also a number of permits regulated and approved at state and local level. Detailed presentation of permitting requirements for the Project are presented in Section 20, Table 20-4. No permits are currently held for construction or operations activities.

Over the years, the company has reported that it has actively engaged with local communities as part of its social commitment. Socio-economic studies and continued community engagement efforts will help to identify community needs and provide a basis for targeted community investment in local development projects, training, education, and employment. These activities will continue to enhancee community support that will be required to progress the Project on a timely basis through the regulatory process.

Implementation of the recommendations provided in Section 26 will help to address and mitigate permitting and community risks.

## 25.12 Capital Cost Estimates

The capital and operational cost estimates provided in this PEA offer expenses that can be utilized to evaluate the Cerro Las Minitas Project's preliminary economics. The estimates are based on an underground mine operation as well as the construction of a process plant, tailings storage facility, and infrastructure as well as owner's costs and provisions.

The capital cost estimate conforms to Class 5 guidelines of the Association for the Advancement of Cost Engineering International (AACE International), with an estimated accuracy of +50%/-30% accuracy. The capital cost estimate was developed in Q1 2024 United States dollars based on Ausenco's in-house database of projects and advanced studies as well as experience from similar operations.

The total initial capital cost for the Cerro Las Minitas Project is US$387.8 M, and the LOM sustaining cost including financing is US$176.7 M. The capital costs are summarized in Section 21.

## 25.13 Operating Cost Estimate

The operating cost estimate was developed in Q1 2024 using data from projects, studies, and previous operations from Ausenco's internal database. The operating cost estimate is around +50%/-30% accurate. Section 21 includes a summary of the operating expenses.

The unit operating cost per tonne of material milled is US$61.37 and the LOM operating cost is US$1.8 billion.

## 25.14 Economic Analysis

Based on the assumptions and parameters in this report, the preliminary economic assessment shows positive economics including a post tax NPV5% of US$501.1M and 21.2% post-tax IRR).

The economic assessment presented herein is preliminary in nature and includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized.

## 25.15 Risks and Opportunities

### 25.15.1 Risks

#### 25.15.1.1 Metallurgical Testwork

The final metallurgical performance may be reduced or improved by further investigations. The factors that present the highest risks to metallurgical performance include grade variability, reticulated process water quality, grinding liberation efficiency and unsatisfactory differential flotation efficiency resulting from uncontrolled changes in feed mineralogy. Different metallurgical recoveries and mineral deportments than assumed for the payable elements could impact concentrate production and project cash flow forecasts.

#### 25.15.1.2 Mineral Resource Estimate

Mineral resource estimates are inherently forward-looking and may be subject to change. Although due diligence is exercised in reviewing the supplied information, uncontrollable factors or unforeseen events can have significant positive or negative impacts on mineral resource statements. These uncontrollable factors and/or unforeseen events may consist of risks such as:

- Cyclical nature of the mineral industry,
- Global economic, political and regulatory changes,
- Commodity price fluctuations based on varying levels of demand,
- Changes in the social acceptance of the project by local communities,
- Risks related to health epidemics, including the potential for a new global pandemic,
- Mineral exploration efforts are highly speculative in nature and may be unsuccessful,
- Risks related to delays or changes to exploration and/or development program plans and schedules,
- Uncertainty related to the potential changes to the constitution and the taxation regime.

Any one or combination of factors could significantly influence mineral resource statements. As detailed in this technical report the resource estimates are based on geological theories, interpretations and domaining. There is a level of subjectivity where other geoscientists may have differing opinions and with new information and subsequent data, interpretation may be updated or revised. Although, these differences should not be materially significant, there will invariably be changes going forward and risks due to uncertainty.

Exploration has continued to result in discovery and expansion of potential mineral resource. However, there is no guarantee that continued exploration and discovery will result in an economically viable operation.

The geology of the area is well known and documented, supported by extensive data, analysis, and study. However, further work may disprove previous models and therefore result in condemnation of targets and result in potential negative economic outcomes.

All projects benefit from increasing amounts of data and information in order to improve understanding and mitigate risks. However, there is a risk that unknown issues may arise with additional data. It is prudent to continue to improve the quantity and quality of information to decrease risk as much as possible. Risk may be mitigated with definition drilling in order to further refine and delineate structures and identify any potential problem areas.

The current political and socio-economic climate in Mexico poses risks and uncertainties that could delay or even stop development as reported within the Fraser Institute Annual Report 2023. Mexico has been steadily declining for the past five years and ranks in the lower quartile on all metrics that gauge risk and uncertainty. Recent developments related to nationalization of resources along with a likely ban on open pit mining pose a risk to all projects.

It is difficult to gauge or qualify the level or extents of the risks however, all companies working in Mexico must continue to be aware of the potential risks and develop mitigation strategies.

Apart from political and socio-economic risks there are no other known environmental, permitting, legal, taxation, title or other relevant factors that materially affect the resources at Cerro Las Minitas.

#### 25.15.1.3 Mining Methods

Higher mining costs can arise from various changes and are not limited to the following:

- Dilution and recovery factors are worse than estimated;
- Higher contractor repricing and higher consumable pricing (including power, diesel);
- Mining productivities are not achieved, causing a longer mine life, increase in fixed costs and lower annual metal production;
- Ground conditions are worse than assumed;
- Ground water is higher than assumed;
- Hotter environmental conditions requiring air cooling (refrigeration);
- Geology is less continuous than model; and,
- Lack of suitably skilled technical staff to manage contractor and compliance to plan.

#### 25.15.1.4 Recovery Methods

The flowsheet was designed for a nameplate capacity throughput of 5,300 t/d (1,934,500 t/a). Equipment sizing may change based on finalized mine plan which could increase capital and operating cost estimates.

Testwork to date is appropriate for this level of study, although individual best scale tests completed to date may not be representative of continuous plant flow.

Energy, water, and reagent requirements have been estimated and should be verified at the next level of study. These operating costs are based on metallurgical testwork along with budgetary quotations for reagents and consumables.

Dewatering assumptions were used in process plant design. Variations from design assumptions could lead to variations in capital and operating cost estimates for the concentrate and tailing dewatering circuits.

#### 25.15.1.5 Project Infrastructure

- Hydrogeological information is limited for the underground mine to evaluate the sustainability of groundwater as a water supply source to the project. If mine dewatering rate is insufficient to meet the project requirements, there are currently no aquifer water concessions available for construction of a well field in the Cerro Las Minitas project.

- A water treatment plant has not been included in the study. Higher than planned water treatment requirements could potentially increase capital and operating costs.
- Load capacity at the Guadalupe Victoria CFE substation is unknown. Additional improvements to the ones assumed in this study may be required for the substation. Additionally, the right of way for the powerline to the site, needs to be confirmed with local authorities or landowners.

#### 25.15.1.6 Site Geotechnical

Risks related to the site infrastructure include the following:

- The project infrastructure presented has no historical geotechnical information, therefore, construction material properties, subsurface conditions, waste material properties have been assumed.

The risks to proposed infrastructure, excluding the underground mine, are:

- Infrastructure ground conditions, geological containment, and stability of the proposed DSTF and WRS areas are unknown as a geotechnical program has not been completed.
- There is a possibility for cost to increase if the geotechnical, hydrogeological, and geochemical characteristics foundation, construction materials, and waste materials are different from the criteria considered in this study that could impact the capital, sustaining capital and operating costs for the project.

#### 25.15.1.7 Commodity Prices

The ability of mining companies to fund the advancement of their projects through exploration and development is influenced by commodity prices. Variations in the commodity prices may lead to reduced or elevated revenues compared to those projected in this study.

#### 25.15.1.8 Environmental, Permitting, and Community

The main risks associated with the environmental, permitting, and social aspects of the Project include:

- Maintaining support for the Project from local communities, rightsholders and stakeholders;
- Maintaining regulatory compliance and ongoing implementation of social commitments during the exploration phase of the project, and future start-up construction and operational phases;
- Potential for site baseline data gaps in the areas of geochemistry, archaeology, air quality, noise, and socioeconomic studies. Additional studies may also be required in other bio-physical areas, based on future design and permitting requirements.
- Derisking the Project to the degree practicable, especially in regards to how site infrastructure and processes may potentially impact listed/threatened species and their habitat (as specified in applicable legislation) and how to mitigate and /or compensate against such interactions.

- Potential for gaps in the areas of hydrogeological/geochemistry modeling and mine water balance determinations that may impact critical path design components for the Project and required regulatory approvals;
- Potential delays or barriers to water rights. It is assumed that mine dewatering will suffice for mineral processing activities. Water rights will need to be acquired if a hydrological study confirms mine dewatering rates will not be sufficient to support site activities.
- Potential delays in obtaining approvals for the purpose of construction and operation of key infrastructure;

The timely implementation of the recommendations presented in Section 26 will help to quantify, qualify, and mitigate these risks to the PFS design stage and to support permitting, construction and operations schedules.

#### 25.15.2 Opportunities

##### 25.15.2.1 Metallurgical Testwork

Additional material sorting, grinding, flotation and dewatering testwork on all zones at Cerro Las Minitas is recommended to confirm metallurgical performance and variability as well as for gathering design data for flowsheet development and future economic studies.

Sorting testwork indicated a favorable response to XRT techniques with enhanced project economics. A larger sample of material extracted from the historical dumps should be collected for a larger scale sorting campaign to confirm initial process assumptions.

##### 25.15.2.2 Mineral Resource Estimate

Opportunities related to the project from a mineral resources perspective are reflected in the fact that Cerro Las Minitas has potential as a district play with a variety of deposits types which poses excellent exploration and expansion potential. Positive movement in metal prices, particularly recently, will have an inevitable positive effect on the economics of the project with the added benefit of increasing the resources available for the reasonable expectation of economic extraction.

##### 25.15.2.3 Mining Methods

The following opportunities have been identified during the study specific to mining:

- Lower Mining Costs
  - An owner-operator model could demonstrate lower mining costs, albeit at higher upfront capital;
  - Battery equipment is increasing in availability and will be considered in future studies as equipment manufacturers increase production. Power prices at site supports a transition to battery equipment, which will improve working conditions and may reduce ventilation and mining costs.
- Additional Resources selected for mining

- Updated mining costs could reduce the COG and lead to more material being selected for mining and improving potential economics; and,
- Additional resources found through expansionary drilling that is closer to the surface will defer capital required to access material lower in the mine.

#### 25.15.2.4 Recovery Methods

There may be opportunities to improve the process flowsheet for the project once suitable metallurgical testing is completed. The studies should include engineering trade-off studies to confirm the following:

- Target grind size and comminution circuit selection
- Leaching retention time
- Review of plant layout to incorporate any recommendations generated by the work described above.
- Review of the zinc design grade to evaluate the option of an expansion to better match feed grade and delay capital expenditures.
- Review the financial viability of the independent copper recovery circuit. Copper can be recovered in the lead concentrate eliminating the need for the copper circuit with some impacts to copper recovery and payability.

Further opportunities exist to confirm that the precious metals recovery circuit selected in this process design is optimal for the life of mine with respect to both capital and operating costs.

In 2022, Southern Silver engaged Steinert to complete a testwork program to investigate the potential of using mineral sorting technology. A crushing circuit including a mineral sorter could be installed at the Cerro Las Minitas site that would reject the low-grade and dilution material.

Preliminary results indicate that the material from Cerro las Minitas is well suited for X-ray transmission-based sorting and this technology could potentially be used to pre-concentrate the material prior to grinding and flotation. Based on an average of the samples tested, mineral sorting of the coarse fraction was able to increase the feed grade and recoveries of Ag, Au, Cu, Pb and Zn while rejecting approximately 50% of the mass in the coarse fraction to a waste product. The implementation of a sorter potentially reduces the size of the comminution circuit, the flotation circuit and minimizes tailings generation. In 2023, MPC completed a preconcentration study which identified improved project economics driven by reductions in CAPEX and OPEX. The updated financial results identified potential CAPEX savings of US$45M in direct costs and US$65M in constructed costs. The operating costs per ton savings were estimated at US$3.56. The study concluded that process risks of pre-concetration are manegeable, and that it should be included in future design phases.

#### 25.15.2.5 Environmental, Permitting and Community

Opportunities, as listed below, should be considered as the project continues along the development and permitting path.

- The timely and sustained efforts in the area of community and regulatory engagement regarding proposed project, anticipated impacts (both positive and adverse) and proposed impact mitigation, including discussions with communities on potential benefits of the project.
- The timely baseline gap filling for any subject areas that require additional environmental and socio-economic baseline information that will inform impact mitigation and risk reduction measures associated with infrastructure footprint, and adoption of appropriate low impact and sustainable technologies.
- Regarding hydrological, hydrogeological, and geochemical studies, there are opportunities to work closely and collaborate with the exploration, geotechnical, water resources, and mineralized material processing engineering teams and hence, reduce effort and costs.

# 26 RECOMMENDATIONS

## 26.1 Overall Recommendations

The Cerro Las Minitas Project demonstrates positive economics, as shown by the results presented in this technical report. Continuing to develop the project toward to pre-feasibility study is recommended. Table 26-1 summarizes the proposed budget to advance the project through the pre-feasibility stage.

**Table 26-1: Recommended Work Program**

| Item | Budget (US$M) |
|---|---|
| Exploration and drilling | 9.00 |
| Metallurgical testwork | 0.17 |
| Mining methods | 2.00 |
| Process and Infrastructure engineering | 0.70 |
| Site-wide assessment and geotechnical studies | 0.65 |
| Environmental, permitting, social and community recommendations | 1.01 |
| **Total** | **13.53** |

Note: Total may not sum due to rounding.

## 26.2 Exploration and Drilling

Potential risks related to the project include continuity of the structures and continued ability to expand resources. Although the mineralized zones appear to be relatively continuous and predictable, faults and other structures may be encountered that would pose interpretation challenges. The Skarn zone appears to be amenable to more bulk underground mining methods. However, thickness can vary particularly in the Blind and El Sol zones which may require more selective mining methods which will increase costs and require higher cut-off grades to justify. Increased drill spacing will decrease the risk for the project by increasing the knowledge and resolution of more small scale features.

Opportunities related to the project are reflected in the fact that Cerro Las Minitas has potential as a district play with a variety of deposits types which poses excellent exploration and expansion potential.

The exploration and studies completed by Southern Silver between 2010 and 2024 on the Cerro Las Minitas property indicates that the presence of Indicated and Inferred resources justifies the cost of ongoing exploration and development.

The QP recommends continued focus on the Area of the Cerro, to build additional mineral resources and to advance the project. To further advance the project the Southern Silver should conduct:

- In-fill drilling to upgrade classification and de-risk the project specifically to test the on-strike potential of the Skarn Front and Blind zone extensions.

- Infill drilling in order to better define the specific mineralized zones particularly in the areas of high value tonnes, within the payback years of potential operations and with significant grade and thickness;
- Further drilling between the Skarn zone and the North Felsite zone on the north-eastern margin of the central Intrusion to delineate potential additional resources and to connect the two target areas;
- Further drilling in order to de-risk areas of high variability within the Skarn Front deposit; and;
- Updated resource for new areas and unify the various block models for consistence.

This work is expected to cost approximately $9.0M.

## 26.3 Metallurgical Testwork

The four flotation campaigns performed to date have consistently shown excellent pay metal recoveries and grades. No issues were encountered in producing high value saleable concentrates.

Variability tests have confirmed the robustness of the flowsheet with respect to grade variability.

It is recommended that while no further flotation testwork is required prior to final feasibility unless new resources with different geo-metallurgical characteristics are discovered, there are still gaps in the understanding of the geo-metallurgical associations of silver and gold with sulphide minerals. More detailed mineralogical work is recommended to better understand and predict metallurgical responses to varying mineralogy.

Optimisation of the gold recovery process and circuit details is required. This includes better understanding the gold deportment between pyrite and arsenopyrite, with a view to improving gold grades in pyrite and optimising the degree of oxidation required to improve cyanidation response. Further leach testwork is required to establish optimum leach residence times.

Under-utilisation of the leach plant in the latter years of the current mine plan could be dealt with by mining the shallow gold-bearing oxide mineralized material and taking advantage of surplus mill capacity to achieve low-cost treatment options. A study in this regard is recommended.

More extensive pre-concentration testwork is recommended, focussing primarily on the lower grade resource material accessible in the earlier years of the mine plan, but currently displaced by higher grade material. The benefits of pre-concentration are more compelling on the 3-5Mt of lower grade material (above $60 NSR but below the overall $87/t treatment cost) which would benefit significantly from this process option.

Energy, water, and reagent requirements were estimated on the basis of the consumption rates used in testwork. The estimated process operating costs for the project of US$15.12/t plant feed are based on metallurgical testwork along with budgetary quotations for reagents and consumables. It is recommended reagent pricing be more accurately determined at the next level of study.

Dewatering assumptions based on concentrate and tailing grind sizes and simple settling test results were used in guiding process plant design. Filtration testwork will be required on representative samples, particularly of tailings, to determine optimum paste characteristics. The current design assumptions are considered conservative, and future dewatering test programs could lead to reductions in capital and operating cost estimates for the concentrate and tailing dewatering circuits. Work initiated in early 2024 but not completed and which would incorporate establishing tailings properties with respect to strength vs. moisture should be completed.

The ball mill work index testwork was carried out on a limited number of samples. Although the grinding characteristics of the predominantly Skarn type host rock are dominant, no rock breakage testing has been performed, as to date only quarter core samples have been available for testing. Should development mineralized material become available prior to production, breakage tests could provide value in optimization of the crushing circuit, particularly if material-sorting is incorporated. Historical dump material such as that used for the pre-concentration work would provide suitable test material.

The budget for the above testwork is $120,000.

Trade-off studies are recommended to refine the preferred overall mining and processing strategy. Incorporation of Preconcentration of lower grade resource material and leach circuit optimisation (incorporating oxide material are trade-off studies recommended to align with recommended testwork. The budget for these studies is approximately $50,000.

## 26.4 Mining Methods

Although a conservative approach has been taken, there are inherent risks with Preliminary Economic Assessments, and further analyses and data collection is recommended to advance the project to a Pre-Feasibility Level of understanding:

- Preliminary investigations for geotechnical modelling have been created, but not to the extent to support Reserves. For Reserves, Entech recommends creating a detailed understanding of the geotechnical regime reflecting collect data (oriented core-logging, hydrogeology, mapping, rock strength testing, in-situ stress, paste strength testing, etc.) to more accurately estimate ground support requirements, mining costs, and further support the mining approach;
- Additional geotechnical data may revise dilution assumptions, stope height and spans, ground support assumptions, paste fill assumptions, advance rates, support costs, of which may increase mining costs, dilution or loss of mineralisation;

Additional mining studies / analyses to complete are as follows:

- Updated contractor pricing for selected mine plan;
- Complete an owner-operator model to assess that a transition to owner-operator would be beneficial (mixture of owner-operator and contractor);
- Update base case plan with additional information provided by geotechnical and hydrological studies; and,
- Assess electric/battery equipment in lieu of relatively low power costs of approximately $0.10/kWh.

The cost of this work is expected to be $2.0 M which includes $0.5M for diamond drilling to support geotechnical assessments.

## 26.5 Process and Infrastructure Engineering

The estimated cost for process and infrastructure engineering for the PFS is US$0.7M. Engineering deliverables would include:

- Process trade-off studies (comminution, flotation and optimization studies);
    - Coarser primary grinds could be employed and trade off studies reviewing the associated reduction in applied grinding energy and capital expenses against metal recoveries should be evaluated;
    - Inclusion of pre-concentration should also be investigated;
- Flow diagrams (comminution, recovery processes, tailings);
- Detailed equipment list;
- Power listing and consumption estimate;
- Architectural (building sizes) to estimate steel and concrete quantities;
- Detailed material and water balance;
- Detailed process design criteria;
- General arrangements (GA) and elevation drawings (for crushing/overland conveying, comminution, flotation, tailings);
- Electrical single line drawing;
- Equipment and supply quotations updated and sources determined;
- Estimate of equipment and materials freight quantities;
- Capital cost estimate;
- Operating cost estimate;
- Major equipment spares and warehouse inventory cost estimate;
- Construction workhours estimate; and
- Construction schedule.

## 26.6 Site-wide Assessment and Geotechnical Studies

Due to the conceptual nature of this study and the paucity of information available at the time of writing, assumptions have been made regarding the layout, MTOs, and construction of the proposed DSTF. Construction material geotechnical properties are required to perform slope stability analyses and other geotechnical assessments to confirm that the CPSF can be built as designed. In addition, a detailed tailings and waste rock deposition plan will be required which may lead to the conceptual staging requiring adjustment to contain the given waste material capacities.

- Geological and geotechnical site investigations and laboratory program should be carried out for infrastructure, process plant, DSTF, and WRSF that shall include drilling, test pitting, and in-situ and laboratory testing, to understand foundation, tailings, and waste rock characteristics, construction material properties, and groundwater levels.
- Seepage and stability analyses for the DSTF and WRSF needs to be investigated with information gathered from the field and laboratory programs.
- Hydrological information should be gathered from site-specific climate studies to detail site surface water management and site water balance.
- Hydrogeological information from desktop studies and site investigations should be gathered to better understand subsurface flow regimes and expected underground dewatering.
- Development of factual and interpretive geotechnical reports.

As additional information is obtained, assumptions made in this study can be verified or updated to advance the project to the next level of design. The cost of implementing the above recommendations, including drill rig and excavator, is estimated at US$0.65M.

## 26.7 Environmental, Permitting, and Community

The following recommendations are made regarding reducing risk and uncertainty in the areas of environmental studies, permitting schedule, and community. Qualified professionals should be retained to design and oversee the implementation of each of these studies. These studies and activities will be necessary to support the Project to the future PFS stage and provide a strong basis for future environmental impact assessment preparation and permitting. Some of these studies may overlap with other recommendations outlined in Section 26.6, and cost savings can be realized by integrating this work with those studies.

### 26.7.1 Water Resources

- Building upon the results of existing desktop hydrographic studies, develop and implement a multi-year seasonal hydrological and meteorological monitoring plan for the study area to further characterize the hydrological conditions and to develop a water balance model. The water balance model will be used as a predictive tool regarding the quantity and quality of water available to support mineral processing as well as prediction of effluent quality and quantity. Consideration should be given to establishing a site-specific meteorological station, based on the adequacy of using data from regional stations.
- Development and implementation of a multiyear seasonal groundwater monitoring, sampling, and testing plan focusing on areas that will be potentially affected by mine infrastructure based on current infrastructure and processing plans. Coordinating with planned exploration and geotechnical drilling programs may help to reduce effort and cost of the hydrogeological program.

- A conceptual hydrogeological model should be developed for the site and study area, based on groundwater monitoring and testing results and should provide the basis for the future development of a three-dimensional numerical groundwater model that will support feasibility level design and environmental impact assessment / permitting requirements. The model should provide emphasis on the adequacy of mine dewatering activities to provide sufficient water supply to support mineral processing and other site water uses. The model should also assess impacts to the aquifers within and near the project area and the potential drawdown of aquifers used by current groundwater users.

Estimated cost for the above recommendations is US $0.5M. Cost savings may be realized for hydrogeological characterization work by coordinating closely with geotechnical and exploration teams and their drilling programs.

#### 26.7.2 Geochemistry

- A geochemical assessment of the ARD/ML risk for the project should be implemented utilizing the existing geological model for the site and sampling of fresh drill core sampled intervals, if available. Generally, the program should consist of the collection adequate waste rock, overburden, and tailings samples to be considered representative of the mine rock to be stored on site. The identification of quantity and location of the samples should be based on the site geological and structural model, and mineralogical considerations.
- Range of analytical tests should include elemental analysis, acid-base accounting, shake flask extraction (short term leach), NAG pH, minerology, and humidity cell testing (minimum 52 weeks).
- Development of preliminary source terms for the weathering of waste rock, mineralized material, tailings, and pit walls for use in water balance modelling.
- Preliminary interpretation of results and assessment of requirement for site-specific mine rock management practices and water treatment.

The estimated costs for the above are US$0.2M.

#### 26.7.3 Other Environmental Baseline Studies

- Develop and implement a seasonal multi-year baseline vegetation/ecosystem and wildlife/wildlife habitat survey plan for areas of disturbance within the Project area with special emphasis on listed and threatened species under Mexican legislation. The plan should build upon baseline work completed to date.
- Baseline conditions for air quality and noise should be established for near field and further afield operations.
- Near surface soil textures and chemistry should be established for the project area as part of the baseline program.
- Archaeological baseline study will be required to identify archaeological resources, within and near the proposed disturbance footprint.

The estimated costs for the above is US$0.2M.

#### 26.7.4 Socio-Economic, Cultural Baseline Studies and Community Engagement

- Socio-economic studies should be undertaken and community engagement efforts should continue, building on previous work, to help identify community needs and provide a basis for targeted community investment in local development projects, training, education, and employment.

The estimated cost for this program is US$0.1M.

#### 26.7.5 Environmental Constraints Mapping

- To assist in the development of the project at the pre-feasibility design phase, environmental constraints mapping should be initiated and periodically updated, based on the results of historical and future baseline environmental and land use studies. This mapping should be utilized to limit risks at the design stages of the project.

The estimated cost for this program is US$0.01M.

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