Cordero Silver Project

NI 43-101 Technical Report & Pre-feasibility Study

Chihuahua State, Mexico

Effective Date: January 20, 2023

Prepared for:

Discovery Silver Corp.
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CERTIFICATE OF QUALIFIED PERSON

Tommaso Roberto Raponi

I, Tommaso Roberto Raponi, P. Eng., certify that I am employed as a Principal Metallurgist with Ausenco Engineering Canada Inc., (Ausenco), with an office address of Suite 1550 - 11 King St West, Toronto, ON M5H 4C7. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated from the University of Toronto with a Bachelor of Applied Science degree in Geological Engineering with specialization in Mineral Processing in 1984. I am a Professional Engineer registered with the Professional Engineers Ontario (No. 90225970), Engineers and Geoscientists British Columbia (No. 23536) and NWT and Nunavut Association of Professional Engineers and Geoscientists (No. L4508) and with Professional Engineers and Geoscientists Newfoundland and Labrador (No. 10968). I have practiced my profession continuously for over 38 years with experience in the development, design, operation and commissioning of mineral processing plants, focusing on gold projects, both domestic and internationally.

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.

I have not visited the Cordero property. I am responsible for Sections 1.1, 1.9, 1.13 to 1.15, 1.17, 1.18, 1.20, 1.21.1, 1.21.3, 2, 3.1, 3.3, 3.4, 13, 17, 18.1 to 18.7, 19, 21 (except 21.2.2 and 21.3.2), 22, 24, 25.1, 25.5, 25.9 to 25.12, 25.13.1.8, 25.13.2.3, 26.1, 26.3, and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I acted as a qualified person for the technical report titled "Preliminary Economic Assessment of the Cordero Silver Project, Chihuahua State, Mexico" with an effective date of November 30, 2021.

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: February 10, 2023

"Signed and sealed"

Tommaso Roberto Raponi, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Yaming Chen

I, Yaming Chen, Ph.D., P. Geo., certify that I am employed as a Senior Hydrogeologist with Ausenco Sustainability Canada Inc., (Ausenco), with an office address of 18th Floor, 4515 Central Boulevard, Burnaby, BC V5H 0C6. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated in 2009 from the University of British Columbia in Vancouver, BC, Canada, with a Doctor of Philosophy (Ph.D.) degree in Geological Science with specialization in Contaminant Hydrogeology. I am a Professional Geoscientist registered with the Engineers and Geoscientists British Columbia (No. 36347). I have practiced my profession for over 35 years with hydrogeological experience for mining projects in Canada and around the world.

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.

I have not visited the Cordero property. I am responsible for Sections 1.16.2, 1.21.10, 16.3, 18.9.4, 25.13.1.6, 25.13.2.5, 26.10, and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

"Signed and sealed"

Yaming Chen, Ph.D., P. Geo.

CERTIFICATE OF QUALIFIED PERSON

Jonathan Cooper

I, Jonathan Cooper, P. Eng., certify that I am employed as a Senior Water Resources Engineer with Ausenco Sustainability Canada Inc., (Ausenco), with an office address of 18th Floor, 4515 Central Boulevard, Burnaby, BC V5H 0C6. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated from the University of Western Ontario with a Civil Engineering in 2008, and from the University of Edinburgh with a Master of Environmental Management in 2010. I am a Professional Engineered registered with the Engineers and Geoscientists British Columbia (No. 37864) and Professional Engineers Ontario (No. 100191626). I have practiced my profession continuously for over 15 years with experience in the development, design, operation, and commissioning of surface water infrastructure.

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.

I have not visited the Cordero property. I am responsible for Sections 18.9.2 and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

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Jonathan Cooper, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Scott Weston

I, Scott Weston, P. Geo., certify that I am employed as a Vice President, Business Development with Ausenco Sustainability Inc. (Ausenco), with an office address of 4515 Central Boulevard, Burnaby, BC, Canada. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated from University of British Columbia, Vancouver, BC, Canada, in 1995 with a Bachelor of Science, Physical Geography, and from Royal Roads University, Victoria, BC, Canada, in 2003 with a Master of Science, Environment and Management. I am a Professional Geoscientist of Engineers and Geoscientists British Columbia (No. 124888). I have practiced my profession for 25 years.

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.

I visited the Cordero Project property from July 26-27, 2022 for 2 days. I am responsible for Sections 1.16.1, 1.16.3, 1.16.4, 1.21.9, 3.2, 20, 25.7, 25.13.1.4, and 26.9 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I acted as a qualified person for the technical report titled "Preliminary Economic Assessment of the Cordero Silver Project, Chihuahua State, Mexico" with an effective date of November 30, 2021.

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: February 10, 2023

"Signed and sealed"

Scott Weston, P. Geo.

CERTIFICATE OF QUALIFIED PERSON

Gordon Zurowski

I, Gordon Zurowski, P. Eng., certify that I am employed as a Principal Mining Engineer with AGP Mining Consultants (AGP), with an office address of 132 Commerce Park Drive, Unit K #246 Barrie, Canada L4N 0Z7. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated in 1989 from the University of Saskatchewan with a Bachelor of Applied Science in Geological Engineering. I am a Professional Engineer of the Professional Engineers of Ontario (No. 100077750). I have practiced my profession for 30 years. I have been directly involved in open pit mining including operating, design and evaluation in Canada and worldwide.

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.

I have not visited the Cordero property. I am responsible for Sections 16.11 to 16.13, 21.2.2, 21.3.2 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I acted as a qualified person for the technical report titled "Preliminary Economic Assessment of the Cordero Silver Project, Chihuahua State, Mexico" with an effective date of November 30, 2021.

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: February 10, 2023

"Signed and sealed"

Gordon Zurowski, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Manuel Jessen

I, Manuel Jessen, P. Eng., certify that I am employed as a Principal Mining Engineer with AGP Mining Consultants (AGP), with an office address of 132 Commerce Park Drive, Unit K #246 Barrie, Canada L4N 0Z7. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated in 1992 from the National University of Engineering in Lima, Peru, with a Bachelor of Applied Science in Mine Engineering. I am a Professional Engineer registered in Ontario (No. 100557400). I have practiced my profession for over 30 years. I have been directly involved in open pit mining including operating, mine design, mine planning and evaluation, primary at precious and basic metals properties in the Americas and Africa.

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.

I visited the Cordero Project property from July 26-27, 2022 for 2 days. I am responsible for Sections 1.11, 1.12, 1.21.6, 15, 16.1, 16.4 to 16.10, 25.8.2, 25.13.1.7, 25.13.2.4, and 26.6 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

"Signed and sealed"

Manuel Jessen, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Daniel Yang

I, Daniel Yang, M. Eng., P. Eng., certify that I am employed as a Specialist Geotechnical Engineer with Knight Piésold Ltd. (KP), with an office address of Suite 1400 - 750 West Pender Street Vancouver, BC V6C 2T8. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated in 1992 from the Tongji University in China with a Bachelor of Engineering specializing in Civil Engineering, and from the University of Alberta, Canada in 2022 with a Master of Engineering specializing in Geotechnical Engineering. I am a Professional Engineer registered with the Engineers and Geoscientists British Columbia (No. 28936). I have practiced my profession continuously for over 28 years with experience in geotechnical site investigation, soil and rock slope stability analysis, open pit slope design and implementation for various mining projects, both domestic and internationally.

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.

I visited the Cordero property on April 26-27, 2022 for 2 days. I am responsible for Sections 1.21.5, 16.2, 25.8.1, 26.5, and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

"Signed and sealed"

Daniel Yang, M. Eng., P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Ken Embree

I, Ken Embree, P. Eng., certify that I am employed as President of Knight Piésold Ltd. (KP), with an office address of Suite 1400 - 750 West Pender Street Vancouver, BC V6C 2T8. This certificate applies to the technical report titled “NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico” that has an effective report date of January 20, 2023 (the “Technical Report”).

I graduated from the University of Saskatchewan with a B.Sc. in Geological Engineering in 1986. I am a Professional Engineer registered with the Engineers and Geoscientists British Columbia (No. 17439). I am also registered as a Professional Engineer in Ontario (No. 100040332), the Yukon (No. 2694) and the Northwest Territories and Nunavut (No. L3766). I have practiced my profession continuously for over 32 years and have experience in tailings, waste and water management for mine development projects, both domestic and internationally.

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.

I visited the Cordero property on April 26-27, 2022, for 2 days. I am responsible for Sections 1.21.7, 1.21.8, 18.8, 18.9.1, 18.9.3, 25.13.1.5, 25.13.2.2, 26.7, 26.8, and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

“Signed and sealed”

Ken Embree, P. Eng.

CERTIFICATE OF QUALIFIED PERSON
Richard Schwering

I, Richard Schwering, SME-RM., certify that I am employed as a Principal Resource Geologist with Hard Rock Consulting LLC (Hard Rock), with an office address of Suite 313, 7114 W. Jefferson Ave Lakewood, Colorado 80235. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated from the University of Colorado with a Bachelor of Arts in Geology in 2009. I am a Registered Member with the Society of Mining Metallurgy and Exploration (SME) (No. RM4223152) with core competencies in Geology and Resource Modeling. I have practiced my profession continuously for over 10 years with experience as a geologist and 8 yeas as a resource geologist. My experience includes four years as a project geologist employed by a junior exploration company where my responsibilities included geologic field activities, sample preparation, database management, QA/QC analysis, and mapping. I worked for nine years as an independent consultant or an employee of a consulting firm where my responsibilities included database validation, QA/QC analysis geologic modeling, mineral resource estimate, and technical reporting with experience in structurally controlled precious and base metal deposits.

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.

I visited the Cordero property from January 17-19, 2023 for 3 days. I am responsible for Sections 1.2, 1.3, 1.5 to 1.8, 1.10, 1.19, 1.21.2, 1.21.4, 4, 5, 6, 9, 10, 11, 12, 14, 23, 25.2, 25.4, 25.6, 25.13.1.1 to 25.13.1.3, 25.13.2.1, 26.2.1, 26.2.2, 26.4 and 27 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had previous involvement with the Cordero Project as a third-party auditor of the mineral resource estimate disclosed under "Preliminary Economic Assessment of the Cordero Silver Project, Chihuahua State, Mexico" with an effective date of November 30, 2021.

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: February 10, 2023

"Signed and sealed"

Richard Schwering, SME-RM.

CERTIFICATE OF QUALIFIED PERSON

Jennifer J. (J.J.) Brown

I, Jennifer J. (J.J.) Brown, P.G., SME-RM, certify that I am employed as Director of Geology and Exploration with Hard Rock Consulting LLC (Hard Rock), with an office address of Suite 313, 7114 W. Jefferson Ave Lakewood, Colorado 80235. This certificate applies to the technical report titled "NI 43-101 Technical Report and Pre-feasibility Study of the Cordero Silver Project, Chihuahua State, Mexico" that has an effective report date of January 20, 2023 (the "Technical Report").

I graduated from the University of Montana with a Bachelor of Arts in Geology in 1996. I have practiced my profession continuously for over 25 years as an employee of various engineering and consulting firms and the USDA Forest Service. I have more than 15 collective years of experience, both domestic and international, directly related to mining and economic and saleable minerals exploration and resource development, including geotechnical exploration, geological analysis and interpretation, resource evaluation, and technical reporting.

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.

I visited the Cordero property from January 17-19, 2023 for 3 days. I am responsible for Sections 1.4, 7, 8, and 25.3 of the Technical Report.

I am independent of Discovery Silver Corp. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Cordero Project.

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: February 10, 2023

"Signed and sealed"

J.J. Brown, P.G., SME-RM

Important Notice

This report was prepared as a National Instrument 43-101 Technical Report for Discovery Silver Corp. (Discovery Silver) by Ausenco Engineering Canada Inc. and Ausenco Sustainability Inc. (Ausenco), Libertas Metallurgy Ltd. (Libertas), AGP Mining Consultants Inc. (AGP), Knight Piésold Ltd. (KP), and Hard Rock Consulting LLC (Hard Rock), 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 Discovery Silver Corp. subject to terms and conditions of its contracts with each of the Report Authors. Except for the purposes 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.

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1 SUMMARY

1.1 Introduction

Discovery Silver Corp. (Discovery Silver) commissioned Ausenco Engineering Canada Inc. (Ausenco) to compile a pre-feasibility study (PFS) of the Cordero project. The PFS was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

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

- Ausenco managed and coordinated the work related to the report, supported Libertas Metallurgy Ltd. (Libertas) with the metallurgical test program, and developed PFS-level design and cost estimate for the process plant, general site infrastructure, and economic analysis.
- Ausenco Sustainability Inc. (Ausenco) conducted a review of the environmental studies completed by CIMA and conducted site-wide water management.
- AGP Mining Consultants Inc. (AGP) designed the open pit mine, mine production schedule, and mine capital and operating costs.
- Knight Piésold and Co. (USA) (KP) completed geotechnical studies and developed the PFS-level design and cost estimate of the tailings storage facility.
- World Metals Inc. (World Metals) 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 Sections 25.1 to 25.4.
- RedDot3D Inc. (RedDot3D) developed the mineral resource estimate for the project.
- Hard Rock Consulting, LLC. (Hard Rock) reviewed the technical information and was the QP for Sections 4 to 12, and 14 of this report.

The Cordero project will be developed by a phased approach, with the first phase focused on high-grade zones through a conventional flotation concentrator, followed by a second phase that expands into adjacent zones where the grades are generally lower but still moderate to high. A preliminary economic assessment (PEA) of this strategy with an effective date of November 30, 2021 was filed with SEDAR based on a strategy to process oxides and sulphides separately.

A PFS is herein proposed based on further metallurgical optimization, infill drilling, and the results of further environmental and social consideration studies, and now processes the oxides and sulphides co-currently as a blended feed.

The project has operated under an Environmental Protection Plan filed with the government that describes the reclamation procedures that will be required when exploration activities are completed. Environmental and social baseline studies have been completed for the project, and a study of surface and groundwater is currently underway.

1.2 Property Description, Location and Ownership

Cordero is a silver deposit owned by Discovery Silver in northern Mexico, in the south of the state of Chihuahua, approximately 600 km from the border with the United States (see Figure 1-1). The project is accessed by vehicle 200 km southwest from Chihuahua City along State Highway 16 to the Parral turn-off to State Highway 24, then 150 km south on Highway 24 where an access road heads east for 10 km to the project site. The Cordero property consists of the 26 titled Mining Concessions totalling 34,909 contiguous hectares owned by Minera Titán S.V. de C.V. Mexico (Titán), a wholly owned Mexican subsidiary of Discovery Silver. Mining concessions are granted for 50 years and may be renewed for an additional 50 years. Concessions are granted on a mining lot that may comprise the area requested by the interested party. There are no limitations to the number of hectares for each mining lot.

The main obligations of the concessionaires are:

1. to carry out exploration and exploitation works
2. pay mining duties
3. comply with safety and environmental protection regulations
4. submit reports to the authorities and fulfill other obligations of lesser importance.

For the San Pedro concession, there is an agreement (the “Cordilleras Contract” in Figure 4-5) between Cordilleras and Titán that requires Titán to pay Cordilleras a 2% NSR royalty. Titán can assign the obligation of payment of the royalty to a third party by written notice sent to Cordilleras. If Cordilleras decides to sell its right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that Cordilleras offered to a third party.

Figure 1-.1: Location of the Cordero Project in Southern Chihuahua State, Mexico

Source: RedDot3D, 2021.

For the Josefina, Berta, La Unidad II, and La Unidad mineral concessions there is an agreement (the "Eloy Contract" in Figure 4-5) between Titán and two concessionaires: Mr. Eloy Herrera Martínez and Cleotilde de la Rosa Ríos which requires Titán to pay a 1% NSR royalty to the concessionaires. If the concessionaires decide to sell their right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that the concessionaires offered to a third party.

The deposit lies in a region that has a long history of silver mining dating back to the 1600s. In the hills where the Cordero deposit lies, there are several small mines with rich silver veins that reach the surface. In the past two decades, the possibility of a large bulk mining target at depth at Cordero was explored and tested through drilling carried out by Levon. Since 2019, when Discovery Silver acquired the project in a merger with Levon, drilling has continued, with a focus on high-grade zones at depth, well below the reach of the small-scale historical mines, but within reach for a modern industrial open pit operation.

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

1.3 History

Historical records and anecdotal information indicate that the region around Cordero has supported mining activity since the early 17th century when the Spanish established Real de San José at what is now the town of Hidalgo de Parral (or simply, "Parral"). At Cordero, 35 shallow vertical shafts can still be found along with associated small prospect pits on outcrops of high-grade silver-lead-zinc veins. In shafts that remain accessible, small open stopes can be found at the bottom. The lack of commentary on production at Cordero by the The Parral Silver Company, suggests that mining on the higher ground of Cordero remained small in scale and unorganized into the late 19th century. By the start of the 20th century, the American Smelting and Refining Company (Asarco) operated small mines on what is now the Cordero property, including La Luz, La Ceniza, and Josefina where they worked veins and breccias with high-grade sulphide mineralization. The lack of tailings around the old mill at La Luz, the largest of Asarco's mines at Cordero, indicates that it was not operational for any significant length of time. In 2013, Titán consolidated claim ownership in the district, bringing unorganized artisanal mining at Cordero to an end. From the very earliest artisanal mining at Cordero, through to the past decade, a shallow water table has created difficulties with dewatering, making all the historical mines at Cordero necessarily shallow. Although three centuries of mining confirm that Cordero hosts abundant silver, lead, zinc, and gold, historical mines have drawn their production only from some of the near-surface resources. Deeper mineralization remains untouched by past production.

In 2000, Industrias Peñoles completed a review of the region for copper, molybdenum, and gold potential, and drilled a few short holes on the Sansón stock, and on the Valle Intrusive Complex. From 2006 to 2009, Valley High Ventures Ltd. (Valley High) owned the mineral concessions through their wholly owned subsidiary, Coro Minera. Valley High carried out surface exploration work, compiled the project's first comprehensive database, and organized drill core that had been stored in several different secure locations. By 2009, Valley High had dropped half of its claim holdings and entered into a joint venture agreement with Levon Resources Ltd (Levon). Beginning in 2009, Levon re-staked mineral concessions that had been dropped by Valley High and added adjoining mineral concessions. By 2011, Levon had met their vesting requirements for 100% of the property and bought out Valley High. In 2013, Levon added a significant addition to the package of mineral concessions with purchase of the Aida claim. In 2019, Levon merged with Discovery Metals Corp. In April 2021, Discovery Metals Corp., which changed its name to Discovery Silver Corp., held 100% ownership of the mineral rights that cover all the land needed for a large open pit that targets Cordero's bulk mineralization at depth.

Exploration work completed by Valley High included geological mapping, rock sampling, gridded soil sampling, and trenching at the Sansón, La Ceniza, and the Cordero Main target areas. Historic drill core was re-logged and re-sampled, and the results recognized the potential for bulk tonnage targets on the property. Levon carried out reconnaissance mapping which confirmed the importance of three magmatic hydrothermal belts on the property. In 2009, 2010, and 2011, several different geophysical survey companies completed ground-based and airborne-based geophysical surveys over the Cordero Magmatic-Hydrothermal Belt including ground-based gravity and 3D induced polarization (IP) surveys over the Dos Mil Diez, Pozo de Plata, and Molino de Viento targets. The Cordero main intrusive complex, and La Ceniza Stock defined areas where the chargeability shows a strong multi-km long anomaly both within, and well outside the 2022 resource area to the northeast. In 2010, Aeroquest flew an airborne electromagnetic, magnetic, and radiometric survey over the main Cordero Magmatic-Hydrothermal belt. The aeromagnetic results defined a sizeable inferred buried intrusive center, north-northeast of the current resource area with an estimated depth of 3.0 km. The radiometric survey defined a high potassium anomaly centered over the 2022 resource pit as well as along the Cordero Magmatic-Hydrothermal Belt coincident with known exploration targets. In 2013, Levon completed a 3D IP survey over the La Perla target as well as a magnetotelluric (MT) survey over the Molino de Viento target.

Levon initiated the first significant drilling on the project starting in 2010 and continuing through 2017. Drilling by Levon totaled 133,621 m from 292 core drill holes. The drilling by Levon resulted in the initial definition of the bulk tonnage mineral resource at Cordero.

Evidence of past production at Cordero consists of 35 vertical shafts and approximately 104 mined-out stopes that reach to surface. The stopes vary between 1 and 2 meters in width and are characterized by oxides and sulphides of high-grade Ag-Pg-Zn ± Au veins and vein breccias, some of which outcrop on surface. Local workers and former small-scale underground miners that used to work in these stopes reported that most of the production involved directly shipping mineralized material that was hand sorted, shipped, and processed in Parral. The historical mines of La Luz, La Ceniza and Josefina show evidence of water pumping efforts and support the anecdotal knowledge that the Cordero project area has abundant groundwater. Local workers have reported that most of the vertical workings are excavated to the water table located at an approximate depth of 50 to 80 m. No reliable records of historical mining have been encountered to date.

Levon filed a technical report on SEDAR that described a mineral resource estimate based on all data available through April 2014. The mineral resource estimate was prepared in accordance with the requirements of NI 43-101. The mineral resource was estimated using an inverse distance ID6 model constrained by an open pit shell. A silver equivalent grade was calculated for each block based on the metal grades, estimate of mill recovery for each metal, and the metal prices. Although the 2017 resource estimate was prepared in accordance with NI 43-101, no qualified person has done sufficient work to classify the historical estimate as current mineral resources and it has since been superseded by the Company's own mineral resource estimate provided in section 14 of this report. Discovery Silver is not treating the historical estimate as current.

In 2018, Levon produced a PEA report with an effective date of March 1, 2018 that was prepared in accordance with NI 43-101. The 2018 mineral resource estimate was based on 263 drill holes (126,235 meters of drilling) completed by the end of 2017. The mineral resource was estimated utilizing an inverse distance methodology and contemplated an open pit geometry based on a standard flotation mill with separate zinc and lead circuits, mill recoveries, operating costs for processing, G&A and mining. A silver equivalent grade was calculated for each block based on metal grades, estimate of mill recovery for each metal, and the metal prices. No qualified person has done sufficient work to classify the historical estimate as current mineral resources and Discovery Silver is not treating the historical estimate as current mineral resources. The 2018 historical mineral resource estimate has been superseded by the Company's own mineral resource estimate provided in section 14 of this report.

1.4 Geology and Mineralization

Regionally, Cordero lies in an area where sedimentary rocks of the Eastern Basin and Range geological province meet the volcanic rocks of the Sierra Madre Occidental province. The tectonic and magmatic history of the Sierra Madre Occidental

(Tertiary Volcanic Province) is thought to extend into parts of eastern and southern Chihuahua as far south as Cordero where the landscape is dominated by Oligocene-Miocene basaltic-andesites, Oligocene ignimbrites, and Eocene volcanic and intrusive rocks (Ferrari et al., 2007). There are three major southwest to northeast magmatic-hydrothermal belts that crosscut the Cordero property subparallel to major transcurrent faults in the area. Other faults in the area include reverse, extensional and normal faults.

The focus of drilling in the current resource area in the past decade has been along the central Cordero magmatic-hydrothermal belt comprised of high-K felsic to intermediate igneous rocks and related breccias, locally forming resistant silicified structural domes bisected by a series of sub-parallel transcurrent structural corridors (e.g., Cordero, Parcionera, Josefina and Todos Santos). The Cordero fault corridor has uniquely been exploited by a unique sheeted dyke complex that can be followed for 3 km from Pozo de Plata in the southwest to La Boquilla in the northeast. Several NNW-trending reverse faults have severely deformed the sediments and at least two NW-trending normal faults (e.g., Mega and Southwest faults) have offset the sedimentary and igneous rock package down to the southwest in a stair-step fashion. Mineralization style and associated alteration changes from La Ceniza in the northeast where replacement skarn mineralization is prevalent to a breccia complex in the southwest at the Pozo de Plata breccia complex where gold grades are higher.

Metal tenor, alteration, mineralization-style and sedimentary facies change from the northeast at La Ceniza where the eastern contact of a large rhyodacite intrusion has formed a 0.5 km long contact metamorphic skarn/hornfels aureole hosting replacement-style Zn-Cu skarn mineralization locally cut by quartz-molybdenite-chalcopyrite-pyrite stockwork increasing to a depth of 1,174.1 m. Historical small-scale mining was focused on NE-trending Ag-Pb-Zn mineralized structural corridors comprised of vein, vein breccia, stockwork, and mill breccias that bisect the earlier intrusions and replacement skarn mineralization. At the Pozo de Plata breccia complex higher gold grades are associated with the interface between galena-pyrite in electrum. Favoured mineralization sites include a variety of breccias derived from differing mechanisms including contact breccia, intrusive breccia, mill breccia, mud breccia, fault breccia and sedimentary collapse breccia.

The precious and base metal mineralization is spatially associated with sulphide minerals such as pyrite, galena, sphalerite, and chalcopyrite. Weathering has created a near-surface oxide layer comprised of primarily jarosite and hematite, locally up to 40 m in thickness, where sulphide minerals are generally absent and precious metals including silver and gold are elevated in grade.

Cordero has characteristics of superimposed deposit types with likely differing emplacement ages. Much of it is similar to some extensional (E-type) intermediate sulphidation epithermal systems on the shoulder of a buried porphyry molybdenum system forming in extension rift-type settings. Parts of Cordero resembles some intrusion-related carbonate-hosted Pb-Zn (Ag, Cu, Au) deposits further north in Chihuahua State. In the northeast of the resource area Cordero is dominated by replacement-style Zn-Cu (sphalerite-chalcopyrite) ± veinlets of Pb-Ag mineralization coincident with the contact metamorphic aureole at the La Ceniza Intrusive Complex in favourable protoliths like calcareous sandstone and fossiliferous limestone.

1.5 Exploration

Since it acquired the project through its acquisition of Levon in 2019, Discovery Silver extended surface reconnaissance to cover other known exploration targets identified by geophysics along the same central trend of hydrothermally altered igneous rocks.

In 2019, Discovery Silver commissioned Geotech to acquire VTEM airborne electromagnetics (AEM) over the entire Cordero property to map lithologies under cover. In 2022, Discovery Silver commissioned Arrow Geosciences Pty Ltd. to reprocess all historical geophysical survey data collected by Levon. In 2022, Discovery Silver commissioned Zonge International

(Zonge) to collect induced polarization (IP) survey data over select target areas including Molino de Viento, Dos Mil Diez, Sansón and north La Perla across a major NW-trending extension fault. The reprocessed geophysics in conjunction with the geophysical data acquired by Discovery has indicated targets for continued exploration beyond the current mineral resource extents at Cordero.

In 2022, Discovery Silver completed detailed geological mapping over high priority targets identified during historical and 2021 exploration campaigns. New geological mapping covers an area measuring 10,181.25 hectares (101.18125 km^2), which brings the total geological mapping and sampling coverage to 11,691.25 hectares (116.9125 km^2). These mapped targets formed along two mineralized sinistral releasing bends along the 15 km long, Cordero Magmatic-Hydrothermal belt from Molino de Viento in the southwest to Sansón in the northeast. A total of 2,902 rock samples were collected in support of the geologic mapping effort in 2022. Results from the geologic mapping and sampling on several exploration targets including Dos Mil Diez and Molino do Viento to the southwest, La Perla to the immediate south, and La Ceniza and Sansón to the northeast of the main Cordero target that warrant follow-up exploration and drilling in 2023.

1.6 Drilling

Extensive drilling has been completed on the Cordero property totaling 336,085 m in 849 drill holes ending in December 2022. These drilling campaigns took place over several years by Levon from 2009 to 2014 and in 2017, and core drilling continued between 2019 to 2022 by Discovery Silver. Table 1-1 summarizes the year, number, total meters and intent of the drilling completed by Discovery Silver from 2019 through 2022.

Table 1-1: Summary of Drilling by Discovery Silver to December 2022

Company	Year	Drill Holes	Meters	Notes
Discovery Silver	2019	17	5,904.85	Resource area core holes
Discovery Silver	2020	99	39,484.30	Resource area core holes
Discovery Silver	2021	178	85,347.05	Resource area core holes
Discovery Silver	2021	2	807.90	Geotech oriented core (pit-wall stability piezometer holes)
Discovery Silver	2022	149	59,620.60	Resource core holes and exploration core holes
Discovery Silver	2022	17	1,918.75	Geotechnical oriented core (pit-wall stability)
Discovery Silver	2022	89	4,546.45	Oxide resource definition in core holes
Discovery Silver	2022	6	2,190.00	Reverse circulation – hydrology holes
Totals		557	1,99,819.90	

Notes: **1.** Includes holes drilled on other exploration targets outside of the 2022 resource pit. **2.** Drill holes counted in the year in which they were completed. **3.** Reverse-circulation holes were drilled for engineering and environmental purposes. **4.** Some numbers may not sum exactly due to rounding.

Additional drilling by Discovery Silver has allowed updated interpretations of the structural controls, lithological controls, and definition of dominant fluid flow corridors of high-grade mineralization. These controls and domains have been used to accurately update the estimate of resources. The average estimated recovery factor for holes drilled by Discovery Silver is greater than 90%. The QP is unaware of any recovery or sampling factors that could materially impact the accuracy and reliability of the assay results. The current mineral resource estimate is based on a drill dataset consisting of 275,904 m of drilling (690 drill holes); of which 153,715 m of drilling (423 drill holes) was completed by Discovery Silver.

1.7 Sample Preparation, Analysis and Security

Approximately half of the samples included in the current mineral resource estimate are from drilling programs conducted by Levon ending in 2017. The other half were generated by the Discovery Silver drill programs in 2019, 2020, 2021 and 2022.

All samples for the drill programs by Levon and Discovery Silver were prepared using the same ALS method (Code Prep-31) by crushing to 85% to minus 10 mesh then a split was pulverized to 95% minus 150 mesh (Levon) or 85% passing through 75 µm (Discovery Silver). Assays from 2009 to 2012 and 2017 for Levon were performed by ALS Geochemistry (Vancouver). Assays in 2013 and 2014 were carried out by Activation Laboratories Ltd. (Activation) in Mexico. In 2019, 2020, 2021 and 2022, Discovery Silver used the ALS preparation laboratory in Chihuahua, Mexico and ALS (Vancouver, Canada). All of the laboratories named above are independent of Discovery Silver and are accredited with the Standards Counsel of Canada to the ISO/IEC 17025 standard.

Drill core is logged and sampled in a secure core storage facility located at the project. Drill core is placed into corrugated plastic core boxes at the drill site by the drillers. Tied core boxes are organized within the drill pad area and remain under the driller's supervision until it is collected by Discovery Silver personnel. The core is collected twice a day and transported to the Discovery Silver core logging facility within 1.5 km of the drill site. After the drill core is sawn in half and placed in plastic bags; groups of 4 to 5 sample bags are placed into large, poly-weave rice bags with their content marked on each bag. The bags are securely sealed and moved to a storage facility controlled by the company geologists. Twice per week, an ALS truck picks up the sample bags from site and delivers them directly to the ALS laboratory in Chihuahua for sample preparation. The drilling area and camp site facilities are on a private property with restricted access to the public. The access gate remains locked at all times, and only the landowners, drillers, and Discovery Silver personnel have a key to open the gate.

Levon submitted all pulverized splits for multi-element aqua-regia digestion with inductively coupled argon plasma (ICP) mass spectrometry (MS) detection (ALS Method Code ME-ICP41) with overlimit results re-analyzed using ICP-atomic emission spectroscopy (AES) and a four-acid digest. Discovery Silver submitted all pulverized splits for multi-element aqua-regia (ALS Method Code ME-ICP61) with overlimit results reanalyzed using ICP-AES and a four-acid digest. Gold analyses were conducted on a 30-gram sub-sample for fire assay with an AA-finish (Levon) and on a 50-gram sub-sample for fire assay (Discovery Silver). For the 2019 to 2022 drilling program, Discovery Silver analyzed sample over-limits > 10 g/t Au and > 1500 g/t Ag using fire assay on a 50-gram sub-sample (for gold) and 30-gram sub-sample (for silver) with a gravimetric finish. In addition, samples that assayed >100 g/t Ag the detection limit for ICP-MS, between 100 to 500 g/t Ag and >1.0% Zn and/or > 1.0% Pb were re-assayed using the ALS Method Code ME-OG62.

The quality assurance/quality control (QA/QC) program consisted of inserting certified reference material (CRM) every 15th sample, blank samples every 18th sample, and core pulp duplicates every 100th sample. The sample preparation analysis and security program implemented by Discovery Silver was designed to support a large volume of data. Sample collection and handling procedures are documented and reviewed frequently. The laboratory analytical methods, detection limits, and grade assay limits are well-suited to the style and grade of the Cordero mineralization. The QA/QC methods implemented by Discovery Silver enabled an ongoing assessment of sample security, assay accuracy, and possible contamination. The QP reviewed sample collection and handling procedures, laboratory analytical methods, QA/QC protocols, and the QA/QC program results and believes these methods are adequate to support the current mineral resource estimate.

1.8 Data Verification

Discovery Silver has developed an extensive dataset that is saved and managed using GeoInfo Solutions' management software. The QPs from Hard Rock conducted a brief site visit in January 2023. They affirmed the accuracy of drilling and sample handling procedures documented in Sections 10 and 11 in this report.

Assays in the drill hole database were compared to their original certified values for part of the 2021 drilling and all 2022 drilling included in the updated mineral resource estimate. The database was also checked for incorrect entries, interval lengths, blank or zero-value assay results, out-of-sequence or missing intervals, and value fields. The QP believes the database provided by Cordero is reliable and is adequate to support the mineral resource estimate.

1.9 Mineral Processing and Metallurgical Testwork

Extensive metallurgical testwork has been completed on the Cordero project by Discovery Silver, and previously by Levon Resources dating back to 2011.

QEMSCAN analysis of multiple composites and variability samples confirmed the predominant sulphide mineral contained across the volcanic, sedimentary, and breccia samples was pyrite. Sphalerite and galena were present to a lesser extent in the volcanic, sedimentary, and breccia samples. The oxide composites did not contain significant amounts of sulphide minerals.

The gangue mineralogy was dominated by quartz, plagioclase, K-feldspar, Si/Al clays, and calcite. The sedimentary samples contained the largest concentration of calcite, while the oxide samples contained the least. The oxide samples contained the most Si/Al clays compared to the other lithologies.

At a primary grind size of 80% passing (k_{80}) 200 µm averaged across the 30 variability composites, galena averaged approximately 65% liberation and sphalerite averaged approximately 78% liberation. Where unliberated, galena and sphalerite were in binary association with pyrite or ternary association with non-sulphide gangue.

Various phases of testwork have culminated in the selection of a robust, differential lead-zinc flotation flowsheet after relatively coarse (k_{80} = 200 µm) primary grinding via a combination of conventional SAG and ball milling. This flowsheet has been proven to be effective across upwards of 50 variability, master and blended (oxide and sulphide) composites with average locked cycle test performance from the 2022 PFS program returning the following results:

- lead/silver concentrate grading 56% Pb and 3,217g/t Ag at lead and silver recoveries of 87% and 75%, respectively
- zinc concentrate grading 52% Zn and 346 g/t Ag at zinc and silver recoveries of 85% and 10%, respectively
- global silver recovery (to lead and zinc concentrates) of 85%.

Due to the relatively coarse primary grind and moderate concentrate regrind size, the concentrates and tails generated via the flotation circuit dewater readily. The majority of the final tails products from locked cycle testing have been shown to be non-acid-generating, with a relatively minor number of samples being classified as potentially acid-generating.

Concentrate quality scans were conducted on the PEA and PFS locked cycle test. The main deleterious elements were as follows:

- Mercury (Hg) content of the lead and zinc concentrates averaged 13, g/t and 11 g/t, respectively.
- Organic carbon content of all concentrates was below 1.6% C_{ORG}.
- Arsenic (As) content of the lead and zinc concentrates averaged 0.31% and 0.31%, respectively.
- Cadmium (Cd) content of the lead and zinc concentrates averaged 0.05% and 0.45%, respectively.
- Chlorine (Cl) content was consistently low (0.07% Cl) and often below detection limit.

Comminution testwork conducted on variability samples and composite blends indicate that Cordero ore is hard to very hard, with an average Bond ball work index of approximately 19 kWh/t and an average A x b value of 54.

Heap leaching of the oxide zone was considered for additional silver recovery, but column leach and bottle roll testwork was suspended in 2022 in favour of blending the oxide material in with the sulphides at low blend ratios via the flotation circuit.

Testwork has shown that the oxides can be blended with the sulphide ore and processed via the flotation circuit at blend proportions up to 10% with minimal impact on sulphide ore recovery.

Robust metallurgical projection models have been derived for the sulphides from locked cycle and batch cleaner variability testwork and are appropriate for this level of study.

1.10 Mineral Resource Estimate

The new resource estimate for Cordero incorporates geological and structural domains based on lithological and structural controls that are better understood through recent infill drilling. The mineral resource estimate is divided into eleven estimation domains based on structure, weathering state, indicator grade shell models, and a mostly barren glomerophyric dyke.

Drill hole intervals were composited to 2 m by domain. The presence of high-grade outlier values were investigated for each metal by domain. Appropriate cutting limits were selected by studying coefficient of variation plots, probability plots and decile analyses plots.

Ordinary kriging was used to interpolate silver, lead, zinc and gold grades into blocks and sub-blocks. Anisotropic search radii with variable orientations along mineralization trends were used to select data informing block estimates. Search distances and directions were based on the directional anisotropy of the silver variogram models. Grades were estimated into the model in three passes whereby each successive pass utilized a less restrictive sample search strategy to estimate any remaining unestimated blocks. The search radii for the first estimation pass were set to half of the variogram range in each direction. The second pass doubles the search radii, so that they are all equal to the variogram model ranges. In the third pass the search radii are tripled again.

Resource classification was based on block-by-block metrics that relate to the proximity of nearby data. An optimized pit shell further constrains the reported mineral resource to fulfil the requirement for “reasonable prospects for eventual economic extraction”.

The mineral resource is split into sulphide and oxide portions. Since silver, lead, zinc, and gold all contribute to revenue, a net smelter return (NSR) is calculated as the net revenue from metal sales (taking into account metallurgical recoveries and payabilities) minus treatment costs and refining charges. Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates.

Sulphide mineralization is categorized as all mineralization that is located beneath the oxide/transition boundary; it extends to depths of more than 800 m below surface. The $7.25/t NSR reporting cut-off used for sulphide mineralization is based on the estimated processing and G&A cost for standard flotation processing of this material.

Table 1-2 presents the mineral resource estimate for the sulphide material at Cordero. The tabulated grades and metal contents are in-situ estimates and do not include factors such as external dilution, mining losses, and process recovery losses. As such, these are mineral resources, not mineral reserves, and do not have demonstrated economic and technical viability.

Table 1-2: Sulphide Mineral Resources for the Cordero Project, with an Effective Date of January 18, 2023, above an NSR Cut-off of $7.25/t and within a Reporting Pit Shell

Class	Tonnage	Grade					Contained Metal				
		Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
	Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
Measured	250	23	0.08	0.33	0.57	**55**	185	604	1,824	3,132	**439**
Indicated	403	18	0.04	0.27	0.56	**46**	228	524	2,387	4,947	**598**
M&I	**653**	**20**	**0.05**	**0.29**	**0.56**	**49**	**413**	**1128**	**4,211**	**8,079**	**1037**
Inferred	**109**	**13**	**0.02**	**0.21**	**0.38**	**33**	**46**	**82**	**510**	**923**	**118**

Notes: **1.** AgEq for sulphide mineral resources is calculated as Ag + (Au x 15.52) + (Pb x 32.15) + (Zn x 34.68); these factors are based on commodity prices of Ag – $24.00/oz, Au – $1,800/oz, Pb – $1.10/lb, Zn – $1.20/lb and assumed recoveries of Ag – 87%, Au – 18%, Pb – 89% and Zn – 88%. **2.** Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates. **3.** The tabulated numbers have been rounded to reflect the level of precision appropriate for the estimates and may appear to sum incorrectly due to rounding. Source: RedDot3D Inc., 2022.

Oxide/transition mineralization lies above the oxide/transition boundary, where the material is weathered (oxide) or partially weathered (transition). The depth of the oxide/transition zone varies across the deposit from approximately 20 m in the Pozo de Plata zone to depths of up to 100 m in certain areas in the South Corridor and in the far northeast of the deposit. The $7.25/t NSR reporting cut-off used for oxide mineralization is based on the estimated processing and G&A cost for blending of oxide material into the standard flotation process.

Table 1-3 presents the mineral resource estimate for the oxide/transition material at Cordero. The tabulated grades and metal contents are in-situ estimates and do not include factors such as external dilution, mining losses, and process recovery losses. As such, these are mineral resources, not mineral reserves, and do not have demonstrated economic and technical viability.

Table 1-3: Oxide Mineral Resources for the Cordero Project, with an Effective Date of January 18, 2023, above an NSR Cut-off of $7.25/t and within a Reporting Pit Shell

Class	Tonnage	Grade					Contained Metal				
		Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
	Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
Measured	21	30	0.08	0.23	0.25	**49**	21	51	109	117	**33**
Indicated	42	24	0.06	0.24	0.31	**46**	33	85	224	288	**62**
M&I	**63**	**26**	**0.07**	**0.24**	**0.29**	**47**	**54**	**136**	**333**	**405**	**95**
Inferred	**36**	**18**	**0.04**	**0.28**	**0.37**	**43**	**21**	**40**	**216**	**292**	**49**

Notes: **1.** AgEq for oxide mineral resources is calculated as Ag + (Au x 22.88) + (Pb x 19.71) + (Zn x 49.39); this factor is based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 59%, Au – 18%, Pb - 37% and Zn - 85%. **2.** Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates. **3.** The tabulated numbers have been rounded to reflect the level of precision appropriate for the estimates and may appear to sum incorrectly due to rounding. Source: RedDot3D Inc., 2022.

1.11 Mineral Reserve Statement

The mineral reserves for the Cordero project are based on the conversion of the measured and indicated mineral resources in the study mine plan within the ultimate open pit limits. The level of information from drill holes and degree of certainty on assumptions used the mine plan estimates provides reasonable support to classify measured mineral resources as proven reserves. Indicated mineral resources are converted directly to probable reserves. Inferred mineral resources were treated as waste. The estimates assume conventional open pit mining and equipment.

Mineral reserves estimates are based on metal prices of US$20/oz silver, US$0.95/lb lead, US$1.20/lb zinc, and US$1600/oz gold and are approximately 302 Mt of ore containing 0.70% Zn, 0.44% Pb, 27.4 g/t Ag, and 0.08 g/t Au. Mineral Reserves for the Cordero project are shown in metric units in Table 1-3. This estimate has an effective date of January 18, 2023.

Table 1-3: Proven and Probable Mineral Reserves

Reserve Class	Process Feed	Grade				Contained Metal			
	(Mt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (Moz)	Au (Moz)	Pb (Blb)	Zn (Blb)
Proven	164.0	28.93	0.10	0.45	0.67	152.52	0.52	1.63	2.42
Probable	138.4	25.61	0.06	0.43	0.73	113.95	0.27	1.30	2.22
Total Reserves	**302.4**	**27.41**	**0.08**	**0.44**	**0.70**	**266.47**	**0.79**	**2.94**	**4.65**

Note: This mineral reserve estimate has an effective date of January 18th, 2023, and is based on the mineral resource estimate dated January 18th, 2023, for Discovery Silver by AGP Mining Consultants Inc. The mineral reserve estimate was completed under the supervision of Manuel Jessen, P.Eng. of AGP, who is a QP as defined under NI 43-101. Mineral reserves are stated within the final pit designs based on a US$20.00/oz silver price, US$1,600/oz gold price, US$0.95/lb lead price and US$1.20/lb zinc price. An NSR cut-off of US$10.0/t was used to define sulphide reserves. The life-of-mine mining cost averaged US$1.60/t mined, preliminary processing costs were US$5.22/t ore and G&A was US$0.89/t ore placed. The metallurgical recoveries were varied according to head grade and concentrate grades. Lead concentrate recoveries were approximately 82.5%, 12.6% and 91.8% for silver, gold, and lead, respectively. Zinc concentrate recoveries were approximately 10.0%, 9.5% and 77.8% for silver, gold, and zinc, respectively.

The QP has not identified any known legal, political, environmental, or other risks that would materially affect the potential development of the mineral reserves.

1.12 Mining Methods

The Cordero project will use open pit mining methods with truck and shovel equipment that has been proven in similar operations. The major production unit operations will include drilling, blasting, loading, hauling, and dumping. These activities are planned to be completed with an owner/operator fleet. There is currently no plan to extend the mine operation using underground mining methods.

Mining will occur on 10-meter lifts with safety benches every 20 meters using the provided geotechnical parameters by sector. Haul roads are designed at 33.2 m wide to accommodate 190-tonne class haul trucks. The mine fleet will be diesel powered.

The mine plan is based on proven and probable mineral reserves only. The mill facility will produce both zinc and lead concentrates with contained payables for silver, gold, lead and zinc. The plant will primarily process sulphide minerals, but the processing of high-grade oxides is included up to a maximum of 10% of the feed. The current mining limits contain approximately 1% of additional tonnes in the inferred resource category which could be converted to reserves with future drilling.

Dilution was applied on a block-by-block basis taking into consideration the diluted material grade. This resulted in an increase in mill feed tonnage by 2.4%, and a 3.5% lower silver grade than the in-situ feed summary.

Mining activity commences in advance of the sulphide process plant achieving commercial production and includes the placement of material on the stockpile. The mine schedule plans to deliver 284 Mt of sulphide mill feed grading 27.2 g/t Ag, 0.08 g/t Au, 0.72% Zn and 0.45% Pb over a mine life of 18 years. Processed rock also includes 19 Mt of oxides material grading 30.5 g/t Ag, 0.07 g/t Au, 0.33% Zn and 0.28% Pb. Waste tonnage totalling 640 M t will be delivered to either the tailings storage facility located east of the pit or the rock storage facilities adjacent to the pit. The overall strip ratio is 2.1:1 delivered. Oxides were included in the mill feed when they could displace lower value sulphides up to a maximum of 10% of the mill feed on a period basis. Of the life-of-mine mill feed ore tonnes, 6.2% were high-grade oxides and 31 Mt of oxide material remained in stockpiles at the end of processing due to the 10% blending limit.

Mine operating costs have been estimated from base principals using quotations from local mine equipment vendors plus local supply consumables.

1.13 Recovery Methods

The process plant design incorporates a staged expansion approach allowing the throughput to be increased and to accommodate higher feed grades over the life of mine. The selected flowsheet includes a single stage crushing circuit with crushed product reporting to the crushed ore stockpile. Ore is reclaimed to the SAB grinding circuit, which consists of a SAG mill and a ball mill operating in closed circuit with a cyclone cluster. Cyclone overflow material reports to sequential stages of rougher flotation, where lead and zinc concentrates are separated from the gangue material. Lead and zinc rougher concentrates report to dedicated regrind mills for further size reduction prior to cleaner flotation.

Concentrate grades are upgraded in the cleaning circuits to produce concentrates of requisite quality. The concentrates then report to dewatering circuits that include high-rate thickeners and vertical plate-and-frame filter presses. The resulting filter cakes are handled by a front-end loader for stockpiling and loadout activities. Tailings from the process are thickened in a high-rate thickener and pumped overland to the tailings management facility.

The staged expansion of the process plant over the mine life is presented below:

- Phase 1 (Years 1 to 3) – The process plant is operated at a throughput of 25.5 kt/d.
- Phase 2 (Years 4 to 6) – The plant is expanded to process material at a throughput of 51 kt/d.
- Phase 3 (Year 7+) – The zinc cleaning and concentrate dewatering circuits are expanded to process higher zinc grades in the feed material.

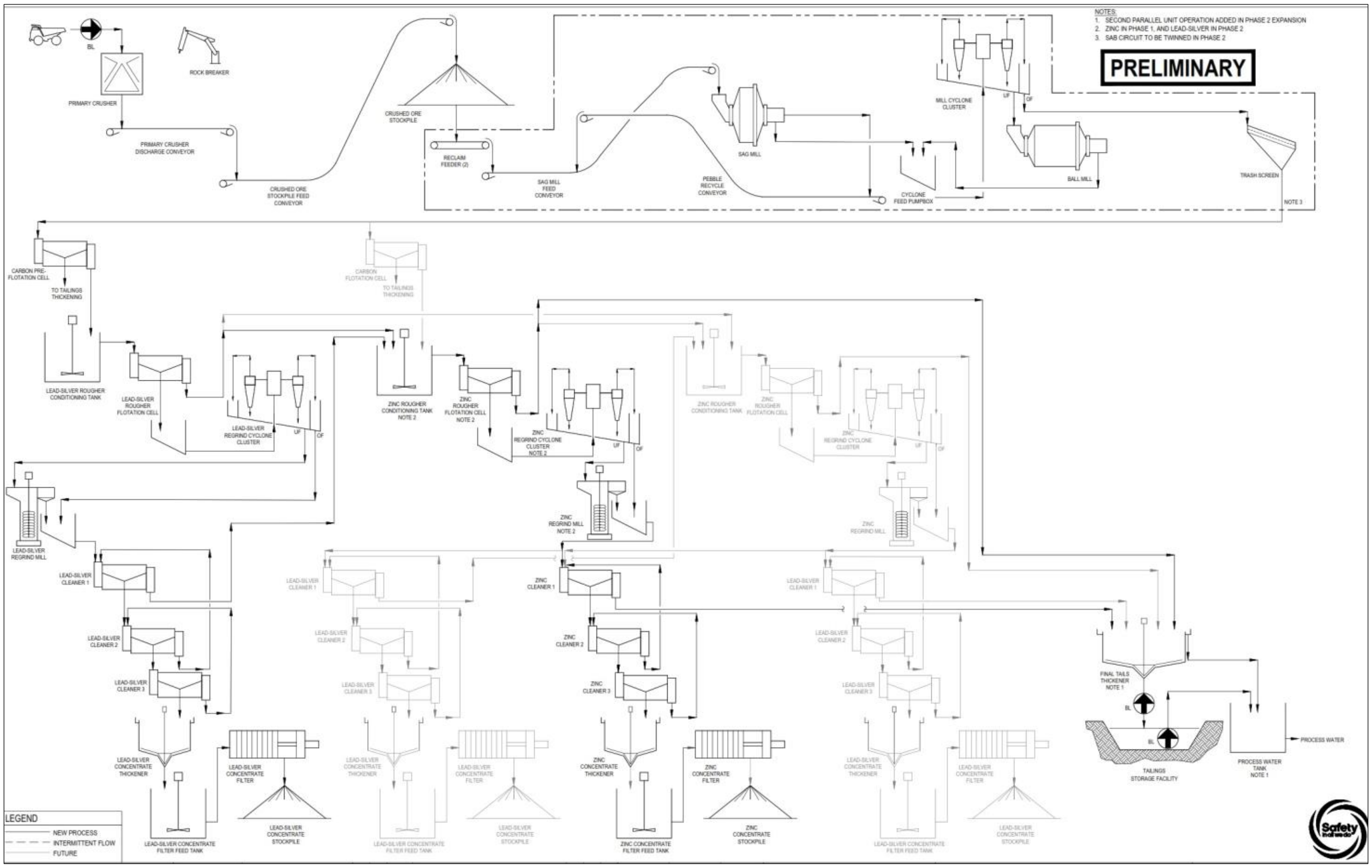
The unit operations and staged expansion approach were selected to accommodate the variable nature of the deposit in terms of lead and zinc feed grade, and to deploy capital efficiently throughout the life of mine.

A summary of the expected process performance is as follows:

- primary crushing availability of 75%
- grinding and flotation availability of 91.3%
- concentrate filtration availability of 82.2%
- Phase 1 throughput of 25.5 kt/d (average basis)
- Phase 2 and 3 throughput of 51 kt/d (average basis).

The process flowsheet is depicted in Figure 1-2, with Phase 1 equipment shown in black, and Phases 2 and 3 equipment shown in greyscale or indicated by comments.

Figure 1-2: Process Flowsheet



NOTES:
1. SECOND PARALLEL UNIT OPERATION ADDED IN PHASE 2 EXPANSION
2. ZINC IN PHASE 1, AND LEAD-SILVER IN PHASE 2
3. SAB CIRCUIT TO BE TWINNED IN PHASE 2

Source: Ausenco, 2022.

1.14 Project Infrastructure

Infrastructure to support the Cordero project will consist of site civil work site facilities/buildings, on-site roads, a water management system, and site electrical power. Site facilities will include both mine facilities and process facilities, as follows:

- mine administration offices, truckshop, explosives storage, fuel storage and distribution, ore stockpiles, waste stockpiles, and truck wash
- process facilities including the process plant, crushing facilities, process plant workshop, assay laboratory, freshwater infrastructure, and tailings pipelines
- tailings storage facility (TSF)
- general facilities include a gatehouse, administration building, communications, switchyard, and weigh scale
- catchments, ponds, and other site water management infrastructure.

An overall site layout is provided in Figure 1-3.

The site can be accessed by a series of unpaved roads from federal Highway 24, approximately 11 km to the west-southwest. The existing access road will be upgraded including widening, installation of culverts as well as grading of corners to ensure suitability for daily operational traffic.

The roads within the process plant area will be generally 6 m wide, integrated with process plant pad earthworks, and designed with adequate drainage. The roads will allow access between the administration building, warehouses, mill building, crushing buildings, stockpile, mining truck shop, and the top of the mill feed stockpile.

The typical method of clearing, topsoil removal, and excavation will be employed, incorporating drains, safety bunds and backfilling with granular material and aggregates for road structure. The entrance to the process and mine site will be via the gatehouse. Additionally, an existing secondary unpaved public road that follows the existing power transmission corridor crossing the southeast corner of the claim block can be used as an alternative access/exit road.

Material from the pit will be diverted to four main destinations depending on the grade and material type. The barren stripping material will be sent to either the waste rock storage facilities or the TSF dam for construction, while the mineralized oxides and sulphides will be sent to either the mill or two main stockpiles areas, primarily for low-grade sulphides and oxides. Each stockpile will have a capacity of approximately 42 Mt. All mill feed is currently envisioned to be hauled from the pit rim by 190-tonne trucks.

Waste rock storage facilities are planned for waste material from the open pit. Two locations were selected for waste rock storage: one south of the ultimate pit limits (WRF01) and one on the northwest side of the pit (WRF02). In general, design considerations assumed an overall reclaimed slope of 18.4 degrees and a swell density of 2.0 t/m^3. Total waste rock capacity is approximately 530 Mt.

The mining infrastructure includes haul roads from the pit to the different areas on site, explosive facility, truckshop and truck washbay, mine warehouse, office and workshop.

Figure 1-3: Overall Site Layout

Source: Ausenco, 2022.

The plant site consists of the necessary infrastructure to support the processing operations. All infrastructure buildings and structures will be built and constructed to all applicable codes and regulations. Due to the warm weather conditions, no closed buildings will be required to cover the process plant. The project site will include administration building, plant maintenance shop and warehouse, and other buildings.

The site currently does not have access to power. A study conducted by Comisión Federal de Electricidad (CFE) identified the power demand at Cordero during peak production can be met with construction of a 75 km long, 230 kV transmission line from Camargo II power plant to the project site.

The outdoor substation is phased into two stages based on power demand. In Phase 1, two 40/53.3 MVA, 230 kV / 13.8 kV oil-filled power transformers will be installed, each capable of supplying the plant's maximum demand. The transformers will be connected to a 13.8 kV switchgear with a normally open bus tie. When one transformer is out of service, the power system configuration will allow the other to support the total process load, thus enhancing system reliability.

The plant will be expanded in Phase 2 with the installation of two 37.5/50 MVA transformers and another 13.8 kV switchgear in a similar arrangement to supply the additional loads. The substation will also include four banks of power factor correction equipment, each rated at 4 MVAR.

The project lies within the Valle de Zaragoza aquifer, as designated by the National Water Commission (CONAGUA). This aquifer system is in an unrestricted zone and not subject to a ban on groundwater extraction.

Waste disposal for the Cordero project includes waste rock storage facilities (WRF) and the TSF. The TSF is designed to handle 25,500 t/d in Years 1 through 4 before throughput expansion for Phase 2 at 51,000 t/d for the balance of mine operations. The TSF was sized to store approximately 300 Mt of tailings along with the IDF and additional freeboard. The selected TSF location is southeast of the open pit in an area of gently rolling hills at natural elevations between 1,500 and 1,600 meters above sea level (masl). The TSF site is underlain by thin to sparse alluvium and residual soils over a bedrock foundation of Cretaceous Mezcalera Formation marine limestone. Water from the TSF is reclaimed and used in the process plant.

The excavation quantities for diversion ditches, diversion channels, collection ditches and ponds, and the site-wide water balance model is further discussed in Section 18.9.2 of this report.

1.15 Market Studies and Contracts

Discovery Silver retained an external consultant for a review of the treatment costs (TC), refining costs (RC) and transport costs and metal payables (including penalty scales). The market terms for this study are based on the terms proposed by the consultant as well as recently published terms from other similar studies.

The metal payables as stated in Table 1-4 are used in this study. A summary of the treatment and refining costs is shown in Table 1-5.

The estimated transportation costs (trucking, port handling and ocean freight) are $140/wmt for Pb concentrate and $125/wmt for Zn concentrate. Transportation costs assume trucking of the concentrate via bulk trucks or containers to the international port at Guaymas, Sonora, or Manzanillo, Colima, and then shipping via ocean freight to Asia.

Table 1-4: Metal Payables

Metal	Unit	Zn Concentrate	Pb Concentrate
Zinc	%	85	-
less Deductible	units	8.0	-
Lead	%	-	95
less Deductible	units	-	3.0
Silver	%	70	95
less Deductible	g/dmt	93.3	50.0
Gold	%	70	95
less Deductible	g/dmt	1.0	1.0

Source: Discovery Silver, 2023.

Table 1-5: Summary of Treatment Charges and Refining Costs

Metal	Concentrate Grade	Treatment Charges (US$/wmt)	Refining Charges (US$/payable lb or oz)	Concentrate Loading Port		Ocean Shipment Mode	
				Zn Concentrate	Pb Concentrate	Zn Concentrate	Pb Concentrate
Zinc	51%	$210.00	$0.00	Guaymas		Bulk	
Lead	52%	$130.00	$0.00		Manzanillo		Container/Bulk
Silver			$1.20				
Gold			$10.00				

Source: Discovery Silver, 2023.

The metal prices presented in Table 1-6 were used for financial modelling for this technical report.

Table 1-6: Metal Prices for Economic Analysis

Metal	Price
Silver	$22.00/oz
Gold	$1,600/oz
Lead	$1.00/lb
Zinc	$1.20/lb

Source: Discovery Silver, 2023.

1.16 Environmental Studies, Permitting and Social or Community Impact

1.16.1 Environmental Studies

Topography in the project area is generally flat with slope gradients ranging mostly between 1% and 3%. The ground surface elevations within the pit extent are approximately 1,560 to 1,600 masl.

Among the three weather stations (the Parral, the La Boquilla, and the Valle de Zaragoza) existing in the area, the Zaragoza Valley station was considered to be representative of the site conditions, with precipitation and evaporation data from 1968 to 2021 available. The average annual precipitation (as rainfall) has been estimated at 428.8 mm. Only 2% to 3% of rainfall may infiltrate as recharge into the groundwater system. Except for some small creeks, no large naturally occurring surface waterbodies exist within the surface water catchments surrounding the pit. Flows in the creeks are anticipated to be small and seasonal, due to the relatively dry climate.

Six monitoring wells (RC22-001 to RC22-006) and two vibrating wire piezometers (VWPs; KP21-SB001, KP21-SB002) have been installed in the open pit area. Geophysical surveys were conducted to map the geological materials and structures in the area. Hydraulic parameters (including transmissivity and hydraulic conductivity) have been estimated based on the results of flow rates measured in the air-lift testing in these drill holes. Static groundwater elevations representing pre-mining conditions have been measured in the installed RC22 wells and the VWPs. The measured groundwater elevations appear stable with small variations over time, indicating groundwater flow in the aquifer system is in a steady state. The average groundwater level across the pit is approximately 1,497 masl. The RC22 wells have not been sampled for groundwater quality characterization.

The lithological units in the pit area consist of volcanic rocks (predominated by rhyodacite) and sedimentary rocks (predominated by siltstone), together with some interpreted faults. The hydrostratigraphic units in the pit area are interpreted to include shallow alluvium, conglomerate, and bedrock. The surficial sediments are mostly above the static groundwater level in the pre-mining conditions.

Shallow groundwater is influenced by topography and surface runoff and recharge processes, and deeper groundwater flow patterns are interpreted to be confined and influenced by more district-scale geological characteristics. Groundwater flow direction in the shallow groundwater system is interpreted to be from the northwest to southeast across the project area, generally following topography. Deeper groundwater flow is also interpreted to be also towards the southeast but controlled by geologic fault features and the bedrock fracture network.

The Cordero region has long, hot, and humid summers with convective showers and a peak seasonal rainfall in the hottest months. In winter, the air is generally mild during the day, but at night the temperature can drop rapidly to a few degrees below freezing. Two climate types are present in the Cordero project area. In general, both climate types represent semi-arid weather. BS1kw (x') climate is semi-arid and temperate with hot summers. The average annual temperature ranges between 12°C and 18°C. BS1hw (w) represents semiarid and temperate weather with an average annual temperature higher than 18°C.

The local biodiversity includes a wide variety of plants and animals that sustain the different ecosystem equilibrium. The vegetation in the Cordero project includes secondary succession of natural grassland shrub representing 70% of the site's surface, followed by natural grassland covering 9% of the land. Annual rainfed agriculture, microphyllus desert scrub, secondary succession of microphyllus desert scrub, secondary succession of rosetophyllous desert scrub, and secondary succession of herbaceous natural grassland cover the remaining 21% of the project area. The fauna in the area includes 69 species of mammals (i.e., desert cottontail, gray fox, American desert hare and racoon), birds (i.e., turkey vulture, scale quail, common raven and red-tailed hawk) and reptiles (Texas horned lizard, tortuga island rattlesnake and black-tailed rattlesnake). There are no declared natural protected areas within or bordering the project site. The project site lies within Hydrological Region 24 (RH24), Bravo-Conchos.

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. No formal Closure and Reclamation Plan has been prepared for the Cordero project to date; a plan will be developed as the project advances through subsequent project stages.

1.16.2 Pit Dewatering

Based on the available information, the potential pit inflow rate into the proposed pit shell through the mine life was estimated using the analytical Jacob-Copper solution. The results show that the pit intersects groundwater in mine Year 1, and the inflow rates increase progressively as the pit deepens year by year.

Using the estimated base case pit inflow rates, a pit dewatering strategy was developed to meet the pit dewatering requirements. The pit dewatering strategy consists of vertical wells along the pit perimeter and in-pit wells (targeting permeable hydrogeologic units and features), in addition to the supplemental measures (including precipitation runoff collection sump, and sub-horizontal drains) when necessary.

1.16.3 Permitting Considerations

A variety of permits and authorizations will have to be obtained prior to construction and operations. In particular, authorization by SEMARNAT (Secretaria de Medio Ambiente y Recursos Naturales) following the Environmental Impact Assessment (EIA) will be required. The environmental permitting requirements and status for the Cordero project is summarized in Table 20-7. The Cordero site currently holds three permits: NOM 120 SEMARNAT 2020, Company Registration in Social Security (IMSS) and Community Protection. Registration of Hazardous Waste Management has been presented to SEMARNAT and Waste Management Plans (Hazardous and Mining) are being developed.

1.16.4 Social Considerations

The project is located in a socioeconomic region known as the Parral Region, which includes four municipalities: Hidalgo del Parral, with a population of 116,662 inhabitants; Santa Bárbara, with 11,582 inhabitants; Valle de Zaragoza, with 4,775 inhabitants; and San Francisco del Oro, with 5,004 inhabitants. Approximately 76.5% of the population are dedicated to agricultural field work. More than 50% of the population do not have access to official healthcare. More than 80% of the population own a house and the rest live in rental accommodations or in a house owned by relatives. More than 51% of the population do not have access to clean drinking water.

1.17 Capital and Operating Costs

1.17.1 Capital Cost Estimate

The capital cost estimate conforms to Class 4 guidelines for a pre-feasibility- level estimate with a ±25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q4 2022 dollars based on budgetary quotations for equipment and construction contracts, as well as Ausenco's in-house database of projects and studies including experience from similar operations.

The total initial capital cost for the Cordero project is US$455 million; the Year 3 expansion capital cost is US$289 million; the Year 9 expansion capital cost is US$31 million; and LOM sustaining costs are US$228 million. Closure costs are estimated at US$73 million, with salvage credits of US$49 million. The capital cost summary is presented in Table 1-7.

Table 1-7: Summary of Capital Costs

WBS Description	WBS	Initial Capital Cost (US$M)	Expansion Capital Cost (US$M)		Sustaining Capital Cost (US$M)	Total Cost (US$M)
		Y0	Y3	Y9	LOM	
Mining	1000	69.9	2.7	--	66.5	139.1
On-Site Infrastructure	2000	30.8	11.9	--	8.9	51.6
Crushing	3000	25.5	6.4	--	--	31.9
Process Plant	4000	130.9	108.0	14.5	--	253.4
Tailings Management	5000	45.4	39.6	--	106.0	190.9
Off-Site Infrastructure	6000	20.2	35.4	--	13.5	69.1
Total Directs		322.6	204.0	14.5	194.9	736.0
Project Indirects	7000	59.0	39.3	10.8	--	109.1
Owner's Costs	8000	12.6	2.0	1.0	23.6*	39.3
Provisions	9000	60.7	43.2	4.4	9.7	118.1
Total Indirects		132.3	84.6	16.3	33.3	266.5
Project Total		454.9	288.6	30.8	228.2	1002.5

Note: *The LOM sustaining Owner's cost is the net difference between reclamation costs and salvage value. Values shown in the press release are rounded to zero decimal places. Source: Ausenco, 2022.Note: *The LOM sustaining Owner's cost is the net difference between reclamation costs and salvage value. Source: Ausenco, 2021.

1.17.2 Operating Cost Estimate

The average yearly operating cost for the project varies as the project undergoes numerous phases with different production rates and mineralized material types. Table 1-8 provides a summary of the operating costs considering the various operational phases, expressed on a $/t milled basis.

Table 1-8: Summary of Operating Costs

Year	LOM	1-3	4-10, 12+	11	LOM	1-3	4-10, 12+	11
Operating Costs	US$M	US$M/a	US$M/a	US$M/a	US$/t	US$/t	US$/t	US$/t
Mining	2,286	124	118	153	7.6	13.9	6.4	8.2
Processing	1,929	59	112	115	6.4	6.6	6.1	6.2
Site G&A	188	10	11	11	0.6	1.1	0.6	0.6
Total	4,402	192	241	279	14.6	21.6	13.1	15.0

Source: AGP and Ausenco, 2021.

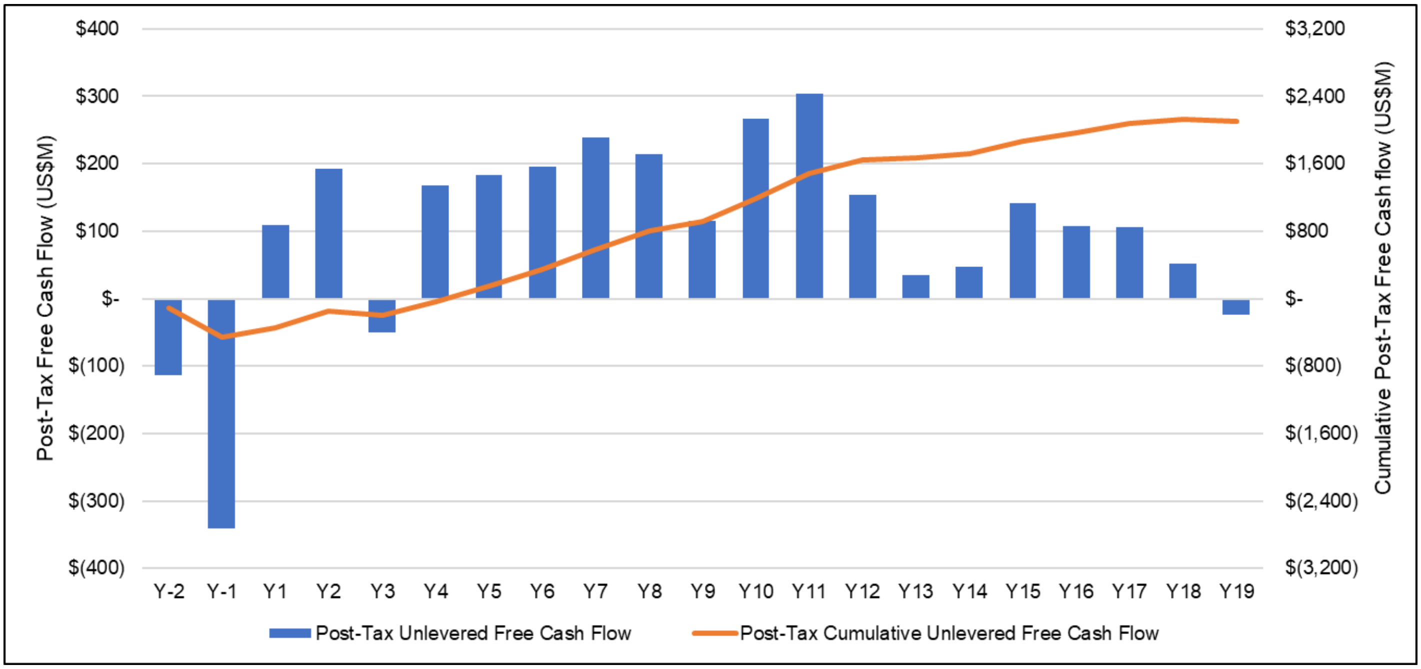
1.18 Economic Analysis

The economic analysis was performed assuming a 5% discount rate. Cash flows have been discounted to the start of construction, assuming that the project execution decision will be taken, and major project financing will be carried out at this time.

The pre-tax NPV discounted at 5% is $1,902 million; the IRR is 38.9%, and payback period is 3.1 years. On a post-tax basis, the NPV discounted at 5% is $1,153 million; the IRR is 28.0%; and the payback period is 4.2 years.

A summary of the post-tax project economics is shown graphically in Figure 1-4 and listed in Table 1-9.

Figure 1-4: Post-Tax Project Economics



Source: Ausenco, 2023.

Table 1-9: Economic Analysis Summary

Description	Unit	Life-of-Mine Total / Average
General Assumptions		
Silver Price	US$/oz	$22
Gold Price	US$/oz	$1,600
Lead Price	US$/lb	$1.00
Zinc Price	US$/lb	$1.20
Discount Rate	%	5.0%
Production		
Total Payable Silver	koz	199,418
Total Payable Gold	koz	54
Total Payable Lead	Mlb	2,368
Total Payable Zinc	Mlb	3,360
Total Payable Silver Equivalent	koz	494,253
Operating Costs		
Mining Cost (incl. Rehandling)	US$/t mined	$2.45
Mining Cost (incl. Rehandling)	US$/t milled	$7.56
Processing Cost (Phase 1)	US$/t milled	$6.46
Processing Cost (Phase 2)	US$/t milled	$6.36
Site G&A Costs	US$/t milled	$0.62
Cash Costs and All-in Sustaining Costs (Co-Product Basis)		
Operating Cash Costs[1]	US$/oz AgEq	$8.91
Total Cash Costs[2]	US$/oz AgEq	$13.23
All-in Sustaining Cost [3]	US$/oz AgEq	$13.62
Capital Expenditures		
Initial Capital	US$M	$455
Expansion Capital	US$M	$319
Sustaining Capital (incl. Net Closure)	US$M	$228
Economics		
Pre-tax NPV @ 5%	US$M	$1,902
Pre-tax IRR	%	38.9%
Pre-tax Payback	years	3.1
Post-tax NPV @ 5%	US$M	$1,153
Post-tax IRR	%	28.0%
Post-tax Payback	years	4.2

Notes: 1. Operating cash cost consist of mining costs, processing costs, and site-level G&A. 2. Total cash costs consist of operating cash costs plus transportation cost, royalties, treatment and refining charges. 3. AISC consist of total cash costs plus sustaining capital. Source: Ausenco, 2023.

A sensitivity analysis was conducted on the base case post-tax NPV and IRR of the project using the following variables: discount rate, head grade, total operating cost, total capital cost, silver, gold, zinc, and lead prices, which were encompassed in a single variable, metal prices. Table 1-10 summarizes the post-tax sensitivity analysis results.

Table 1-10: Post-Tax Sensitivity Summary

Metal Prices	Post-Tax NPV (5%)	Total Capital Cost		Total Operating Cost		Head Grade	
	Base Case	(-10%)	(+10%)	(-10%)	(+10%)	(-10%)	(+10%)
-20.0%	$293	$355	$231	$465	$119	-$3	$586
-10.0%	$723	$785	$661	$895	$552	$389	$1,062
--	$1,153	$1,215	$1,091	$1,324	$981	$773	$1,538
10.0%	$1,582	$1,644	$1,520	$1,754	$1,411	$1,157	$2,013
20.0%	$2,012	$2,074	$1,950	$2,183	$1,840	$1,541	$2,489
Metal Prices	Post-Tax IRR	Total Capital Cost		Total Operating Cost		Head Grade	
	Base Case	(-10%)	(+10%)	(-10%)	(+10%)	(-10%)	(+10%)
-20.0%	12.5%	14.8%	10.5%	16.0%	8.4%	4.9%	18.4%
-10.0%	20.9%	23.6%	18.5%	23.7%	17.8%	14.5%	26.6%
--	28.0%	31.2%	25.2%	30.5%	25.3%	21.7%	33.9%
10.0%	34.4%	38.2%	31.3%	36.8%	32.0%	28.0%	40.6%
20.0%	40.5%	44.8%	37.0%	42.8%	38.3%	33.8%	47.0%

Source: Ausenco, 2023.

1.19 Adjacent Properties

Mr. Schwering, the QP, has reviewed the claim status on adjacent properties and can find no active mineral concessions adjacent to the Cordero property. As noted in Section 6, a review of adjacent mineral concessions conducted by Levon in 2009 led to reclaiming mineral concessions that had been dropped earlier by Valley High Ventures Ltd. In 2013, Levon acquired the last remaining inlying mineral concession.

The Cordero project lies in a region that has been a major producer of silver for centuries and continues to host several producing mines. The Cordero project lies in a region that has been a major producer of silver for centuries and continues to host several producing mines (see Figure 23-1). The region is also a hub for exploration on new mineral deposits including an early-stage exploration project belonging to Discovery Silver in Puerto Rico.

1.20 Conclusions

The total measured and indicated sulphide resources for the Cordero project are estimated at 653 Mt grading 20 g/t Ag, 0.05 g/t Au, 0.29% Pb, and 0.56% Zn for a total of 1,037 Moz AgEq. Additional inferred sulphide resources are estimated to be 109 Mt grading 13 g/t Ag, 0.02 g/t Au, 0.21% Pb, and 0.38% Zn for a total of 118 Moz AgEq.

The total measured and indicated oxide resources for the Cordero project are estimated at 63 Mt grading 26 g/t Ag, 0.07 g/t Au, 0.24% Pb, and 0.29% Zn for a total of 95 Moz AgEq. Additional inferred oxide resources are estimated to be 36 Mt grading 18 g/t Ag, and 0.04 g/t Au, 0.28% Pb, and 0.37% Zn for a total of 49 Moz AgEq.

Based on the assumptions and parameters presented in this report, the pre-feasibility study shows positive economics (i.e., $1,153 million post-tax NPV (5%) and 28.0% post-tax IRR). The pre-feasibility study supports a decision to carry out additional detailed studies.

1.21 Recommendations

1.21.1 Overall

Below is a summary of all major recommended works proposed to be completed in support of further engineering studies. The recommended budget totals $21.1 million and the cost estimates for all works are summarized in Section 26.

1.21.2 Exploration

To support ongoing studies in 2023, drilling is recommended as follows:

- Drilling in Q1 to Q2 2023 relates to condemnation drilling targeting proposed infrastructure locations for evidence of mineralization in an estimated 20 holes totalling 5,700 m.
- Drilling in Q1 to Q3 2023 relates to hydrogeology drilling targeting viable water sources in an estimated 18 holes totalling 8,000 m.
- Drilling in Q1 and Q3 2023 relates to pump-test well drilling to test water levels and conductivity near the PFS pit boundary in an estimated 3 holes for 1,350 m.
- Drilling in Q1 and Q3 2023 relates to geotechnical drilling testing in an estimated seven holes totalling 2,460 m to support ongoing feasibility studies.
- Drilling in Q3 and Q4 2023 relates to regional drilling in an ongoing property wide regional target assessment in an estimated 8900 m in a series of holes.

Several of the above stages can be completed in conjunction with other work programs. Contingent on the success of the drilling, the drill programs should be expanded as needed.

Ongoing studies should include continued Leapfrog 3D modelling of clay content, sulphide content, assessment of p intrusive phases, structural corridors, alteration zonation, mineralization styles, carbonate species zonation and further definition of late mineral intrusive phases. Continued petrographic and SEM-EDS analysis in support of a metal deportment study is recommended.

Targeted studies should include lithogeochemical sampling of outlying regional igneous rocks, further definition of the late mineral intrusive phases, and ongoing Ar-Ar (Argon-Argon) age dating of alteration envelopes to precious and base metal mineralization.

To identify exploration targets under the 85% recent cover (includes overburden and post mineral volcanics) of Cordero, a targeted GIS knowledge-driven spatial analysis should be completed to define areas with the likelihood of finding Cordero-style mineralization in covered areas. To better inform the alteration and mineralization modelling, further insight through exploratory data analysis should be completed.

A bulk density estimation program to measure the density of every 2 m sample interval using whole core was continued in Q4 2022. This program should continue through 2023 since it will provide additional useful information to supplement the existing pulp density and whole core density measurements as the project advances. The cost of this activity is included in exploration program cost.

1.21.3 Metallurgical Characterization

The metallurgical work outlined below is recommended for the next project phase:

- Additional comminution tests to further expand the comminution database is recommended to develop a robust comminution model and grinding circuit design. This will improve the future analysis of power requirements and equipment selection.
- Optimization of concentrate regrind size is required. Only limited testwork has been conducted to date and specific energy consumption testwork was not included.
- Further investigation between the impact of depressant dosages and silver recovery to the lead-silver concentrate is recommended. Operating at lower depressant dosages would likely lead to higher silver recovery to the lead-silver concentrate where payment terms are more favourable.
- Alternate depressants to sodium cyanide should be evaluated to determine if it can be replaced entirely without adversely affecting metallurgical performance.
- Sensor-based sorting and/or dense media separation testwork should be undertaken to determine the response of the low-grade stockpile material to preconcentration.
- Further expansion of the variability flotation database is recommended and testwork on higher grade production composites is required to allow models of robust head grade vs. recovery to be developed.
- No dewatering testwork (dynamic thickener tests and concentrate filtration) has been conducted to date—this is recommended as part of the work in the next project phase.
- The use of 4 kg testwork charges for flotation testwork should be considered as standard going forward, especially for the low head grade samples.

1.21.4 Mineral Resource Estimation

The following work related to mineral resource estimation is recommended for the next project phase:

- Future mineral resource updates should continue to explore the use of geological logging information to optimize the separation of structural domains into high-grade and low-grade subdomains.
- A small cross of closely spaced drill holes at approximately 10 m spacing should be drilled in a high-grade zone and low-grade zone to improve the understanding of short-scale continuity. This will assist the analysis and interpretation of spatial continuity for future resource estimation studies and provide useful information for planning a grade control system.

- Infill drilling should continue, both in inferred resource areas where confidence could move the mineral resources into the indicated category, and similarly in indicated resource areas where confidence could move the mineral resources into the measured category. By the time the project reaches the feasibility study phase, it is prudent to have the majority of the mineral resources in the payback period drilled to the level of measured confidence.

The vast majority of the proposed resource drilling is to expand mineral resources in the Cordero main area, where resources are currently estimated, and to increase the confidence of mineral resource estimates from the inferred to indicated category, and from the indicated to measured category.

1.21.5 Geotechnical Studies for Pit Slopes and Sectors

The geotechnical data collected from the 2021 and 2022 site investigation programs is considered sufficient for a PFS-level pit slope design. However, there are uncertainties and data gaps relating to large-scale structural features, rock mass strength, rock defect strength, rock mass permeability and porewater pressure distribution. Additional geotechnical investigations and slope stability assessments are required should the project advance to the feasibility study and/or detailed engineering stages.

- A supplementary geotechnical drilling program is recommended in the proposed west wall area where the siltstone package is encountered for further bedding orientation and rock mass characterization.

- Additional laboratory rock strength testing to refine the intact rock and defect strength estimates of the siltstone unit.

- Further detailed slope stability analyses for refinement of the pit slope designs.

1.21.6 Mine Engineering

The following mining-related studies and analyses should be completed as the project advances to the next study phase:

- The current assumption for grade control needs to be reviewed and sampling protocols need to be established.

- Additional information from further geotechnical drilling is required to develop a more detailed mass rock characterization and update pit slope criteria.

- Additional work needs to be completed to verify the cost benefit of using an Owner fleet. This includes detailed discussions with local contractors and vendors to determine whether a hybrid approach of early-stage contract mining and later-stage owner-operated mining is an economical option.

- Further study is required to better understand the nature of the waste rock and to classify it as potentially acid generating (PAG) or non-acid generating (NAG) or if particular lithologies are susceptible to metal leaching. The results may require a change to the waste rock management strategy.

- Optimization studies should be performed to refine the selected business case. This would likely include a cut-off optimization study to improve the blending strategy for the mill feed material and to determine the optimum size of the proposed marginal sulphides and oxides stockpiles.

- A detailed sensitivity analysis of pit optimization parameters is recommended to define the ultimate pit limits.

- The detailed mine design and schedule should be finalized with reference to more defined surface infrastructure/facilities for services, water management and other relevant components.

1.21.7 Tailings Storage Facility Studies

Recommendations for the next phase of project development related to the tailings storage facility are as follows:

- Field Programs:
  - Complete additional site investigation programs and laboratory testing to support the level of detail required for future studies.
- Additional Studies and Evaluations, such as:
  - Complete detailed consolidation modelling and updated seepage and stability modelling for the for the TSF.
  - Advance the site-specific seismic hazard analysis (SHA) considering in-situ testing to estimate ground motion parameters representative of the geotechnical foundation conditions. In addition, complete a fault study, an updated probabilistic seismic hazard analysis, and a deterministic seismic hazard analysis to define a maximum credible earthquake (MCE) for the TSF.
  - Complete a dam breach and inundation assessment to evaluate the impacts of failure of the TSF on the receiving environment and to inform a dam classification.
  - Complete additional geochemistry testing and studies to confirm the metal leaching and acid generating potential of the materials that will be stored and/or used for construction.
  - Complete testing on embankment construction materials and tailings materials to confirm suitability for proposed management strategies, and confirm material parameters for design (dry density, consolidation characteristics, strength parameters, etc.).
  - Complete additional studies to understand the potential for water recovery from the TSF.

1.21.8 Site-Wide Water Balance

It is recommended that the following be carried out to continue developing the site-wide water balance and supporting studies:

- Evaluate measures to reduce the reliance on external make-up water.
- Complete water quality modelling to support collection, possible treatment, and distribution planning of the contact water from the mine site area and non-contact water from the upstream natural catchments.
- Continue to collect and monitor site-specific climate data; consider collecting hydrological data at the project site and installing an additional climate station in the project area at a different location and aspect; consider installing at least one hydrometric station with an automatic data logger on the most consistently flowing stream in vicinity of the project area.
- Complete a detailed and comprehensive hydrometeorological study to adequately characterize the climatic and hydrological characteristics of the project area to support subsequent levels of design.

- Refine the logic in the overall site-wide water balance model to a feasibility level; optimize water and waste management.

1.21.9 Environmental Studies, Permitting, and Social or Community Impact

Current regulations in Mexico require that a preliminary closure program be included in the MIA and a definite program be developed and submitted to the authorities during mine operation (generally accepted as three years into the operation). These closure plans tend to be conceptual and typically lack much of the detail necessary to develop an accurate closure cost estimate.

New tailing dams are subject to the requirements of NOM-141-SEMARNAT-2003 (Standard that Establishes the Requirements for the Design, Construction and Operation of Mine Tailings Dams). Under this regulation, studies of hydrogeology, hydrology, geology and climate must be completed for sites considering new tailings impoundments. If tailings are classified as hazardous under NOMCRP-001-ECOL/93, the amount of seepage from the impoundment must be controlled if the facility has the potential to affect groundwater.

Environmental monitoring of groundwater and tailings pond water quality and revegetation requirements is specified in the regulations. It is recommended that a solid Tailings Management Plan be developed to prepare the Cordero project for international standards to be satisfied.

The cost of implementing the above environmental recommendations is estimated at US$500,000.

1.21.10 Hydrogeology

The following work related to hydrogeology is recommended for the next project phase:

- Further investigation of the location and nature of geological structures (e.g., faults) and the potential compartmentalization of the groundwater system is recommended to support the quantitative estimate of the occurrence and nature of groundwater flow. More detailed investigation is recommended to better characterize the hydrogeological system, especially the hydraulic features of the faults and their hydraulic connectivity.

- It is recommended that pumping wells be drilled, installed, and tested to reliably estimate the hydraulic parameters of the bedrock formations and their sustainable well yield. Additional piezometers will be needed to support the pumping tests, and to improve the knowledge about the geological features including the faults in the pit area; multi-level piezometers are recommended to be installed to allow vertical hydraulic gradients and groundwater flow directions to be characterized.

- The existing RC22 wells are recommended to be sampled for at least one hydrologic year on a quarterly basis to characterize seasonal variations of groundwater quality. The groundwater sampling results are required to confirm the suitability of the pit dewatering pumping water for the mine water supply, as well as for environmental assessment and project permitting.

- New groundwater monitoring wells are recommended to be drilled and installed at the proposed waste rock and tailings storage facilities and along the potential mine contact water seepage flow pathways towards the receiving environment. Once the wells are completed and developed, slug tests should be done to estimate hydraulic conductivities. Water levels and groundwater samples should be collected on a quarterly base for at least one hydrologic year.

- A 3D numerical groundwater model is recommended to be developed based on an updated conceptual hydrogeological model. The calibrated numerical model can be used to validate the pit inflow estimated and simulate the performance of the pit dewatering well system. The model can also be used to conduct pit depressurization analysis (if necessary) and to predict potential impacts of the mine on the groundwater system.

- It is recommended that surface water monitoring be carried out to support the future groundwater model development.

2 INTRODUCTION

Discovery Silver Corp. (Discovery Silver) commissioned Ausenco Engineering Canada Inc. (Ausenco) to compile a pre-feasibility study (PFS) of the Cordero project. The PFS was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

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

- Ausenco managed and coordinated the work related to the report, supported Libertas Metallurgy Ltd. (Libertas) with the metallurgical test program, and developed PFS-level design and cost estimate for the process plant, general site infrastructure, and economic analysis.
- Ausenco Sustainability Inc. (Ausenco) conducted a review of the environmental studies completed by Consultores Interdisciplinarios en Medio Ambiente S.C. (CIMA) and completed surface water make-up and management design.
- AGP Mining Consultants Inc. (AGP) designed the open pit mine, ore stockpiles, waste rock stockpiles, mine production schedule, and mine capital and operating costs.
- Knight Piésold Ltd. (KP) completed geotechnical studies, site wide water balancing, and developed the PFS-level design and cost estimate of the tailings storage facility.
- World Metals Inc. (World Metals) completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis,d data verification, and Section 25 (25.1 to 25.4) in Interpretation and Conclusions.
- RedDot3D Inc. (RedDot3D) developed the mineral resource estimate for the project.
- Hard Rock Consulting LLC (Hard Rock) conducted a review of the work related to 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.

2.1 Terms of Reference

The report supports disclosures by Discovery Silver in a news release dated January 24, 2023 titled, “Discovery Reports Preliminary Feasibility Study on Cordero with After-Tax NPV of US$1.2 Billion and 28% IRR”.

2.2 Qualified Persons

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

Table 2-1: Report Contributors

Qualified Person	Professional Designation	Position	Employer	Independent of Discovery?	Report Section
Tommaso Roberto Raponi	P. Eng.	Senior Mineral Processing Specialist	Ausenco Engineering Canada Inc.	Yes	1.1, 1.9, 1.13 to 1.15, 1.17, 1.18, 1.20, 1.21.1, 1.21.3, 2, 3.1, 3.3, 3.4, 13, 17, 18.1 to 18.7, 19, 21 (except 21.2.2 and 21.3.2), 22, 24, 25.1, 25.5, 25.9 to 25.12, 25.13.1.8, 25.13.2.3, 26.1, 26.3, and 27
Yaming Chen	P. Geo.	Senior Hydrogeologist	Ausenco Sustainability Inc.	Yes	1.16.2, 1.21.10, 16.3, 18.9.4, 25.13.1.6, 25.13.2.5, 26.10, and 27
Jonathan Cooper	P. Eng.	Senior Water Resources Engineer	Ausenco Sustainability Inc.	Yes	18.9.2 and 27
Scott Weston	P. Geo.	Vice President, Business Development	Ausenco Sustainability Inc.	Yes	1.16.1, 1.16.3, 1.16.4, 1.21.9, 3.2, 20, 25.7, 25.13.1.4, 26.9
Gordon Zurowski	P. Eng.	Principal Mining Engineer	AGP Mining Consultants Inc.	Yes	16.11 to 16.13, 21.2.2, 21.3.2
Manuel Jessen	P. Eng.	Principal Mining Engineer	AGP Mining Consultants Inc.	Yes	1.11, 1.12, 1.21.6, 15, 16.1, 16.4 to 16.10, 25.8.2, 25.13.1.7, 25.13.2.4, 26.6
Daniel Yang	P. Eng.	Specialist Geotechnical Engineer	Knight Piésold Ltd.	Yes	1.21.5, 16.2, 25.8.1, 26.5, and 27
Ken Embree	P. Eng.	President	Knight Piésold Ltd.	Yes	1.21.7, 1.21.8, 18.8, 18.9.1, 18.9.3, 25.13.1.5, 25.13.2.2, 26.7, 26.8, and 27
Richard Schwering	SME-RM	Principal Resource Geologist	Hard Rock Consulting LLC	Yes	1.2, 1.3, 1.5 to 1.8, 1.10, 1.19, 1.21.2, 1.21.4, 4, 5, 6, 9, 10, 11, 12, 14, 23, 25.2, 25.4, 25.6, 25.13.1.1 to 25.13.1.3, 25.13.2.1, 26.2.1, 26.2.2, 26.4 and 27
Jennifer J. (J.J.) Brown	SME-RM	Director Geologist	Hard Rock Consulting LLC	Yes	1.4, 7, 8, and 25.3

Source: Ausenco, 2023.

2.3 Site Visits and Scope of Personal Inspection

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

Table 2-2: Qualified Person Site Visits

Qualified Person	Date of Site Visit	Days on Site
Tommaso Roberto Raponi, P. Eng.	Has not visited Site	-
Yaming Chen, P. Geo.	Has not visited Site	-
Jonathan Cooper, P. Eng.	Has not visited Site	-
Scott Weston, P. Geo.	July 26-27, 2022	2
Gordon Zurowski, P. Eng.	Has not visited Site	-
Manuel Jessen, P. Eng.	July 26-27, 2022	2
Daniel Yang, P. Eng.	April 26-27, 2022	2
Ken Embree, P. Eng.	April 26-27, 2022	2
Richard Schwering, SME-RM	January 17-19, 2023	3
Jennifer J. (J.J.) Brown, SME-RM	January 17-19, 2023	3

Source: Ausenco, 2023.

Scott Weston visited the site between July 26, 2022, and July 27, 2022. Activities during the site visit included the following:

- reviewing development plans with Discovery Silver leadership and touring the project site
- investigating key watercourses,
- touring the existing site infrastructure
- touring locations of key planned infrastructure
- inspecting the core shack and select drill core
- inspecting key existing and planned access infrastructure
- collecting site photos.

Manuel Jessen visited the site between July 26, 2022 and July 27, 2022. Activities during Mr. Jessen’s visit included the following:

- meetings with Cordero project personnel to discuss interaction between different project disciplines
- tour to the exploration camp facilities and core logging facility
- field visit to the proposed mining, tailings and waste rock storage facilities areas
- discussion on the progress of the resource model work and inputs to the pre-feasibility study mine plan.

Daniel Yang visited the site on April 26, 2022 and April 27, 2022. Activities during the site visit included the following:

- meeting with Discovery Silver geologists
- site tour and ground truthing through the Main resource pit area
- discussion and review of the existing 3D geology and structure models
- inspection of selected drill core.

Ken Embree visited the site on April 26 2022 and April 27, 2022. Activities during the site visit included the following:

- meeting with Discovery Silver team and Cordero project personnel
- site tour to assess the overall project location, accessibility, and general setting
- discussion and review of potential tailings storage facility (TSF) location options
- focussed review of preferred TSF location options
- collection of site photos and preparation of a summary memorandum.

Richard Schwering visited the site between January 17, 2023 and January 19, 2023. Please refer to Section 12.2 for a detailed outline of the site visit activities.

JJ Brown visited the site between January 17, 2023 and January 19, 2023. Please refer to Section 12.2 for a detailed outline of the site visit activities.

2.4 Effective Dates

This technical report has two significant dates, as follows:

- Cordero mineral resource estimate: January 18, 2023
- Cordero mineral reserve estimate: January 18, 2023
- Financial analysis: January 20, 2023

The effective date of this report is based on the date of the financial analysis, which is January 20, 2023.

2.5 Information Sources & References

This technical report is based on internal company reports, maps, published government reports, and public information as listed in Section 27. It is also based on information cited in Section 3.

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. Information related to these matters has been provided directly by Discovery Silver and include, without limitation, validity of mineral tenure, status of environmental and other liabilities, and permitting to allow completion of environmental assessment work. These matters were not independently verified by the QPs but appear to be reasonable representations that are suitable for inclusion in Chapter 4 of this report.

2.6 Previous Technical Reports

The Cordero 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	Name
M3 Engineering & Technology, 2012	Levon Resources Ltd.	Cordero Project NI 43-101 Preliminary Economic Assessment
Independent Mining Consultants, 2012	Levon Resources Ltd.	Cordero Project – June 2012 Mineral Resource Update – Chihuahua, Mexico – Technical Report
Independent Mining Consultants, 2014	Levon Resources Ltd.	The Cordero Project September 2014 Mineral Resource Update, 2014
M3 Engineering & Technology and Independent Mining Consultants, 2018	Levon Resources Ltd.	Cordero Project, NI 43-101 Technical Report, Preliminary Economic Assessment Update, Chihuahua, Mexico
World Metals & RedDot3D, 2021	Discovery Silver Corp.	Mineral Resource Update of the Cordero Silver Project Chihuahua State, Mexico
Ausenco Engineering Canada, 2021	Discovery Silver Corp.	Cordero Project, NI 43-101 Technical Report, Preliminary Economic Assessment, Chihuahua, Mexico, November 2021
Ausenco Engineering Canada, 2022	Discovery Silver Corp.	Cordero Project, NI 43-101 Technical Report, Preliminary Economic Assessment Update, Chihuahua, Mexico, July 2022

Source: Ausenco, 2023.

2.7 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 ounce = 31.1035 grams. All material tonnes are expressed as dry tonnes (t) unless stated otherwise. A list of report abbreviations is provided in Table 2-4.

Table 2-4: List of Abbreviations

Acronym/Abbreviation	Definition
%	Percent
°	Azimuth/dip in degrees
°C	Degree Celsius
°F	Degree Fahrenheit
µg	Microgram
µm	Micron
a	Annum
AACE	Association for the Advancement of Cost Engineering
AAS	Atomic Absorption Spectrometry
ADS	Advanced Drainage Systems
Ag	Silver
Ai	Abrasion Index
AMD	Acid mine drainage
AP	Acidity potential
As	Arsenic
ASEA	Safety, Energy and Environment Agency
Au	Gold
BBWI	Bond Ball Work Index
BC	British Columbia
bcm	Bank Cubic Meters
BTEX	Benzene, Toluene, Ethylbenze and Xylene
cal	Calorie
Cd	Cadmium
CENACE-CFE	National Center of Energy Control – Electricity Federal Commission
CFE	Comisión Federal de Electricidad
CIMA	Interdisciplinary Consultants in Environment SC
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Cl	Chlorine
cm	Centimeter
COEPRIS	Sanitary Risk Prevention Federal Commission
CONAGUA	Comisión Nacional del Agua (National Water Commission)
CRM	Certified Reference Materials
CSV	Comma Separated Values
CUSTF	Cambio de Uso de Suelo de Terrenos Forestales (Change of Use of Forest Land)
d	Day
DCF	Discounted Cash Flow
dmt	Dry metric tonne
DOF	Federal Official Gazette
E	Extensional
ECCC	Environment and Climate Change Canada
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EQA	Environmental Quality Act
ER	Estudio de Riesgos (Risk Assessment)
ETJ	Estudio Técnico Justificativo (Technical Justification Study)
F	Fluorine
Fe	Iron

Acronym/Abbreviation	Definition
ft	Foot or feet
g	Gram
G	Giga (billion)
G&A	General and Administrative
g/L	Gram per liter
g/t	Gram per tonne
ha	Hectare
HDPE	High-density Polyethylene
Hg	Mercury
hp	Horsepower
HVAC	Heating, Ventilation and Air Conditioning
IAA	Impact Assessment Act, 2019
IBCs	Intermediate Bulk Containers
IBX	Intrusive Breccia
IMSS	Instituto Mexicano del Seguro Social (Mexican Institute of Social Security)
in	Inch or inches
INEGI	Instituto Nacional de Estadística y Geografía (National Institute of Statistics and Geography)
IRR	Internal Rate of Return
IS	Intermediate Sulphidation
JV	Joint Venture
kg	Kilogram
km	Kilometer
km^2	Square kilometer
L	Liter
LG	Lerchs-Grossman
LGDFS	Ley General de Desarrollo Forestal Sustentable (General Law on Sustainable Forestry Development)
LGEEPA	Ley General Del Equilibrio Ecológico y la Protección al Ambiente (General Law for Ecological Balance and Environmental Protection)
LGPGIR	Ley General para la Prevención y Gestión Integral de los Residuos
LMP	Maximum permissible emission limit
LOM	Life of Mine
m	Meter
M	Mega (million)
m^2	Square meter
m^3	Cubic meter
masl	Meters above sea level
mbgs	Meters below ground surface
MEL	Mechanical Equipment List
MIA	Environmental Impact Assessment
MIBC	Methyl Isobutyl Carbinol
min	Minute
mm	Millimeters
Mn	Manganese
MSB	Mexican Silver Belt
NOM	Norma Oficial Mexicana (Official Mexican Standard)
NO_x	Nitrogen oxide gases produced by diesel vehicles
NP	Neutralization potential
NPR	Neutralization potential ratio
NPV	Net Present Value

Acronym/Abbreviation	Definition
oz	Troy ounce (31.1035 g)
oz/t, oz/st	Ounce per tonne, Ounce per short ton
Pb	Lead
PLS	Pregnant Leach Solutions
PM_{10}	Particulate Matter that is smaller than 10 microns
$PM_{2,5}$	Particulate Matter that is smaller than 2,5 microns
PPA	Plan de Prevención de Accidentes (Accident Prevention Plan)
ppb	Parts per billion
ppm	Part per million
Project	Cordero Project
QA	Quality Assurance
QC	Quality Control
RC	Reverse Circulación
REPDA	Registro Público de Derechos de Agua
RF	Revenue Factor
ROM	Run of Mine
RSF	Rock Storage Facility
RWI	Bond Rod Mill Work Index
s	Second
SCT	Secretariat of Communications and Transportation
Se	Selenium
SE	Ministry of Economy
SEDENA	Secretariat of National Defense
SEMARNAT	Secretaria de Medio Ambiente y Recursos Naturales (Secretariat of Environment and Natural Resources)
SIEM	Sistema de Información Empresarial Mexicano
SiO_2	Silicon dioxide
SMC	Steve Morrell Comminution
STPS	Secretariat of Labor and Social Prevision
t, tonne	Metric tonne
TISG	Tailored Impact Statement Guidelines
ton, st	Short ton
TSF	Tailings Storage Facility
US$ or USD	United States dollar
wmt	Wet metric tonne
y	Year
ZC	Critical Zones
Zn	Zinc

Source: Ausenco, 2023.

3 RELIANCE ON OTHER EXPERTS

3.1 Introduction

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

3.2 Environmental Studies, Permitting, and Social or Community Impact

The QPs have fully relied upon, and disclaim responsibility for, information derived from Discovery Silver and experts retained by Discovery Silver for information related to permitting, and social and community impacts through the following:

- CIMA 2021a; Consultores Interdisciplinarios en Medio Ambiente S.C.; "Estudio de Linea Base Ambiental Cordero"; report prepared for Discovery Silver; August 2021.
- CIMA 2021b; Consultores Interdisciplinarios en Medio Ambiente S.C.; "Linea Base Ambiental Cordero"; report prepared for Minera Titán S.A de C.V.; April 2021.
- Gamatek 2022a; Gamatek S.A. de C.V; "Noise level of a fixed source"; report prepared for Minera Titán S.A de C.V.; June/2022.
- Gamatek 2022b; Gamatek S.A. de C.V; "PM10, PM2,5 in ambient air"; report prepared for Minera Titán S.A de C.V.; June/2022.
- Gamatek 2022c; Gamatek S.A. de C.V; "Total Suspended Particles and Lead concentration in ambient air report"; report prepared for Minera Titán S.A de C.V.; June/2022.
- IDEAS 2022a; Investigación y desarrollo de acuíferos y ambiente, Dr. Miguel Rangel Medina; "Estudio de caracterización hidrogeológica en el entorno del Proyecto Minero Cordero"; report prepared for Discovery Silver; March 2022.
- VINFIDEM 2021. "Estudio de Línea de Base Social Proyecto de Exploración Minera Avanzada Cordero"; Mexico; Primera Edición; report prepared for Discovery Silver; 2021.

This information is used in support of Sections 16, 18, and 20.

3.3 Taxation

The QPs have fully relied upon, and disclaim responsibility for, information supplied by Discovery Silver and reviewed by their third-party tax experts related to taxation calculations and assumptions as applied to the financial model, as received by email from Discovery Silver titled "Discovery Silver LOM tax calc review" on January 11, 2023.

This information is used in support of Section 22.

3.4 Markets

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

- Exen (2022). “Cordero Project Zinc & Lead Concentrates Valuations”; report prepared for Discovery Silver. July 2022.

This information is used in support of Sections 19 and 22.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location

The Cordero property lies in the southern part of Chihuahua State, northern Mexico, 600 km south of the United States border, 200 km south of Chihuahua City, and 35 km north of the nearest town of Parral (see Figure 4-1).

The project is centered at 27° 16.62’ N latitude and -105° 36.21’ W longitude on the Servicio Geológico Mexicano (SGM) or Mexican Geological Survey topographic 1:250,000 map sheet G13-2. The project covers whole or part of the SGM topographic 1:50,000 map sheets G13-A37 (Valle de Zaragoza), G13-A38 (El Nopal), G13-A47 (San Antonio), and G13-A48 (El Dorado).

Figure 4-1: Location of the Cordero Property in Chihuahua State, Mexico

Source: Discovery Silver Corp, 2022.

4.2 Mineral Tenure and Permits

Mexico is a federation of states, and its government is structured on three levels: federal, state, and municipal. The Political Constitution of the United Mexican States is the highest law of the country. Mining is regulated primarily by federal laws (e.g., mining law, environmental law, health law, labour law, and federal tax laws); however, state laws and municipal regulations govern some aspects.

The authority exercised by the mining law is governed by the General Direction of Mining Regulation under the supervision of the General Coordination of Mining of the Ministry of the Economy. The head office is in Mexico City.

Mineral resources in Mexico are owned by the Mexican government. Private parties, individuals, and companies that are Mexican nationals may obtain concessions to explore and exploit these resources. Foreign individuals and companies may hold up to 100% of the capital stock in a Mexican mining company.

Mining concessions are granted for 50 years and may be renewed for an additional 50 years. Concessions are granted on a mining lot that may comprise the area requested by the interested party. There are no limitations to the number of hectares for each mining lot.

The main obligations of the concessionaires are:

1. to carry out exploration and exploitation works
2. pay mining duties
3. comply with safety and environmental protection regulations
4. submit reports to the authorities and fulfill other obligations of lesser importance.

In addition to the right to explore and exploit minerals, concessionaires may use the water from the mine, without having to obtain a concession, and may request the temporary tenancy or the expropriation of the surface land to carry out their operations.

Mining concession rights do not include rights to the surface of the land. To acquire rights to the surface, negotiations may be held with the owner, when the land is privately owned. When dealing with communal agrarian property, known as “ejidos”, it is necessary to negotiate with the legal representatives of the ejido to obtain their consent through a legal procedure for temporary occupancy or expropriation.

Currently, the total mining concessions that make up the Cordero project are held by Minera Titan and are valid, as set forth in the certifications issued by the Mining Public Registry in November 2022. Additionally, access to the surface land has been guaranteed through equitable agreements with the landowners.

The fees owed to the federal government are updated annually under Article 59 of the Miscellaneous Tax and the Federal Rights Law (2023). These include a fixed fee according to the area covered by the concession and additional fees for each hectare held over the duration of the mining concession.

The 2023 semi-annual concession fees in Mexican Peso (MXN as a currency abbreviation; MX$ as a symbol) and US Dollar (USD as a currency; US$ as a symbol) using an exchange rate of 1MXN = 0.0529USD (https://exchangerates.org.uk live rate, January 12, 2023) per hectare or mining concession fraction during exploration.

Depending on the exchange rate the costs may vary but stated quota per hectare include:

- MX$9.30 (US$0.492) in the first and second year of validity
- MX$13.92 (US$0.688) in the third and fourth year of validity
- MX$28.76 (US$1.521) in the fifth and sixth year of validity
- MX$ 57.84 (US$3.059) in the seventh and eighth year of validity
- MX$115.68 (US$6.125) in the ninth and tenth year of validity
- MX$203.57 (US$10.783) from the tenth year onward.

In addition to paying the annual mining concession fees, the title holder is required to perform the following:

- commence exploration or exploitation activities within 90 days of the concession being recorded with the Public Registry of Mining
- spend more than the annual fees on exploration, development, or production
- comply with technical safety and environmental standards
- allow inspection visits from the Ministry of Economy, and provide them with statistical, technical, and accounting reports in accordance with the Mining Regulations and the Mining Law
- provide the Mexican Geological Service with semi-annual reports of the works carried out and, once in production, with information on mineral production from the concessions.

During exploration, water permits are required, and the title holder must adhere to an environmental protection plan filed with the government.

All permits necessary for drilling and surface exploration activities at Cordero have been received and are in good standing.

4.3 Mining Concessions

4.3.1 Description

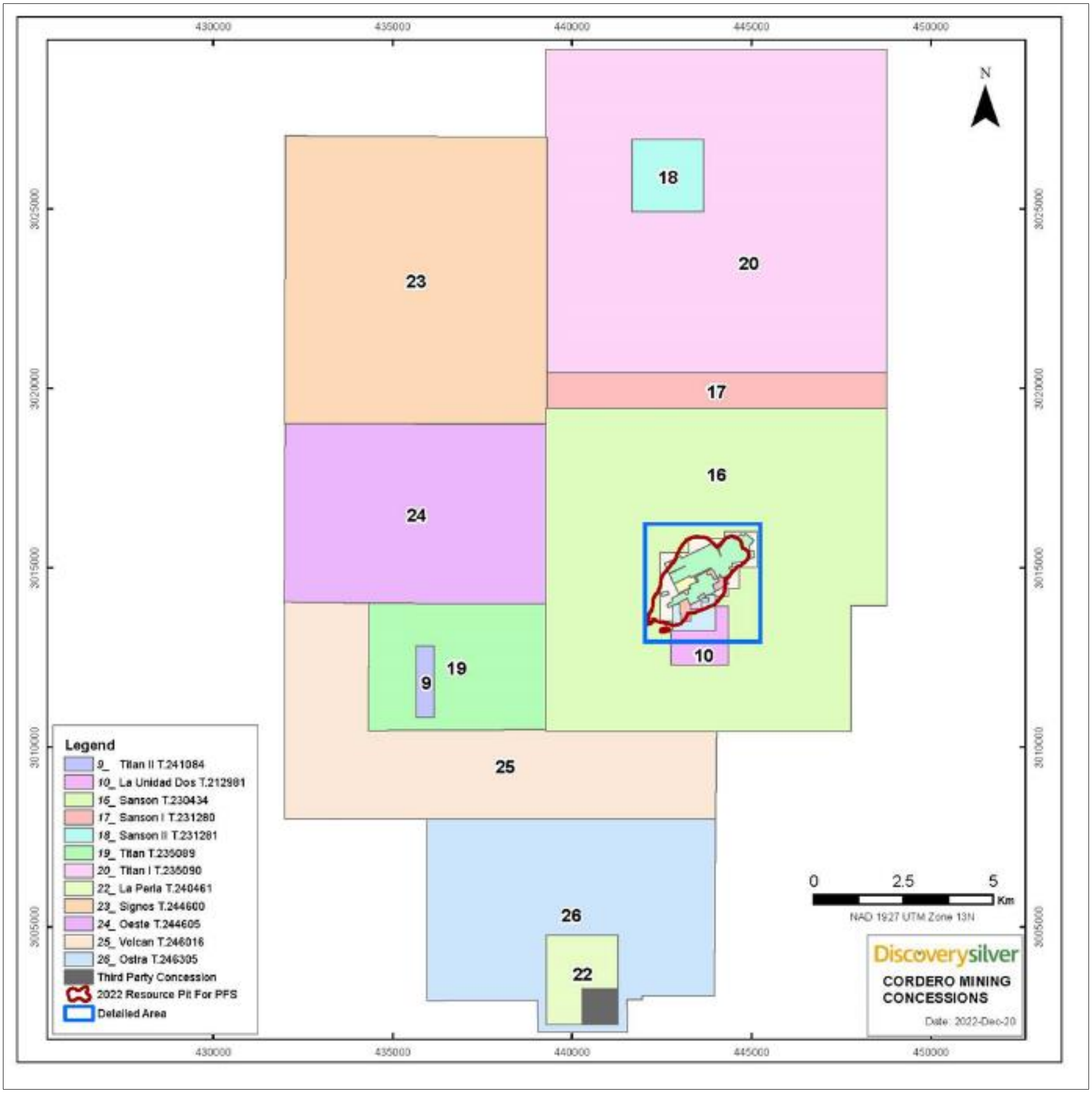
The Cordero property consists of the 26 titled mining concessions totalling 34,909 contiguous hectares owned by Minera Titán S.V. de C.V. Mexico (Titán), a wholly owned Mexican subsidiary of Discovery Silver Corp. These are tabulated in Table 4-1 and shown in Figures 4-2 and 4-3. Competitors own one small claim that is situated outside the southern fringes of the La Perla prospect along the south margin of the property (the small grey rectangle shown on Figure 4-2).

Table 4-1: Mineral Concessions Owned by Titán

Mining Concession Name	Title Claim Number	Year	Area (ha)
San Octavio	165481	30/09/1979	2.00
Cordero	171994	21/09/1983	218.87
Argentina	179438	09/12/1986	3.91
Catas Plateros	177836	29/04/1986	2.00
Sergio	214655	26/10/2001	9.82
El Santo Job	213841	03/07/2001	155.57
Todos Los Santos	238776	25/10/2011	2.50
Berta	182264	31/05/1988	16.53
Josefina	172145	26/09/1983	6.08
La Unidad	178498	08/08/1986	78.30
La Unidad Dos	212981	20/02/2001	175.76
Sansón	230434	03/10/2006	7510.83
Sansón I	231280	23/08/2006	950.00
Sansón 2 II	231281	23/08/2006	400.00
Sansón Fracc. 1	228104	04/10/2006	0.08
Sansón Fracc. 2	218105	04/10/2006	0.09
Titán I	235090	09/10/2009	8150.00
Titán II	241084	22/11/2012	100.00
Titán	235089	09/10/2009	1700.00
La Perla	240461	31/05/2012	400.00
Aida	189299	19/08/1981	16.00
San Pedro	215161	08/02/2002	1.94
Signos	244600	04/11/2015	3756.62
Oeste	244605	04/11/2015	3695.03
Ostra	246305	20/04/2018	3799.77
Volcán	246016	20/12/2021	3757.15
Total			34,908.83

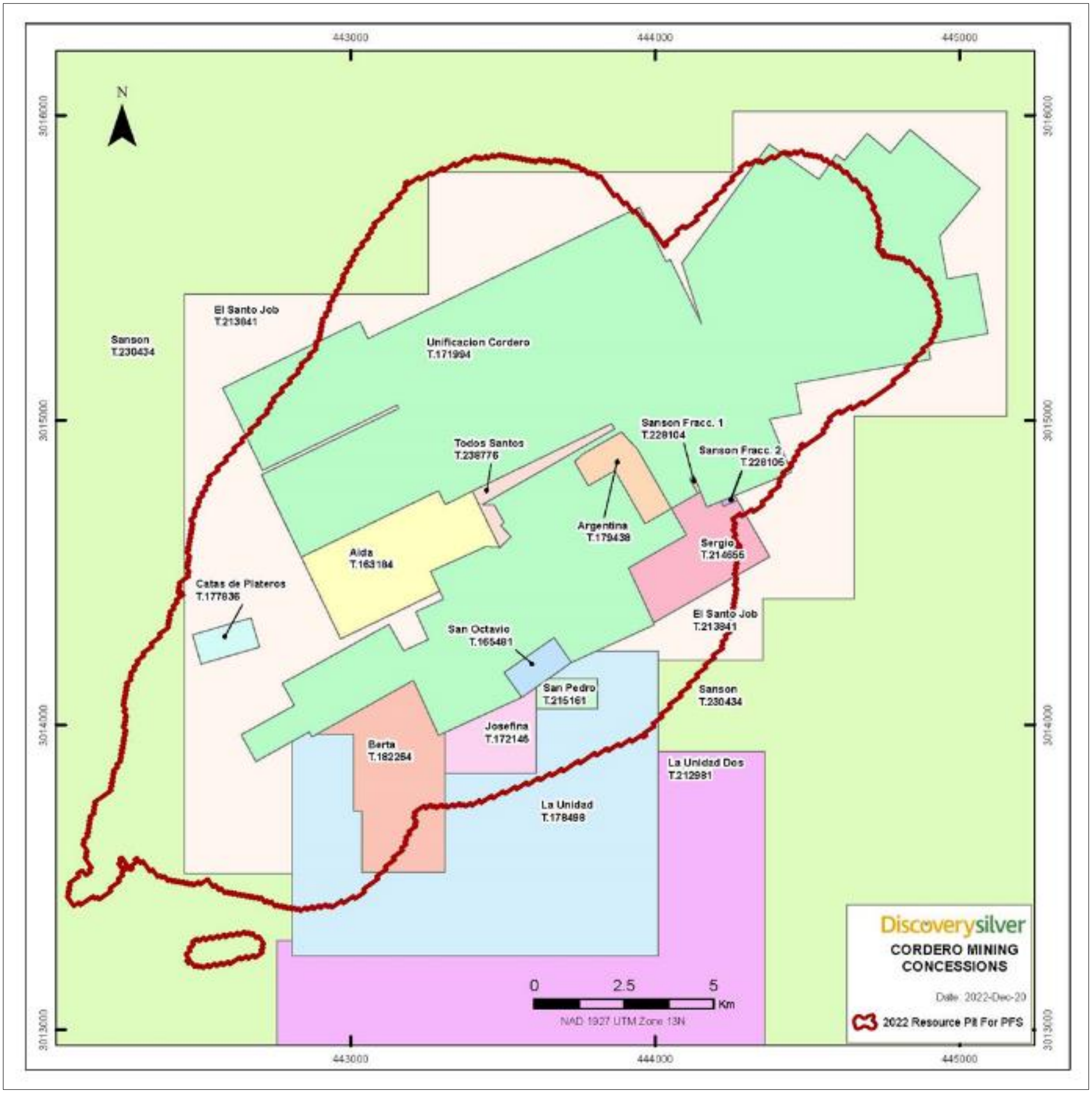
Source: Discovery Silver, 2022.

Figure 4-2: Cordero Mining Concessions and Surface Exploration Rights



Source: Discovery Silver, 2022.

Figure 4-3: Cordero Mining Concessions and Surface Exploration Rights in the Immediate Vicinity of the 2022 Resource Modelling Area



Source: Discovery Silver, 2022.

4.3.2 Access Agreements

Surface exploration rights for the Cordero concessions are maintained by three separate signed and transferrable agreements between Titán, two private ranches (Rico and Rascón Agreements), and Ejido Rancho Cordero (Ejido Agreement). The two agreements with the private ranchers cover the central portion of the mineral concessions (Figure 4-4 on the following page), including the site of the Titán exploration camp including sleeping quarters, the field office, and several drill core storage buildings. The Ejido Agreement covers the area within 2 km southwest and west of the 2022 resource pit (Figure 4-4).

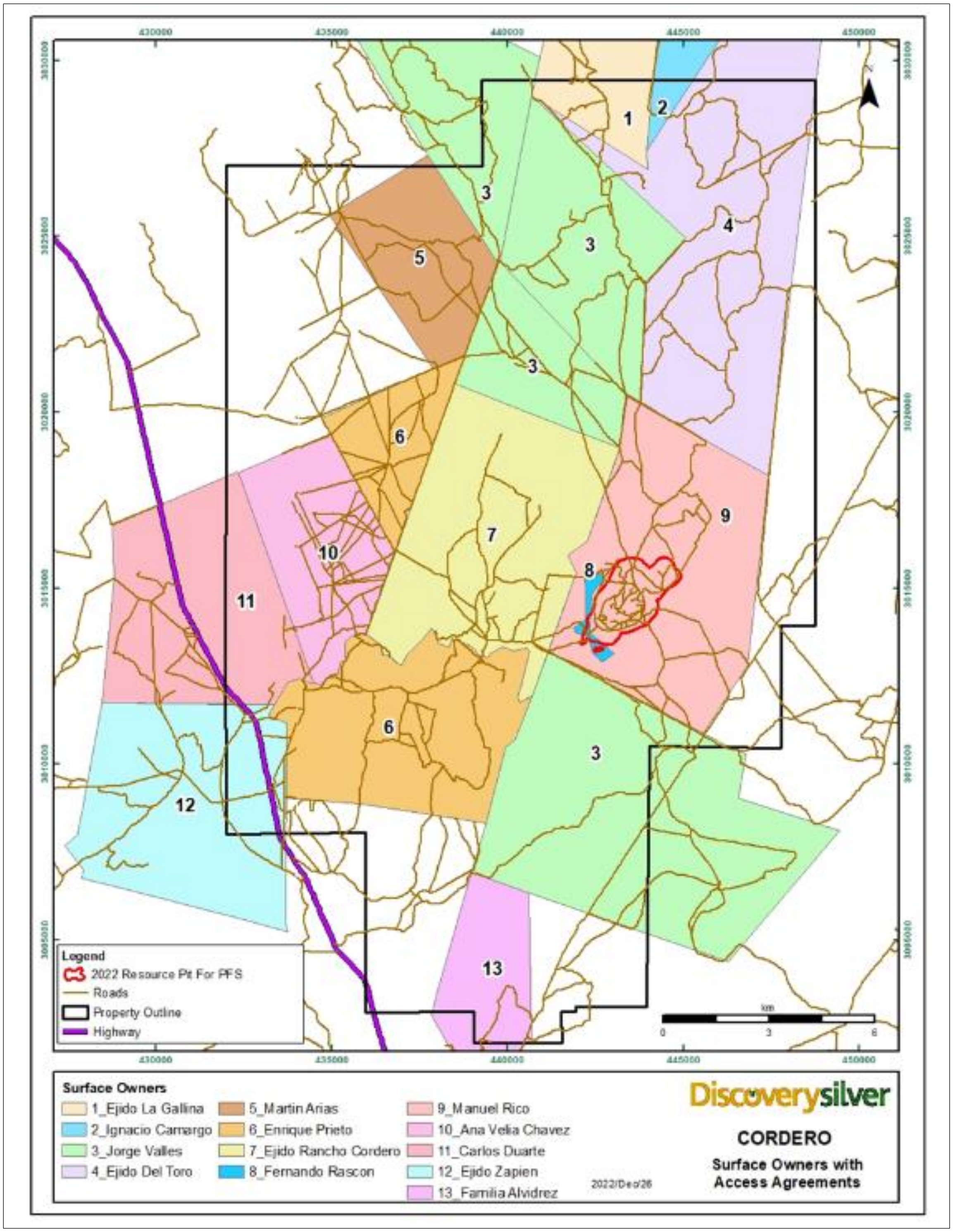
The Cordero access agreements and payment schedules are summarized in Table 4-2.

Table 4-2: Surface Access Agreements with Local Landowners

Landowner	Company	Signature Date	Expiration Date	Payment Schedule	Notes
Ejido Rancho Cordero	Coro Minera de México, S.A. de C.V. Minera Titán, S.A. de C.V. (Titán)	June 1, 2022	May 31, 2032	Annual	When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Rancho San Julián/Jose Alberto Rico Urbina	Titán	Renewed on January 2, 2014 2023 Signature in Progress	December 31, 2023	Annually, paid in 12 equal monthly payments	When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Fernando Rascón Chavez. (Rancho San Juan)	Titán	April 24, 2012	The time re-quired to carry out mining exploration work	(No payment for access)	Letter agreement. When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Fernando Rascón (Lease of the core storage and field office-warehouse)	Titán	October 1, 2014 2023 extension signed	December 31, 2023	Monthly	Monthly fee for core storage and field office facilities renewal. The fee is adjusted according to the Consumer Price Index.
Enrique Prieto Rancho Santa Teresa Temporary occupancy	Titán	October 2020	October 2030	Monthly	Molino de Viento Target. When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Arturo Alvidrez Grado (Rancho San Geronimo) Temporary occupancy	Titán	April 2020	April 2031	Monthly	La Perla Target. When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Jesus Francisco Alvidrez (Rancho San Geronimo) Temporary occupancy	Titán	April 2020	April 2031	Monthly	La Perla Target When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.
Jorge Luis Valles Maldonado (San Julian Ranch & San Luis Ranch) Temporary occupancy	Titán	August 2021	August 2031	Monthly	Porfido Norte Target (San Luis Ranch) and Exploration Targets south of Cordero area (San Julian Ranch). When drilling, Titán pays a flat fee for each drill hole. In the case that roads are required, the fee doubles.

Source: Discovery Silver, 2022.

Figure 4-4: Areas Covered by Access Agreements with Landowners



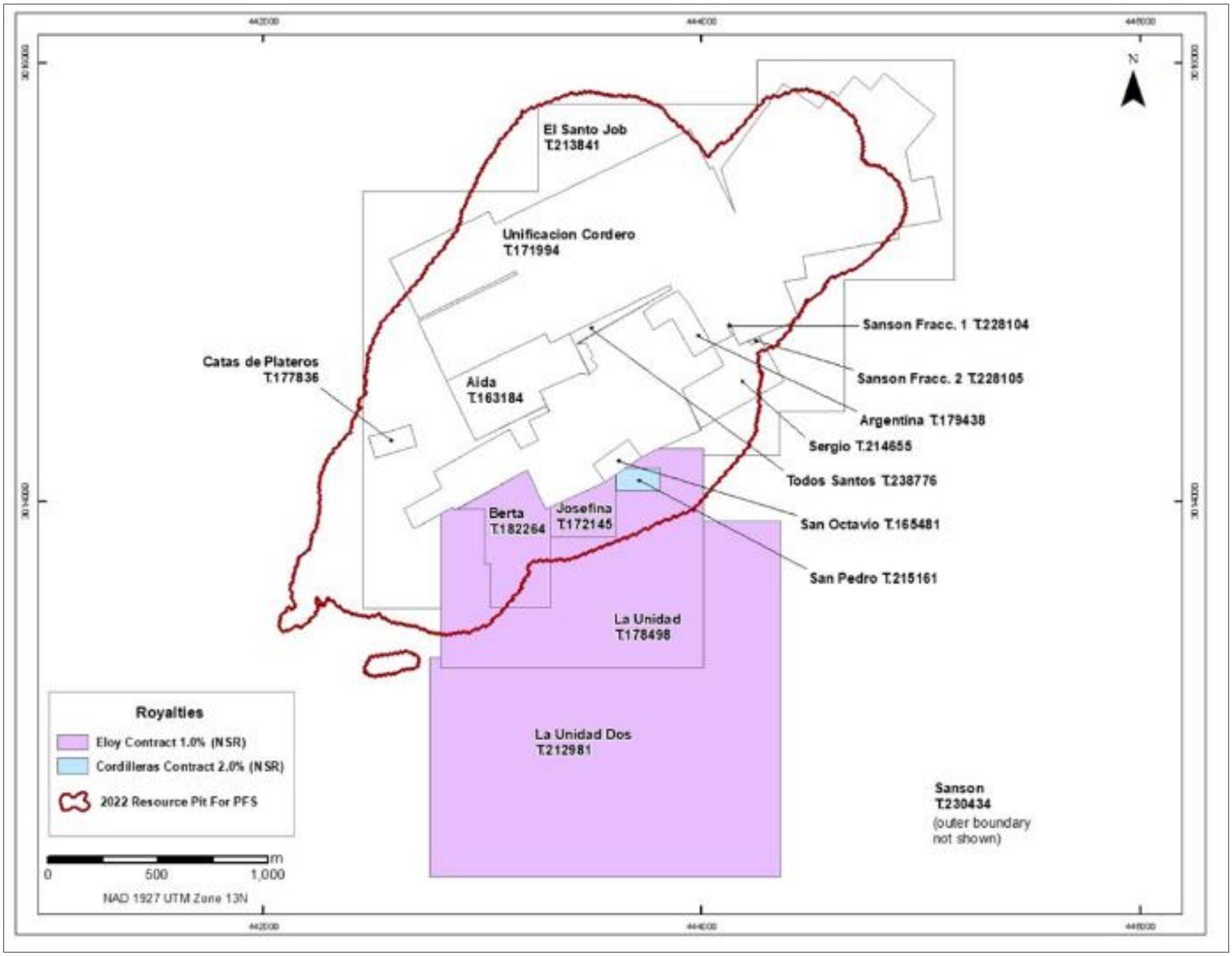
Source: Discovery Silver, 2022.

4.4 Royalties

For the San Pedro concession, there is an agreement (the "Cordilleras Contract" in Figure 4-5) between Cordilleras and Titán that requires Titán to pay Cordilleras a 2% NSR royalty. Titán can assign the obligation of payment of the royalty to a third party by written notice sent to Cordilleras. If Cordilleras decides to sell its right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that Cordilleras offered to a third party.

For the Josefina, Berta, La Unidad II, and La Unidad mineral concessions there is an agreement (the "Eloy Contract" in Figure 4-5) between Titán and two concessionaires: Mr. Eloy Herrera Martínez and Cleotilde de la Rosa Ríos which requires Titán to pay a 1% NSR royalty to the concessionaires. If the concessionaires decide to sell their right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that the concessionaires offered to a third party.

Figure 4-5: Concessions Covered by NSR Royalty Agreements, along with the 2022 Resource Pit



Source: Discovery Silver, 2022.

4.5 Environmental Liabilities, Factors and Risks Affecting Ability to Perform Work

The QP is not aware of any environmental liabilities to which the property is subject and is not aware of any significant factors or risks that might affect access, title or the right or ability to perform work on the property. Discovery Silver currently maintains five piezometer monitoring wells on the Cordero project that are used to collect piezometric and water quality data across the project area (see Figure 10-1 in Section 10). Several storage facilities at the deposit site are used to store materials and equipment used to support maintenance activities. The environmental liabilities associated with the Cordero project include eventual closure of monitoring wells and removal of piezometers.

4.5.1 Permitting Considerations

Permits necessary for exploration drilling and other field programs associated with pre-development assessment of the Cordero Project are applied for as required each year. Additional information on permitting is provided in Section 20.5, Permitting Considerations.

4.5.2 Environmental Considerations

Discovery Silver has undertaken significant ongoing environmental and social programs. These studies will continue as the project progresses into more advanced and in-depth studies. Currently there are no known issues that can materially impact the ability to extract the mineral resources at the Cordero project. Previous and ongoing studies include meteorology, water quantity and water quality, flora, and fauna.

Ongoing 2022 baseline data has been collected at site and collated with earlier 2021 baseline data and regional stations for several parameters. Streamflow and hydrogeological metrics, along with water quality, are being catalogued to integrate with Cordero project design. It is essential to accommodate downstream water users.

The geochemical sampling program concluded that the geological materials exposed, extracted, and processed at certain stages of mining may have the potential to produce acid rock drainage (ARD) or to leach contained metals, in certain domains where large amounts of sulphide sulphur occur on-surface to moderate depth. Most of the mineralized/unmineralized material contains large amounts of neutralizing potential and small amounts of sulphide sulphur. Based on these results, there is ample neutralizing potential present in site materials to neutralize potential acid generated. No segregation of material by ARD potential is warranted.

Flora and fauna diversity is low, as the project area has been previously disturbed by ranching for approximately 100 years.

4.5.3 Social Considerations

Mine development may require the resettlement of isolated ranch communities in single home dwellings throughout the project area. Successful engagement with the local communities proximal to the project has been a major focus from the project’s inception, and local ranch hands have been hired as field personnel throughout the history of the project. Discovery Silver will continue to focus on social aspects throughout project development.

Open and transparent community forums with stakeholders have been the focus of Discovery Silver since acquiring the first mining concessions.

To the QP’s knowledge, there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the project that have not been discussed in this report.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Cordero project is accessed via air to the Villalobos International airport (IATA: CUU) located in Chihuahua City, Mexico, and then by vehicle along the national paved road network for approximately 200 km to the south. Site access is gained by heading southwest from State Highway 16 in Chihuahua City to the Parral turn-off to State Highway 24, and then 150 km south on Highway 24 where a secondary access road leaves Highway 24 at the 150 km road marker. From this point, travel east for 10 km through a series of private ranches and the Ejido Cordero to the Cordero project field offices. Total travel time is approximately 2.5 hours from Chihuahua City to the Cordero project site. An area map is shown in Figure 5-1.

Figure 5-1: Access to the Cordero Project

Source: Discovery Silver, 2022.

5.2 Climate

The project lies in a semi-arid climatic zone of northeastern Mexico, where the average temperature ranges from 1°C to 21°C in January and from 18°C to 35°C in June. The average annual rainfall of approximately 20 centimeters falls during the rainy season in July, August, and September. Exploration and related work can be carried out throughout the year, with the occasional requirement for four-wheel-drive vehicles during the wetter periods of the rainy season.

5.3 Local Resources

Chihuahua City is 2.5 hours north of Cordero by road and is the closest major city center with a population of just over 1,000,000 inhabitants supported by an international airport. The city of Torreón is 5 hours to the southeast in the state of Coahuila. Torreón has an international airport and smelting facilities. A private 2,700 m airstrip suitable for jet traffic lies 25 km southeast of Cordero at Allende along the Parral-Jiménez Highway (see Figure 5-1).

The nearest logistical support center is Hidalgo del Parral (Parral), where the project keeps a local support office. Parral is host to approximately 120,000 inhabitants and is one of Mexico’s oldest mining towns. Mining in Parral started in 1640 and has a long mining history with the original head frame of the La Prieta Mine and mining infrastructure still present within town limits.

5.4 Infrastructure

Several mines are still in operation around Parral within the nearby towns of Santa Barbara and San Francisco del Oro, where Industrial Minera Mexico, S.A. de C.V (Santa Barbara Mine) and San Francisco Mines of Mexico Ltd. (Frisco Mine) respectively, are still operational (Figure 5-2). Ample skilled and unskilled labour can be found in Chihuahua, Parral, and throughout the region in several smaller communities.

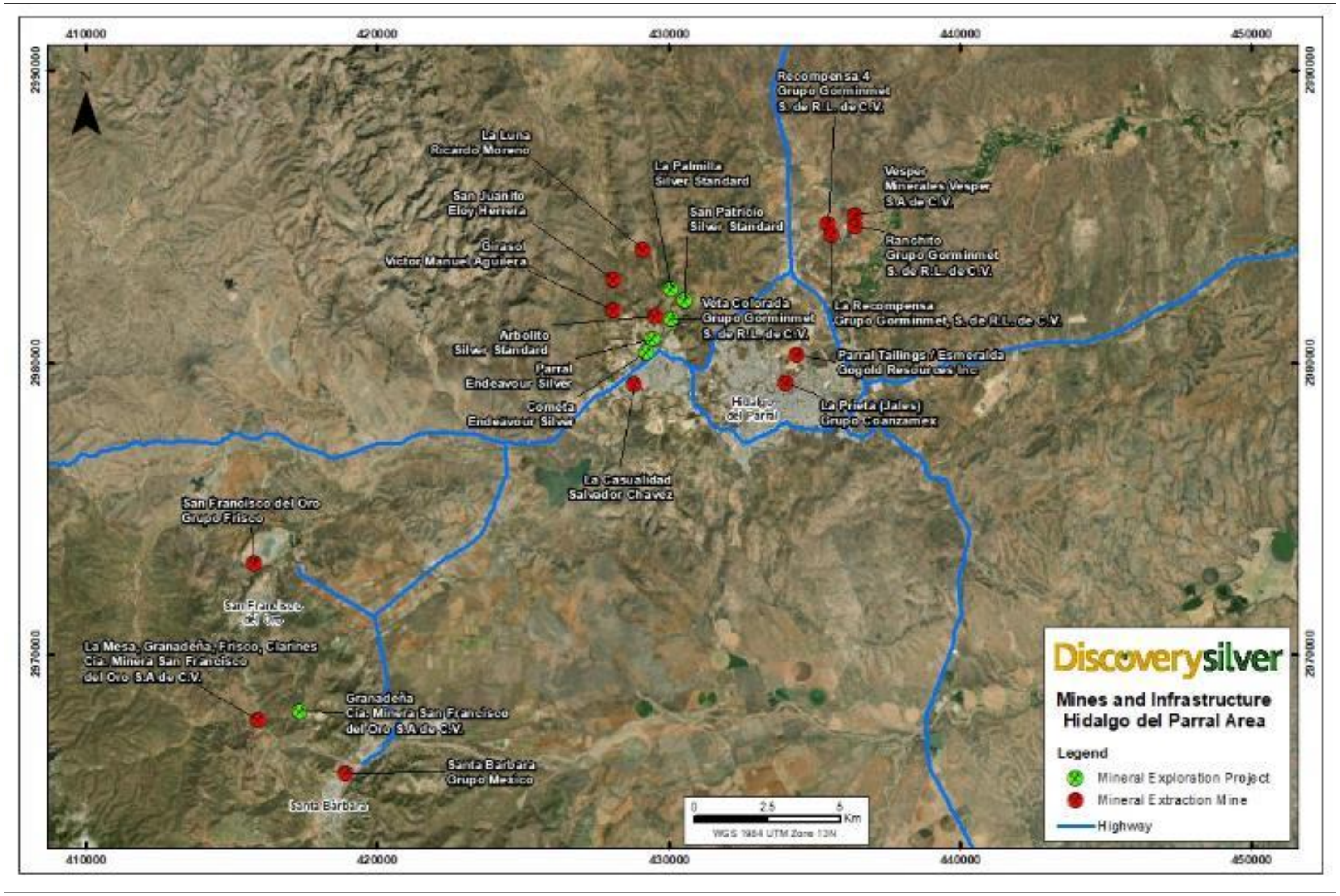
The southern part of the Cordero project is crossed by a two-tower hydroelectric transmission line that comes within 6 km of the 2022 resource area. Power for this transmission line is generated in a hydroelectric plant 20 km to the north of the project. In 2010, the State of Chihuahua constructed another power line east of Highway 24 that cuts across the southwest corner of the Cordero property. The existing transmission line may not have enough capacity to supply the planned operation; however, additional lines could be built approximately 75 km to the northeast where the Camargo II sub-station near Santa Rosalía de Camargo is located. Alternative power sources including design and cost analysis for the project are being pursued. Existing surface rights are sufficient to support all presently proposed exploration and mining activities, including tailings and waste storage areas and processing facilities.

5.5 Physiography

The Cordero property topography is gently rolling scrub-brush ranch land (see Figure 5-3) with elevations that range from 1,500 to 1,700 m. The dominant vegetation in the area is desert scrub, with very little grassland. Cattle ranching is the dominant industry in the region.

Some areas have been cleared to grow alfalfa, sorghum, corn, wheat, or oats, which are irrigated from water wells that reach the water table at depths of between 50 to 80 m. Pecans are also grown on some of the ranches.

Figure 5-2: Producing Mines, Exploration Projects and Mining Infrastructure near Parral



Source: Discovery Silver, 2022.

Figure 5-3: Cordero's Structural Dome (Silicification/Jasperoid Veins) and Surrounding Scrub Vegetation

Source: Discovery Silver, 2022.

6 HISTORY

6.1 Historical Mining

Historical records and anecdotal information indicate that the region around Cordero has supported mining activity since the early 17th century when the Spanish established Real de San José at what is now the town of Hidalgo de Parral (or simply, "Parral"). The central plaza of Parral commemorates the discovery of the La Prieta Mine with a statue of the town's founder holding a mining hammer in one hand and a nugget of mineralized material in the other.

At Cordero, 35 shallow vertical shafts can still be found along with associated small prospect pits on outcrops of high-grade silver-lead-zinc veins. In shafts that remain accessible, small open stopes can be found at the bottom. There are no known records of production from these mines; but all accessible production voids are small (see Figure 6-2).

By the mid-1800s, mining in southern Chihuahua State had become more organized. The Parral Silver Company, headquartered in New York, maintained detailed records of production and sales from the La Prieta and La Palmilla mines in the town of Parral, including their purchases of mineralized material from smaller operations in the region. The lack of commentary on production at Cordero, just to the north of Parral, suggests that mining on the higher ground of Cordero remained small in scale and unorganized into the late 19th century.

By the start of the 20th century, the American Smelting and Refining Company (Asarco) had become the most significant silver producer in the country and operated small mines on what is now the Cordero property, including La Luz, La Ceniza, and Josefina where they worked veins and breccias with high-grade sulphide mineralization. At the peak of Asarco's activity in the 1940s, they built a small six-cell flotation mill at La Luz, the remnants of which still exist. The lack of tailings around the old mill at La Luz, the largest of Asarco's mines at Cordero, indicates that it was not operational for any significant length of time.

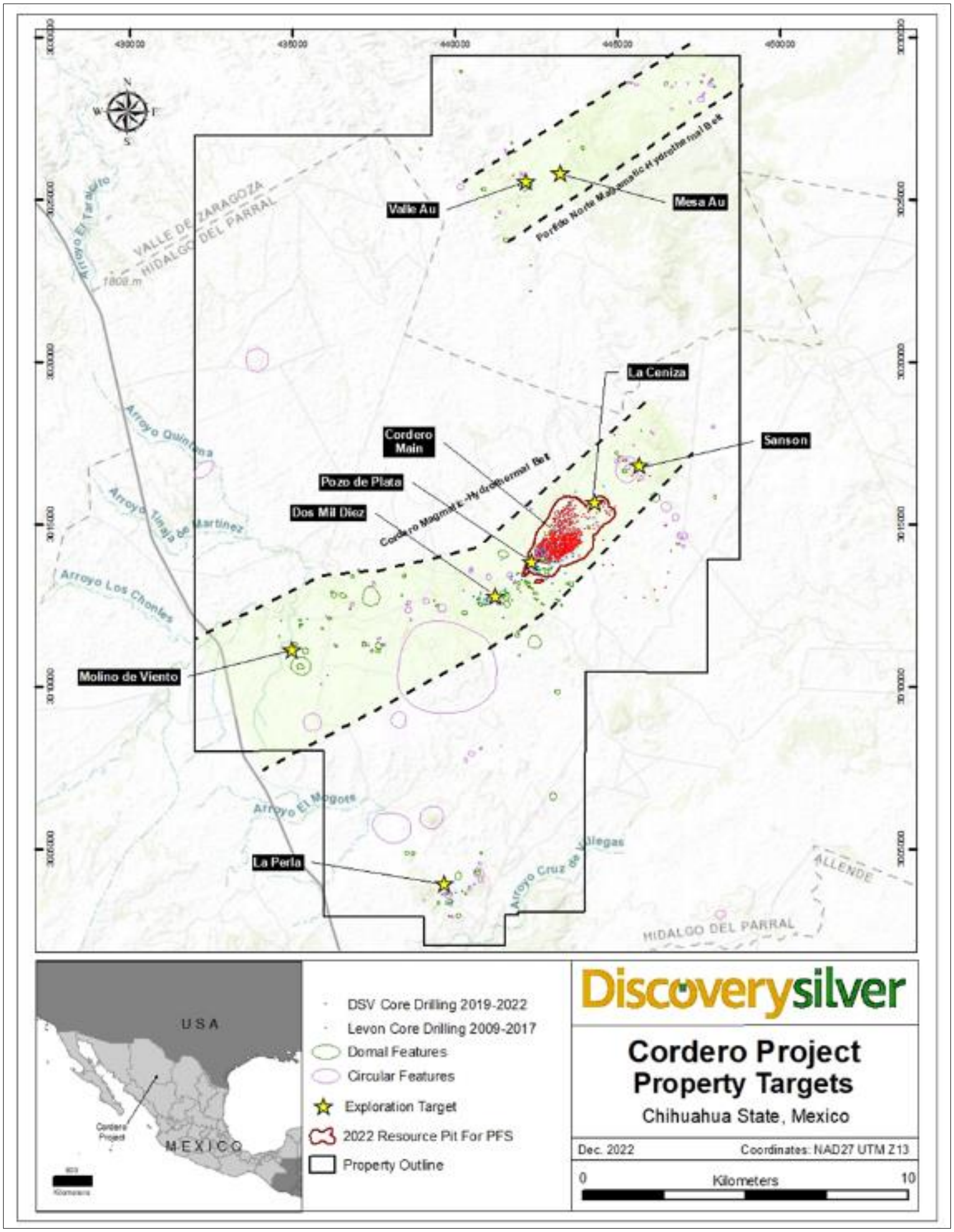
In 2013, Titán consolidated claim ownership in the district, bringing unorganized artisanal mining at Cordero to an end. In the past decade, production from small operations at Cordero has been from hand-sorted mineralized material that was transported to community mills in nearby Parral.

From the very earliest artisanal mining at Cordero, through to the past decade, a shallow water table has created difficulties with dewatering, making all the historical mines at Cordero necessarily shallow. Although three centuries of mining confirm that Cordero hosts abundant silver, lead, zinc, and gold, historical mines have drawn their production only from some of the near-surface resources. Deeper mineralization remains untouched by past production.

6.2 Recent History of Mineral Tenure and Exploration

In 2000-2001, Industrias Peñoles completed a review of the region for copper, molybdenum, and gold potential, and drilled a seven short holes on the Sansón stock at the northeast end of the main Cordero Magmatic-Hydrothermal Belt, and on the Valle Intrusive Complex, the westernmost known complex in the Porfido Norte Belt (Figure 6-1). From 2006 to 2009, Valley High Ventures Ltd. (Valley High) owned the mineral concessions through their wholly owned subsidiary, Coro Minera. Valley High carried out surface exploration work, compiled the project's first comprehensive database, and organized drill core that had been stored in several different secure locations. By 2009, Valley High had dropped half of its claim holdings and entered into a joint venture agreement with Levon Resources Ltd. (Levon).

Figure 6-1: Cordero Project Exploration Target Areas and the 2022 Resource Pit



Source: Discovery Silver, 2022.

Beginning in 2009, Levon re-staked mineral concessions that had been dropped by Valley High and added adjoining mineral concessions. By 2011, Levon had met their vesting requirements for 100% of the property and bought out Valley High. During the years when Levon had sole ownership of the property, from 2011 until 2019, a significant addition to the package of mining concessions was the 2013 purchase of the Aida claim, a small concession in the center of the main resource area that had complicated advancing the project because it lay inside the region that an open pit operation would want to extract, as shown earlier in Figure 4-2.

In 2019, Levon merged with Discovery Metals Corp and began a drill program. In April 2021, Discovery Metals Corp., which changed its name to Discovery Silver Corp., held 100% ownership of the mineral rights that cover all the land needed for a large open pit that targets Cordero's bulk of mineralization at depth.

6.3 Property Results – Previous Owners

Work completed by Valley High included geological mapping, rock sampling, gridded soil sampling, and trenching at the Sansón, La Ceniza, and the Cordero Main target areas (Figure 6-1). Historical data was compiled, including drill core stored in secure buildings being re-packaged, re-logged, re-sampled, and re-interpreted. Much of the historical drill core was not sampled despite showing many indicators of Ag-Pb-Zn mineralization (sphalerite and argentiferous galena mineralization in discrete veins, stockwork and breccias).

Valley High's core re-logging recognized the potential for bulk tonnage targets on the property. A subsequent review of mineralization in the accessible underground workings, however, indicated that mineralization might not extend into the wall rock from the veins that had been targeted by historical mining.

Levon carried out reconnaissance mapping which confirmed the importance of three magmatic hydrothermal belts. Over the next few years, Levon carried out several drilling campaigns (see Table 6-1) in tandem with ground-based and airborne surveys.

Discovery Silver has not been provided with the drill logs and sample information from the seven holes drilled by Industrias Peñoles. Four drill holes are located at Sansón, 2 drill holes are located in the area between Sansón and La Ceniza, and one drill hole is located in Valle Au. The lack of this information has no effect on the current resource calculations since drill holes lie outside the area where resources are currently being estimated.

Table 6-1: Historical Drilling Campaigns from 2001 to 2017

Company	Year	Drill Holes	Meters	Notes
Industrias Peñoles	2001	7	3,065	Sansón Target and Valle Au Targets
Levon Resources	2009	8	2,844	C09-5 (discovery hole)
Levon Resources	2010	89	35,857	Main Resource Area
Levon Resources	2011	109	57,989	Main area; SW targets
Levon Resources	2012	44	17,076	Valle, Perla, Molino de Viento, Main Area
Levon Resources	2013	16	9,529	Main Resource Area
Levon Resources	2014	8	4,662	Main Resource Area
Levon Resources	2017	18	5,664	Resumed drilling after downturn
Total		299	136,686	

Source: Discovery Silver, 2022.

6.4 Previous Exploration History

Mining activities at Cordero date back to the early 17th century with vertical shafts, narrow stopes, and pits as historical evidence. Silver, lead and zinc veins and vein-breccias with variable gold were exploited during the 1940s and 1950s, and more recently by artisanal miners until 2013 when Titán organized their departure. The recent production was from direct shipping to community mills in the town of Parral. Asarco explored Cordero for a short period and built a small flotation facility at the La Luz mine, the largest active mine in the Cordero area during the 1940s. The La Luz Mining operations were reported as suspended due to water issues with no evidence of large-scale mining.

Between 2006 and 2017 several different mining and exploration companies explored in and around the Cordero Project using a variety of exploration techniques including geologic mapping, rock sampling, gridded soil sampling, trenching and diamond drilling. Much of the historical drill core was not sampled despite sphalerite and galena mineralization in various styles including, disseminated, vein, stockwork, and breccia. In 2009, eight drill holes C09-1 through C09-08 totalling 2,843.85 meters were completed. Of the eight holes, two were significantly mineralized (C09-5 and C09-8).

In 2009, 2010, and 2011, several different geophysical survey companies completed ground-based and airborne-based geophysical surveys over the Cordero Magmatic-Hydrothermal Belt (Figure 6-1) including ground-based gravity and 3D induced polarization (IP) surveys over the Dos Mil Diez (76.4 line-km) and Pozo de Plata, and Molino de Viento (27.9 line-km) exploration targets. In addition, the Cordero main intrusive complex, and La Ceniza Stock defined areas where the chargeability (evidence of sulphides and graphite) shows a strong multi-km long anomaly both within, and well outside the 2022 resource area to the northeast (see Figure 6--2).

In 2010, Aeroquest flew an airborne electromagnetic, magnetic, and radiometric survey over the main Cordero Magmatic-Hydrothermal belt. The aeromagnetic results defined a sizeable inferred buried intrusive center, north-northeast of the current resource area with an estimated depth of 3.0 km (see Figure 6-3). The radiometric survey defined a high potassium anomaly centered over the 2022 resource pit as well as along the Cordero Magmatic-Hydrothermal Belt coincident with known exploration targets.

In conjunction with these surveys, diamond drilling and surface exploration continued through 2010 and 2011. In 2010, the JV completed 87 core holes and geological mapping and sampling. In 2011, Levon completed 108 core holes for an aggregate of 206 holes. In late 2011, Levon completed a resource inventory using 160 core holes (C09-01 to C11-160) and proceeded to buy out their joint venture partner, Valley High Ventures, after meeting their vesting requirements for 100% of their property.

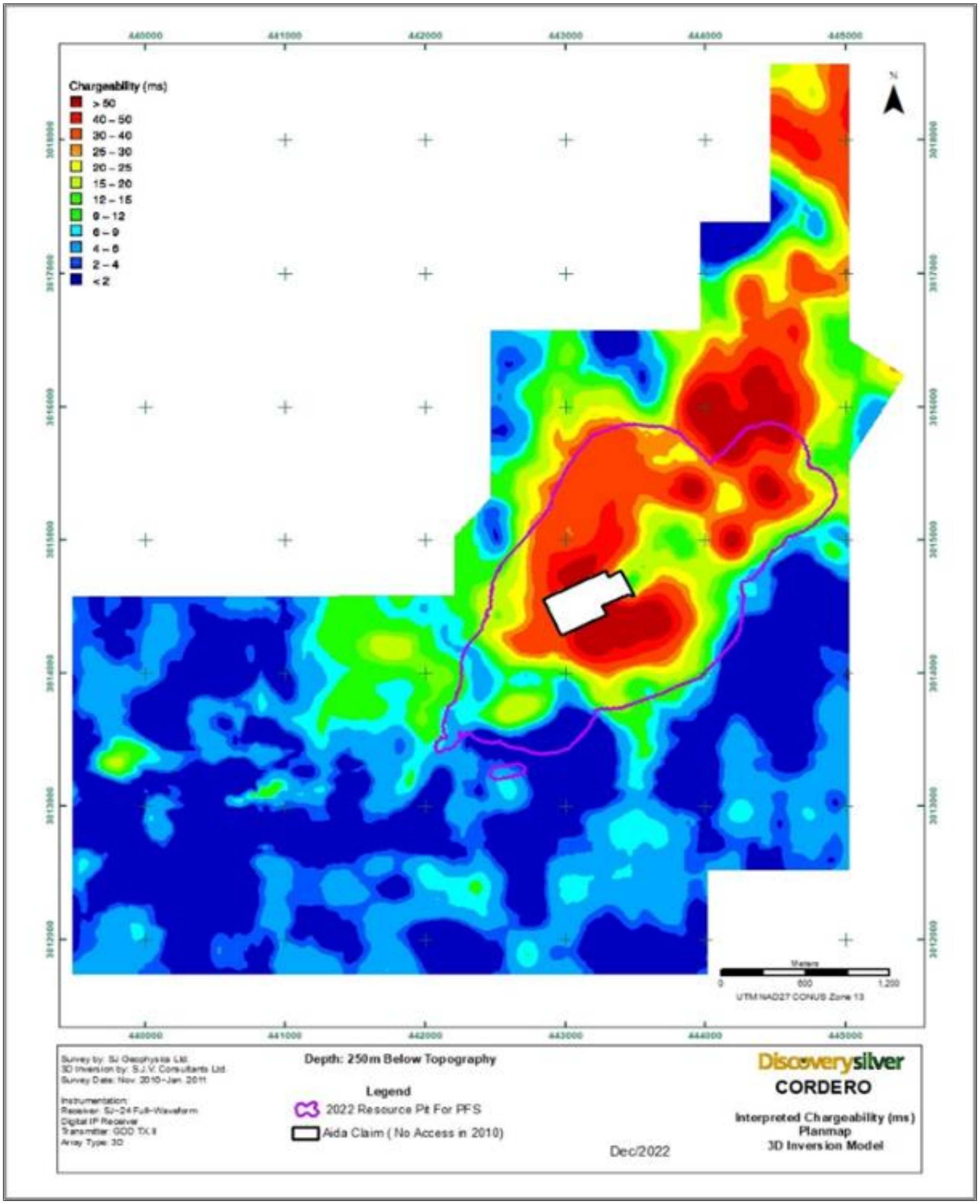
6.5 Exploration by Levon Resources Ltd

In 2012, Levon drilled 44 core holes and completed a 3D IP survey over the La Perla target as well as a magnetotelluric (MT) survey over the Molino de Viento target. In 2013, Levon purchased the 15.9-hectare Aida Claim in the center of the resource area, after 7 years of negotiation with the owners, and continued to core drill an additional 16 holes ending C13-266.

In 2014, Levon completed eight core holes before a market downturn, which resulted in an exploration hiatus. In 2017, Levon resumed exploration and completed 18 core holes (ending C17-292) and bringing the aggregate total to 133,620.01 meters in 292 holes.

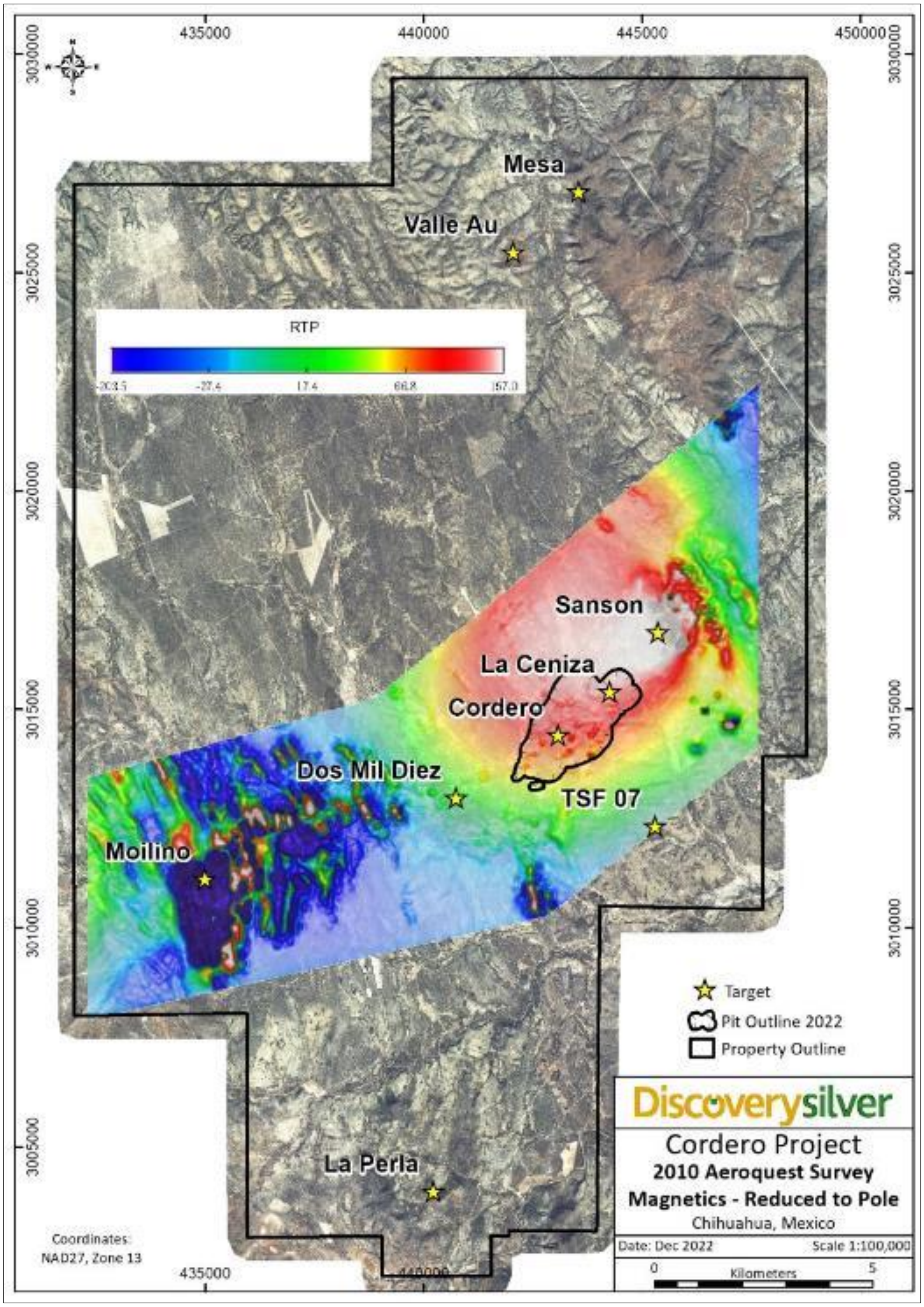
In 2019, Discovery Silver Corp. completed a technical review and property visit at Cordero, and on May 30, 2019, it announced that an Arrangement Agreement had been signed with Levon Resources Ltd. By August 2, 2019, the agreement closed, and the two companies merged. On September 17, 2019, Discovery Silver began drilling and completed 17 core holes (C19-293 to C19-309) totalling 5944.50 meters bringing the aggregate to 139,564.51 meters in 309 holes.

Figure 6-2: SJ Geophysics 3D IP Chargeability 2009-2010 for the Depth Slice 200m, and the 2022 Resource Pit



Note: The Aida Claim, not owned during the survey in 2010, is blanked out. Source: Discovery Silver, 2022.

Figure 6-3: 2010 Aeroquest Magnetics – Reduced to Pole (RTP), and the 2022 Resource Pit



Source: Discovery Silver, 2022.

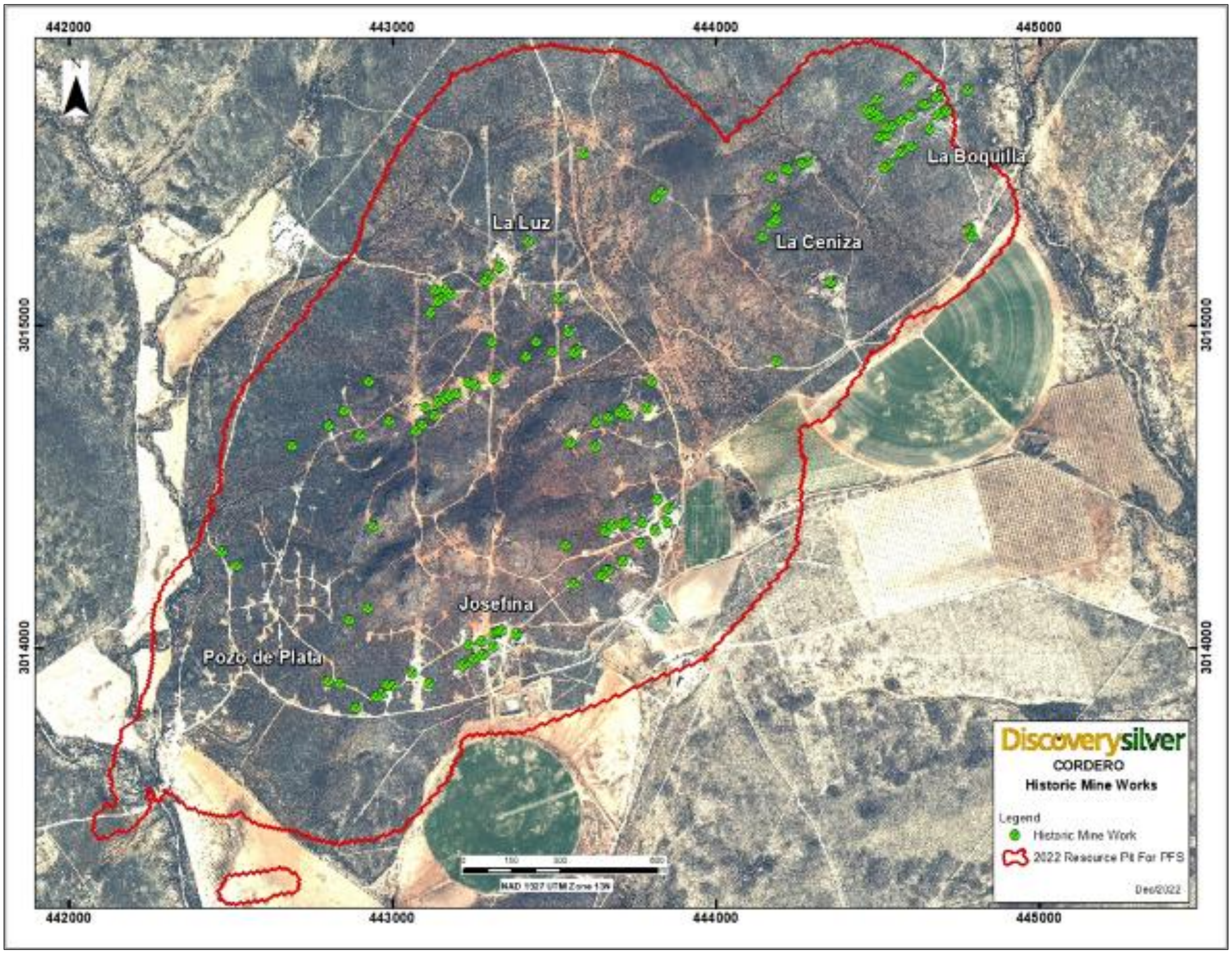
6.6 Production History

Evidence of past production at Cordero consists of 35 vertical shafts and approximately 104 mined-out stopes that reach to surface. These locations can be readily seen in the aerial photography of the property (see Figure 6-4). The stopes vary between 1 and 2 meters in width and are characterized by oxides and sulphides of high-grade Ag-Pg-Zn ± Au veins and vein breccias, some of which outcrop on surface. Local workers and former small-scale underground miners that used to work in these stopes reported that most of the production involved directly shipping mineralized material that was hand sorted, shipped, and processed in Parral.

The historical mines of La Luz, La Ceniza and Josefina show evidence of water pumping efforts and support the anecdotal knowledge that the Cordero project area has abundant groundwater. Local workers have reported that most of the vertical workings are excavated to the water table located at an approximate depth of 50 to 80 m.

No reliable records of historical mining have been encountered to date.

Figure 6-4: Orthophoto Showing Distribution of Surface Workings and Key Targets



Source: Discovery Silver, 2022.

6.7 Historical Resources Estimates

6.7.1 2014 Historical Resource Estimate

In April 2017, Levon filed a technical report on SEDAR that described a mineral resource estimate based on all data available through April 2014. Although the filing on SEDAR postdates the effective date of the work done in 2014 by a few years, this resource estimate was prepared in accordance with the requirements of NI 43-101.

Although the 2017 resource estimate was prepared in accordance with NI 43-101, no qualified person has done sufficient work to classify the historical estimate as current mineral resources and it has since been superseded by the Company's own mineral resource estimate provided in Section 14 of this report. Discovery Silver is not treating the historical estimate as current.

This 2014 mineral resource was an inverse distance ID6 model constrained by an open pit shell. A silver equivalent grade was calculated for each block based on the metal grades, estimate of mill recovery for each metal, and the metal prices (see Table 6-2).

Table 6-2: Parameters Used to Calculate Silver Equivalent in 2014 Resource Estimate

Metal	Mill Recovery (%)	Metal Price
Silver	85	$20/oz
Gold	18	$1,250/oz
Zinc	81	$0.94/lb
Lead	80	$0.95/lb

Source: Levon, 2017.

Using a reporting cut-off of 15 g/t AgEq (silver equivalent), a summary of the 2014 mineral resource estimate is shown in Table 6-3.

Table 6-3: Summary of 2014 Resource Estimate

Class	Tonnage (Mt)	Grade					Contained Metal			
		Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	AgEq (g/t)	Ag (Moz)	Au (Koz)	Pb (Mlb)	Zn (Mlb)
Indicated	848	18	0.05	0.25	0.48	41	448	1,366	4,742	8,953
Inferred	92	15	0.03	0.20	0.33	31	44	85	397	663

Source: Levon, 2017.

6.7.2 2018 Historical Resource Estimate

In 2018, Levon produced a PEA report with an effective date of March 1, 2018 that was prepared in accordance with NI 43-101. The 2018 PEA outlined a resource and an economic evaluation for the Cordero project. No qualified person has done sufficient work to classify the historical estimate as current mineral resources and Discovery Silver is not treating the historical estimate as current mineral resources. The 2018 historical mineral resource estimate has been superseded by the Company's own mineral resource estimate provided in Section 14 of this report.

The 2018 mineral resource estimate was based on 263 drill holes (126,235 meters of drilling) completed by the end of 2017. The mineral resource was estimated utilizing an inverse distance methodology and contemplated an open pit geometry based on a standard flotation mill with separate zinc and lead circuits, mill recoveries, operating costs for processing, G&A and mining. A silver equivalent grade was calculated for each block based on metal grades, estimate of mill recovery for each metal, and the metal prices (see Table 6-4).

Table 6-4: Parameters used to Calculate Silver Equivalent in 2018 Resource Estimate

Metal	Mill Recovery (%)	Metal Price
Silver	88.6	$17.14/oz
Gold	40	$1,262/oz
Zinc	72	$1.11/lb
Lead	84	$0.96/lb

Source: Levon, 2018.

Using a reporting cut-off of 15 g/t AgEq, a summary of the 2018 mineral resource estimate is shown in Table 6-5.

Table 6-5: Summary of 2018 Resource Estimate

Class	Tonnage (Mt)	Grade					Contained Metal			
		Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	AgEq (g/t)	Ag (Moz)	Au (koz)	Pb (Mlb)	Zn (Mlb)
Indicated	990	13	0.04	0.17	0.37	32	408	1,273	3,775	8,030
Inferred	282	21	0.04	0.30	0.75	56	187	363	1,860	4,665

Source: Levon, 2018.

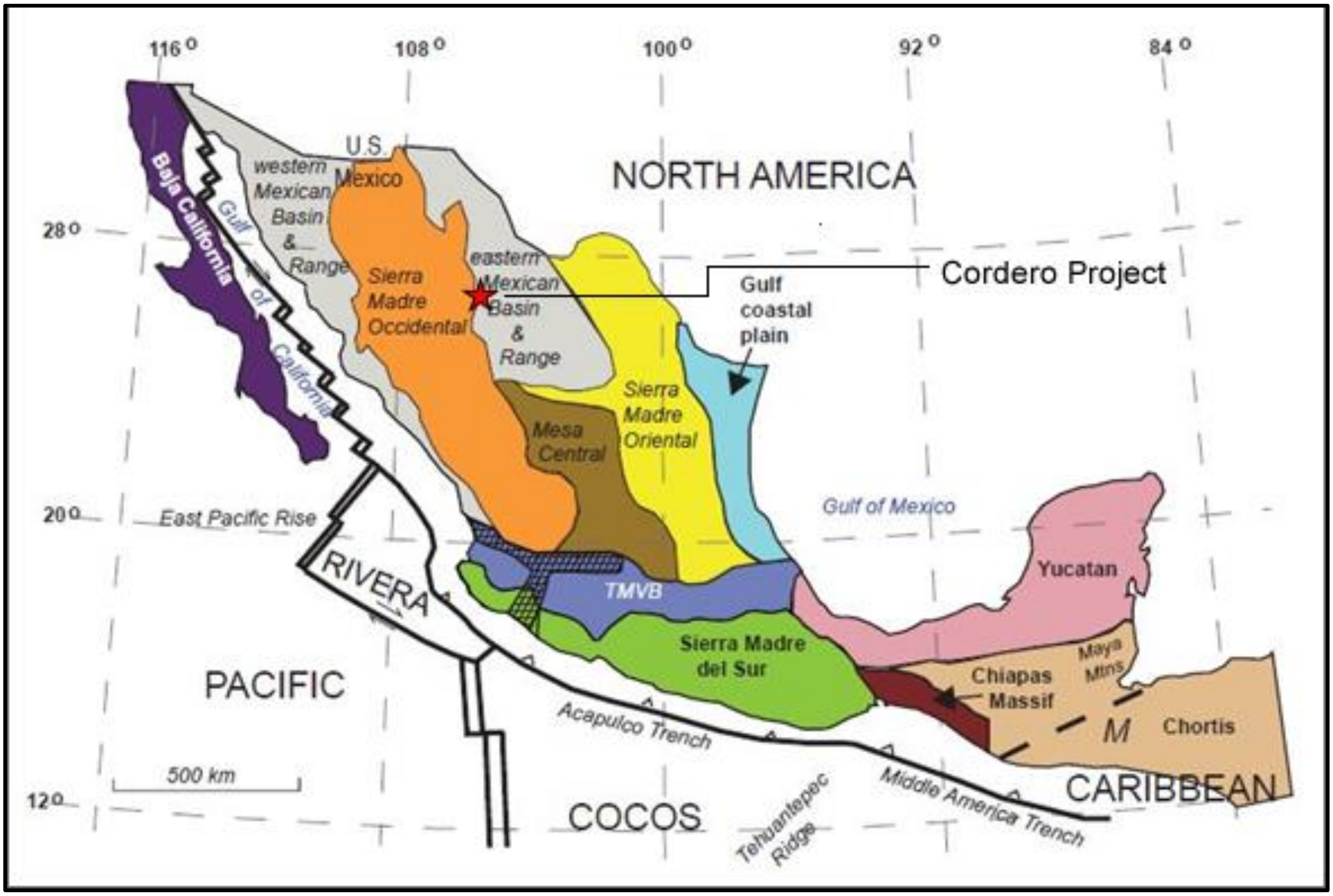
7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

7.1.1 General

Physiographically, the Cordero project lies at the transition between the Sierra Madre Occidental (SMO), a high plateau of predominantly silicic igneous rocks, and the eastern Mexican Basin and Range Physiographic Province (MBRPP), characterized by wide, flat, sedimentary basins separated by roughly parallel, NNW-trending mountain ranges (see Figure 7-1).

Figure 7-1: Physiographic Provinces of Mexico



Source: Adapted from Campa, M.F.; Coney, P.J., 1983. Hammarstrom, J.; Robinson, G.; Ludington, S.; Gray, F.; Drenth, B.; Cendejas-Cruz, F.; Espinosa, E.; Pérez-Segura, E.; Valencia-Moreno, M.; Rodríguez-Castañeda, J.L.; Vásquez-Mendoza, R.; Zurcher, L., 2010.

The SMO is a major mountain range system of the North American Cordillera that runs NW-SE through northwestern and western Mexico and is the product of multiple Cretaceous through Tertiary magmatic and tectonic events related to the subduction of the Farallon Plate beneath North America (Ferrari et al., 2007). Significant igneous activity and metallogenesis in the SMO occurred between 38-20 Ma (Ferrari et al., 2002), coincident with the onset of the Tertiary extension responsible for the development of the MBRPP.

Marine to shallow water carbonate sedimentary rocks of the Mezcalera Group sediments form part of the MBRPP. These rocks include carbonates, siltstones, and sandstones formed in an inland sea referred to as the Western Interior Seaway, which extended from the Gulf of Mexico, through Mexico into the United States and Canada. Younger sediment was continuously shed into the growing sedimentary basins and sub-basins as the region, pulled apart (extended) over time in a northeast-southwest direction.

Regional magmatism during the Oligocene-Miocene (~30-20 Ma) resulted in the emplacement of a variety of intrusions coupled with extensive volcanism. At about 31 Ma, ENE-WSW compressional tectonic stress reversed to ENE-WSW extensional stress (Murphy, 2020). Extension related block faulting and associated tilting of structural domains occurred throughout the late-Eocene and early Oligocene (~40-30 MA).

7.1.2 Mexican Silver Belt

The Cordero project lies within the Mexican Silver Belt (MSB), the largest silver province in the world, forming a 1,500 km long trend of prospects and deposits that extend from the Mexican states of Sonora and Chihuahua in the north to Oaxaca in the south. The MSB is host to several world-class mineral deposits including Naica, Santa Eulalia, and Santa Barbara near Cordero as well as Sombrete, La Colorada, San Martin, Fresnillo, Guanajuato, and Taxco (see Figure 7-2). Albers (1983) noted that Santa Eulalia-like deposits similarly occurred in the United States (U.S.) in carbonate stratigraphy underlain by continental crust (Megaw, 1988). In similar successions away from the continental margin, these deposits were lacking. The basement terranes of continental affinity in Mexico include the Chihuahua Terrane, considered the unmoved southernmost portion of the Precambrian North American Craton (Centeno-Garcia et al., 1993).

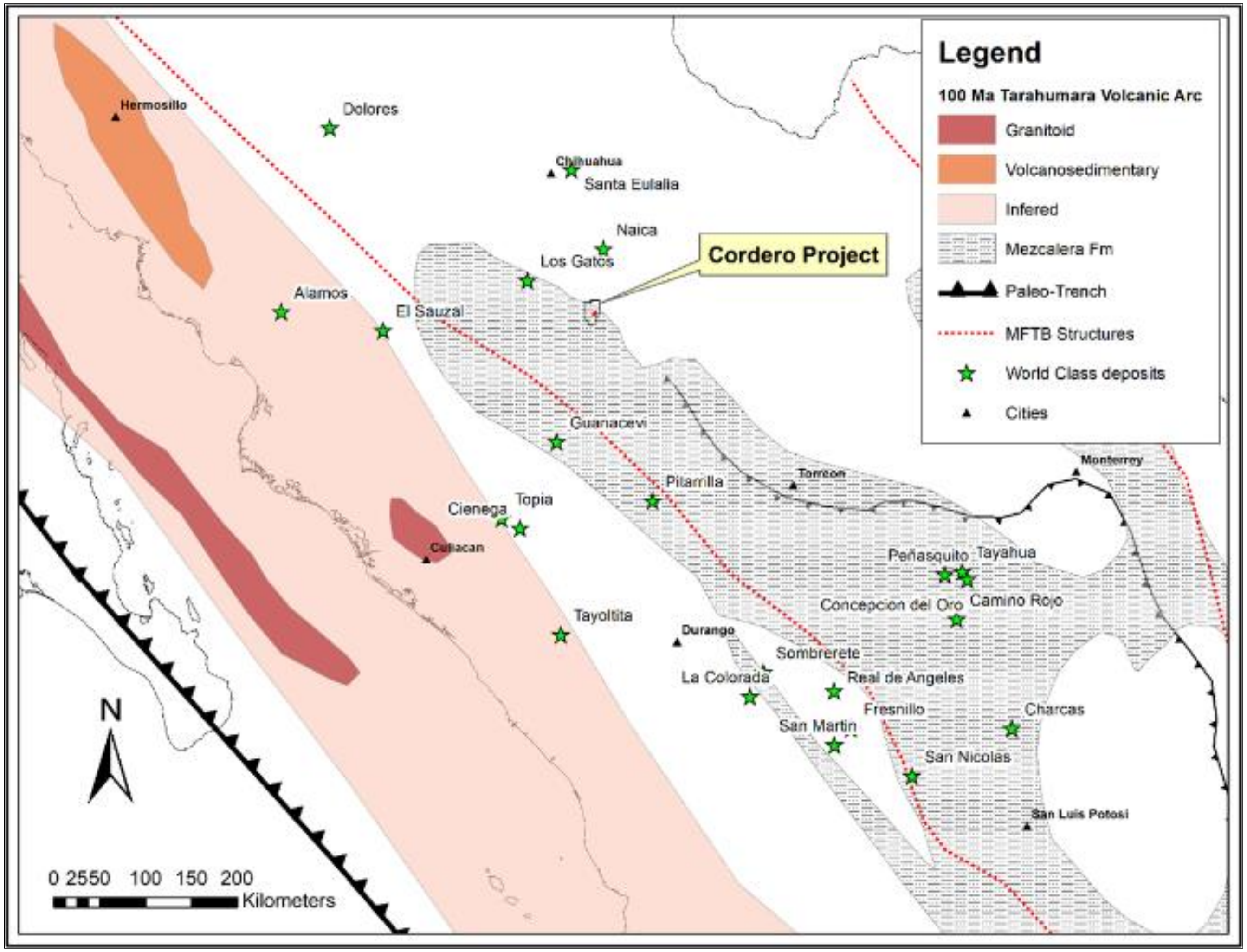
7.2 Local Geology

The subdued topographic surface of the Cordero project area is broken by limited outcrop exposure of resistant Tertiary-age silicic volcanic/subvolcanic rocks, totalling less than 20% of the surface area. Mineralization at Cordero is largely hosted by a shallow magmatic system, comprised of compositionally similar, interconnected hypabyssal bodies emplaced into an isolated sedimentary basin. Emplacement-related textures such as breccia and primary flow banding provide favourable permeability loci for mineralization. Examples of main lithologies at Cordero are shown in Figure 7-10 and examples of breccia types at Cordero are shown in Figure 7-11.

The Cordero magmatic-hydrothermal system is represented by an ENE-WSW trending, disc-shaped rhyodacite laccolith with a deep keel and a series of interconnected sills and dikes; the Cordero Intrusive Complex, syn-magmatic phreatic breccias, and contact-related collapse breccias. The breccias act as important mineralization loci due to enhanced permeability.

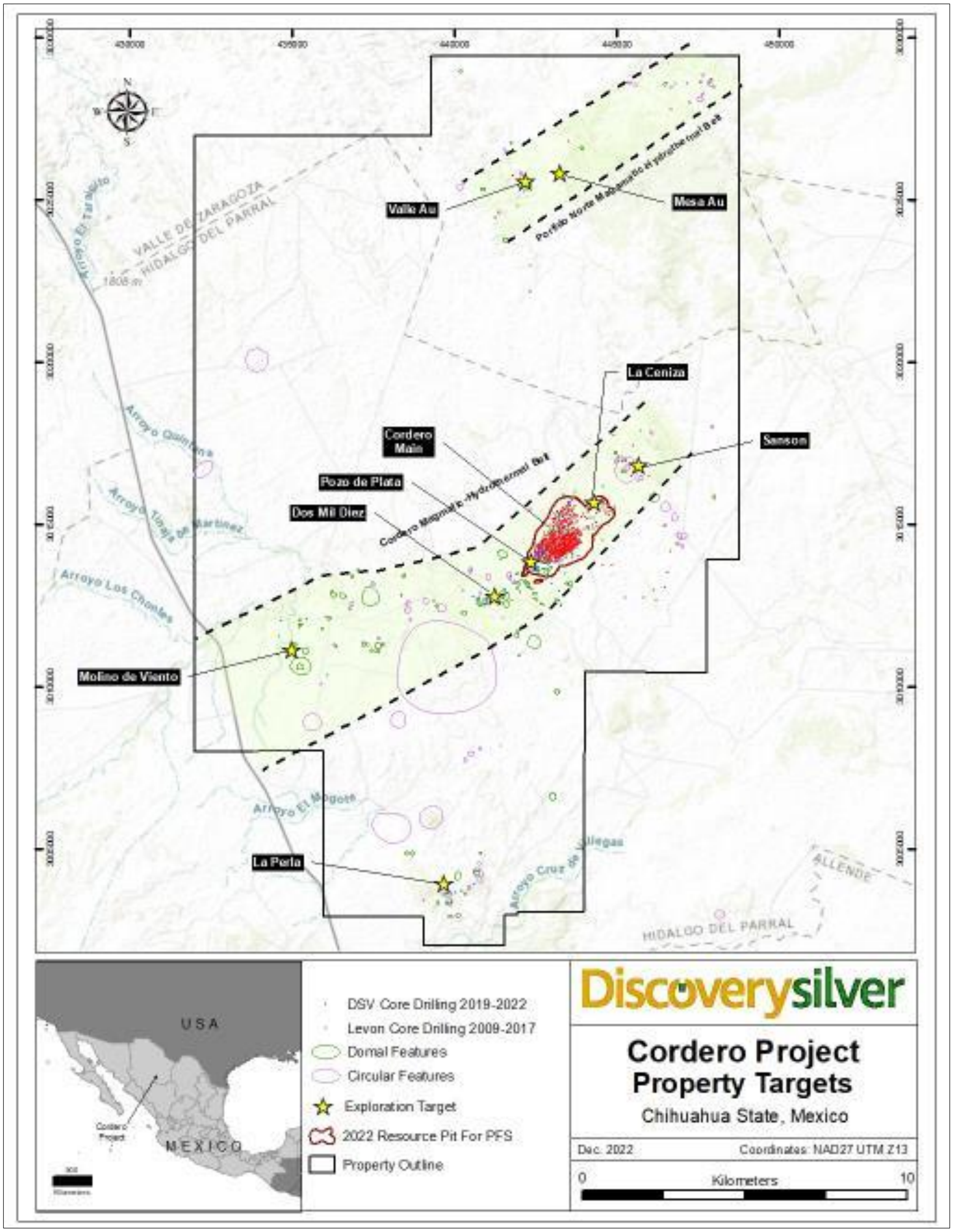
At Pozo de Plata (see Figure 7-3), a polymictic rhyodacite intrusive breccia (IBX) is cut by mineralized, hydrothermally altered, mill matrix breccia. Unmineralized bodies of IBX occur elsewhere at Cordero to the south and southwest. Additionally, the creation of space and permeability is provided by reactivated NNW-trending axial planar shears along fold axes parallel to bedding planes, replacement manto-style horizons along favourable sedimentary horizons, and in extension-related faults as veins and vein-breccia with open-space fill textures.

Figure 7-2: Cretaceous Mezcalera Formation (Hatched) with Major Mineral Deposits along the Mexican Silver Belt



Source: Adapted from Goldhammer, R.K., 1999. Centeno-Garcia, E., 2017.

Figure 7-3: Cordero Geological Features and Exploration Target Areas



Source: Discovery Silver, 2022.

7.2.1 Cretaceous Sedimentary Rocks

Middle to Upper Cretaceous Mezcalera Group sediments have been eroded in the Cordero region, leaving lower to middle Cretaceous flysch comprised of fine-grained marine shales (Figure 7-2). Graded bedding, load casts, and flame structures suggest that the stratigraphy is primarily right-way-up and drag-folded along NNW-trending bedding plane faults. Shale, siltstone, sandstone, and limestone form a flat, recessive, easily eroded landscape. Bedding ranges from finely laminated (<10 cm) to medium-bedded (10-30 cm) to thick-bedded (30-100 cm) and is highly variable in type and thickness over relatively short vertical distances within a given drill hole. The sedimentary sequence is locally intruded by rhyodacite, diorite, and granodiorite sills.

In the east and northeast portions of the project area, broad resistant ridges of skarn alternate with recessive marine shale/siltstone; the result of a transition from deeper water marine shales to shallower-water carbonate sequences like calc-arenite and fossiliferous limestone.

A detailed review of the lower Cretaceous stratigraphy in northeast Mexico by Goldhammer (1999) suggests many characteristics can be applied to other basins further south, including the Parras Basin near Cordero, where shallow marine carbonate with bioclasts and deep-marine shales occur. Stratigraphy is subdivided into large regionally correlative stratigraphic sequences. Each sequence comprises systematic vertical stacking patterns and associated lateral facies changes (Goldhammer, 1999). Several sedimentary components have been identified at Cordero, including shelf-ward, shelf-slope talus deposits along the outer edge of the Mezcalera Group, where bioclasts including crinoids occur in fossiliferous limestone near La Ceniza, and basin-ward, deep-marine shales to the southwest toward the Cordero resource area. Approximately 1200 m of the Mezcalera sediment has been drill-tested, the deepest of which was tested at La Ceniza in core hole C11-163, where quartz-molybdenite-chalcopyrite mineralization was encountered over hundreds of meters to a depth of 1174.1 m. All zircon U-Pb isotopic age dates for rock types described below are from a single 2021 study commissioned by Discovery Silver (Wall, 2021).

7.2.2 Rhyolite Ignimbrite and Tuff

Locally developed rhyolitic vitric lithic tuff and rhyolitic welded tuff or ignimbrite cover parts of the Cordero landscape, most prevalent in the southwest as far as Molino de Viento (Figure 7-3). This rock type is composed of quartz (> 5%), plagioclase, biotite, and lesser hornblende set in a fine-grained groundmass of quartz, plagioclase, potassium feldspar, and zircon. Locally fissure-filled NNW-trending lithic tuff has been mapped at several of the targets southwest of the Cordero resource area and is currently interpreted as fissure eruption emplacement in the basement rocks. The zircon U-Pb isotopic date of this rock type is 39.00 ± 0.29 Ma.

7.2.3 Rhyolite Dikes, Plugs Associated Breccias

Several ENE-trending porphyry dikes and plugs occur to the southwest of the resource area and are composed of quartz (> 5%), plagioclase and hornblende and biotite set in a fine-grained groundmass of quartz, plagioclase, potassium feldspar, and zircon. Mapped ENE-trending rhyolite dikes and irregular bodies occur at the Dos Mil Diez Ag-Pb-Zn-Au target and the Valle Zn-Au targets (Figure 7-3). The $^{40}Ar/^{39}Ar$ age date on secondary leafy white mica after primary magmatic biotite from a sample at Valle Au target is pending.

7.2.4 Glomerophyric Sheeted Dike Complex

A series of late-mineral sheeted NE-trending glomerophyric dikes bisect all rock types named below. This sheeted dike complex includes at least six mappable dikes that range in thickness from < 1 to 40 m and that can be followed from the Southwest (SW) Fault in the southwest, for a distance of 3.3 km across the resource area (see Figures 7-4 and 7-5 in Section 7.2.11). The dikes are frequently phyllic altered (quartz-sericite-pyrite) with variable red brown sphalerite along contacts. Xenoliths of these dikes have not been identified within the rhyodacite intrusive breccia. The zircon U-Pb isotopic date on several core samples of this rock type returned age dates of 36.96 ± 0.31 Ma and 37.24 ± 0.27 Ma.

7.2.5 Rhyodacite Flow Banded Subvolcanic, Intrusive Breccia and Associated Mill Breccias

Flow-banded rhyodacite occurs primarily within the Pozo de Plata breccia complex and is crosscut by rhyodacite intrusive breccia and hydrothermally altered mill matrix breccia. Locally intrusive breccia is spatially associated with glomerophyric dike contacts (Figure 7-6 in Section 7.2.11) and is characterized by angular to subrounded fragments, from < 1 cm to 10 cm, in a porphyry matrix of plagioclase, hornblende, and quartz. Xenoliths observed in the breccia include rhyolite porphyry, quartz vein, buff-coloured hornfels, white phyllic altered flow banded rhyodacite, and shale/siltstone. In the mill breccia, the matrix is comminuted (rock flour) and composed of subrounded to sub-angular fragments of these same rock types. Hydrothermal cement includes varied amounts of quartz, chalcedony, adularia, buddingtonite and white mica The zircon U-Pb isotopic date on the rhyodacite is 37.39 ± 0.31 Ma.

7.2.6 Rhyodacite Sills

At least five NNW-trending, fine-grained, plagioclase, hornblende, quartz, rhyodacite porphyry sills ranging in width from < 1 to 20 m occur in the vicinity of the resource area (Figure 7-5 in Section 7.2.11). To the east and north of the resource area, rhyodacite sills associated with skarn in favourable calcareous sediments, can be traced for a distance of up to 1 km along strike.

7.2.7 Rhyodacite Laccolith

A rhyodacite laccolith uplifts the central part of the resource area into a structural dome (see Figure 7-3 and 7-4). This intrusive unit starts to the southwest as a series of subparallel sills less than 20 m thick and expands to a maximum thickness of 640 m near the center of the resource area (Figure 7-4 in Section 7.2.11). The zircon U-Pb isotopic date on this rock type is 37.71 ± 0.38 Ma.

7.2.8 Biotite Porphyry with Quartz-Molybdenite Xenoliths

This rock type is a sparsely phenocrystic biotite rhyodacite with xenoliths of quartz molybdenite. This rock type post-dates the molybdenite mineralization at La Ceniza (Figure 7-3) returning a Re-Os isotopic date on molybdenite of 38.5 ± 0.16 Ma (Creaser, 2021). A single Ar-Ar date on primary magmatic biotite in this rock type hosting xenoliths of molybdenite mineralization returned 29.84 ± 0.79 Ma.

7.2.9 Granodiorite Sill Complex

A well-defined NNW-trending magnetic linear feature is locally coincident with a mapped granodiorite comprised of several closely spaced sills, alternating with skarn at Valle Au target (Figure 7-3).

7.2.10 Diorite Sills and Plugs

Hornblende, biotite, plagioclase sub-porphyritic diorite occurs as linear sills, and irregular oval intrusive bodies (Figure 911). Arrow Geoscience identified at least five magnetized oval intrusions, one that is coincident with the Mega Fault within the resource area (Figure 7-5 in Section 7.2.11), and several others coincident with the Sansón target. The largest oval intrusion confirmed as diorite in the Sansón area located outside the resource area to the northeast of La Ceniza measures several hundred meters in diameter (Figure 7-5) and has well-defined skarn along contacts. Similar skarn was mapped within the resource area as well as at the Valle Au target to the north. At Sansón, a single core hole intersected magnetic diorite crosscut by quartz-molybdenite-(chalcopyrite) veins (Hole C22-619). The zircon U-Pb isotopic date on a single sample of diorite sampled from Dos Mil Diez (Figure 7-3) is 38.35 ± 0.38 Ma.

7.2.11 Basalt Cap Cover Sequence

In the eastern portion of the project area, Cretaceous sedimentary and Tertiary volcanic and intrusive rocks are overlain by basalt with occasional interbeds of clastic sedimentary rocks.

The Cordero Intrusive Complex hosts most of the project's current mineral resources and comprises several components including the rhyodacite laccolith, sill, dike, and breccia complex, a flow-banded rhyodacite breccia complex and a NE-trending glomerophyric sheeted dike complex. A structural domal feature forms several resistant hills, the product of intense silicification in areas of maximum laccolith inflation. In this area, mineralizing fluids from a deeper source found interconnected pathways along several deep parallel NE-trending transcurrent faults including the Cordero, Parcionera, Todos Santos, and Josefina faults. Sheeted dikes have exploited the Cordero Fault Zone and parallel fault strands; these dikes typically have a quartz-K-feldspar alkali composition (quartz dacite/quartz latite), with quartz phenocrysts (often resorbed) and coarse K-feldspar crystals (up to 1 cm), in a texture known as "glomerophyric" when several crystals have grown together in the melt into clusters.

Table 7-1 summarizes studies by Discovery Silver of age dating from isotope ratios in magmatic zircons and molybdenite mineralization at Cordero; these provide a consistent period for the various magmatic events ranging from 36.96 ± 0.31 to 37.71 ± 0.38 Ma. In addition, Re-Os isotope on molybdenite returned a date of 38.5 ± 0.16 Ma from La Ceniza at a depth of > 1.0 km (C11-163). The youngest magmatic event to date is a fine-grained biotite porphyry hosting xenoliths of quartz-molybdenite in an older coarse-grained feldspar porphyry where $^{40}Ar/^{39}Ar$ on primary magmatic biotite returned a date of 29.84 ± 0.79 Ma. This magmatic phase is currently undefined in the 2022 resource pit.

Table 7-1: Ages of Magmatic Activity at Cordero Calculated Using U-Pb (zircons) and Re-Os (molybdenite) Isotopes

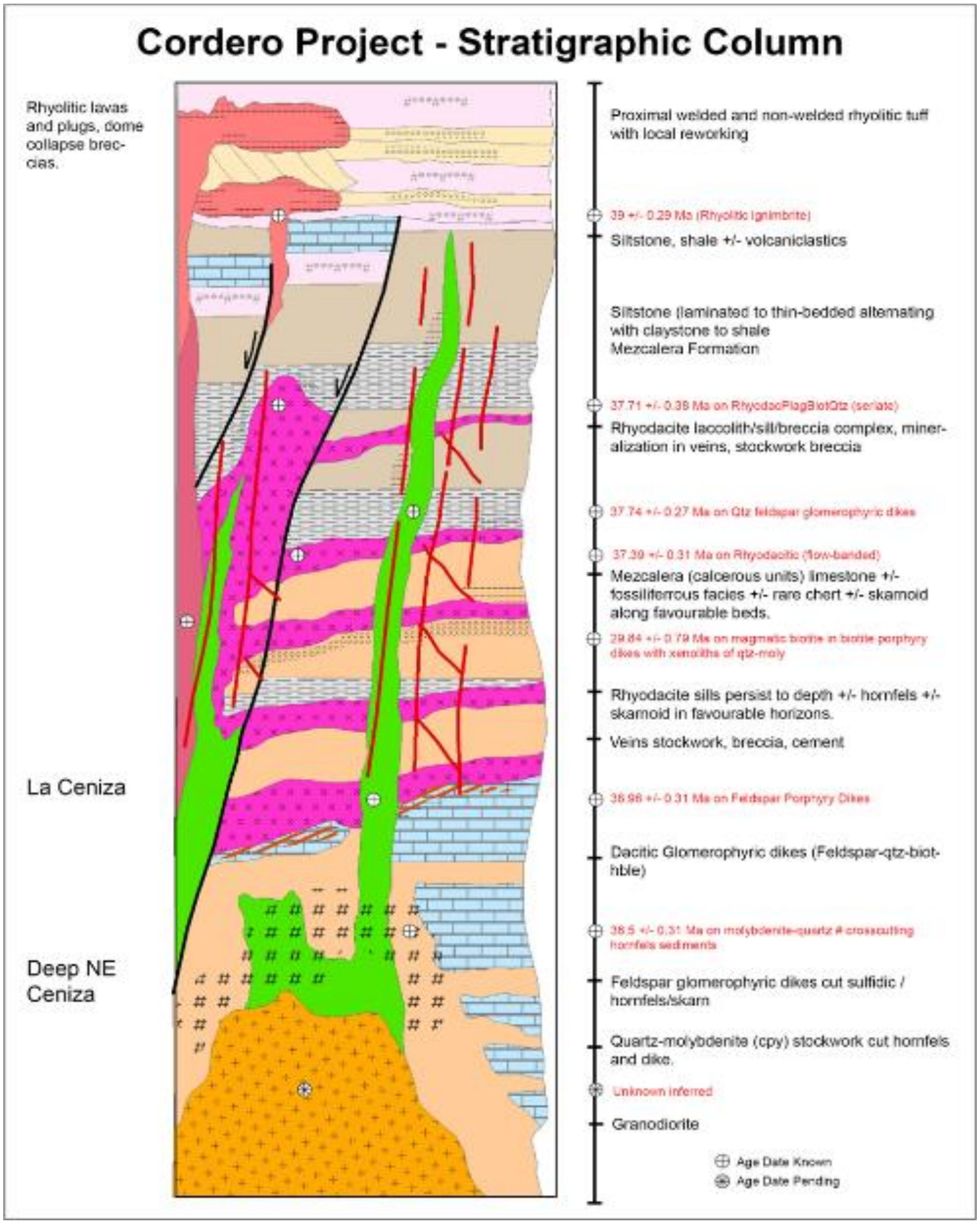
Sample Location	Method	Age (Ma)	Sample Description
C10-163 at 1037.6 m	Re-Os (moly)	38.5 ± 0.16	La Ceniza quartz-molybdenite mineralization
C11-163 (1038.15 to 1046.5 m)	U-Pb (zircon)	36.96 ± 0.31	Feldspar porphyry dikes
C19-307 (146.7 to 206.9 m)	U-Pb (zircon)	37.71 ± 0.38	Plagioclase/K-feldspar/biotite/quartz rhyodacite
C20-336 (309.65 to 344.3 m)	U-Pb (zircon)	37.39 ± 0.31	Hypabyssal flow banded rhyodacite
C21-446 (312.1 to 316.15 m)	U-Pb (zircon)	37.24 ± 0.27	Quartz-feldspar glomerophyric dikes

Notes: Re-Os dating was done at the University of Alberta (Creaser, 2021). U-Pb dating was done at the University of British Columbia (Wall, 2021).
Source: Discovery Silver, 2022.

The bioclast fossils, including crinoids found at Cordero in limestone, suggest that the original depositional environment was a shallow marine setting along a shelf-slope. Further evidence of a shallow marine depositional environment is provided by the crossbedding in sandstone, indicating wave action that can disturb the earlier unconsolidated sediments. The calcareous protoliths are favoured hosts for replacement style (skarn) mineralization at Cordero.

For the current resource estimation area, Figure 7-4 shows the updated Cordero schematic stratigraphic column. Cretaceous Mezcalera sediments are intruded by various Eocene and younger intrusive igneous rocks as well as nearby extrusive volcanic rocks.

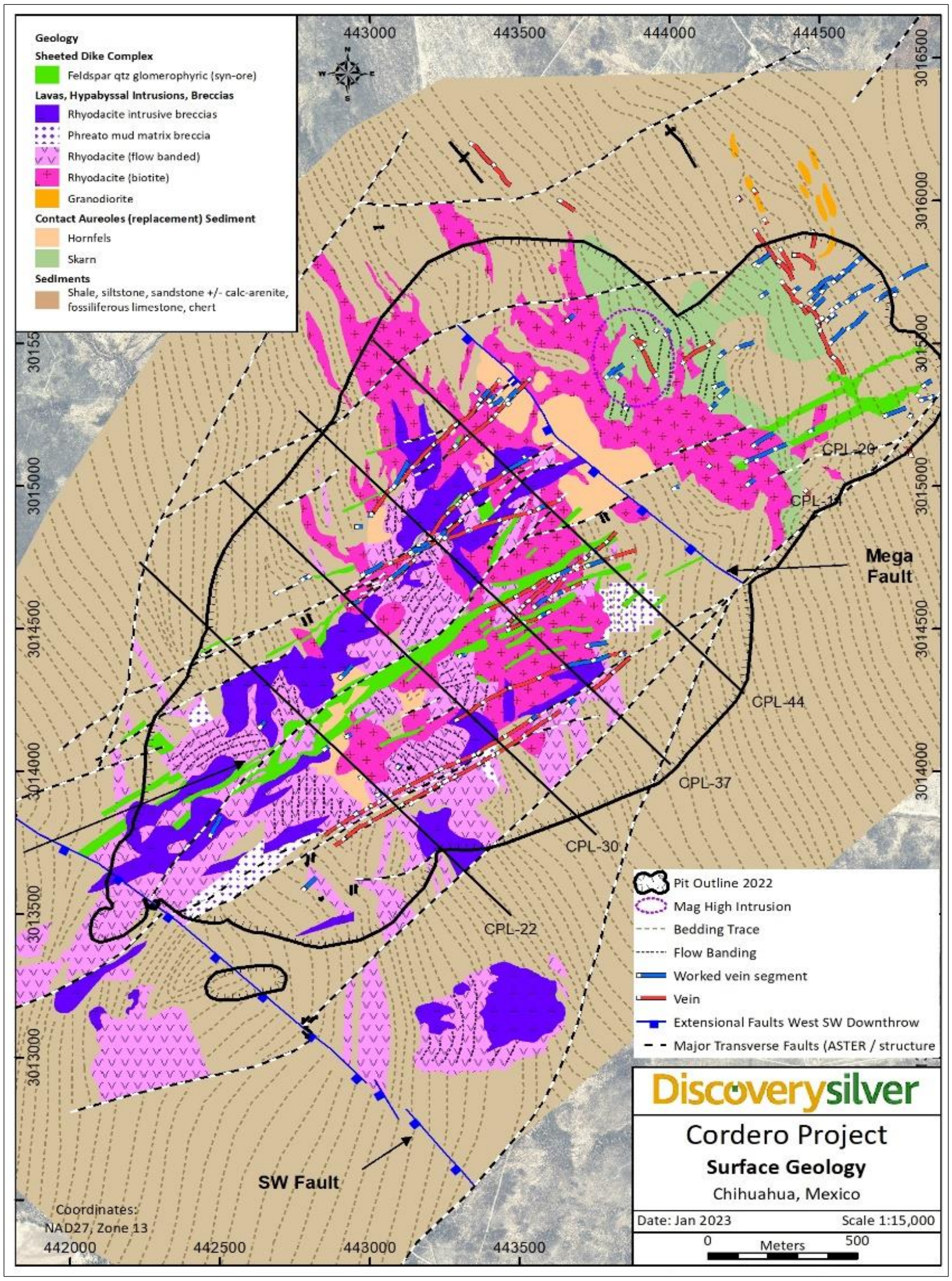
Figure 7-4: Schematic Stratigraphic Column in the Cordero Area, and Age Dates for Igneous Rocks



Source: Discovery Silver, 2022.

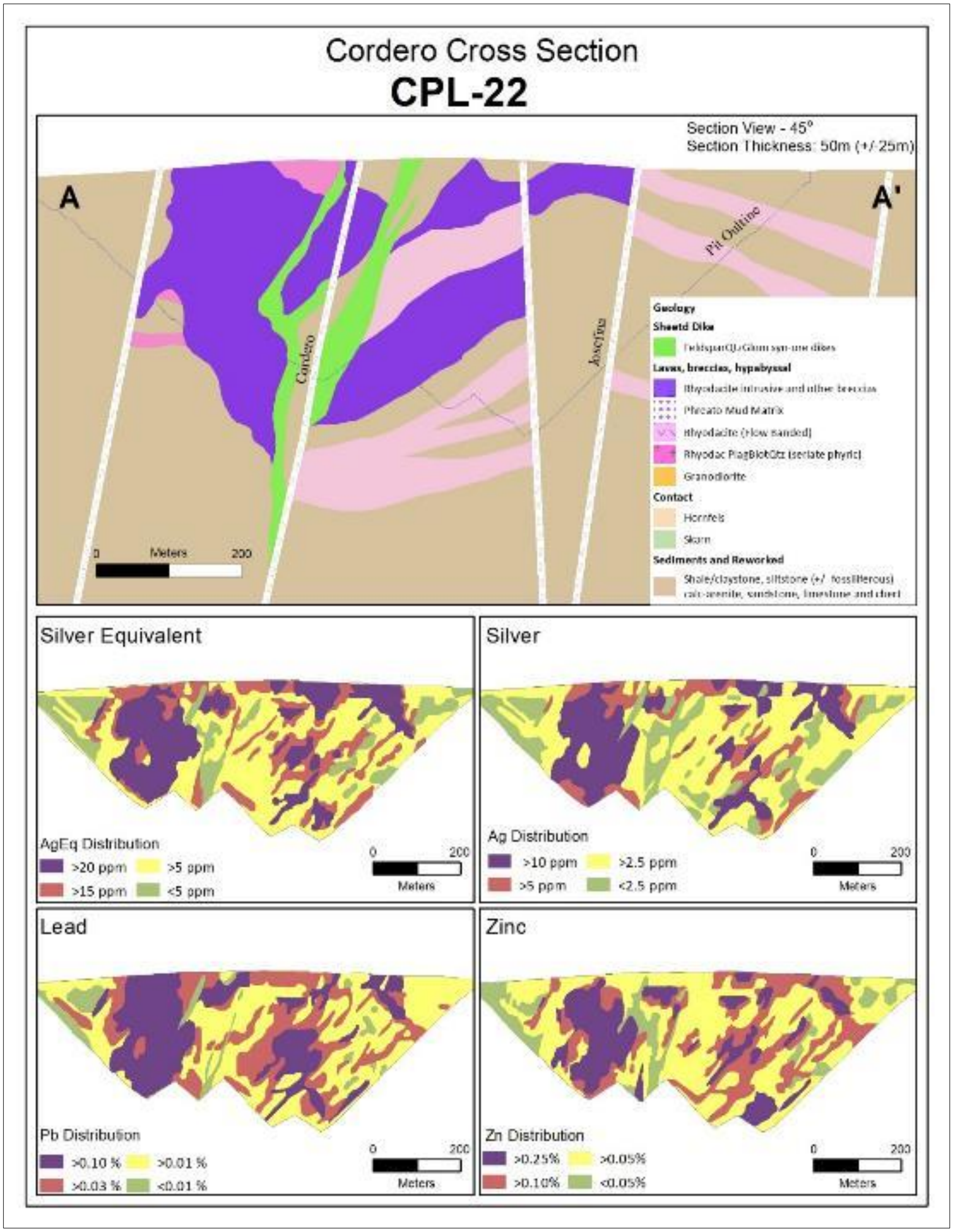
Figure 7-5 shows generalized near-surface geology in the resource estimation area with the locations of three representative cross-section lines showing metal distribution (see Figures 7-6, 7-7, and 7-8). A series of 64 cross-sections spaced 50 m apart within the 2022 resource pit were manually interpreted and used as guidance in the Leapfrog 3D model. The location and example of one of the guidance cross sections is shown in Figure 7-5 and Figure 7-9, respectively.

Figure 7-5: Surface Geology, 2022 Resource Pit, and Locations of Cross-Sections in Figures Below



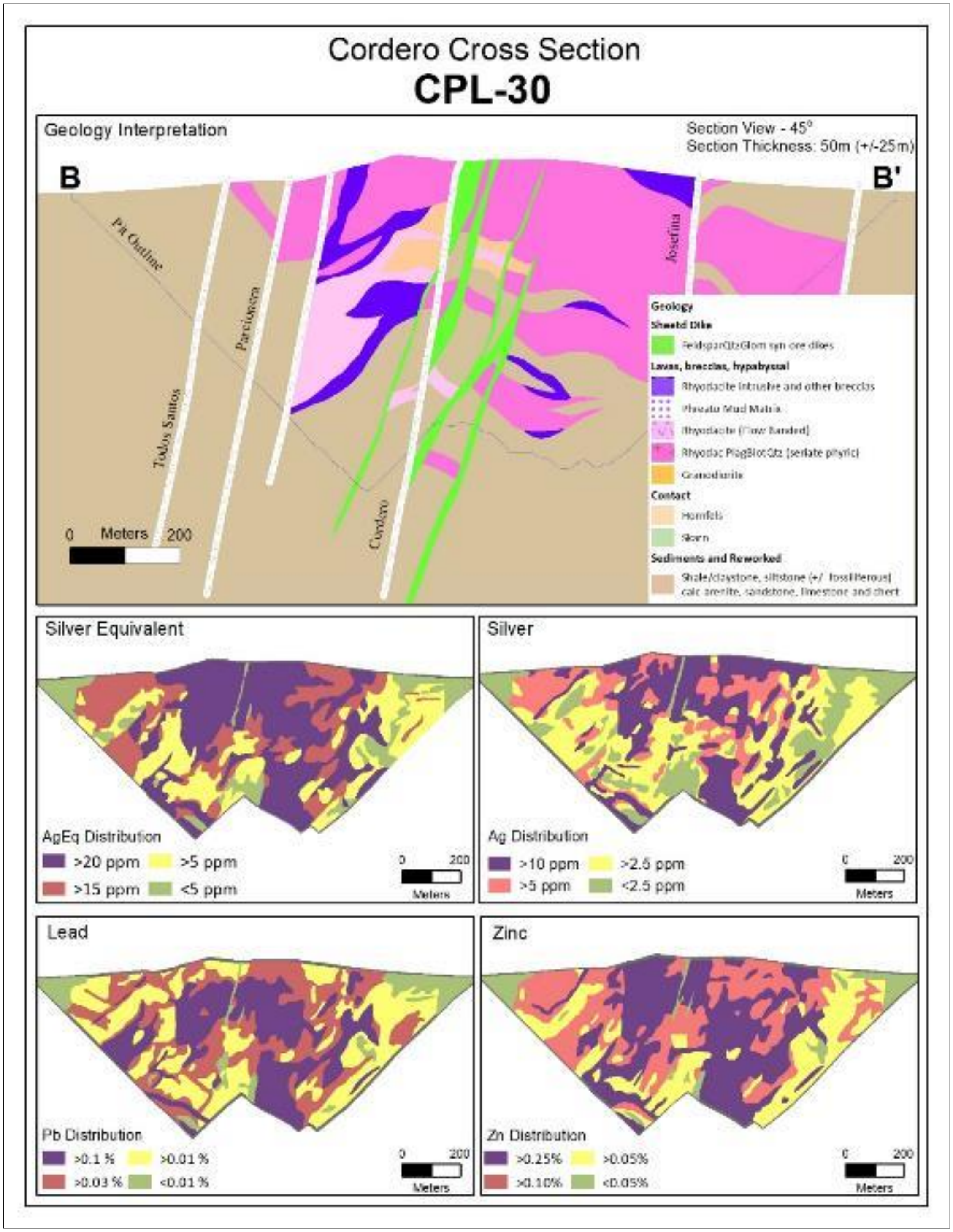
Source: Discovery Silver, 2022.

Figure 7-6: Geology and Distribution of Metals on Section A-A1 (CPL-22)



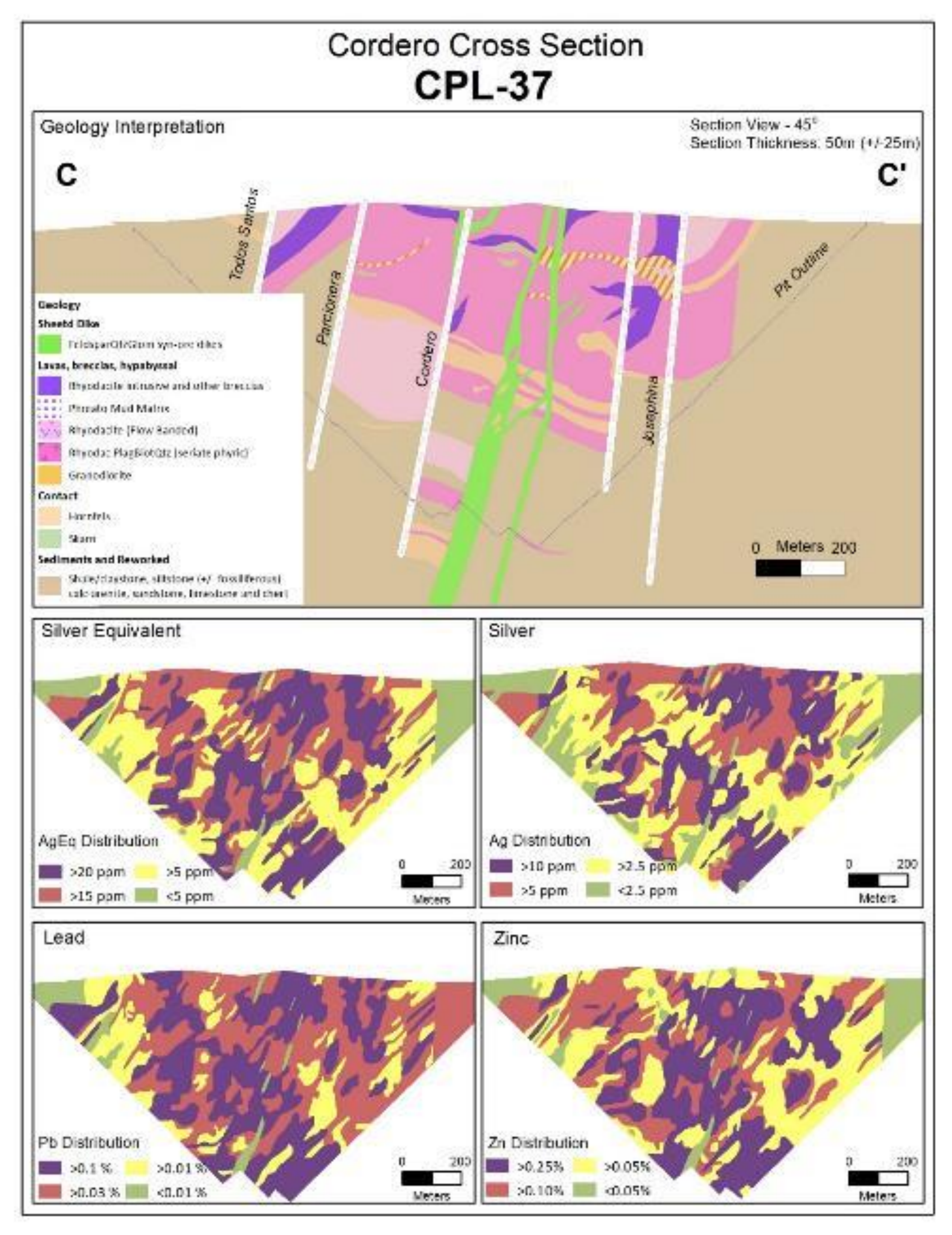
Note: Location of Section A-A1 can be found in Figure 7-5 above. Source: Discovery Silver, 2022.

Figure 7-7: Geology and Distribution of Metals on Section B-B1 (CPL-30)



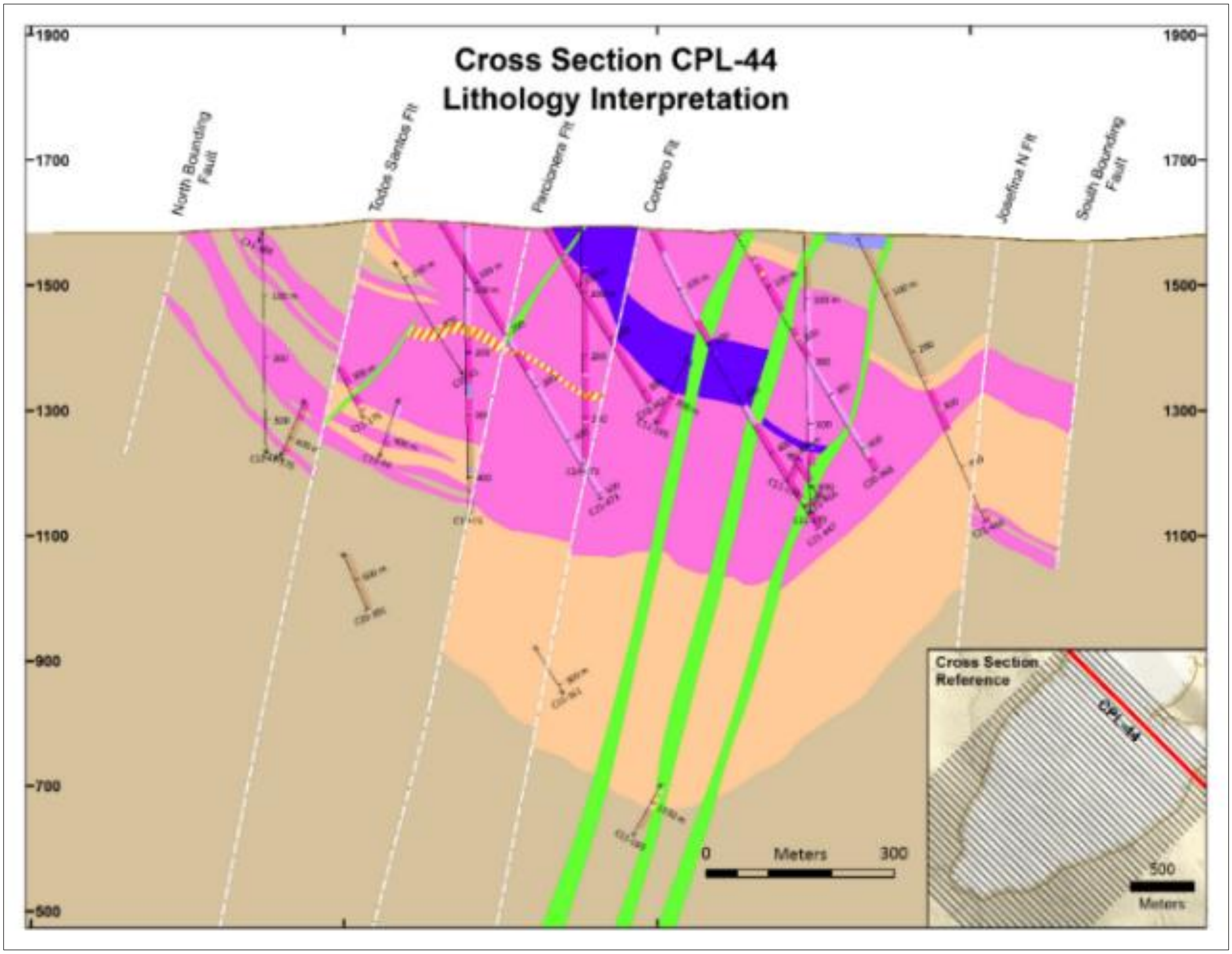
Note: Location of Section B-B1 can be found in Figure 7-5 above. Source: Discovery Silver, 2022.

Figure 7-8: Geology and Distribution of Metals on Section C-C1 (CPL-37)



Note: Location of Section C-C1 can be found in Figure 7-5 above. Source: Discovery Silver, 2022.

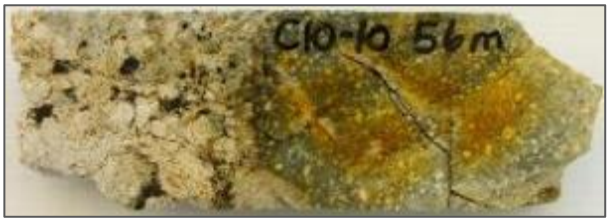
Figure 7-9: Cross-Section CPL-44 Example of Original Cross-Sections Used as Guidance for the Current Lithology Model



Note: A total of 76 lithology cross-sections are available. Source: Discovery Silver 2022.

Figure 7-10: Core Photographs of Main Lithologies at Cordero

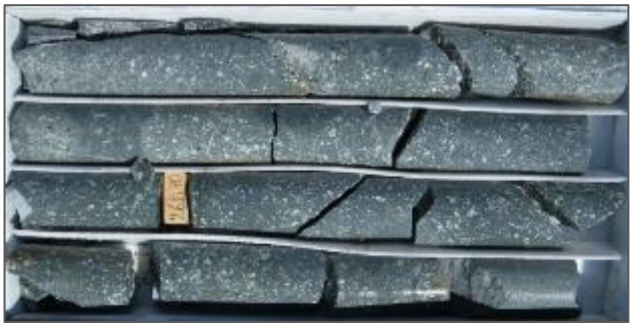
White mica altered flow foliated (flow banded) rhyodacite



White rhyodacite with void-fill sulphide cut by rhyodacite porphyry

Rhyodacite intrusive breccia

Lithic flow foliated (flow banded) rhyodacite



Quartz-feldspar glomerophyric porphyry

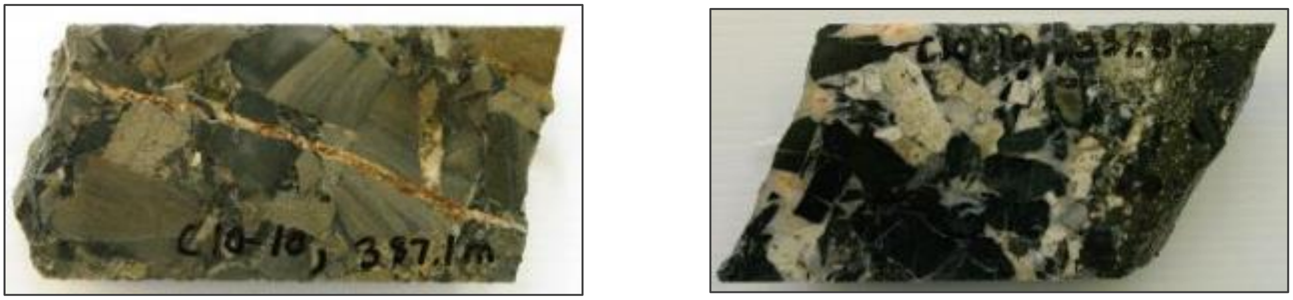
Seriate phyric biotite rhyodacite with xenolith of foreign magma

Hornfels Light Calc Sediment (white mica, quartz, clay, jarosite)

Green Skarn (hydro-grossularite, chlorite) calcareous sediment

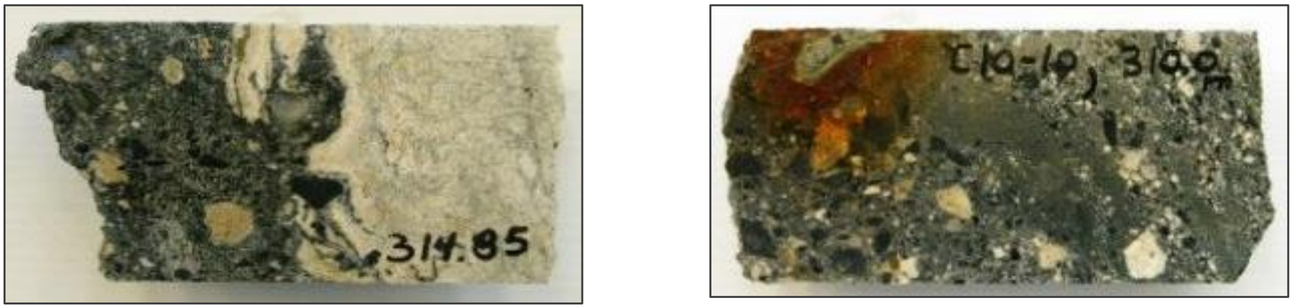
Source: World Metals, 2021.

Figure 7-11: Core Photographs of Different Breccia Types at Cordero



Sedimentary collapse breccia (laminated sandstone, shale, hornfels)

Rhyodacite-shale collapse breccia cut by phreatic breccia (right)



Rhyodacite flow foliated peperite (fluidal), mud matrix phreatic bx

Mud matrix breccia cut by veins of phreatic breccia

Mill matrix breccia (jarosite after pyrite) in hydrothermal matrix

Mud matrix breccia (shale dominated volcaniclastic matrix)

Source: Discovery Silver, 2022.

7.3 Mineralization Styles and Conceptual Model

The Ag-Au-Pb-Zn content at Cordero occurs in sulphide minerals with pyrite, sphalerite, galena, and chalcopyrite accounting for most of the metal content. Figure 7-14 presents a series of typical mineralization styles at Cordero.

A recent elemental mapping analysis using scanning electron microscopy energy dispersive spectroscopy (SEM-EDS) on 284 representative sulphide-bearing and oxide-bearing core samples across a variety of grades and lithology categories defined several new metals of potential economic interest. These metals include electrum, pyrargyrite, hessite, tetrahedrite, platinum group metals (PGMs), and rare silver tellurides (Colombo, 2022).

7.3.1 Supergene Mineralization and Leached Cap

A relatively thin (< 40 m) leached cap occurs at the top of the Cordero deposit over the current resource pit. The nature of the leached cap can vary from dominant jarosite after pyrite to dominant hematite after base metal related oxides/sulphides or a mixture of the two. Locally, weak to strong oxidation occurs along fractures in brittle faults and extends to rare depths of up to 800 m, but typically does not exceed a depth of 100 m. Pyrite is locally preserved in the leached zone as well as other minerals including coronadite, an oxide of lead and manganese the most common oxide associated with hematite alteration. Other oxide minerals identified include jarosite, goethite, hematite, kaolinite and smectite as well as gypsum.

Supergene mineralization is strongest where several faults and fractures intersect. Pyrite can be replaced by pyrrhotite locally. The transition to hypogene mineralization with depth is gradational over vertical intervals up to 40 m. Supergene processes increase silver, lead, and zinc across narrow intervals.

7.3.2 Hypogene Mineralization

Patterns of metal grades and metal ratios correspond locally to alteration styles, with weak relationships to host rock. The preserved Cordero deposit has a flat geometry due to the flat nature of the laccolith and associated sills when a 20-degree post-hydrothermal tilt to the southeast is removed.

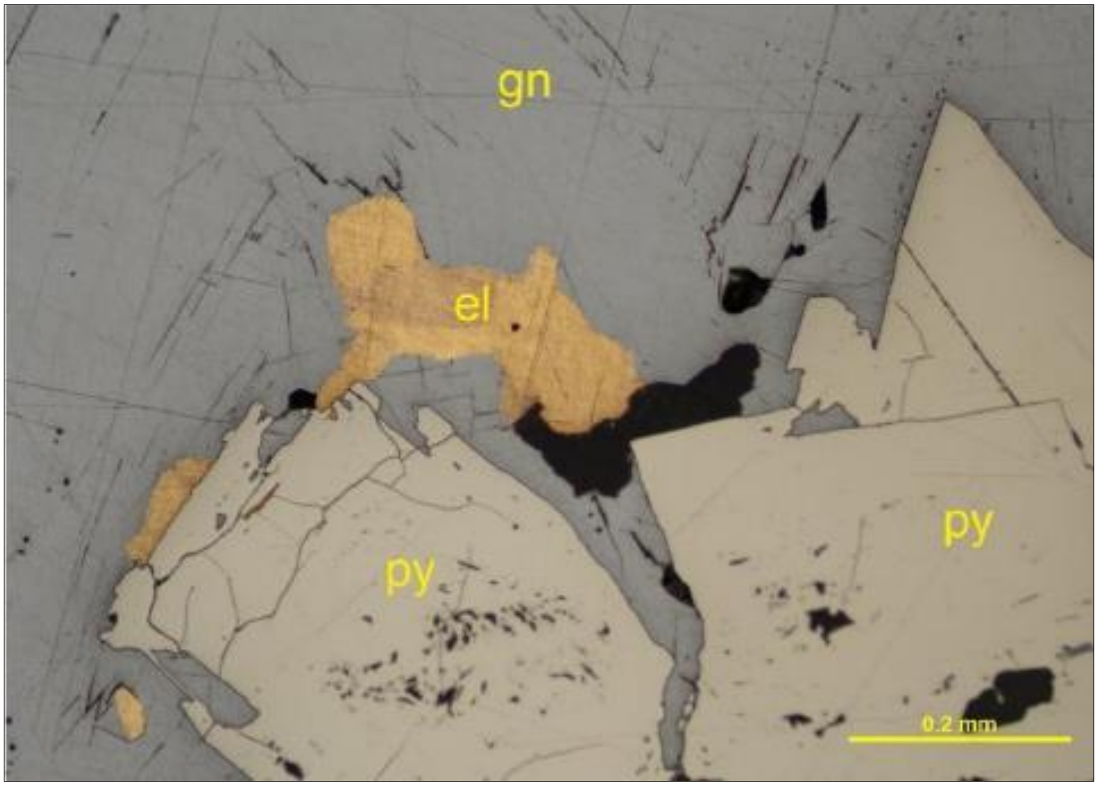
- Silver, lead and zinc grades in the current resource pit diminish in strength below the contact metamorphic aureole in sediments along lower contact of the laccolith or sills identified to a depth of up to 1,200 m
- Proximal to major transcurrent faults like the Cordero grades are best. Grades gradually decrease away from the effects of these damage zones until the next parallel structure.
- There is a good correspondence between lead and silver grades with most of the silver associated with galena + pyrite ± sphalerite.
- There is an increase in zinc grades to the northeast coupled with a decrease in lead grades.
- There is good correspondence between zinc and copper in the northeast where replacement sphalerite and chalcopyrite are common along favourable stratigraphy.
- There is a good correspondence with gold and lead ± arsenic; arsenopyrite occurs frequently with galena (lead) and electrum in many samples.
- Towards the northeast there is variable correspondence in copper and molybdenum. Chalcopyrite is seen with molybdenite veining towards the northeast, at depth at La Ceniza and on surface further towards Sansón in quartz-molybdenite veins, outside the 2022 resource pit.
- Copper is hosted by chalcopyrite and occurs in a variety of mineralization styles including massive sulphide horizons with pyrite ± elevated gold; with molybdenite in quartz-molybdenite veins; and as breccia cement with other base metal sulphides.
- High gold grades are coincident with adularia-sericite (white mica) ± buddingtonite alteration in the southwest near the Pozo de Plata breccia complex.

- On the northeast side of the 2022 resource pit near La Ceniza, the deposit is interpreted to have been down dropped to the southwest along a northwest extension fault called the Mega Fault. A series of parallel replacement drusy calcite ± ankerite can be followed along bedding planes for distances of up to 200 m in the Mega Fault corridor.

7.3.3 Gold-Bearing Minerals

Gold is hosted by electrum and is associated with arsenopyrite, galena, pyrite, hessite, and pyrargyrite. Electrum is an alloy of gold and silver with trace amounts of copper and other minerals. Electrum at Cordero occurs at the interface of galena and pyrite (Figure 7-12) and hessite. High gold grades are coincident with adularia-sericite (white mica) ± buddingtonite alteration in the southwest near Pozo de Plata.

Figure 7-12: EM-EDS Photograph Showing Electrum (el), Galena, (gn) and Pyrite (py)

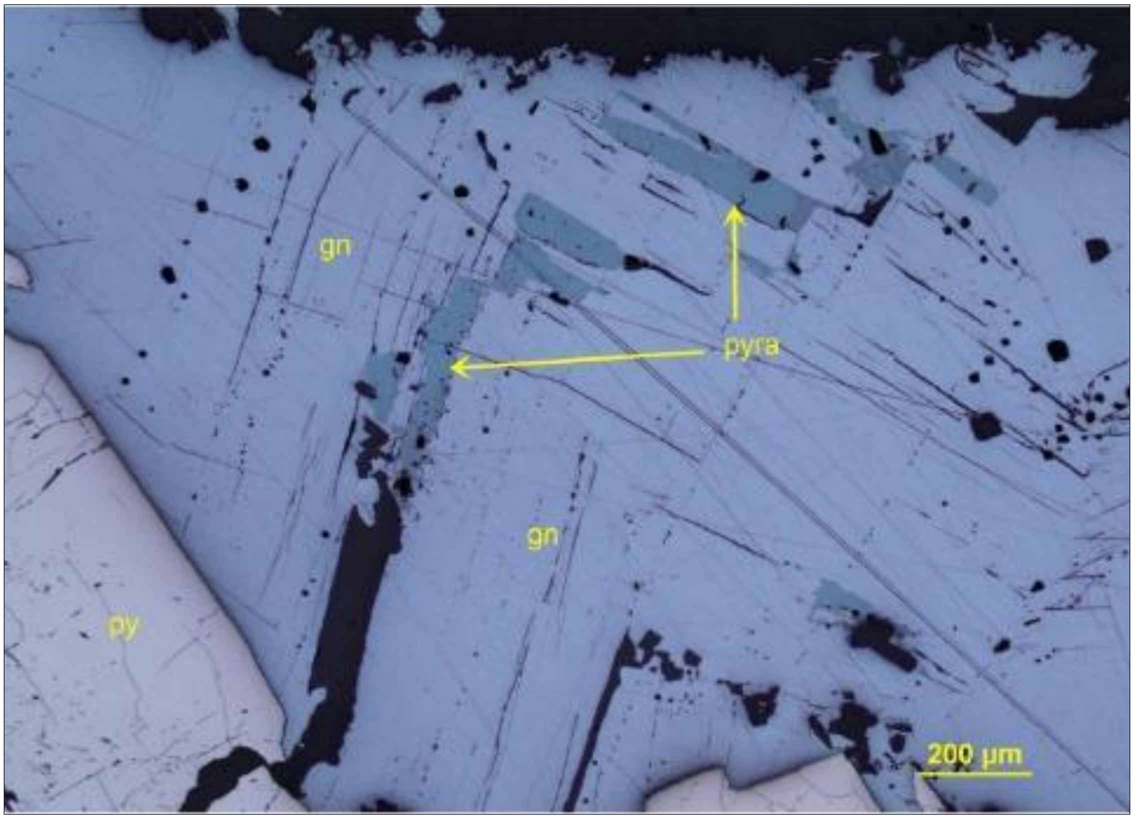


Source: Colombo, 2022.

7.3.4 Silver-Bearing Minerals

The most common silver-bearing sulphides in the samples analyzed include silver in galena, pyrargyrite, electrum, hessite, and tetrahedrite. Pyrargyrite frequently occurs infilling fractures in galena (Figure 7-13). Pyrargyrite is a sulphosalt consisting of silver sulphantimonite (Ag_3SbS_3). Hessite is a mineral form of di-silver telluride (Ag_2Te) and electrum is an alloy of gold and silver with trace amounts of copper and other minerals. Tetrahedrite is a common sulphosalt with the chemical formula [$(Cu,Fe,Zn,Ag)12Sb_4S_{13}$] and accounts for at least some of the antimony anomalies across the deposit. Antimony and silver association is due to primarily to pyrargyrite in many of the samples analyzed.

Figure 7-13: SEM-EDS Photographs Showing Pyrargyrite (pyra) Infilling Fractures in Galena (gn)



Source: Colombo, 2022.

7.3.5 Base Metal-Bearing Minerals

Lead is hosted by galena and galena-rich samples > 10% have some of the highest silver grades. Zinc is hosted by sphalerite in a variety of colours including iron-rich black marmatite most common in the northeast and at depth in iron-poor red brown to honey sphalerite more common in the central and southwest part of the 2022 resource pit. Copper is hosted by chalcopyrite in a variety of mineralization styles including massive sulphide ± pyrite (> 65% sulphides) with elevated gold in quartz-molybdenite veins, and as breccia cement intergrown with other base metal sulphides. Other copper values may reside in tetrahedrite. Figure 7-14 shows examples of typical mineralization styles at Cordero in the resource area.

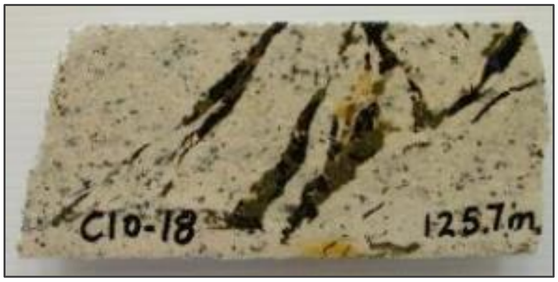
7.3.6 Platinum Group Minerals

Platinum Group Metals occur locally associated with electrum, hessite and pyrargyrite in the 2022 resource pit.

7.3.7 Gangue Minerals

The primary gangue minerals are Ca-Fe-Mg carbonates in calcite, ankerite and dolomite as well as and rhodochrosite in Mn-carbonates. Other common gangue minerals are barite, chalcedony, sericite, fluorite and quartz.

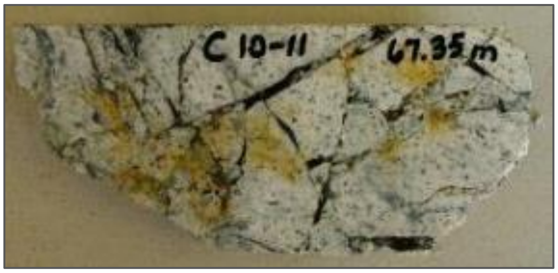
Figure 7-14: Core Photographs for Mineralization Styles at Cordero



Rhyodacite cut by sphalerite-galena veins

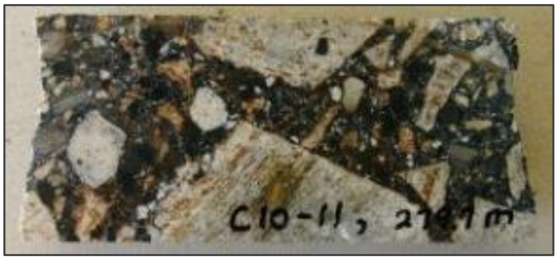
Rhyodacite sphalerite-cemented puzzle breccia

Barite-calcite fault-fill breccia with void-fill sphalerite



Rhyodacite sphalerite-galena crackle breccia

Sphalerite-galena cemented puzzle breccia



Sulphide-cemented milled matrix breccia

Argentiferous galena puzzle breccia

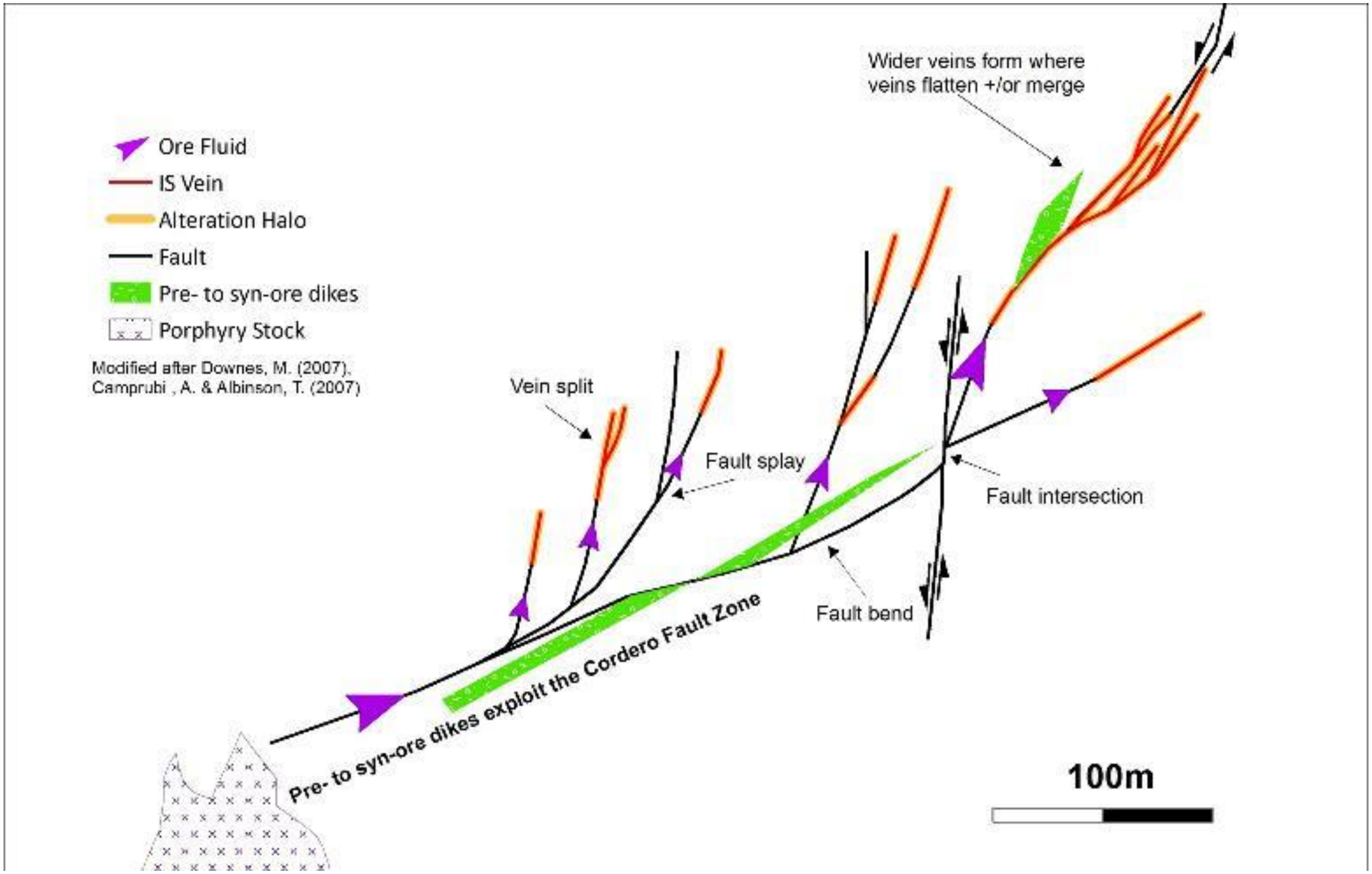
Argentiferous galena extension vein in hornfels sediment

Source: Discovery Silver, 2022.

7.3.8 Conceptual Model for Mineralization

The conceptual model for the genesis of mineralization at Cordero is illustrated in Figure 7-15.

Figure 7-15: Schematic showing Discovery Silver's Conceptual Model for Mineralization in the Cordero Main Area



Source: Adapted from Wang et al., 2019 from concepts presented recently in Downes, 2007 and Camprubi, A., and Albinson, T., 2007.

Mineralized fluids from deep intrusions moved up faults and fractures into the surrounding wall rocks at dilational jogs along sinistral releasing bends (Murphy, 2020). Mineralization is greater where permeability is enhanced, such as at lithologic contacts, dilational jogs, or fault intersections.

Mineralizing fluids travelled far into structurally prepared wall rock through the connected permeability of faulted and fractured wall rock. Disseminated, low-grade mineralization extends several hundred meters from major faults and fault intersections. In high-grade zones that are dominated by veins and vein-breccias, associated alteration halos and metal grades are typically continuous in directions parallel to the steeply NW-dipping NE-SW-trending faults.

7.4 Alteration

Throughout the project area, hydrothermal fluids accessing a series of interconnected faults, fractures, stockworks, and permeable lithologic contacts have removed certain minerals and replaced them with dominant potassium-bearing cousins such as adularia, potassium feldspars like orthoclase or sanidine, and white micas. Potassic alteration is widespread throughout the resource area and accounts, in part, for the strong coincidence between the potassium spectral band on the radiometric geophysical survey (Figure 9-3 in Section 9) and the intensity of Ag-Au-Pb-Zn mineralization. Other alteration minerals include chlorite, chalcedony and buddingtonite, an ammonium mineral sourced from sedimentary rocks and frequently associated with epithermal deposits.

7.4.1 Pre-hydrothermal Alteration

Contact metamorphic aureoles are related to the emplacement of various intrusions and pre-date hydrothermal alteration. Quartzite derived from sandstone and skarn formed from calcareous sediment form annular well-defined contact metamorphic aureoles around intrusion contacts within the 2022 resource pit, at Sansón and as far north as the Valle Au targets. The skarn horizons are characterized by disseminated sphalerite-chalcopyrite or pyrrhotite-chalcopyrite or pyrrhotite-pyrite mineralization crosscut by later quartz-molybdenite veining. Certain geophysical filters in used in the reprocessed VTEM 2019 survey highlighted these aureoles and is discussed in Section 9 of this report.

A light-coloured sericite-pyrite dominant hornfels metamorphic aureole has formed along the base of the laccolith and several parallel sills within the current resource pit and thickens to the northeast when the laccolith inflates into a thicker body. This aureole has well-preserved primary laminated bedding textures indicative of a shale, siltstone, and sandstone protolith. The width of the alteration aureole depends on the thickness of the laccolith. The metamorphic aureole is strongly pyritic with replacement pyrite along bedding planes ranging from < 5% to >15% in areas of high fluid flow near cross faults. Replacement style bedding-parallel mineralization is crosscut by sphalerite, galena ± chalcopyrite veinlets, vein breccia, and fault breccia.

Skarn metamorphic aureoles increase in occurrence to the northeast within the current resource pit due to an increase in calcareous stratigraphy where green skarn forms knots of green hydro-grossularite to bedding parallel calc-silicate comprised of red and green skarn minerals. Locally, replacement style pyrite-pyrrhotite-sphalerite-chalcopyrite mineralization is crosscut by later-sphalerite, galena ± chalcopyrite veinlets, and in vein breccia cement. The calc-silicate skarn is derived from limestones, lime muds, and fossiliferous limestone protoliths.

7.4.2 Hydrothermal Alteration

Numerous stages of hydrothermal alteration are present and have been categorized into a series of groups comprised of several different alteration minerals. The K-feldspar Group (also called potassic), the clay groups, and the sericite groups are dominant in the resource area. The chlorite group, the epidote group, and the various carbonate groups are dominant outboard of the resource area. Sericite is defined as a fine-grained crystalline white mica, whereas white mica is defined as a medium-grained crystalline white mica, and K-illite is defined as a non-crystalline white mica (Kerby, 2022) related to the potassium anomaly in the 2010 radiometric survey (see Figure 9-3).

7.4.3 K-Feldspar Group

Most molybdenum (copper) mineralization in the northeast end of the 2022 resource pit coincides with early K-feldspar alteration. Locally with depth, sodic alteration occurs where albite and higher carbonate content dominates over K-feldspar. Pink K-feldspar vein envelopes are a common theme to quartz-molybdenite-(chalcopyrite) veinlets at depth at La Ceniza. K-feldspar metasomatism occurs in both sedimentary rocks and intrusive rocks at Cordero. K-feldspar occurs with quartz ± chlorite after biotite as well as ferroan dolomite or ankerite and rutile at La Ceniza. Sulphides include molybdenite with lesser chalcopyrite. Visual molybdenite in centerlines to quartz veins increases with depth (e.g., C11-163). The occurrence of both primary and secondary sanidine/orthoclase complicates the interpretation of the potassium metasomatism patterns.

7.4.4 Silica Group

Silica-rich minerals include chalcedony (a micro-crystalline form of reprecipitated silica common at the Pozo de Plata breccia complex), and late-stage jasperoid veins occur in the central part of the resource area coincident with the resistant structural dome (Figure 7-18).

7.4.5 Carbonate Group

Several low- to medium-intensity ASTER-defined carbonate anomalies occur. One occurs within a 3.1 km domal feature near Molino de Viento, and another coincides with a second smaller domal feature outside the current resource area. Carbonates ranging from Ca-Mg-Fe-Mn in calcite, dolomite, ankerite, and rhodochrosite occur throughout the Cordero district and have been identified throughout the current resource area.

7.4.6 Adularia-Sericite (White Mica) Group

Adularia-sericite-white mica and buddingtonite (an ammonium mineral sourced from sedimentary rocks and typically associated with epithermal deposits) occur at the Pozo de Plata breccia complex and elsewhere in the current resource area.

7.4.7 Argillic Group

Kaolinite ± K-illite alteration is coincident with and overprints all other alteration types. Alteration intensity is highest at upper levels in the deposit. In this alteration illite (K-illite) replaces phenocrysts of plagioclase previously altered to K-feldspar (sanidine) that locally replaces the igneous matrix and is weakest in the impermeable sediments. Pyrite has co-precipitated with the illite/kaolinite. Localized fault/fracture controls are apparent.

7.4.8 Peripheral Alteration Groups

Other ASTER-defined alteration groups including chlorite, epidote, biotite and silica occur outside the current resource area. The chlorite–biotite group seems to follow unique stratigraphic horizons. Other groups include a dolomite group forming along stratigraphic horizons locally and seen in drill core at fold closures. Dolomite is absent at surface in the resource area but is seen at depth to the northeast. Locally this alteration group transitions to phlogopite-magnetite alteration in host-rock sediment. Epidote anomalies occur on the southwest side of the resource area and at inflections in the Cordero Fault Zone. Epidote has been logged in the northeast resource area in cooler temperature skarn alteration sequences with chlorite and calcite.

7.4.9 Post-Hydrothermal Alteration

Near-surface oxide alteration has been observed at Cordero due to weathering of sulphide mineralization where the percolation of oxygenated waters forms a variety of oxide minerals including jarosite (potassium iron sulphate), goethite (iron oxyhydroxide), hematite (iron oxide), kaolinite and smectite (swelling clays), as well as and gypsum (hydrated calcium sulphate). Acid-rich oxygenated waters access rocks below through the near-surface fractured and permeable rocks. Depths of oxide minerals ranges from an average up to 40 m depth from surface to as deep as 800 m through fault corridors.

7.5 Structure

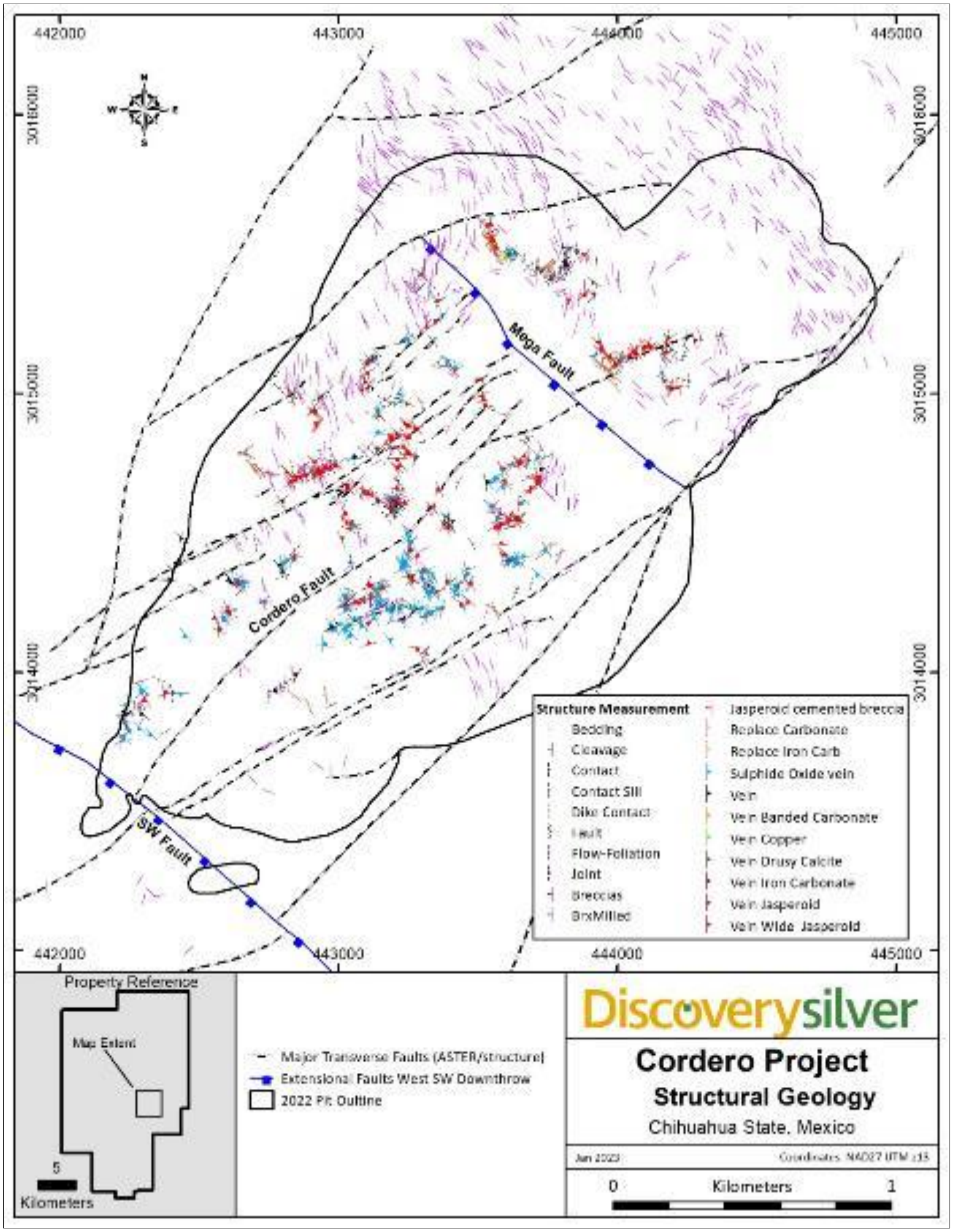
Since the mineralization at Cordero is principally due to hydrothermal fluids that carry metals in solution, metal grades are strongly influenced by the geometry of cracks in the host rock. Faults, fractures and lithological contacts provide the structural preparation and plumbing network through which metals can travel easily over long distances as long as the fluid temperature and pressure remain high enough to keep them dissolved in solution. Changes in the width or direction of open fractures, faults and lithologic contacts create opportunities for fluid pressure to drop, and for metals to precipitate at those locations. Bends in faults and changes in lithologic competency (how easily the rock fractures) create favourable environments for the development of extensional dilation zones that enhance fluid flow as permeability increases along the strike of a fault-bend (“dilational jog”), but also may create the possibility for these favourable environments to become less favourable as fluid conduits seal under compression.

Discovery Silver continues to maintain a database of detailed information on structural geology features observed in surface mapping and in drill holes (see Figure 7-16).

Distinct regional structures crosscut Cretaceous sediments and Tertiary igneous rocks at Cordero. These structures trend NW to WNW and NE-SW, with minor structures trending NNW to N-S, as well as an important Tertiary trend of NNE to ENE in the Cordero region (Murphy, 2020). Mineralization has formed along several major NE-trending transverse structural corridors at Cordero (see Figures 7-16 and 7-17)

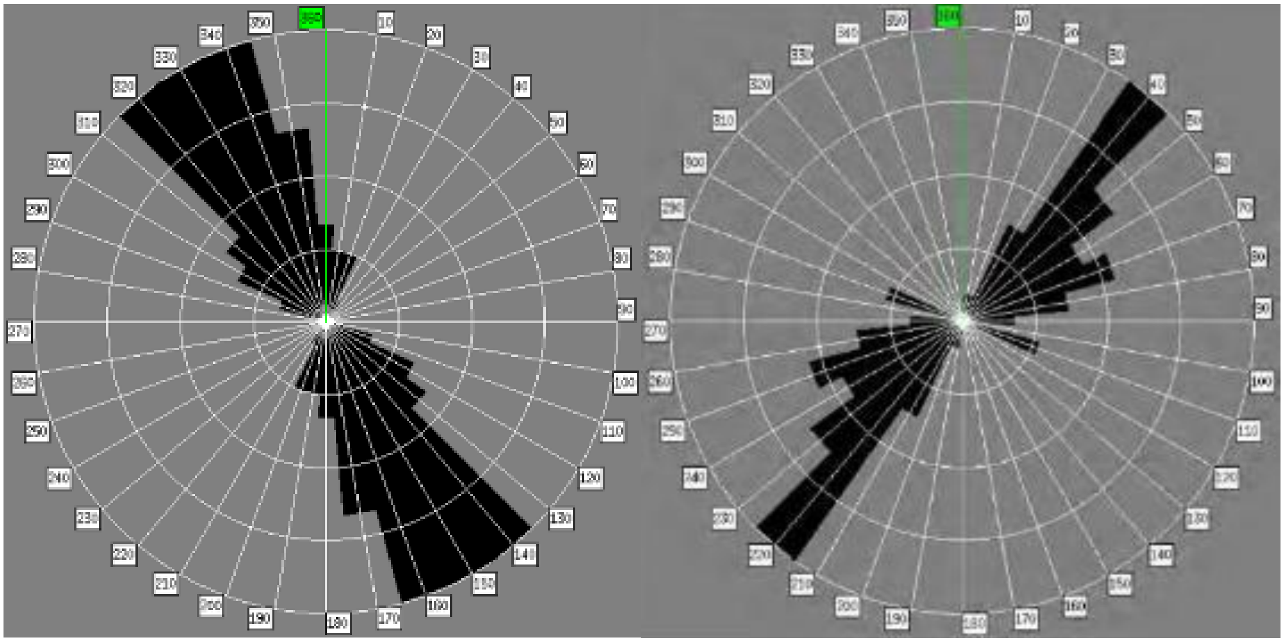
Late-stage hydrothermal activity includes barite and drusy calcite forming dissolution cavities that exploit NNW-trending structures. Late-stage jasperoid (chalcedony) veining occurs along various trends locally offset by late-stage reactivation along earlier transcurrent and related faults. Basin and Range sedimentary rocks in the Cordero region host strike-slip and reverse faults characteristic of the earlier compressional environment. Older strike-slip, reverse, and later NNE to ENE faults show evidence of reactivation and play an essential role as mineralization controls by structurally preparing the rock for incoming hydrothermal fluids sourced from a deeper magma source. Evidence suggests that younger down-to southwest extensional faults have offset mineralization and include the Mega Fault and the SW Fault (Figure 7-16)

Figure 7-16: Structural Geological Information and the 2022 Resource Pit



Source: Discovery Silver, 2022.

Figure 7-17: Structural Information Including Major Faults and Transverse Faults, Cordero Property



Source: Murphy, 2020.

The Cordero Fault is one of several parallel transcurrent faults that form structural corridors across the resource area and is comprised of several parallel fault strands, locally healed with mineralization and gangue in open space breccia, vein, vein breccia and locally exploited by glomerophyric dikes. The resource area is characterized by brittle deformation and is comprised of episodic cracking and breaking including fractures, joints, faults and veins in rhyodacite and brittle-ductile deformation in sediments and include drag folds, gash veins, platy cleavage, and fractures. Cordero fault varies in geometry depending on the host-rock competency.

The Mega Fault is interpreted as a normal fault with a down-to southwest throw leading to extension identified in the satellite-based structural interpretation (Murphy, 2020). On the ground, the fault is characterized by a broad recessive valley with limited outcrop. Evidence of extension include several bordering parallel strands of bedding parallel late-stage hydrothermal cement (ankerite/calcite) collectively forming intervals measuring 100 meters in width that can be followed for a distance of up to 200 m along strike in a series of segments.

The SW Fault is inferred in the satellite-based structural interpretation and is interpreted as a normal fault with down-to southwest throw and marks the termination of the glomerophyric dikes mapped on surface (Figure 7-5) and a change in mineralization tenor. The southwest side of the fault is heavily covered by recent cover sequences.

8 DEPOSIT TYPES

The Cordero deposit does not neatly fit into a specific category or class of conventional deposit model, due in part to the variability of mineralization type, style, and age across the large size of the project area. Observations from surface mapping and core logging in the resource area alone are consistent with overlapping mineralizing events of different ages. Of the deposit types that have been described and named in the technical literature, those most relevant to Cordero are:

- extensional intermediate sulphidation epithermal systems with many characteristics of the Real de Angeles in Zacatecas and many others across Mexico and the United States

- carbonate-hosted Pb, Zn (Ag, Cu, Au) manto-style replacement (skarn) and crosscutting chimney-style sulphide mineralization associated with felsic to intermediate intrusive igneous rock and associated breccias formed from differing mechanisms like those at the Santa Eulalia mining district in north central Chihuahua and many others across Mexico and in the United States.

8.1 Extensional (E)Type Intermediate Sulphidation Epithermal Systems (E-Type IS)

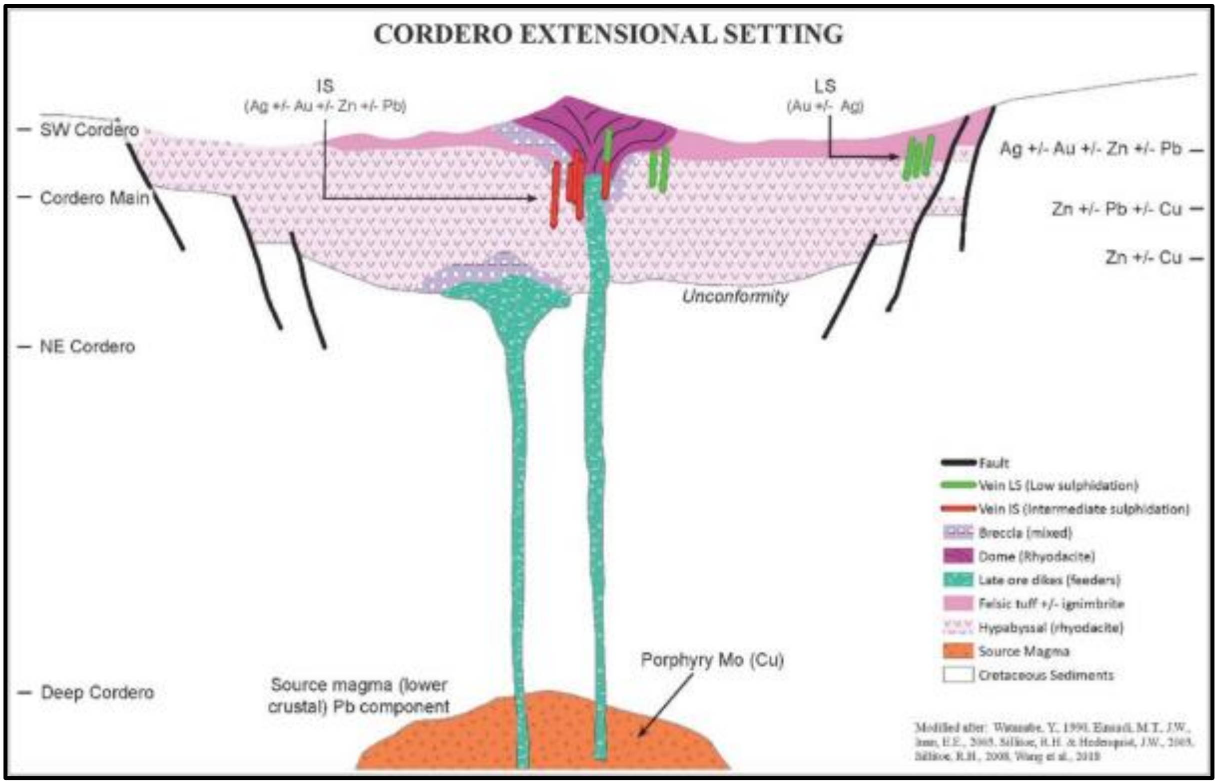
Intermediate sulphidation epithermal systems in extensional environments (E-Type IS), many of which are spatially related to porphyry molybdenum systems in rift-type settings, have recently been recognized and described in the technical literature (Wang et al., 2019). A schematic conceptual model of this type of system is presented in Figure 8-1. The identifying characteristics of the E-Type IS deposits and their presence at Cordero are summarized in Table 8-1 below.

Table 8-1: Characteristics of E-Type IS Deposits and Cordero Evidence

E-Type IS Deposits	Cordero
Primary Characteristics	
Presence of Mn-carbonate in rhodochrosite	Observed in mid to late hydrothermal stage
Presence of intermediate sulphidation minerals	Pyrite, sphalerite, galena, chalcopyrite, tetrahedrite and tennantite
Light-coloured (Fe-poor) sphalerite	Red-brown to honey sphalerite
High Ag:Au ratio (> 60)	Main Ag : Au is well above 100 on average
Extensional rift-type setting	High potassium intrusive/extrusive rocks typical of a rift setting
Secondary Characteristics	
Large Ag endowment	Silver accounts for >40% of in-situ metal value
Occur on flanks of porphyry molybdenum deposit at depth	Porphyry quartz molybdenum stockwork encountered in several holes at La Ceniza and Sansón targets
Overlapping low sulphidation characteristics	Arsenopyrite, adularia, gold + silver
Parent magma sourced from continental crust	Pb-Pb isotope study (1 sample) suggested part continental crust fluid source

Source: Adapted from Wang, et al., 2019.

Figure 8-1: Extensional-Type IS Above the Shoulder of a Porphyry Molybdenum Deposit



Source: Adapted from Wang, L.; Qin, K.Z.; Song, G.X.; and Li, G.M., 2019.

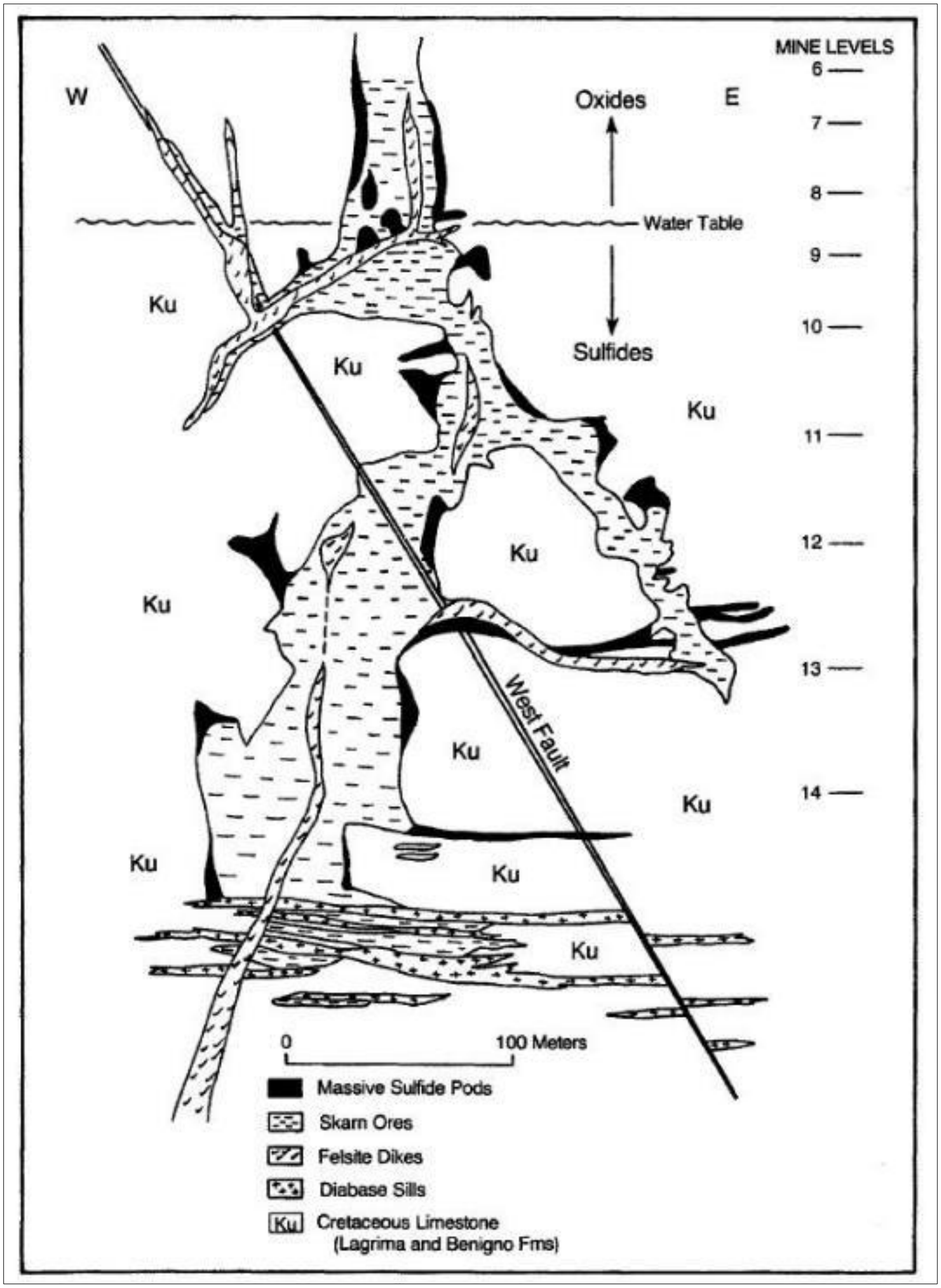
Distal Pb-Zn-Ag veins associated with porphyry molybdenum deposits are well known throughout parts of the United States, Canada and China. All the key characteristics described in the technical literature that support for E-type IS systems have been observed at Cordero, making this the single best deposit type model. Based on Re-Os date of molybdenite from a sample taken at >1.0 km depth at La Ceniza, the age of molybdenite emplacement is 38.5 ± 0.16 Ma. Further $^{40}Ar/^{39}Ar$ dating is pending of white micas, adularia and sanidine from alteration envelopes to high-grade Pb-Ag-Zn mineralization.

8.2 Carbonate-Hosted Pb, Zn (Ag, Cu, Au)

Northern, north-central Chihuahua State, Mexico contains many carbonate-hosted lead-zinc deposits (with varying amounts of silver, gold and copper) in massive sulphide along intrusive contacts, subvertical chimney-sulphide and in manto-sulphide replacement. A deep-seated magma chamber similar to the one inferred from the magnetics is the likely source of the heat and fluids that drive alteration, and mineralization over large volumes of wall rock up to a known depth of 1,174 m at Cordero. Figure 8-2 shows a cross-section of this type of system at one of the mines in eastern Santa Eulalia mining district about 150 km north of Cordero.

The identifying characteristics of this deposit type and presence at Cordero are summarized in Table 8-2. Several granodiorite and diorite sills were mapped northeast of the resource area at the Sansón target and further north at the Valle Au target. The presence of a large inferred magnetic domain measuring 3.5 x 3.5 km is centered over La Ceniza and Sansón at an estimated at a depth of 3 km (see Figure 9-1). Carbonate-hosted replacement Zn-Cu and Fe-Cu base metal mineralization is common over several hundreds of meters at La Ceniza within the current resource pit.

Figure 8-2: Cross-Section through the Carbonate-Hosted Replacement Deposit (Sulphide Manto/Chimney) at the San Antonio Mine in the Eastern Santa Eulalia Mining District



Source: Megaw & Miranda, 1988.

Table 8-2: Characteristics of Carbonate-Replacement Deposits and Cordero Evidence

Carbonate-hosted Pb, Zn, (Ag, Cu, Au)	Cordero
Geochemistry	
Silver Values > 400 ppm	Many Silver Assays in the 1000s of ppm
Multielement Chemistry Includes Au, Zn, Pb, Cu, Mn, Mo, As, W, V, and Cd	Multi-Element Chemistry Includes Au, Zn, Pb, Cu, Mn, Mo, As, W, V, and Cd
Mineralogy	
Silver-Bearing Manganese Oxide	Present in Coronadite
Skarn Minerals	Hydro-Grossularite
Molybdenite	Quartz-Molybdenite (Chalcopyrite Stockwork)
Variety of Sphalerite Colours	Marmatite (Fe-Rich) in the NE to Light (Fe-Poor) to SW
Barite	Present in Late-Hydrothermal Veins and Faults ± Sphalerite
Fluorite	Present in Late-Hydrothermal Veins and Open-Space Breccia Fill
Structure	
Deep Crustal Structural Control	Deep Crustal Structural Control
Intrusive Source of Heat and Fluids	
Presence of Felsic to Intermediate Intrusive Rocks	Rhyolite and Rhyodacite
Presence of Granodiorite Stock	Inferred Source RTP Magnetics 3.5 x 3.5 km at 3 km Depth
Skarn in Contact with Dikes, Sills or Stocks	Abundant in Northeast of 2022 Resource Pit and Beyond
Zonation and Trends Away from the Causative Dike, Stock or Sill	
Increasing Pb and Zn without Ag or Cu	Increase in Zn ± Cu to the northeast without Ag and Au
Open-Space Filling	Very Common and Mineralized
Collapse Breccias	Very Common and Mineralized

Source: Adapted from Megaw, Barton, and Falce, 1996.

Major Laramide (40 to 80 Ma) intrusion-related carbonate-hosted Zn-Pb-Ag deposits occur across the western U.S. along the deep axes of sedimentary basins near the continental margin (Smith, Jr. 1996). Tertiary intrusions emplaced in the deep axes of sedimentary basins push the brine fluids into hydrothermal convection cells generated by the intrusions and associated metals and sulphur into permeable conduits such as faults, lithologic contacts, and favourable stratigraphic horizons.

Ar-Ar studies at most of these P-Zn basin associated deposits indicate Pb-Zn-Ag mineralization formed between 30 and 40 Ma. Results for 15 core samples collected for Ar-Ar age dating on select mineralization alteration envelopes across the Cordero deposit are pending. To date, molybdenite mineralization returned a Re-Os date of 38.5 ± 0.16 Ma at Cordero.

8.3 Conclusion

The QP concludes that Discovery Silver has a thorough understanding of the geology of the Cordero deposit, and that the appropriate deposit models are being applied for exploration. The conceptual geologic models are both reasonable and sound and, in conjunction with drilling results, indicate that potential exists to increase the extent of known mineralization with additional drilling.

9 EXPLORATION

The deposit types discussed in the previous section are all challenging exploration targets for many reasons. This includes the fact that approximately 80% of the Cordero project is covered with recent alluvium and talus deposits masking potential mineralization of interest. A variety of geophysical tools have been utilized to aid in identifying areas of interest at Cordero including the following:

- Induced polarization (IP) surveys assist in defining high pyrite contents (5% to 20%) in areas of high fluid flow, where chargeability highs (high conductive minerals like pyrite) and resistivity highs are coincident with intrusive igneous complexes (high resistive minerals)
- Radiometric surveys assist where potassium (%K), thorium (%Th), and uranium (%U) provide a guide to radioactive minerals often associated with unique igneous rocks and hydrothermal alteration in areas of high fluid flow; potassium feldspar (e.g., orthoclase, sanidine). Potassium-bearing adularia-sericite (white mica) and buddingtonite also aid as a guide to erosion levels where adularia occurs at lower temperature and shallower depths of emplacement and orthoclase/sanidine might occur at higher temperature and deeper depths of emplacement
- Magnetic surveys assist where magnetic highs might represent buried magma chambers, or magnetic pyrrhotite and/or magnetite mineralization, or skarn-replacement mineralization where pyrrhotite and magnetite occur
- Electromagnetic (EM) surveys assist where conductivity (high or low) is measured, and hydrothermal alteration creates an EM response; alteration along structures and key fault intersections are often highlighted with EM surveys

In addition, structurally controlled deposits are best defined by remote sensing tools including structural interpretations from satellite-based ASTER imagery to define the following:

- major regional long-range west-northwest structures intersected by northeast-trending structures that parallel major terrane boundaries
- structural/alteration targets at structural intersections
- magmatic-hydrothermal trends including domal and circular features.

Geological and geochemical mapping and sampling programs defined the following:

- high silver values (Ag), high copper (Cu) and/or high (Mo) values suggesting proximity to an intrusion-related hydrothermal systems
- vein-, stockwork-, breccia-, fault-, and shear-related intermediate sulphidation (IS) mineralization
- alteration zonation towards- or away-from favourable IS mineralization from adularia to white micas
- vein-gangue and vein-sulphide definition.

9.1 Geophysics

The geophysical surveys conducted by previous owners helped identify target areas. One of the strongest geophysical predictors of intrusion-driven mineralization is magnetics (see Figure 9-1) as well as mineralization associated with the potassium spectral band from the 2010 Aeroquest airborne radiometric surveys. As shown in Figure 9-3, the prominent potassium anomalies coincide with areas of strong Ag-Au-Pb-Zn mineralization that have been confirmed by drilling.

9.1.1 Aeroquest 2010 Magnetic, Radiometric and EM Survey

In 2022, Discovery Silver commissioned Arrow Geosciences to reprocess all historical geophysical survey data. Aeromagnetic surveys are appropriate for covering wide area regional surveying and are ideal for mapping areas with poor rock exposure like Cordero where most of the property lies under cover. Airborne magnetics measure the spatial variations in the earth's magnetic field by mapping changes in the content of magnetic susceptible minerals such as magnetite and pyrrhotite from the air. Lithological and alteration variations can be inferred from the aeromagnetic data.

The reprocessed 2010 Aeroquest magnetic survey confirmed the presence of a large magnetic high domain measuring > 3.5 x 3.5 km interpreted as a buried magma chamber at an approximate depth of 3.0 km (based on previous modelling by Platform Geosciences). Many different processing filters were used with the data; however, the reduced-to-pole (RTP) filter proved to be the most effective in highlighting the large magnetic high domain. Other filters highlighted strongly magnetic domains, regardless of magnetic polarity like the vertical integral of the analytical signal (ASVI) of the merged magnetic data, turning strongly magnetic features into highs, irrespective of magnetic polarity. In the Cordero area, these isolated elliptical magnetic highs are interpreted to represent intrusions (reds and whites). Conversely, areas of low magnetic variation are expressed in cooler blue to white colours (Figure 9-1).

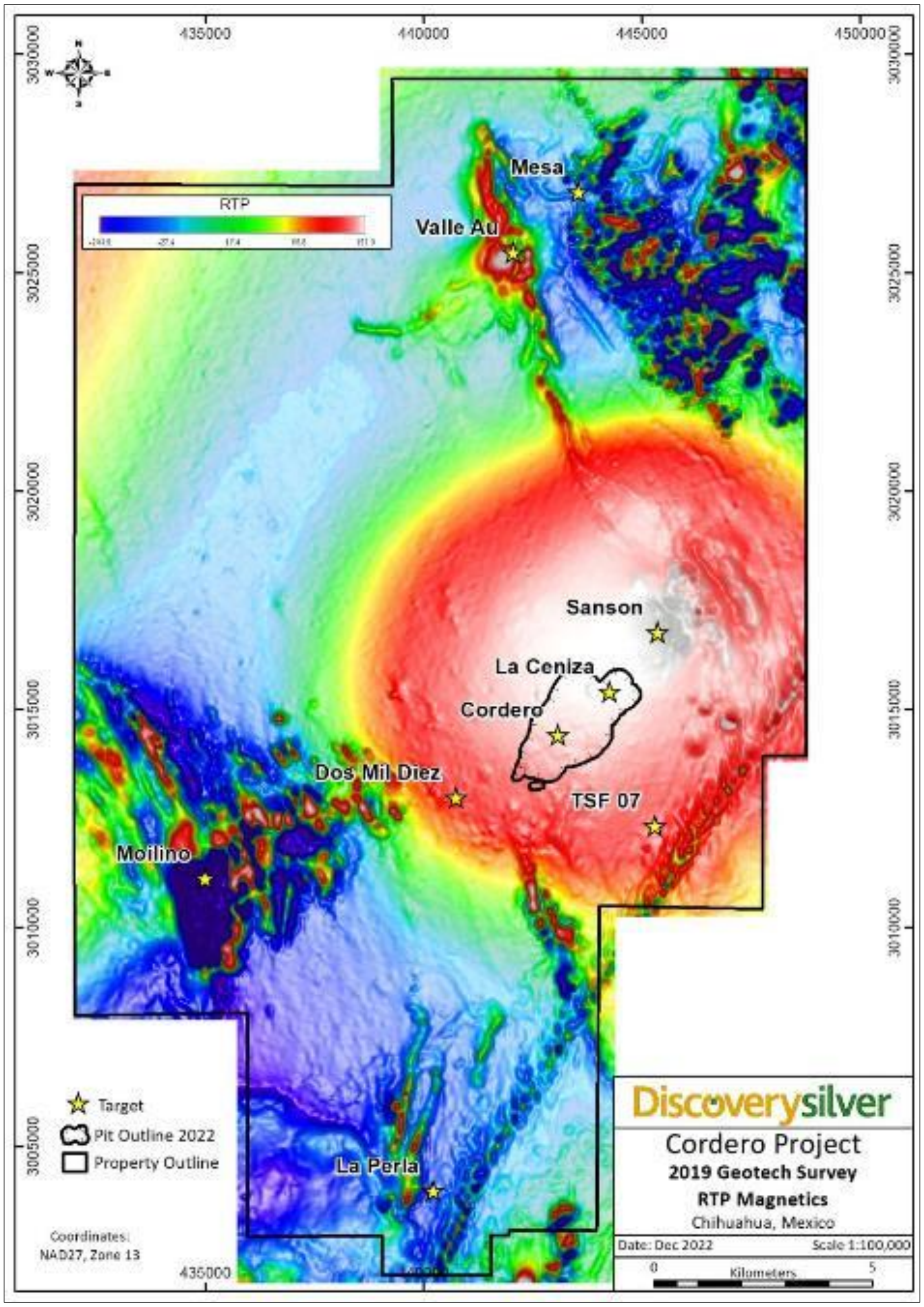
Shallow level magnetic responses were observed northeast of the 2022 resource pit (Figure 9-1) coinciding with the Sansón intrusive complex. Several small, oval positively (or normally) magnetized bodies were interpreted as intrusions, verified in drill holes as a magnetic diorite cut by quartz-molybdenite stockwork. Several more bodies occur elsewhere to the southwest of the current 2022 resource pit; however, these bodies are reversely magnetized bodies (e.g., Molino de Viento). The change in magnetic character from southwest to northeast along the Cordero Magmatic Belt suggests either different ages of intrusion emplacement or a long-lived event that straddled a geomagnetic flip in polarity (Arrow Geosciences, 2022).

9.1.2 2019 VTEM Airborne Magnetic Survey

In 2019, Discovery Silver commissioned Geotech to acquire VTEM airborne electromagnetics (AEM) over the entire Cordero property to map lithologies under cover. The survey was unavoidably marred by a variety of cultural EM responses associated with houses/farms, linear power lines in the south, and a northwest-oriented water pipeline in the north. These cultural noise sources were omitted from the data (white blocks) as they would have suppressed weaker lithological responses. Typically, silica-rich lithologies such as arenites and intrusions appear as resistors (hotter reds in Figure 9-2), while graphite-rich sediments, clay-rich overburden and alteration appear as conductors (cooler blues Figure 9-2). Examples of resistors are seen at Sansón, Cordero, and Molino de Viento. Small elliptical conductors at Sansón, Valle Au and possibly Dos Mil Diez are thought to represent clay-altered intrusions and locally are coincident with mineralization. The northwest-oriented trends are interpreted to represent northwest-trending bedding plane faults that are often carbonaceous (Figure 9-2).

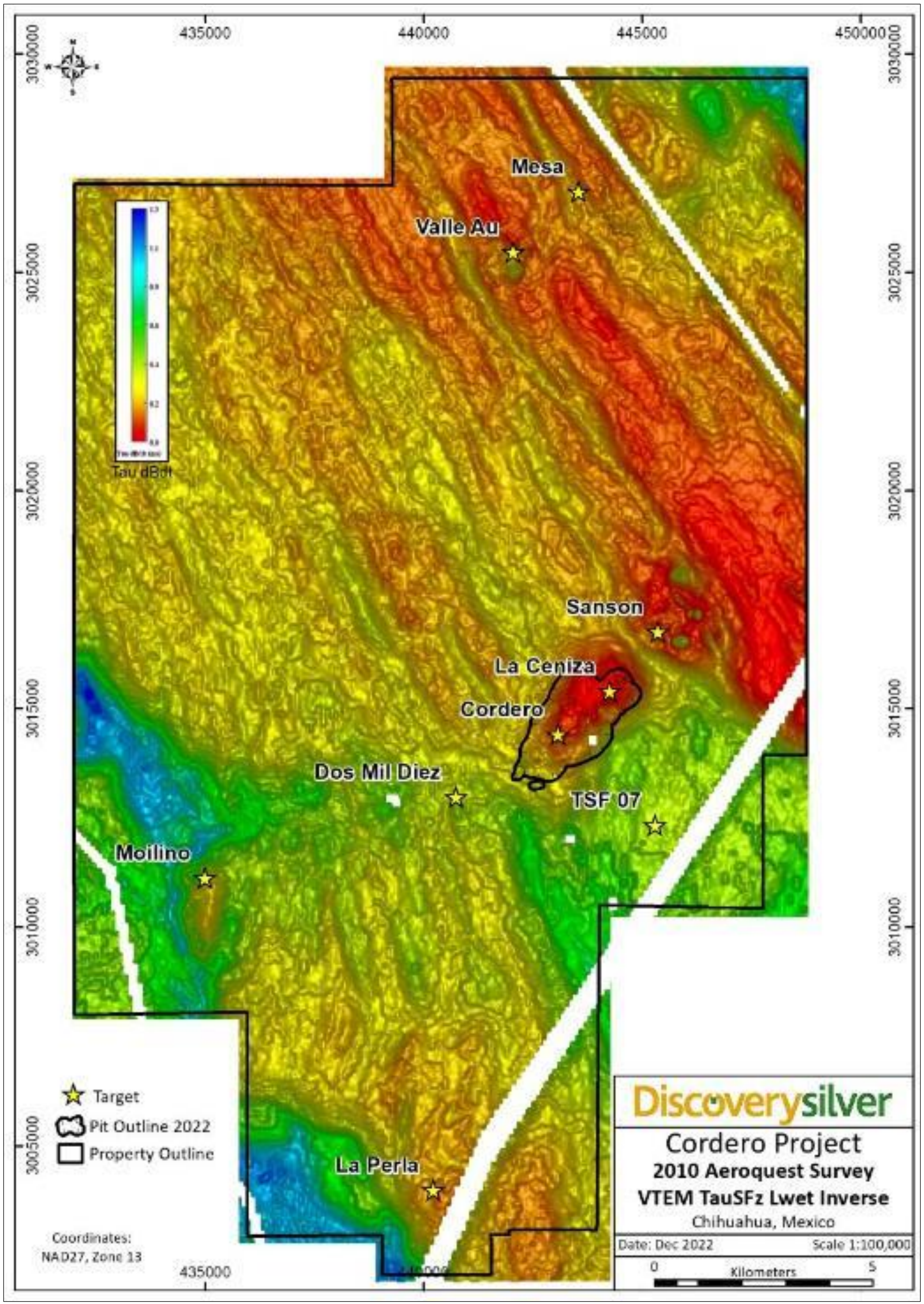
The 2010 Aeroquest survey and 2019 Geotech VTEM airborne magnetic survey were flown with a 100 m line spacing offset by 50 m. In late 2019, Platform Geoscience merged the magnetics over the common area centered around the current resource pit. The attempt was variably successful, as Aeroquest used a magnetic sensor nominally at 58 m above the terrain, while the Geotech VTEM magnetic sensor was 30 m above the terrain. As such, some approximation needed to be made as there was variability in the actual sensor height from both surveys. A useful processing filter used the vertical integral of the analytical signal of the merged magnetic data and turned any strongly magnetic features to red/white, regardless of magnetic polarity, which is a proxy for magnetic intrusions (see Figure 9-1).

Figure 9-1: Geotechnical 2019 RTP Magnetics and the 2022 Resource Pit



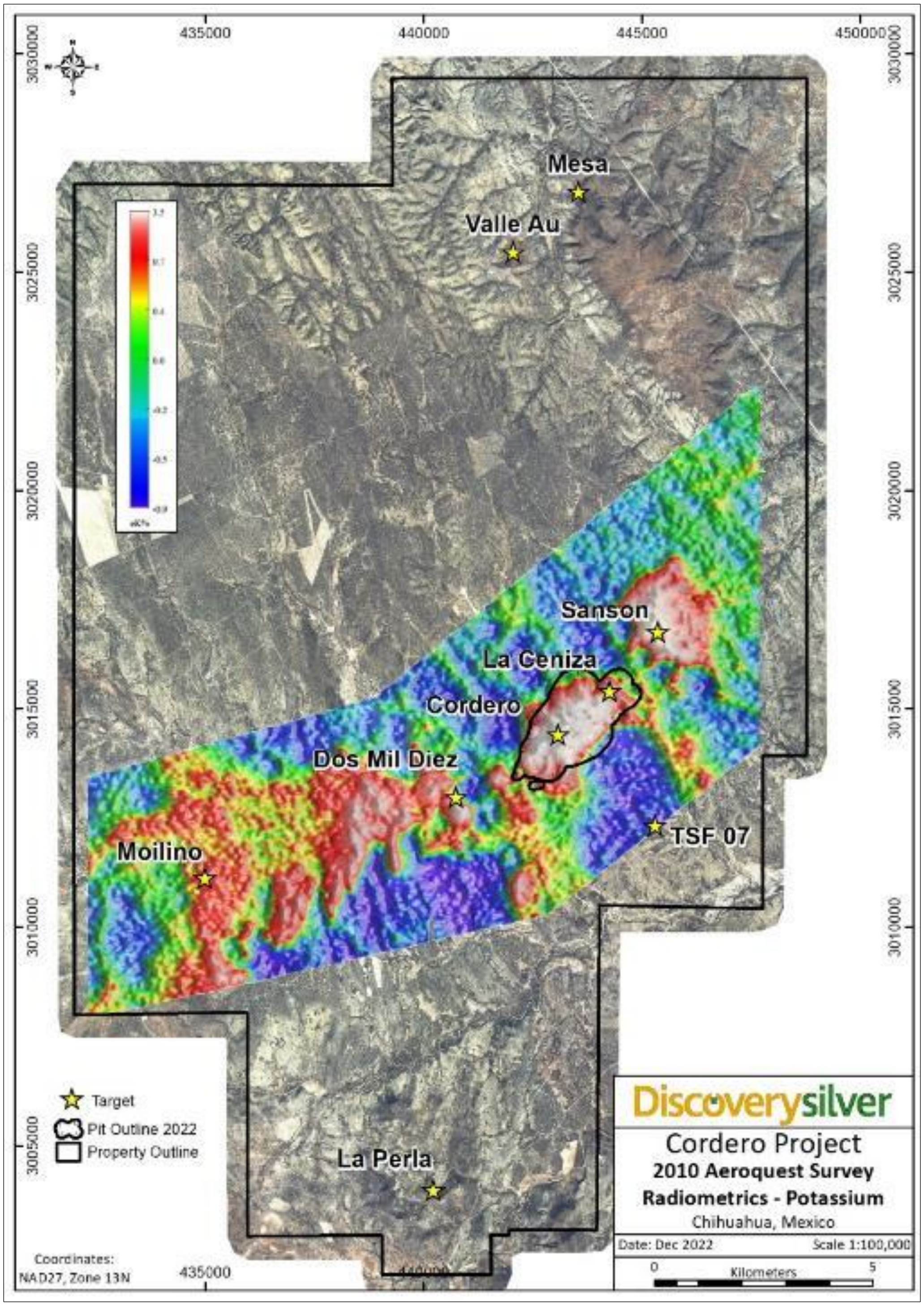
Source: Discovery Silver, 2022.

Figure 9-2: 2019 Geotech Using a VTEM TauSFz Filter and the 2022 Resource Pit



Source: Discovery Silver, 2022.

Figure 9-3: 2010 Aeroquest Survey – Radiometrics – % Potassium and the 2022 Resource Pit



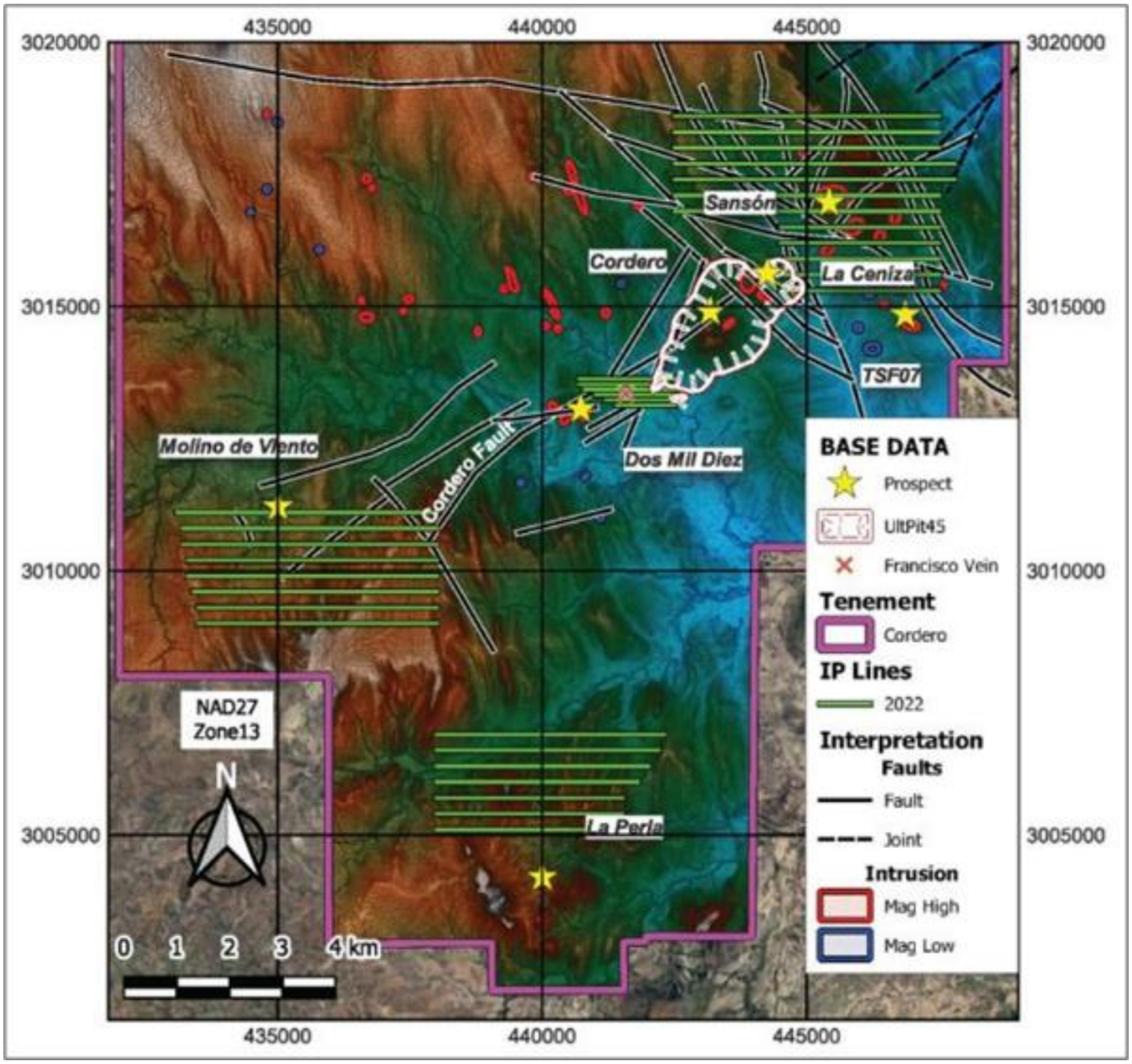
Source: Discovery Silver, 2022.

9.1.3 Induced Polarization Surveys in 2022

In 2022, Discovery Silver commissioned Zonge International (Zonge) to collect induced polarization (IP) survey data over select target areas (see Figure 9-4). Typically, sulphide-rich mineralization such as pyrite or graphite-rich sediments appear as conductors with high chargeability responses (reds to yellows in Figures 9-5 and 9-6). Several exploration targets were surveyed by individual IP surveys of varying size including Molino de Viento, Dos Mil Diez, Sansón and La Perla.

In the fall of 2022 Arrow Geosciences completed a 3D inversion of the combined historical 2010-2011 SJ Geophysics IP data as well as the new Zonge IP data collected in 2022 from the Dos Mil Diez target through the resource pit to the Sansón target in the northeast, a distance of 7.5 km (Figures 9-5 and 9-6).

Figure 9-4: Zonge 2022 Induced Polarization Survey Coverage and the 2022 Resource Pit

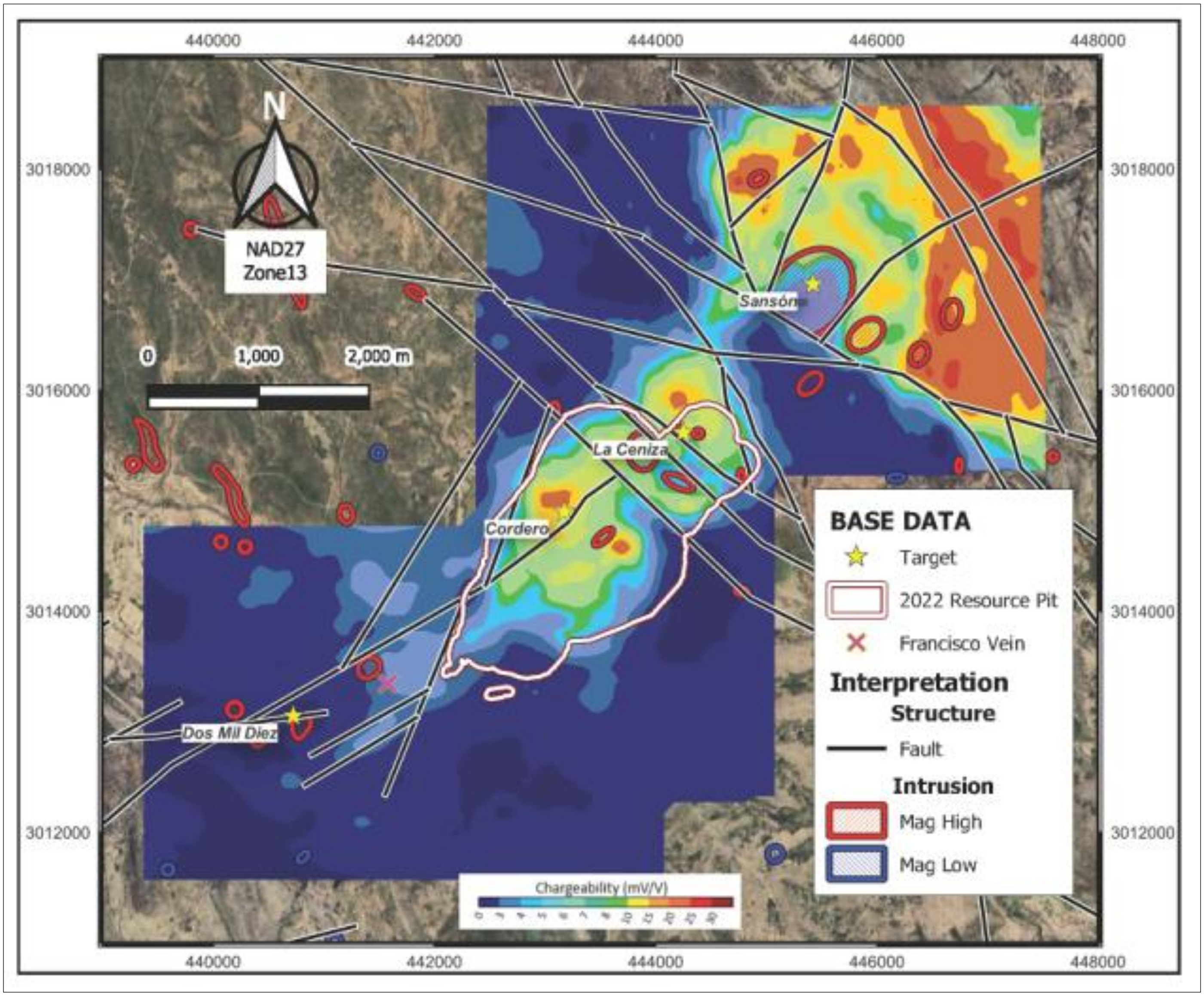


Source: Discovery Silver, 2022.

9.1.3.1 Sansón Target

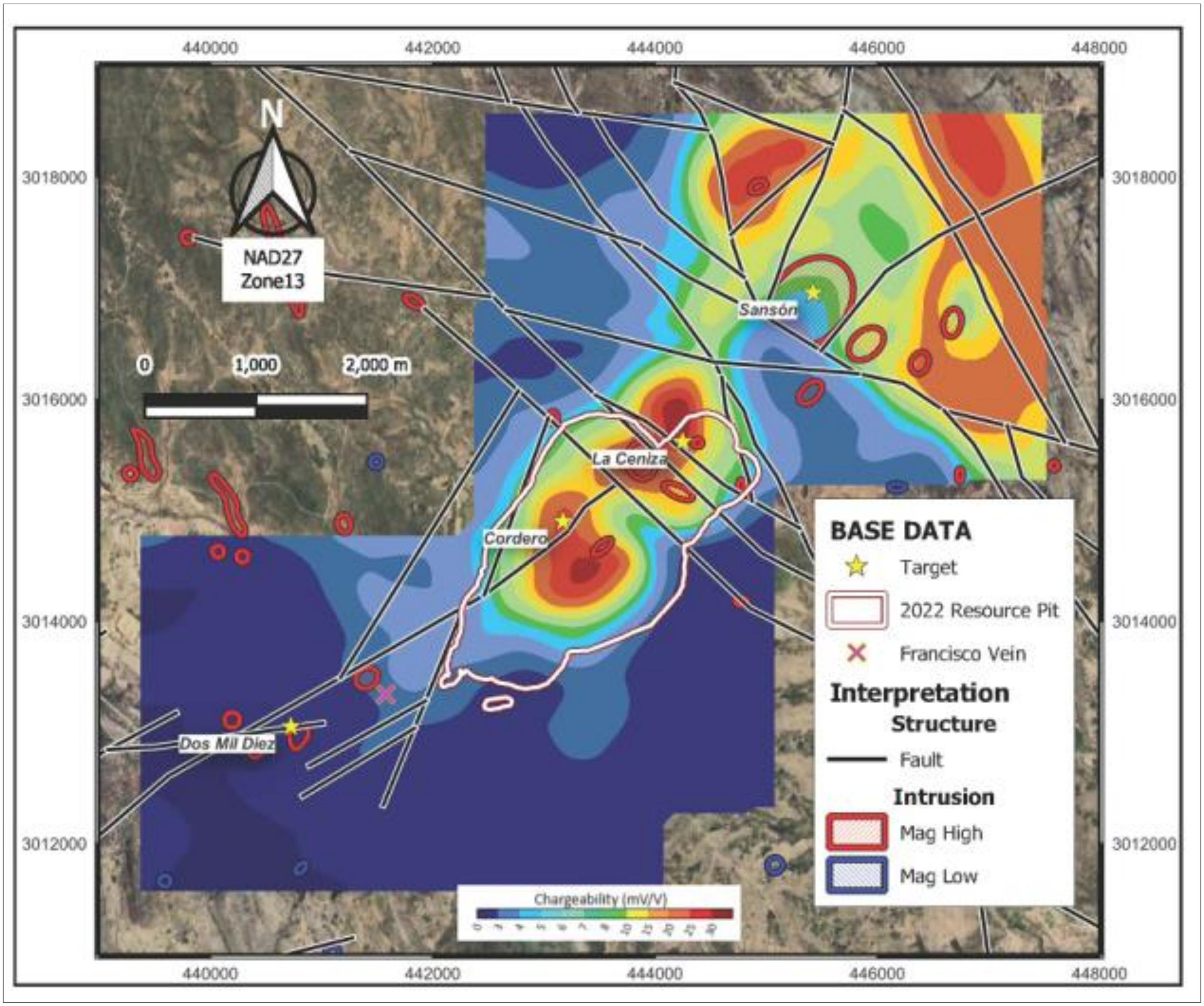
Twelve lines of 300 m spaced, 100 m wide pole-dipole stations totalling 50.0 km were completed at the Sansón target northeast of the 2022 resource pit (northeast part of Figure 9-5 and Figure 9-6). Examples of a strong chargeability response (red-orange) are coincident with sulphides confirmed within the 2022 resource pit and well outside the pit to the northeast at Sansón. Several new anomalies were highlighted at the Sansón target including a large north-northwest-trending chargeability high measuring 3.0 km in length by 1.0 km in width on the 90 m depth slice (Figure 9-5) and the 290 m depth slice (Figure 9-6).

Figure 9-5: 3D Inversion IP Chargeability 90 m Depth Slice, Zonge 2022 IP and 2010-2011 SJ Geophysics IP Surveys



Source: Arrow Geosciences, 2022.

Figure 9-6: 3D Inversion IP Chargeability 290 m Depth Slice, Zonge 2022 and 2010--2011 SJ Geophysics IP Surveys



Source: Arrow Geosciences, 2022.

The 2022 3D IP inversion of the 2010-2011 and 2022 IP datasets by Arrow Geosciences defined several new low strength chargeability anomalies northeast of Dos Mil Diez, west of Pozo de Plata just outside the 2022 resource pit (Figure 9-5 and Figure 9-6). Several other exploration targets were surveyed by individual IP surveys of varying size including Molino de Viento, Dos Mil Diez, and La Perla are discussed below.

9.1.3.2 Molino de Viento Target

A total of 19.2 line-km consisting of four lines spaced 300 m apart using a 100 m spaced pole-dipole were completed at Molino de Viento. This target is characterized by a series of north-northwest-trending rhyodacite sills, an extensive rhyolite ignimbrite blanket to the east, and a series of ASTER-defined alunite-pyrophyllite and sericite alteration anomalies coincident with a broad domal feature measuring 7 x 7 km in diameter. Of the four lines completed, the chargeability response was elevated only slightly along the western edge of a large magnetic-low (magnetic-non) domain interpreted as a remnant magnetized intrusive body of a different age than other magnetic-high domains elsewhere on the property (see Figure 9-4).

9.1.3.3 Dos Mil Diez Target

A total of 8.1 line-km consisting of five lines spaced 100 m apart using a 50 m dipole-dipole were completed at the Dos Mils Diez target. The 2022 3D IP inversion of the 2010-2011 and 2022 IP datasets by Arrow Geosciences defined a new low strength chargeability northeast of Dos Mil Diez, west of Pozo de Plata just outside the 2022 resource pit coincident with the southwest extension of the Cordero Fault (Figures 9-5 and 9-6). Several other exploration targets were surveyed by individual IP surveys of varying size including Molino de Viento, Dos Mil Diez, and La Perla.

This target is considered a high priority target due to evidence of high-grade precious and base metal mineralization on surface along the main access road. The Francisco vein, a 40 cm wide silver-rich galena and sphalerite hydraulic breccia (“puzzle breccia”), returned 0.42 g/t Au, 2,530 g/t Ag, 21.75% Pb; and 7.4% Zn, coincident with an east-northeast-trending transcurrent fault on the western side of the priority 2 target where intense alteration occurs (see Figure 9-7). The area has an extensive recent unconsolidated cover sequence with very little outcrop exposure.

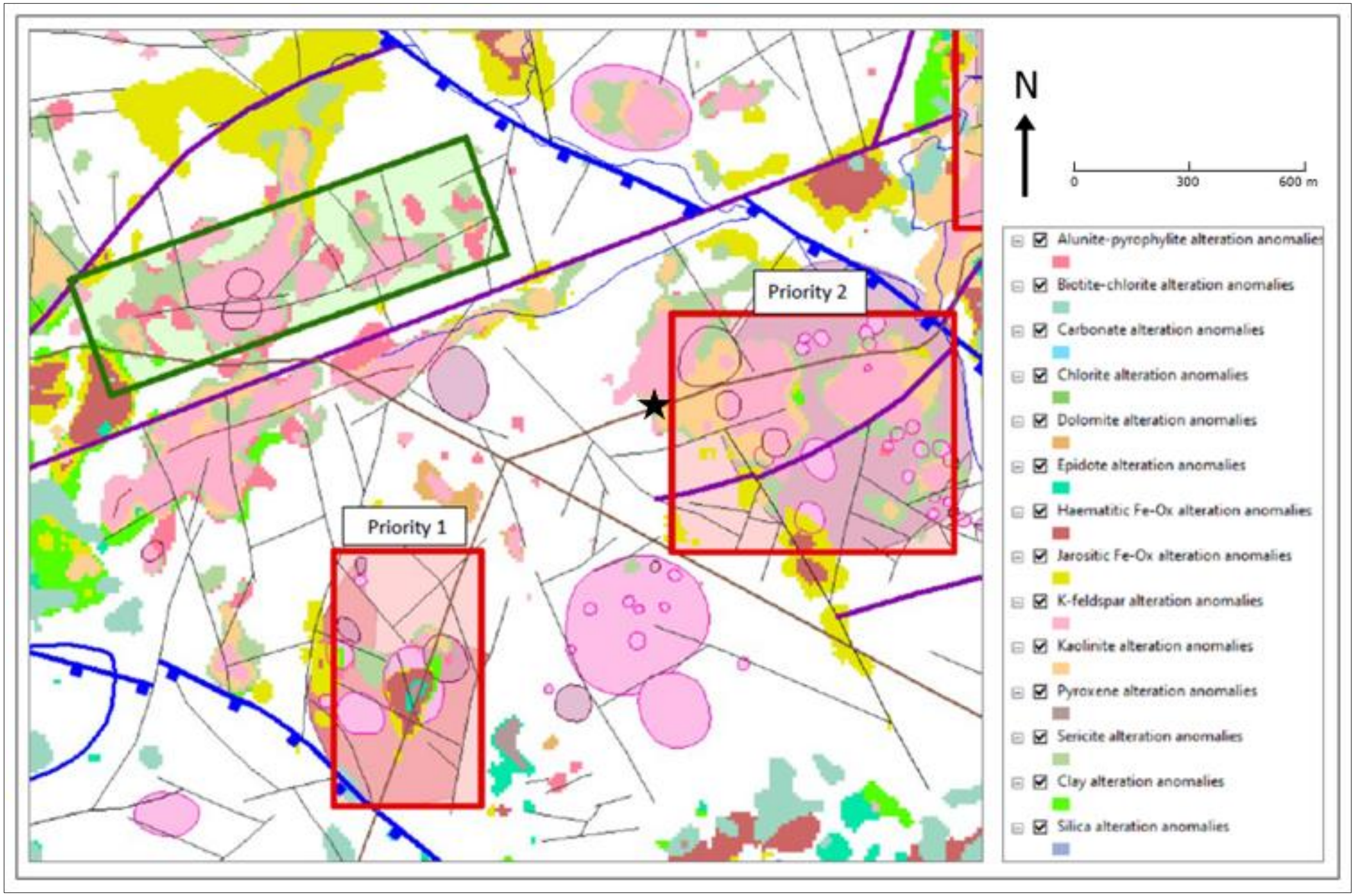
The Dos Mil Diez target consists of a refolded sequence of carbonate and shale assigned to the Cretaceous Mezcalera Formation, intruded by elongate rhyolite porphyry. Mapped contact relationships indicate that the earlier porphyry is crosscut by rhyolitic welded ignimbrite and associated rhyolitic tuff along north-northwest-trending linear bodies part of the late Tertiary ignimbrite along interpreted fissure-related volcanic structures.

9.1.3.4 La Perla Target

La Perla is characterized by two oval-shaped chargeability anomalies measuring between 300 and 400 m in diameter located on the southwest side of a major west-northwest extension fault and coincident with mapped rhyolite porphyry intrusions and rhyodacite sills that occur from surface becoming weaker below the 300 m depth. Both anomalies have been historically drill tested in 2012 by Levon in four holes (see Figure 9-8). The strongest chargeability is coincident with veinlets of sphalerite and pyrite in a series of rhyodacite sills logged to a depth of 192.5 m transitioning into pyrite, pyrrhotite ± sphalerite replacement mineralization in sediments. Diorite was logged at the top of one of the holes.

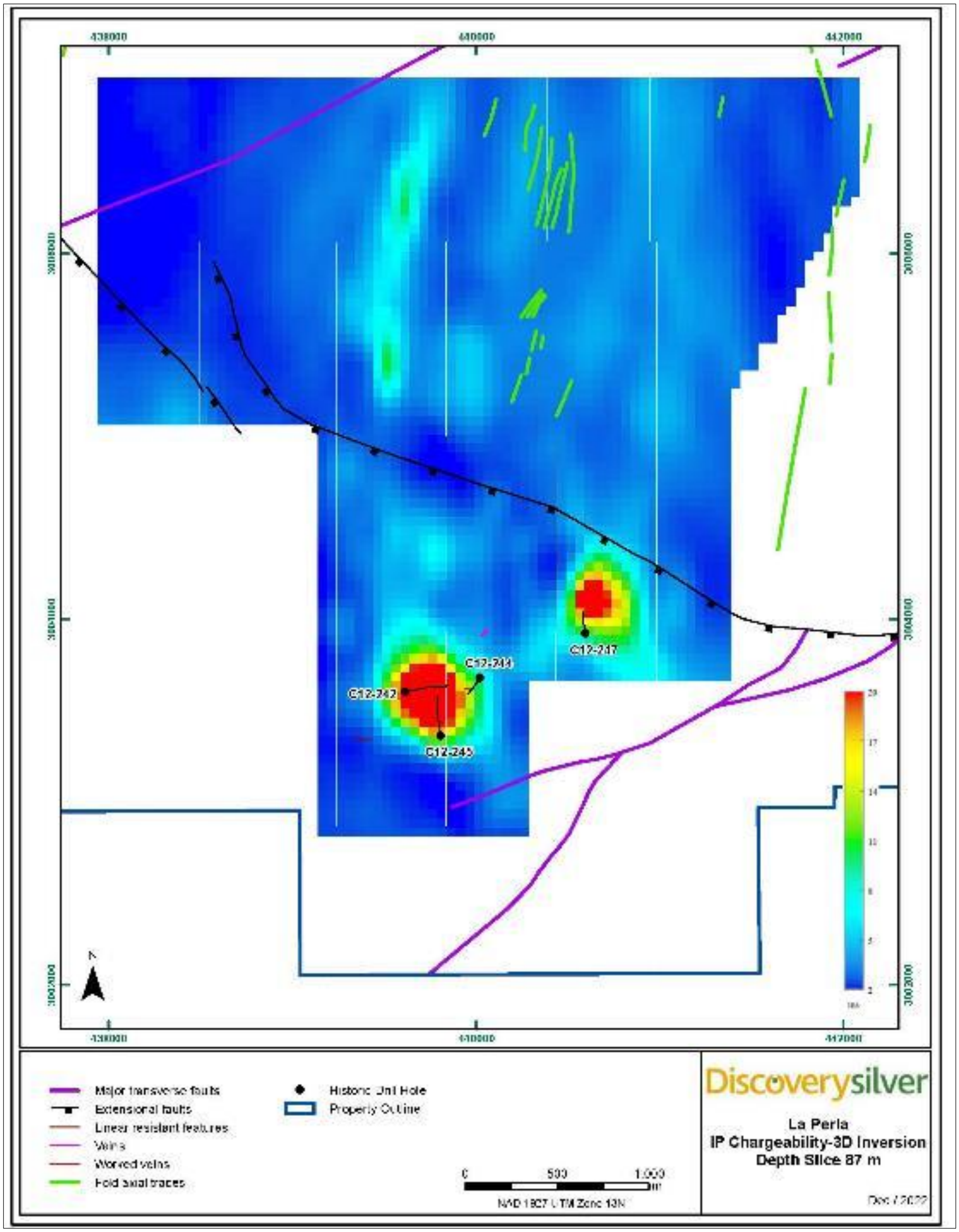
A total of 26.5 line-km consisting of seven new lines spaced 300 m apart using a 100 m dipole-dipole were completed over the north end of the La Perla Target on the north side of a major extension fault. The two datasets, 2010-2011 SJ Geophysics and the 2022 Discovery Silver, were merged and a 3D inversion was completed by Arrow Geosciences in the fall of 2022. The survey defined a weak north-northeast-trending linear chargeability anomaly that can be followed for a distance of 2.0 km and is parallel to several mapped north-northeast–north fold axes (Figure 9-8) and associated rhyodacite sills.

Figure 9-7: Dos Mil Diez Priority Targets – ASTER-Defined Alteration Groups



Source: Discovery Silver, 2022.

Figure 9-8: La Perla 3D Inversion IP Chargeability Depth Slice 87 m



Source: Discovery Silver, 2022.

9.2 Detailed Geological Mapping

In 2022, Discovery Silver completed detailed geological mapping over high priority targets identified during historical and 2021 exploration campaigns. New geological mapping covers an area of measuring 10,181.25 hectares (101.18125 km^2), which brings the total geological mapping and sampling coverage to 11,691.25 hectares (116.9125 km^2). These mapped targets formed along two mineralized sinistral releasing bends along the 15 km long, Cordero Magmatic-Hydrothermal belt from Molino de Viento in the southwest to Sansón in the northeast (see Figure 9-9).

A total of 2,902 rock samples were collected in 2022. Figure 9-10 shows mapping coverage ending in 2021 and 2022 and locations for all rock and soil samples collected to date on the Cordero project.

A variety of geophysical surveys were considered during the mapping programs, including the 2010 Aeroquest airborne magnetic, electromagnetic, radiometric survey data and the 2022 induced-polarization surveys discussed above. The mid to late 2022 reprocessing of the 2019 Geotech VTEM magnetic survey data and new 3D inversion of pole-dipole IP data over the trend from Dos Mil Diez, through the current 2022 resource pit to the Sansón target in the northeast (Figure 9-5 and 9-6) have defined new targets for ground-based follow-up in 2023.

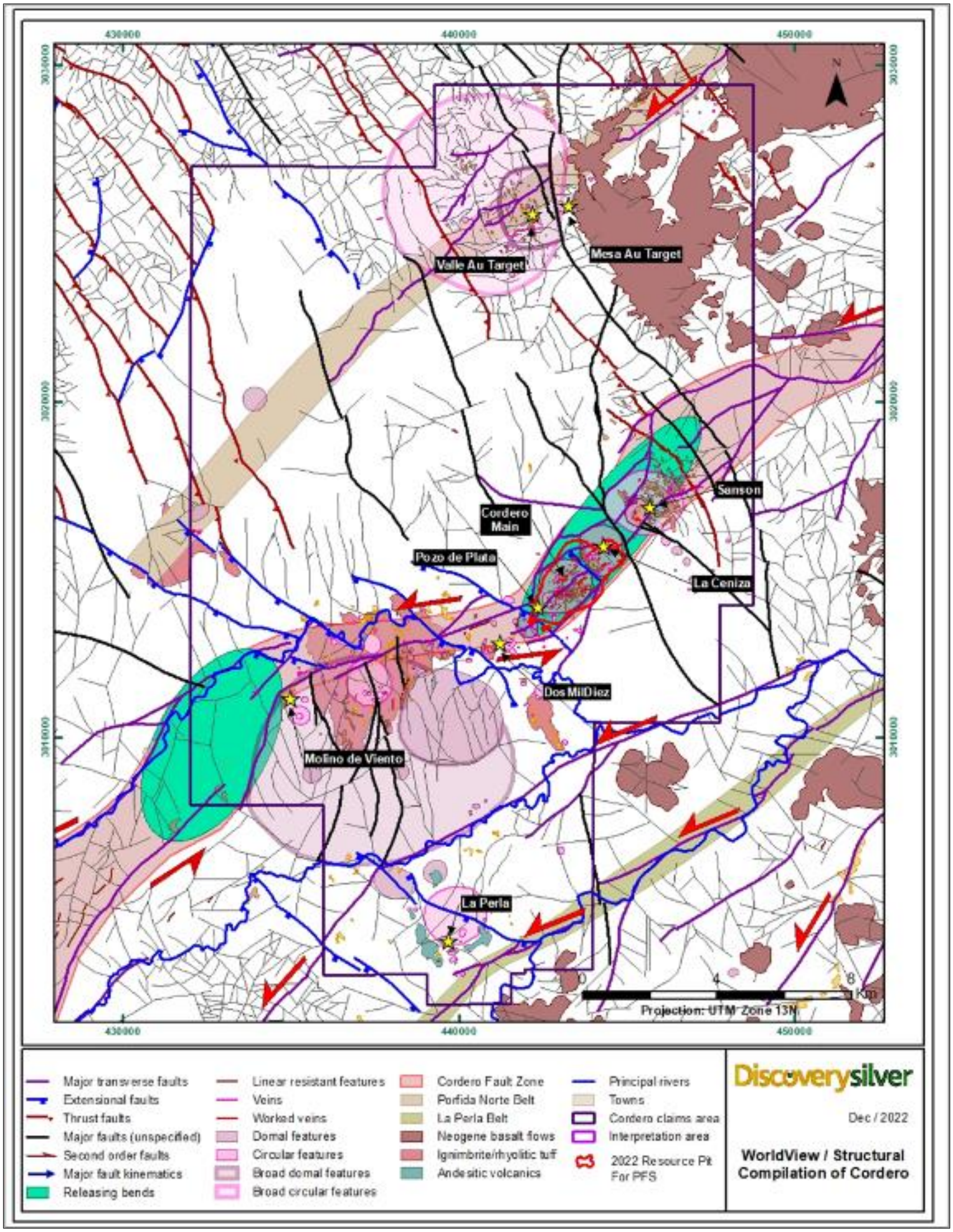
Geological information collected in the field was plotted daily on fact maps followed by interpretive geological maps and then digitized by an in-house ArcGIS specialist. The representative rock samples collected for geochemical analysis are maintained by an in-house database administrator with geological data including location, lithology (composition, texture), alteration (assemblage), structure (type, orientation), mineralization (style, type) and any other relevant information like nearby historical pits.

9.2.1 La Ceniza Target

The La Ceniza target (Figure 9-4) is in the northeast part of the current 2022 resource pit and has unique geological characteristics, including the following:

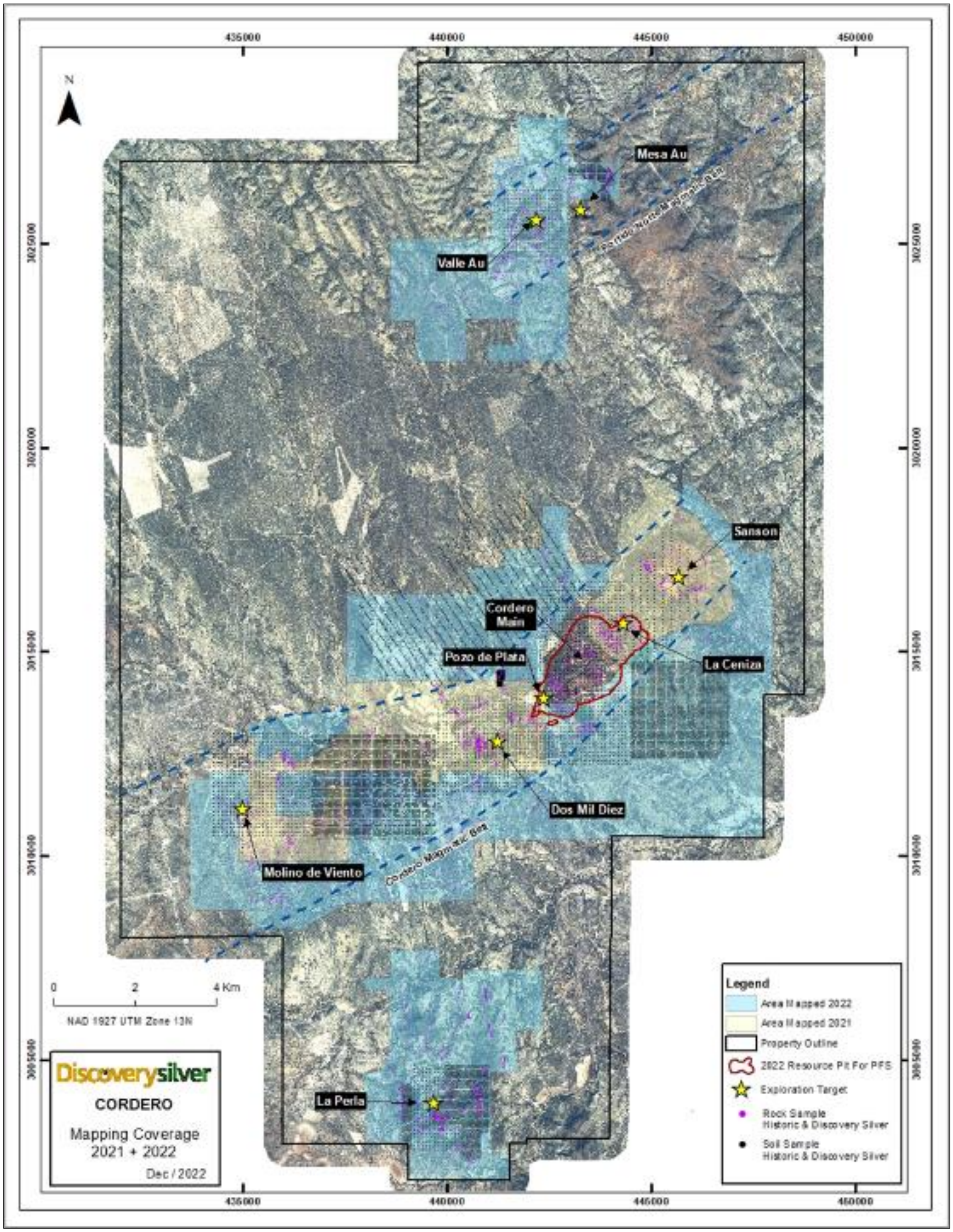
- La Ceniza is coincident with a large magnetic-high domain (presented in Figure 9-1).
- Cretaceous Mezcalera formation sediments with favourable calcareous stratigraphy host extensive concordant intervals of replacement Zn-Cu mineralization in sphalerite and chalcopyrite that is earlier than Ag-Pb-Zn vein breccia hosted mineralization within the 2022 resource pit.
- The 3.3 km long northeast-trending glomerophyric sheeted dike complex continues to exploit the Cordero fault to the northeast end of the 2022 resource pit at La Ceniza.
- Silver and base metal veins and vein-breccia exploit favourable structural intersections and continue from the core of the 2022 resource pit to the northeast end of the pit at La Ceniza.
- Northwest-trending, steep southwest-dipping replacement beds are cemented by carbonate/jasper parallel to the Mega Fault, a down-to-southwest extension fault.
- La Ceniza lies within the 2022 current resource area.

Figure 9-9: Major Structural Features, Two Favourable Sinistral Releasing Bends, and the 2022 Resource Pit



Source: Murphy, 2022.

Figure 9-10: Discovery Silver Geological Mapping and Sampling Coverage Ending 2022



Source: Discovery Silver, 2022.

9.2.2 Sansón Target

Sansón is the furthest northeast target along the Cordero Magmatic-Hydrothermal belt and has the following characteristics:

- Sansón is coincident with the core of the large magnetic high domain presented in Figure 9-1 and currently lies outside the 2022 resource pit.
- Previous drilling by Peñoles recovered several anomalous intervals in all seven drill holes including values as high as 0.39 g/t Au, 44 g/t Ag, 0.38 % Pb and 4.07 % Zn in individual intervals ranging between 0.45 to 6.23 m in width. The best result for gold was an interval that returned 0.39 g/t Au over 6.23 m.
- Six core holes were drilled at Sansón in 2022. Quartz-molybdenite (chalcopyrite) veining and replacement Zn-Cu and /or Fe-Cu along favourable stratigraphy was intersected. Rare gold was coincident with arsenopyrite ± sphalerite veinlets locally.
- Sansón is underlain by a thick sequence of interbedded limestone, calcareous shale, calcarenite, cherty siltstone and sandstone that has locally formed contact metamorphic aureoles including quartzite after a sandstone hydro-grossularite skarn and phlogopite-magnetite after limestone protoliths with locally developed replacement style Zn-Cu and Fe-Cu mineralization. The sedimentary sequence is intruded by a large northwest-trending rhyodacite body sub-parallel to local stratigraphy.
- Sediments are locally intruded by oval magnetic diorite bodies with mineralized aureoles of replacement magnetite and pyrrhotite and/or sphalerite and chalcopyrite in sediments. Quartz molybdenite-(chalcopyrite) stockwork crosscuts earlier replacement mineralization Zn-Cu (sphalerite-chalcopyrite), as well as both rhyodacite and deeper diorite intrusive bodies.

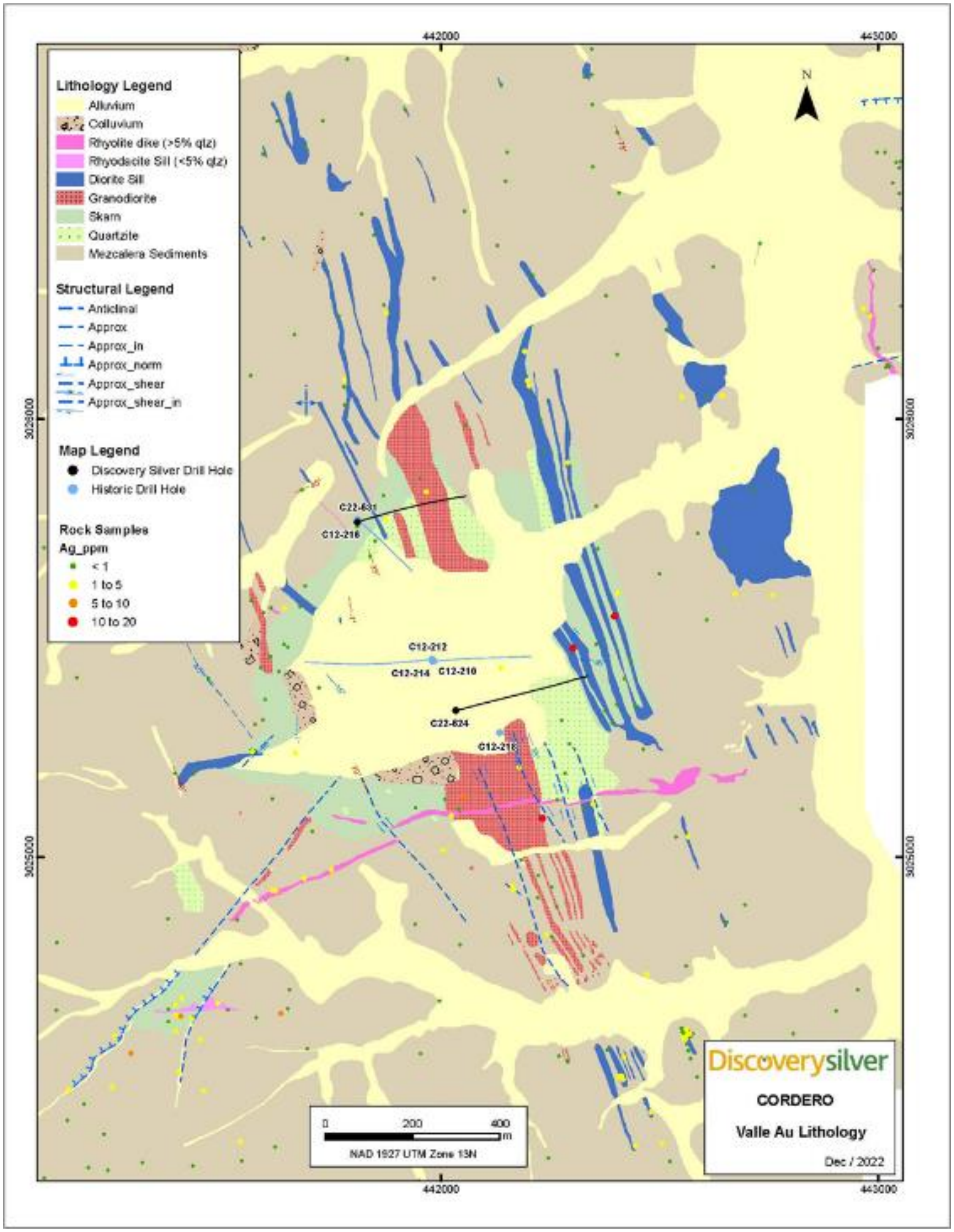
The new 3D inversion of the 2022 IP data has defined a large north-trending chargeability anomaly extending from near surface to a minimum depth of 290 m that exceeds the length and width of the 2022 resource pit (Figure 9-5 and Figure 9-6). Much of this anomaly lies under cover. Significant surface rock results can be found in Table 9-1 in Section 9.4.2.

9.2.3 Valle Au Target

The Valle Au target is the furthest north and lies along the Porfido Norte Magmatic-Hydrothermal Belt. This target is characterized by a wide contact metamorphic aureole around a recessive area where most of the historical and current drilling has occurred. Historical results in one core hole by Peñoles in 2001 (BB-7) and five core holes in 2012 by Levon (C12-210, C12-212, C12-214, C12-216 and C12-218). Several intervals were anomalous including 2 m at 49.50 g.t Ag (C12-210), 4 m at 29.40 g/t Ag with 1.30 g/t Au and 1.26 % Zn (C12-214). All core intervals were anomalous in gold ranging from 0.23 g/t Au to 1.30 g/t Au. The best interval was 10 m at 0.31 g/t Au from C12-216 (Figure 9-11) with elevated arsenic but no associated base metals.

Historical soils at the Valle Au target defined elevated silver and zinc in an annular contact metamorphic aureole around a buried intrusion measuring 700 x 700 m. Zinc in soil as high as 4700 ppm Zn and Ag ppm as high as 5.3 form a ring around a central copper and gold anomaly with values in soil as high as 1.5 ppm Au and 580 ppm Cu. Three core holes were drilled at the Valle Au target (C22-624, C22-631) targeting historical soil anomalism and anomalous core holes. In addition, one core hole was drilled at the Mesa Target located 2.0 km to the northeast of Valle Au (C22-635).

Figure 9-11: Valle Au Target Geological Map



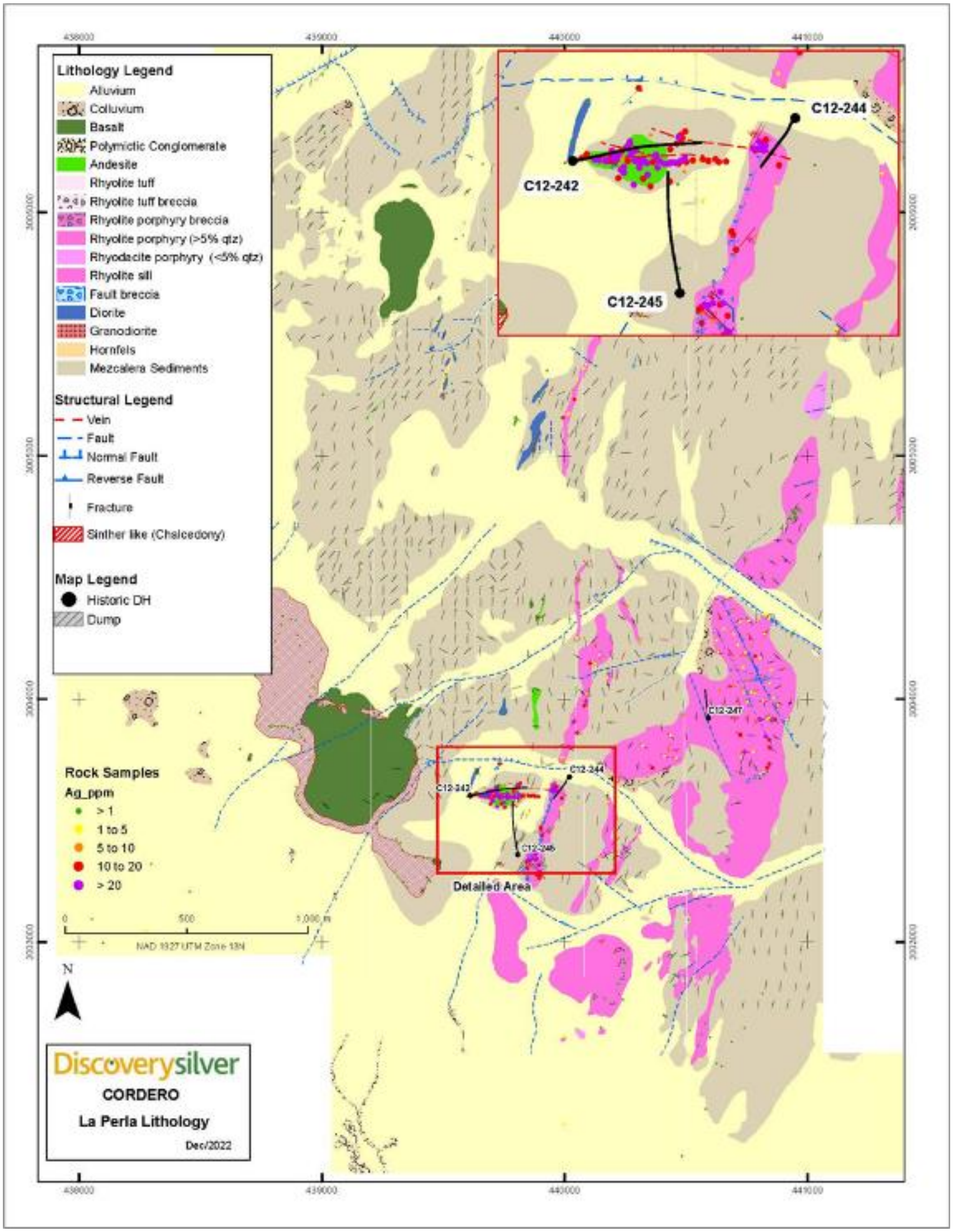
Source: Discovery Silver, 2022.

The 2022 drill holes at Valle Au were targeting extensive hornfels/skarn alteration spatially associated with a granodiorite sill complex. Hole C22-631 intersected wide intervals of replacement chalcopyrite and pyrite and sphalerite in skarn horizons cut by rare pyrite-arsenopyrite veinlets from 57 m to a depth of 263 m. Hole C22-624 was drilled further south of historical holes along the edge of a recessive covered area and intersected wide intervals of replacement Fe-Cu and Zn-Cu in chalcopyrite and pyrite ± sphalerite in skarn horizons. From a depth of 180 m Fe-Cu in pyrrhotite-pyrite and chalcopyrite was more common. Narrow intervals hosted veinlets of molybdenite from 115 m as well as galena and sphalerite. Gold values are associated with arsenopyrite-pyrite veinlets that crosscut earlier replacement Zn-Cu (sphalerite-chalcopyrite) and Fe-Cu (pyrrhotite-chalcopyrite) skarn horizons. Significant surface rock results can be found in Table 9-2 in Section 9.4.2.

9.2.4 La Perla Target

The La Perla target is the furthest south and lies along the La Perla Magmatic-Hydrothermal Belt. Four core holes were drilled by Levon in 2012 targeting two well-defined IP chargeability anomalies (Figure 9-8). This target is characterized by precious and base metal mineralization associated with an east-west fault mapped in 2022 (see Figure 9-12). Sulphides including sphalerite, pyrite and pyrrhotite veinlets associated with rhyolite/rhyodacite intrusion contacts and the first 94 m of drill hole C12-242 returned 12 .28 g/t Ag and 0.70 % Zn with anomalous gold and lead. Several other intervals below the first 94 m to a down hole depth of 220 m returned values ranging between 0.42 and 1.55% Zn, 9.27 to 12.38 g/t Ag over intervals between 10 to 30 m in width. The historical hole C12-245 targeting the second IP chargeability anomaly (Figure 9-8) returned 12 m of 10.93 g/t Ag with 0.90 % Zn from 94 to 106 m. Significant surface rock results can be found in Table 9-3.

Figure 9-12: La Perla Target Geological Map



Source: Discovery Silver, 2022.

9.3 Rock Sampling Methods

During the regional geological mapping program, geologists conducted a systematic rock sampling program on bedrock exposures and in accessible historical pits and shafts. Float samples and dump samples of mining workings were not sampled. There is a significant proportion of geologically mapped areas covered by alluvium or talus deposits, so rock sample distribution varies target to target depending on bedrock exposures.

Sampling methods included rock panel sampling over a specified outcrop area, and channel rock chip sampling perpendicular to mineralization of interest (structure, vein, breccia, fault, shear). In most cases, rock chips were obtained using a chisel and sledgehammer or, on rather flat surfaces, the field team used a rock cutting saw. The sampling protocol was developed to obtain from 3 to 4 kg of rock sample, removing any contaminant material such as soil or other of biological origin (i.e., roots or plants). The rock samples collected were separated into barren wall rock versus mineralized wall rock by lithology type, alteration type, structure type and mineralization styles to obtain a truly representative geochemical result while avoiding sampling bias. Sample locations were determined using a hand-held Garmin GPS and were labelled by marking the sample bag and inserting a tag following an in-house numeration. A sampled area or channel was marked with fluorescent paint and an aluminum tag with the sample number was nailed on bedrock surface for future verification.

An Excel spreadsheet was updated daily to include information pertaining to each rock sample (ID, coordinates, elevation, sample type, sampled media, lithology, alteration, structure, mineralization). By the end of October 2022, Discovery Silver's field geologists had collected 2,902 rock samples consisting of rock chips from outcrops and channel samples from well-exposed outcrops. The distribution of mapping coverage at the end of 2022 can be found in Figure 9-10.

9.4 Geochemical Results

9.4.1 Analytical Methods, Quality Assurance, and Security

The regional rock sampling program used the same analytical methods, quality assurance, and security protocols used for the drilling as summarized in Section 11 of this report.

9.4.2 Significant 2022 Surface Rock Sample Results

Tables 9-1 to Table 9-3 summarize significant analytical results from Levon's historical—and more recently, Discovery Silver's—surface rock sampling programs.

9.4.2.1 Sansón

One of the highest samples collected from the Ximena mine at Sansón (Sample #800288) returned 0.73 g/t Au and 1.7 g/t Ag with low levels of lead and zinc from a succession of limestones and shales assigned to the Mezcalera Formation crosscut by precious metal-bearing pyrite veinlets.

Several other elements were anomalous, including tungsten (as high as 1850 ppm) and copper (as high as 0.604%). Most anomalous gold values (> 0.1 g/t Au) were associated with anomalous arsenic values as high as >10,000 ppm (overlimit) with or without elevated lead and zinc values. Gold values were occasionally associated with elevated silver values as high as 86.4 ppm Ag. Gold values as high as 0.426 g/t Au were associated with arsenic values as high as 2520 ppm As. In rare cases, narrow pyrite-arsenopyrite veinlets with elevated gold crosscut earlier replacement style mineralization in skarn sediments in drill core.

Table 9-1: Significant Analytical Results for Surface Rock Samples from the Sanson Target

Target	Sample No.	Width	Au (g/t)	Ag ppm)	As (ppm)	Sb (ppm)	Pb (%)	Zn (%)
Sansón-DSV	800226	0.40	0.126	86.4	2060	86	2.81	1.625
Sansón-DSV	1566	0.30	0.147	82.2	5120	656	0.419	0.095
Sansón-DSV	800227	0.40	0.104	74.8	1920	77	4.59	0.981
Sansón-DSV	800293	0.80	0.252	54.9	> 10,000	90	0.0393	0.596
Sansón-DSV	1567	0.30	0.186	34.2	> 10,000	277	0.245	0.389
Sansón-DSV	800274	2.50	0.117	17.2	225	59	0.0114	0.017
Sansón-DSV	800336	0.50	0.101	8.3	43	2.5	0.0008	0.019
Sansón-DSV	800284	0.30	0.117	3.1	6460	11	0.0042	0.004
Sansón-DSV	800279	0.80	0.426	0.8	2520	5	0.0021	0.005
Sansón-DSV	800288	0.60	0.736	1.7	> 10,000	23	0.0033	0.0045

Source: Discovery Silver, 2022.

9.4.2.2 Valle Au

Several other elements were anomalous, including bismuth (as high as 337 ppm) and potassium (as high as 4.63%) in select samples. All 12 surface rock samples ranging in width between grabs to 0.50 m were anomalous in gold, ranging between 0.101 g/t Au to 0.418 g/t Au with elevated arsenic ranging as high as 6220 pm As. Anomalous zinc is coincident with replacement sphalerite in the contact metamorphic aureole of the granodiorite sills.

Table 9-2: Significant Analytical Results for Surface Rock Samples from Valle Au Target

Target	Sample No.	Width (m)	Au (g/t)	Ag (ppm)	As (ppm)	Sb (ppm)	Pb (pct)	Zn (pct)
Valle Au-DSV	2015	0.50	0.418	3.0	1115	155	0.0083	0.100
Valle Au-DSV	1807	0.50	0.403	12.3	2860	39	0.0075	0.003
Valle Au-DSV	1670	0.50	0.301	12.9	116	18	0.0023	0.128
Valle Au-DSV	1803	0.50	0.256	<0.5	577	15	0.0005	0.004
Valle Au-DSV	1726	0.30	0.245	9.5	314	11	0.0033	0.011
Valle Au-Levon	751943	grab	0.196	3.0	662	7	0.0045	0.067
Valle Au-Levon	750993	grab	0.133	<0.5	29	3	0.0007	0.307
Valle Au-DSV	2009	0.50	0.132	7.3	6220	33	0.0064	0.036
Valle Au-DSV	1724	0.30	0.127	1.9	395	15	0.001	0.004
Valle Au-DSV	1669	0.50	0.113	<0.5	150	2.5	0.0009	0.003
Valle Au-DSV	1805	0.50	0.111	<0.5	11	12	0.0012	0.066
Valle Au-Levon	770161	grab	0.101	3.0	340	6	0.0029	0.007

Source: Discovery Silver, 2022.

9.4.2.3 La Perla

The association of elevated gold with arsenopyrite and antimony is a common theme in the main deposit area; in particular, at the Pozo de Plata breccia complex (see Figure 9-9). All surface samples collected over La Perla were highly anomalous in gold, ranging between 0.107 to 0.466 g/t Au, arsenic ranging between >1000 ppm to as high as 6910 ppm As, with elevated antimony as high as 367 ppm Sb.

Table 9-3: Significant Analytical Results for Surface Rock Samples from La Perla Target

Target	Sample No.	Width (m)	Au (g/t)	Ag (ppm)	As (ppm)	Sb (ppm)	Pb (pct)	Zn (pct)
La Perla-DSV	2308	grab	0.466	353	4020	717	0.613	0.333
La Perla-Levon	833833	grab	0.420	155	5800	297	0.497	0.390
La Perla-Levon	770919	grab	0.407	84	3860	122	1.000	0.122
La Perla-DSV	2139	0.5	0.331	42.5	1815	104	0.175	0.095
La Perla-Levon	770926	grab	0.295	15	10,000	60	0.010	0.016
La Perla-Levon	751934	grab	0.290	168	3,650	647	0.394	0.428
La Perla-Levon	1895	4.6	0.278	51.9	6100	580	0.625	0.526
La Perla-Levon	770903	grab	0.238	116	>10,000	357	4.000	0.571
La Perla-Levon	770940	grab	0.236	51	>10,000	170	0.289	0.026
La Perla-DSV	2334	1.5	0.201	13.4	751	260	0.055	0.128
La Perla-DSV	2326	1.4	0.178	20.9	2910	270	0.143	1.505
La Perla-Levon	770924	grab	0.175	65	>10,000	94	0.0419	0.075
La Perla-Levon	770945	grab	0.170	9.0	676	56	0.128	0.796
La Perla-DSV	2273	0.50	0.167	31.7	6970	140	0.040	0.019
La Perla-DSV	2127	0.50	0.156	29.7	1770	109	0.169	0.145
La Perla-DSV	2272	0.50	0.154	63.7	4770	210	0.157	0.081
La Perla-Levon	751968	grab	0.151	23	700	40	0.008	0.0039
La Perla-DSV	2329	dump	0.137	17.7	6090	233	0.082	1.36
La Perla-Levon	751966	grab	0.136	40	1155	201	0.116	1.556
La Perla-Levon	770943	grab	0.132	12	5520	104	0.093	0.408
La Perla-Levon	770922	grab	0.129	73	6450	123	0.171	0.012
La Perla-Levon	833835	grab	0.126	77	1410	193	0.118	0.205
La Perla-DSV	2145	0.50	0.126	14.1	947	95	0.037	0.020
La Perla-Levon	770938	grab	0.119	14.0	3500	99	0.076	0.86
La Perla-DSV	2274	0.50	0.114	26.9	>10,000	145	0.033	0.037
La Perla-Levon	770925	grab	0.113	26	8430	189	0.013	0.146
La Perla-Levon	770916	grab	0.108	23	1700	83	0.139	0.017
La Perla-DSV	2353	1.50	0.107	7.6	220	21	0.106	0.129

Source: Discovery Silver, 2022.

9.4.2.4 La Ceniza

One of the best samples (Sample #800066) was from a 40 cm wide vein, open-space fill silver-rich galena and sphalerite vein, exploited by late-stage carbonate and jasperoid (field name for hematite-jarosite chalcedony). This sample returned 0.68 g/t Au, 387 ppm Ag, 61.6% Pb, 1.32% Cu and 5.95% Zn.

9.4.2.5 Dos Mil Diez

One of the best samples (Sample #800415) was collected from a new 2022 discovery at the Francisco vein characterized by an open-space fill-puzzle breccia infilled by silver-rich galena and sphalerite. This sample returned values of 0.42 g/t Au, 2,530 ppm Ag, 21,750 ppm Pb, and 7,400 ppm Zn, with several other channel samples in the area returning values greater than 100 g/t Ag.

9.5 Interpretation of 2022 Results from Exploration Targets

9.5.1 Northeast Targets

The following comments are an interpretation of the exploration results on the northeast targets:

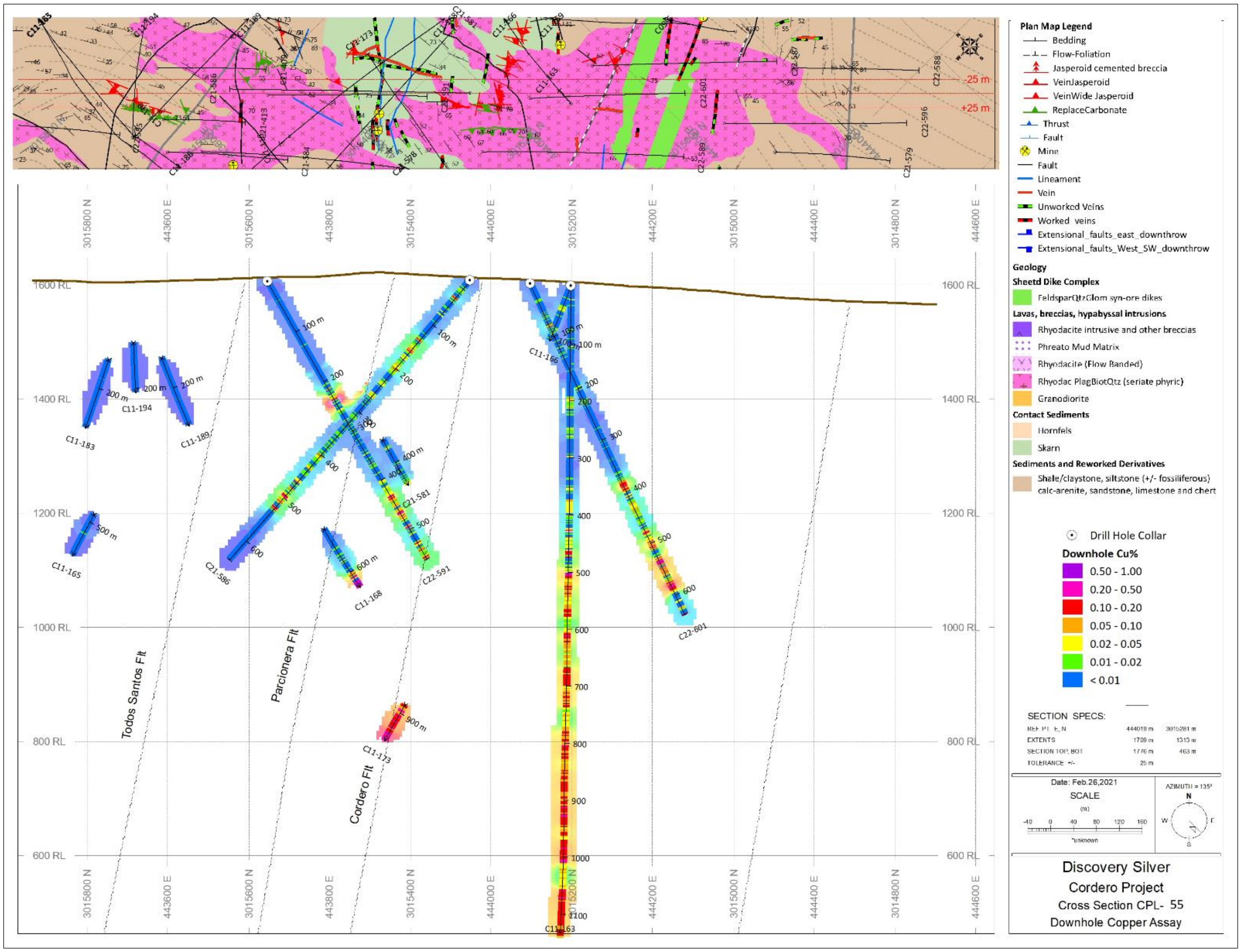
- Part of the La Ceniza target falls within the 2022 resource pit and both La Ceniza and Sansón are a higher temperature expression of the Cordero Magmatic-Hydrothermal system and coincident with a 3.5 x 3.5 km diameter magnetic high domain interpreted as a buried magmatic source at an approximate depth of 3.0 km.
- At a down-hole depth of 450 m to the end of hole at 1174 m (Figure 9-13) at La Ceniza, a quartz-molybdenite (chalcopyrite) stockwork crosscuts earlier replacement style Zn-Cu (sphalerite-chalcopyrite) and Fe-Cu (pyrrhotite-chalcopyrite) in skarn; at Sansón quartz-molybdenite ± chalcopyrite veining occurs at surface.
- Large intervals of replacement style Zn-Cu and Fe-Cu can locally be followed for several hundred meters in a given drill hole at La Ceniza.
- SW La Ceniza, coincident with the northeast part of the resource area, the Mega Fault has controlled the emplacement of late-stage hydrothermal carbonate along bedding planes that can be followed for distances of up to 200 m along strike.
- NW La Ceniza and NW Sansón host Ag, Pb, Zn associated with north-northeast-trending structural corridors that crosscut earlier replacement style mineralization.

9.5.2 Southwest Targets

The following comments are an interpretation of the exploration results on the southwest targets:

- The nearest exploration target with potential lies to the southwest of the 2022 resource pit at Dos Mil Diez, where a weak to moderate north--trending chargeability was defined in the 2022 IP survey. Evidence of argentiferous galena with gold and sphalerite in a < 40 cm narrow puzzle breccia exposed on surface as well as several other samples that returned > 100 ppm Ag show evidence of precious and base metal mineralization in an area with extensive unconsolidated cover potentially masking mineralization extensions.
- Southwest Cordero targets are dominated by preserved rhyolitic welded ignimbrites and crystal-lithic tuffs as well as coherent bodies of rhyolitic quartz-feldspar porphyry at north-northwest-trending fissure eruption features. The southwest extension fault is interpreted as a down-to-southwest throw. The glomerophyric dike complex has not been found on the downthrown side of this extension fault (Figure 9-9).
- Much of Cordero is covered by recent unconsolidated cover.

Figure 9-13: La Ceniza Section CPL-55 Showing Copper Mineralization over 600 m in Core Hole C11-163



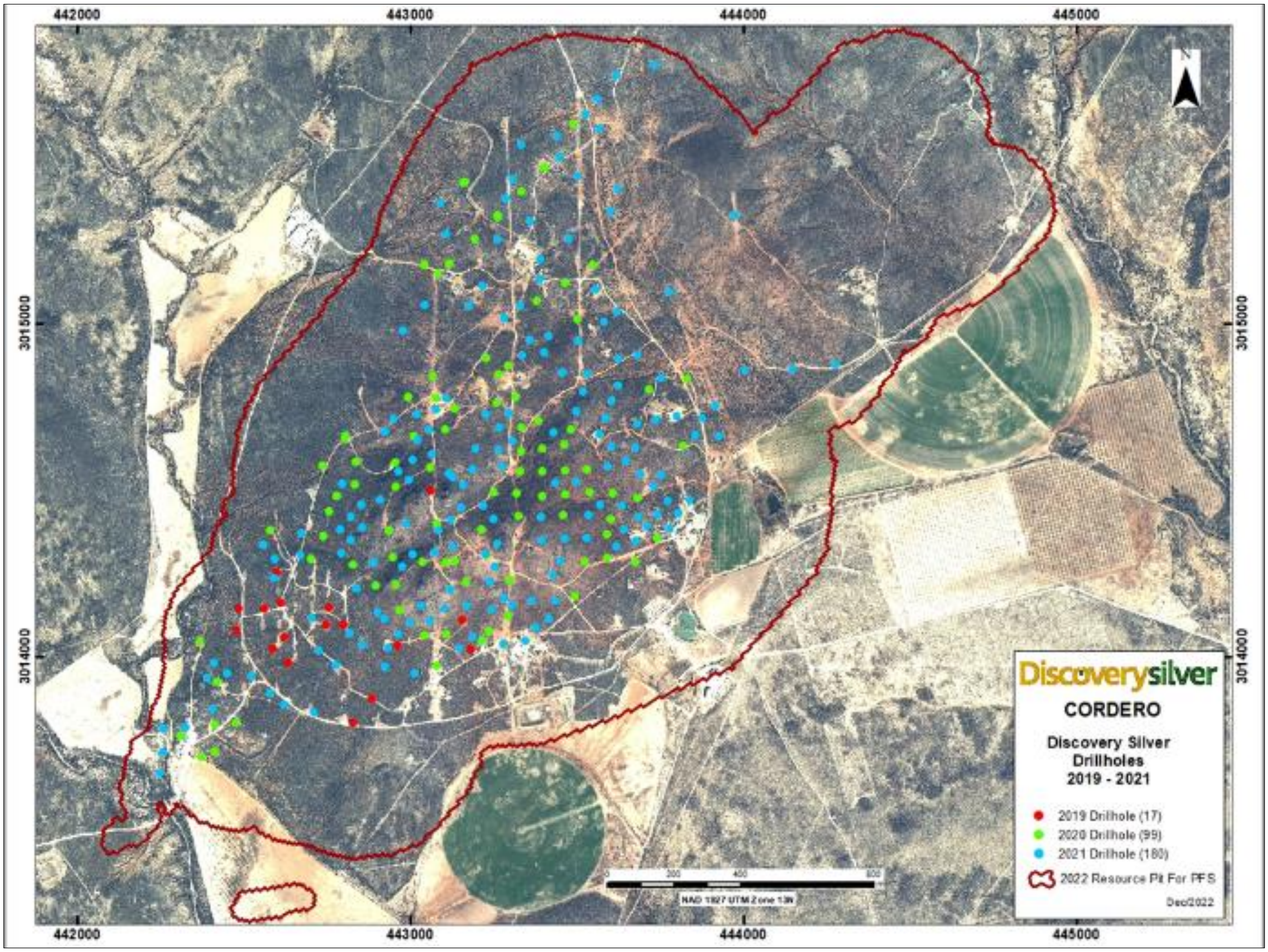
Source: Discovery Silver, 2022.

10 DRILLING

10.1 Drill Hole Locations

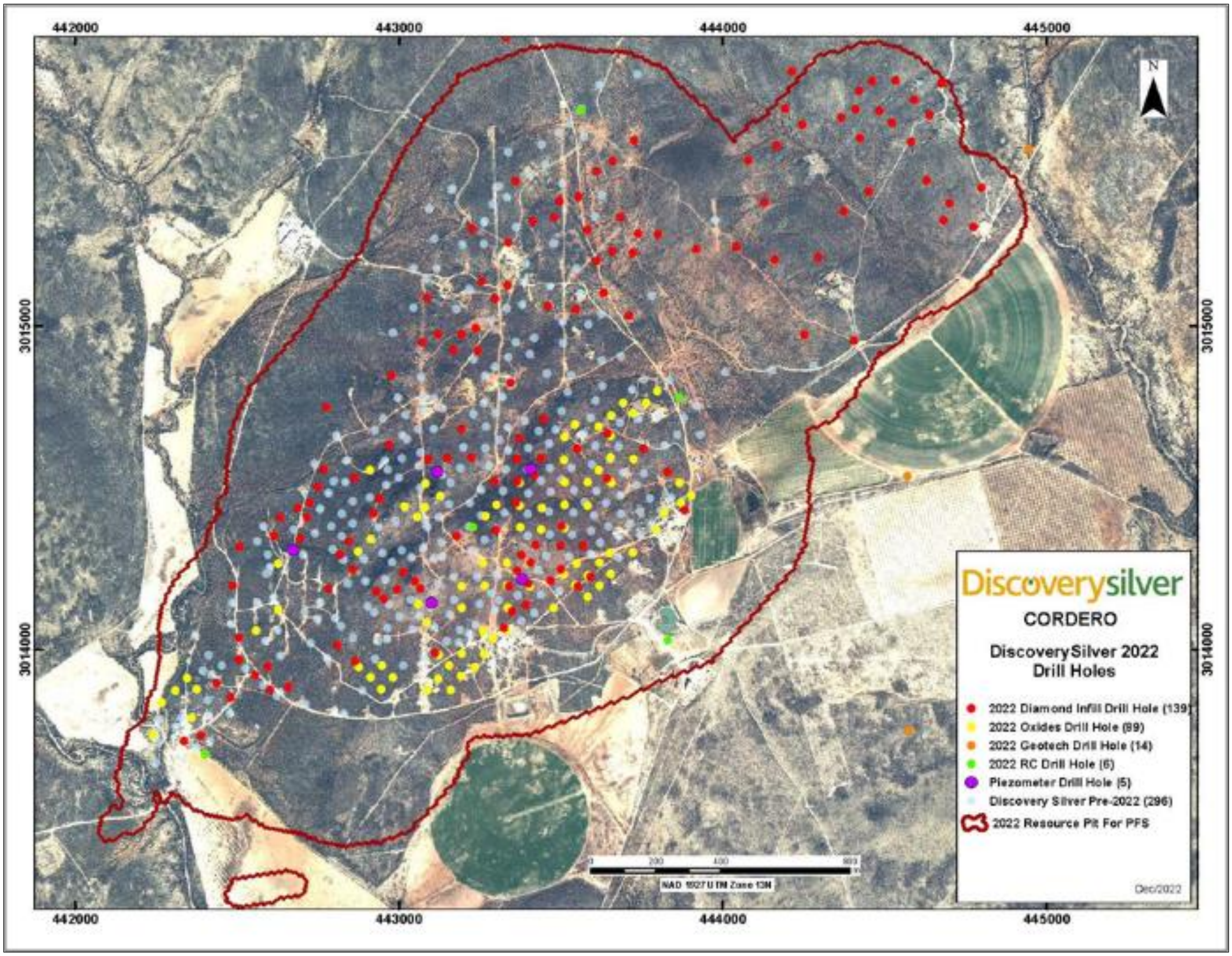
Extensive drilling has been completed on the Cordero property totalling 336,085 meters in 849 drill holes. These drilling campaigns took place over several years by Levon from 2009 to 2014 and in 2017, and core drilling continued between 2019 to 2022 by Discovery Silver. . The spatial distribution of core holes drilled by Discovery Silver ending 2021 is presented in Figure 10-1. A detailed distribution of core holes ending in 2022 is shown in Figure 10-2.

Figure 10-1: Discovery Silver Diamond Drill Hole Collars at the End of 2021



Source: Discovery Silver, 2022.

Figure 10-2: Discovery Silver Drill Hole Collars Drilled in 2022



Note: Not all holes are shown at this map extent. Source: Discovery Silver, 2022.

The 2022 drill programs were made up of 139 exploration and infill core holes, 89 oxide core holes drilled to the depth of oxide, and/or mixed oxide and sulphide, 14 geotechnical core holes drilled outside the pit perimeter, three additional piezometer core holes for a total of five wells to date, and six reverse-circulation (RC) holes (see Figure 10-2 and Table 10-1). The current mineral resource estimate is based on a drill dataset consisting of 275,904 m of drilling (690 drill holes), of which 153,715 m (423 drill holes) was completed by Discovery Silver.

Table 10-1: Summary of Drilling by Discovery Silver to December 2022

Company	Year	Drill Holes	Meters	Notes
Discovery Silver	2019	17	5,904.85	Resource area core holes
Discovery Silver	2020	99	39,484.30	Resource area core holes
Discovery Silver	2021	178	85,347.05	Resource area core holes
Discovery Silver	2021	2	807.90	Geotech oriented core (pit-wall stability piezometer holes)
Discovery Silver	2022	149	59,620.60	Resource core holes and exploration core holes
Discovery Silver	2022	17	1,918.75	Geotechnical oriented core (pit-wall stability)
Discovery Silver	2022	89	4,546.45	Oxide resource definition in core holes
Discovery Silver	2022	6	2,190.00	Reverse circulation – hydrology holes
Totals		557	199,819.90	

Notes: **1.** Includes holes drilled on other exploration targets outside of the 2022 resource pit. **2.** Drill holes counted in the year in which they were completed. **3.** Reverse-circulation holes were drilled for engineering and environmental purposes. **4.** Some numbers may not sum exactly due to rounding.

10.2 Discovery Silver Drilling 2019 – 2022

The Cordero deposit has been extensively drilled (see Figure 10-2). On September 19, 2019, Discovery Silver started their first core hole at Cordero. Drilling statistics and a summary of drilling by various categories to the end of 2022 are compiled in Table 10-1.

From September 2019 to the end of 2022, Discovery Silver collected basic geotechnical data logged on a drill run basis including recoveries and rock quality designation (RQD). Most of the meterage on the Cordero project was drilled using core drills. Only 2,190 m of reverse-circulation drilling was conducted in six holes. Many of the core holes advanced through limited overburden at times into highly fractured and oxidized bedrock using a tricone bit with no recovery. The meters drilled in overburden are included in the core drilling total.

From the beginning of 2021 through 2022, Discovery Silver collected magnetic susceptibility data. The data suggests an increase in magnetic susceptibility towards the northeast end of the resource pit centered over La Ceniza. Drill core recovery in general is very good and averages greater than 90% overall and an estimated two-thirds of all measured intervals have 100% core recovery. Recovery challenges locally occur in shales with platy cleavage proximal to bedding plane faults.

Discovery Silver used a REFLEX downhole tool on all 2019 to 2022 drilling to provide accurate and reliable survey trace data. A detailed core orientation program was completed in 2020 and part of 2021 to capture detailed structural orientations including vein, breccia, fracture, fault, and lithologic contacts. Additionally, all Cordero drill core from the 2019 through to 2022 were photographed and stored in high resolution in digital format.

The complete drill hole database includes 690 core holes completed within the 2022 resource pit as well as those exploration target holes completed outside of the 2022 mineral resource estimate area. Surface collar locations were initially surveyed using a handheld GPS unit, followed by an ongoing professional survey by Geo Digital Imaging de México SA de CV by Javier Tolano Jr. (Eng) during quarterly visits, with the last visit in the fall of 2022. The instrument used is an EMLID REACH RS2 Multi-Band RTK GNSS.

In 2019 Discovery Silver drilled 17 core holes for a total of 5,904.85 m in the fall of 2019. The objective of this work was to define the Pozo de Plata target using a new drill orientation to drill perpendicular to the major northeast-trending transcurrent faults (e.g., Cordero Fault) within the current 2022 resource pit. The new orientation of drilling was intended to help with the core logging and cross-sectional interpretations. The dominant orientation of the drilling was at an azimuth of 135° at various inclinations ranging from -50° to -70°. This new orientation of drilling was successful at crossing and better delineating the dominant northeast orientation of high-grade mineralization that was recognized in the Levon historical database. Additionally, the goal was to define the outer edges of high-grade mineralization recognized in the historical data that was part of the 2018 PEA document by M3 Engineering and Technology on behalf of Levon Resources Ltd. (Levon Resources Ltd., 2018). This program highlighted a complicated breccia complex with elevated precious and base metal values confirmed by Discovery Silver to be coincident with adularia-sericite-buddingtonite alteration.

In 2020, Discovery Silver drilled 99 core holes for a total of 39,484 m starting on January 7, 2020 with one drill, and by end of January, four diamond core drills were operational before all work was stopped in March due to COVID-19 restrictions mandated by the Mexican government. The program was restarted with four drills on June 27, 2020, after the Mexican Government announced a relaxation of COVID-19 closures. During 2020, diamond drill holes C20-310 through to C20-408 were completed for an annual total of 39,484 m in 99 drill holes. By the end of 2020, the total cumulative drilling was 45,389 m in 116 core holes (Figure 10-1).

In 2021, Discovery Silver drilled 178 core holes for a total of 85,347.05 m starting on January 11, 2021 with four drills by the end of the month. Discovery Silver decided the end of July 2021, ending with hole C21-528, would be the cut-off date for inclusion in the assay results for the 2021 PEA. In May 2021, 778.8 m in two oriented core holes were completed to geotechnically sample proposed pit wall locations to better inform pit slope stabilities. Holes CG21-001 and CG21-002 were reviewed and sampled by Knight-Piésold, Ltd (KP) for this purpose. The 2021 resource database consists of 224,148 m of sampling in 517 drill holes. Of all the holes in the database, 221,839 m from 478 holes are included in the 2021 resource estimate area (Figure 10-1). Lithology information from 195,553 m of drilling was used to support an updated geological model of the deposit.

In 2022, Discovery Silver drilled 149 infill holes in the 2022 resource area, 17 piezometer holes, 89 oxide holes and 6 reverse-circulation holes for a total of 68,275.8 m (Table 10-1). Of the 149 core holes drilled in 2022, ten were exploration holes drilled outside the 2022 resource pit at Sansón (seven holes), and Valle Au (three holes). The 2022 resource database consists of 287,407 m of sampling in 706 drill holes. Of all the holes in the database, 275,904 m from 690 are included in the 2022 resource estimate area (Figure 10-2).

10.3 Procedures for Handling, Transporting, Logging and Sample Drill Core

10.3.1 Core Handling

Core handling procedures are as follows:

1. Drill core is placed into corrugated plastic core boxes by the driller helpers and is supervised by the driller.
2. Hole depths between core runs are marked in meters with permanent markers on wooden blocks and inserted into the box rows at the end of every drill run.
3. Any partial runs, core losses, or cavities are measured by the drillers and marked accordingly.
4. The drill box bases and lids are marked with the “from” and “to” depths in meters to the nearest centimeter and are tied with plastic chord to prevent spillage during transport.

10.3.2 Core Transport

Core transport procedures are as follows:

- The core boxes are transported to the core logging facility twice per day by a Discovery Silver representative and placed on core logging tables for review by project geologists.
- Core technicians check the wooden core marker blocks for any errors; measure, and record core recoveries between core blocks; and subsequently wash any sediment or drill cuttings from the core in preparation for geologists logging the core.
- Core photos are taken of both wet and dry drill core for a complete record of the drill core produced.

10.3.3 Core Logging

The drill core is described in detail by geologists differentiating lithology type, lithology texture, alteration type, alteration/mineralization style, infill texture and infill type, structure and sulphide abundance. The geologists directly log the information into computers in the core share using an electronic system called “Geoinfo Solutions Tools”. The standardized logging system ensures consistency of descriptions between logging geologists and the resulting core log is uploaded daily to the Access-DBMS database system at the project site for review by the senior geologist (see Table 10-2).

Table 10-2: Select Geological Logging Codes by Theme used for Core Logging at Cordero

Vein/Replacement	Lithology Modifiers	Structure	Structure Modifiers	In-fill Textures	In-fill Type
VeinCalciteBarite	BandedGangue	Vein	AltnUpperContact	InfillTextBanded	Barite
VeinCalciteFeathery	BandedSulphide	ContactDike	Bedding	InfillTextBandSulph	Calcite
VeinCarbonate	BrxCementCarbonate	ContactLith	BrxCrackle	InfillTextBladed	Fluorite
VeinChalcedony	BrxCementOxide	Fabric	BrxFaultGouge	InfillTextBotyroidal	Jasperoid
VeinJaspDrusyCalcite	BrxCementSulphide	Fault	BrxFloatingClast	InfillTextCollofom	DrusyCalcite
VeinJasperoid	BrxDrusyCalcite	FaultContact	BrxHydrothermal	InfillTextCrustiform	Galena
VeinMxSulphide	BrxJasperoid	FlowFoliation	BrxMilled	InfilltextIntergrowths	SphBlack
VeinQuartzCarb	BrxPeperiteBlocky	Fracture	BrxPuzzle	InfillTextVoids	SphHoney
ReplaceCarbonate	BrxPeperiteFluidal	Breccia	ContactUpper	InfillTextVuggy	SphRedBrwn
ReplaceJasperoid	BrxPhreatic	Lineation	ContactLower	InfillTextMassive	Pyrite
ReplaceMxSulphide	BrxPseudo	Rubble	Echelon	InfillTextReplace	Quartz
ReplaceChalcedony	BrxSiliceous	Shear	FabricFlowBanding	InfillTextEuhedral	Silica

Source: Discovery Silver, 2022.

The drill core information is plotted on hard-copy cross-sections and long sections. The information is then interpreted, georeferenced, and imported into a 3D geological modelling software and visualizer called “Leapfrog Geo” to be interpreted and to measure drilling success and inform subsequent drill planning.

10.3.4 Core Sampling

Drill core sampling is selected and marked by the geologists based on lithological, alteration and structural boundaries. Minimum sample widths are 0.30 m and maximum sample widths are generally 2.0 m. The maximum sample width is only rarely exceeded where drill core recovery is poor due to faulted intervals or where the end-of-hole remaining interval is less than 1.0 m and added to the last sample. The average estimated recovery factor for holes drilled by Discovery Silver is greater than 90%. The QP is unaware of any recovery or sampling factors that could materially impact the accuracy and reliability of the assay results.

10.4 Summary and Interpretation of 2019-2022 Drill Programs

The drilling achieved by Discovery Silver and utilized in this 2022 resource update essentially infilled the mineralized body that was roughly defined by previous drill campaigns.

Drill core recoveries have been high (greater than 90%), providing confidence that the sampling program is representative of the rock mass that has been assayed.

Additional drilling by Discovery Silver has allowed updated interpretations of the structural controls, lithological controls, and definition of dominant fluid flow corridors of high-grade mineralization. These controls and domains have been used to accurately update the estimate of resources.

Highlights from the 2022 drilling are presented in Table 10-3. Highlights from the 2019 to 2021 are presented in Table 10-4. Drill hole widths are not true widths. The mineralization is steeply dipping to the northwest and drill hole intervals are considered to exaggerate the true thickness of mineralization.

A series of cross-sections showing some of the highlights shown in Tables 10-3 and 10-4 are presented in Figures 10-3 to Figure 10-9. The location of the cross-sections lines is shown in Figure 10-3.

Table 10-3: Highlights from the 2022 Drill Campaign

Hole ID	From	To	Width (m)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	AgEq[1] (g/t)
C22-544	115.7	176.1	60.4	45	0.07	0.9	1.2	122
C22-560	230.0	248.1	18.1	234	0.15	3.8	6.5	606
C22-564	622.1	656.0	33.9	95	0.21	1.9	4.5	337
C22-574	3.3	16.7	13.4	272	0.16	4.1	1.9	483
C22-590	76.0	81.7	5.7	66	0.05	1.2	3.2	229
C22-596	77.2	137.5	60.3	49	0.06	1.2	2.5	184
C22-600	59.3	66.6	7.3	60	0.13	1.1	2.1	184
C22-600	142.5	157.7	15.2	55	0.06	1.2	1.5	153
C22-601	312.1	323.9	11.8	42	0.00	0.2	1.7	113
C22-604	215.3	228.1	12.8	52	0.11	0.9	0.9	121
C22-605	27.2	65.8	38.6	89	0.06	1.8	3.0	265
C22-609	161.6	166.5	4.9	104	0.14	3.2	4.4	375
C22-609	198.2	215.9	17.7	35	0.01	0.9	1.4	115
C22-609	233.7	266.8	33.1	64	0.06	1.0	1.4	150
C22-610	226.6	259.2	32.6	115	0.05	3.7	4.1	388
C22-610	431.0	446.7	15.7	55	0.05	0.9	1.6	147
C22-611	142.7	179.1	36.4	36	0.02	0.6	1.0	94
C22-611	186.8	201.4	14.6	54	0.08	0.5	1.3	124
C22-613	140.0	190.0	50.0	58	0.21	0.7	0.4	109
C22-614	78.0	136.0	58.0	99	0.33	1.6	1.0	208
C22-614	147.6	195.9	48.3	100	0.63	1.8	0.8	231
C22-615	322.7	388.0	65.3	53	0.07	0.7	1.1	121
C22-618	106.1	165.3	59.2	42	0.03	0.9	1.0	110
C22-618	274.2	347.4	73.2	47	0.07	0.3	0.2	68
C22-636	716	802.0	86.0	32	0.02	0.1	1.2	120
C22-634	452.9	495.1	42.2	76	0.06	1.0	2.4	201
C22-638	89.2	168.9	79.7	37	0.03	0.7	1.0	97
C22-638	179.9	232.2	52.3	21	0.02	0.5	0.7	63
C22-641	259.9	300.0	40.2	75	0.14	1.2	1.5	178
C22-643	222.2	243.7	21.5	81	0.09	1.2	1.1	164
C22-644	264.8	389.5	124.7	37	0.04	0.4	1.6	111
C22-645	115.5	157.2	41.8	47	0.04	0.9	1.0	113
C22-645	234.6	270.7	36.1	47	0.05	0.8	0.4	88
C22-645	354.6	401.3	46.7	52	0.04	0.7	0.8	108
C22-646	189.0	235.8	46.8	28	0.06	0.2	1.2	84
C22-646	271.6	299.7	28.1	17	0.02	0.2	2.6	124
C22-647	174.1	199.7	25.6	32	0.05	0.6	1.2	99
C22-647	264.8	283.5	18.7	48	0.12	0.8	1.7	147
C22-648	166.2	193.5	27.4	38	0.05	0.7	0.6	86
C22-648	228.0	271.0	43.0	62	0.11	1.4	1.7	179
C22-649	412.0	460.2	48.2	24	0.04	0.3	1.3	85
C22-649	730.9	802.5	71.6	33	0.04	0.6	1.1	97
C22-649	812.0	837.9	25.9	21	0.15	0.5	3.9	195
C22-651	276.2	305.3	29.1	65	0.04	1.0	1.6	158
C22-651	405.3	435.5	30.3	50	0.02	0.8	0.9	110
C22-652	231.7	357.5	125.8	17	0.10	0.3	1.0	68
C22-652	272.6	296.0	23.4	27	0.07	0.5	1.4	101
C22-653	42.0	107.1	65.1	46	0.10	0.1	0.3	70
C22-653	224.0	276.0	52.0	49	0.07	0.8	1.7	139
C22-654	188.9	217.4	28.5	38	0.05	0.7	1.2	109
C22-654	300.4	322.7	22.3	27	0.13	0.3	1.5	103
C22-654	464.0	560.0	96.0	33	0.03	0.7	1.8	124
C22-656	131.1	194.7	63.6	20	0.05	0.3	0.9	66
C22-656	218.0	295.0	77.0	46	0.08	0.7	1.4	126
C22-656	374.0	396.0	22.0	83	0.10	1.8	3.2	265

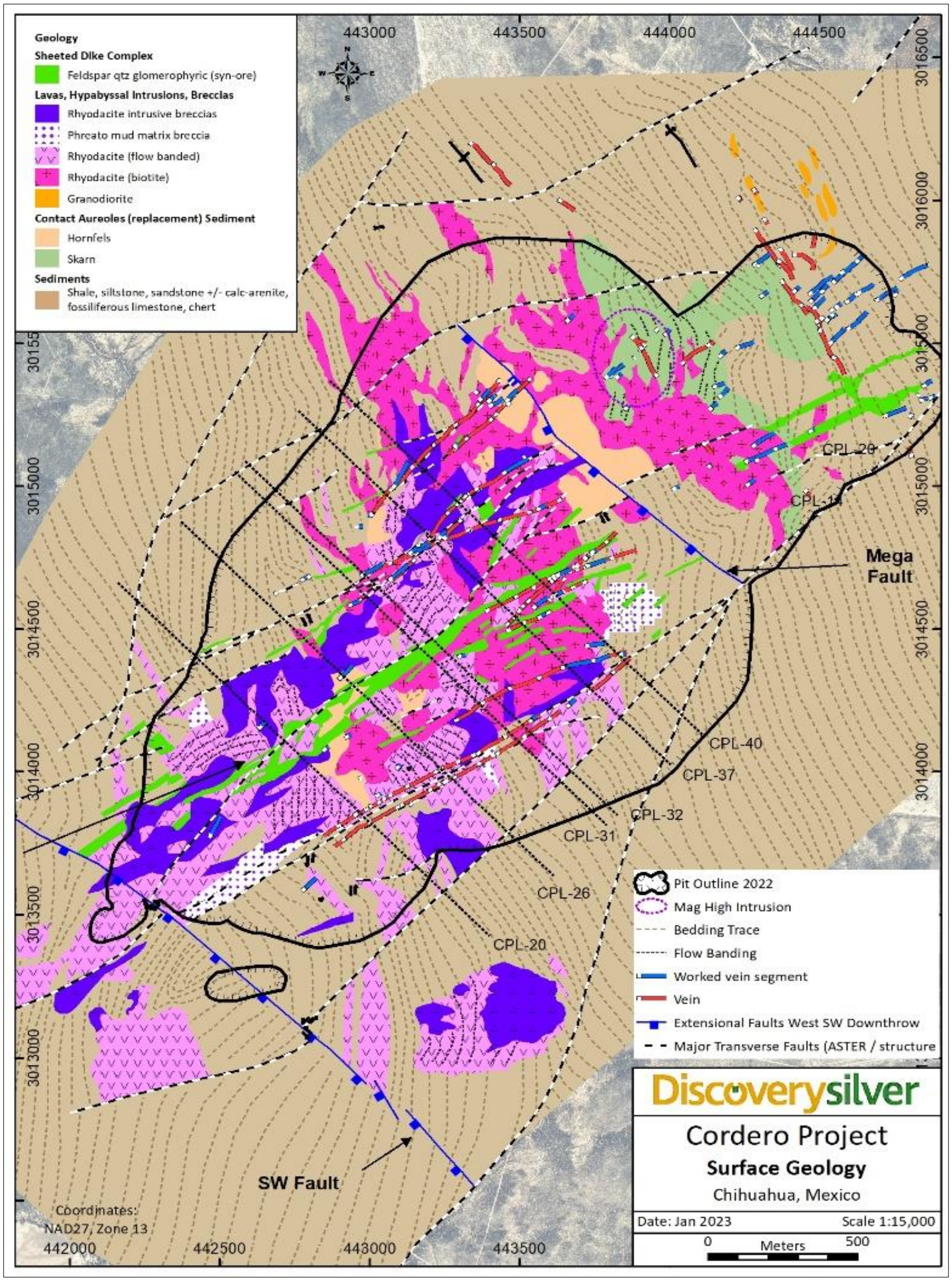
Note: AgEq calculations are based on US$22.00/oz Ag, $1,600/oz Au, $1.00/lb Pb, $1.20/lb Zn, and assume 100% metallurgical recovery. Source: Discovery Silver, 2022.

Table 10-4: Highlights from the 2019 to 2021 Drill Campaigns

Hole ID	From	To	Width (m)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	AgEq[1] (g/t)
C19-297	272.9	274	1.1	522	0.21	6.6	18.3	1533
C19-304	76.8	182.7	105.9	74	0.38	1.1	1.1	188
C20-310	51.1	52.3	1.2	904	0.08	5.4	8.08	1436
C20-314	135	241	106.1	51	0.37	0.97	0.56	139
C20-317	0	79	79	90	0.22	0.9	0.5	159
C20-319	140	308.8	168.8	70	0.1	1.5	1.9	207
C20-328	79.3	131.2	51.9	69	0.13	1.1	1.9	197
C20-328	105.9	107.2	1.3	1060	0.5	15.9	26.9	2777
C20-333	206.8	327.2	120.4	30	0.11	0.4	1.5	114
C20-342	147	148.4	1.4	700	0.74	16.1	14	1907
C20-343	66.9	468.6	401.7	49	0.07	1	1.1	134
including	243.5	355.7	112.3	96	0.08	2	1.8	247
C20-344	171.1	175.8	4.7	635	0.15	12.3	5.3	1299
C20-348	196.2	335.3	139.1	47	0.07	0.6	1.6	138
C20-349	145.6	149	3.4	421	0.42	8	10	1150
C20-351	224.8	226.8	2	532	0.38	8.8	8.1	1207
C20-373	281.2	407.3	126.1	40	0.1	0.4	1	103
C20-375	49.2	180.7	131.6	48	0.09	0.5	1.1	118
C20-381	95.6	96.9	1.3	1581	0.15	9.9	5.4	2166
C20-382	41.2	42.2	1	1280	4.24	1.6	3.4	1826
C20-383	44.4	47.2	2.9	992	0.73	12.9	2.4	1605
C20-383	83.4	84.1	0.7	1865	0.85	7	7.9	2510
C20-396	136.7	138	1.3	1607	2.06	5.2	8	2290
C20-405	312.4	440.5	128.2	65	0.05	1.2	1.3	165
C21-417	309.4	375.3	65.9	69	0.11	0.7	3.7	258
C21-425	517.8	660.8	143	39	0.13	0.4	1.3	120
C21-480	63.1	115.5	52.5	34	0.03	0.5	0.9	94
C21-421	304.5	308.6	4.1	520	0.11	3	9.8	1043
C21-421	402.8	404.1	1.3	495	0.17	5.6	8	1041
C21-423	132.7	133.8	1.1	913	0.97	12.2	4	1589
C21-431	164.9	166.1	1.2	997	0.25	8.9	9.7	1736
C21-432	150.8	152	1.1	723	0.16	3.7	10.9	1319
C21-435	92.2	93.4	1.1	1960	0.32	15.4	21.6	3424
C21-435	204.5	209	4.5	385	1.15	5.9	11.9	1179
C21-436	288.5	290	1.4	1385	0.49	7.5	10.9	2139
C21-437	4.8	63.6	58.8	87	0.05	0.9	0.8	157
including	59.8	63.6	3.8	576	0.12	5.2	8.2	1108
C21-457	404.8	405.8	1.1	1570	16.25	7	19	3934
C21-458	47.4	48.1	0.7	945	0.47	11.7	7.1	1688
C21-458	200.3	277.1	76.8	36	0.04	0.3	1.6	115
C21-459	86	87.4	1.3	420	0.32	8.8	14.9	1374
C21-475	126.6	127.3	0.7	1320	0.21	11	10.8	2169
C21-475	134.3	135.9	1.6	597	0.16	12.2	11.7	1522
C21-476	312.5	398.7	86.2	51	0.09	1.2	2.2	192
C21-479	204.7	337.3	132.6	78	0.11	1.7	2.8	260
C21-479	361.1	438.1	77.1	55	0.12	1.4	1.8	190
C21-481	39.3	256.6	217.3	75	0.45	1.1	1	194
C21-482	168.1	169.6	1.5	2552	2.33	13.3	13.3	3763
C21-485	87.6	88.6	1.1	1057	0.19	7.4	8.4	1681
C21-485	110	110.7	0.7	691	0.04	3.2	9.7	1209
C21-496	297.3	378.7	81.4	43	0.05	0.9	2.5	184
C21-510	75	148.1	73.1	104	0.06	0.8	2.5	241
including	80.6	82.2	1.6	2295	0.31	11.6	17.2	3446

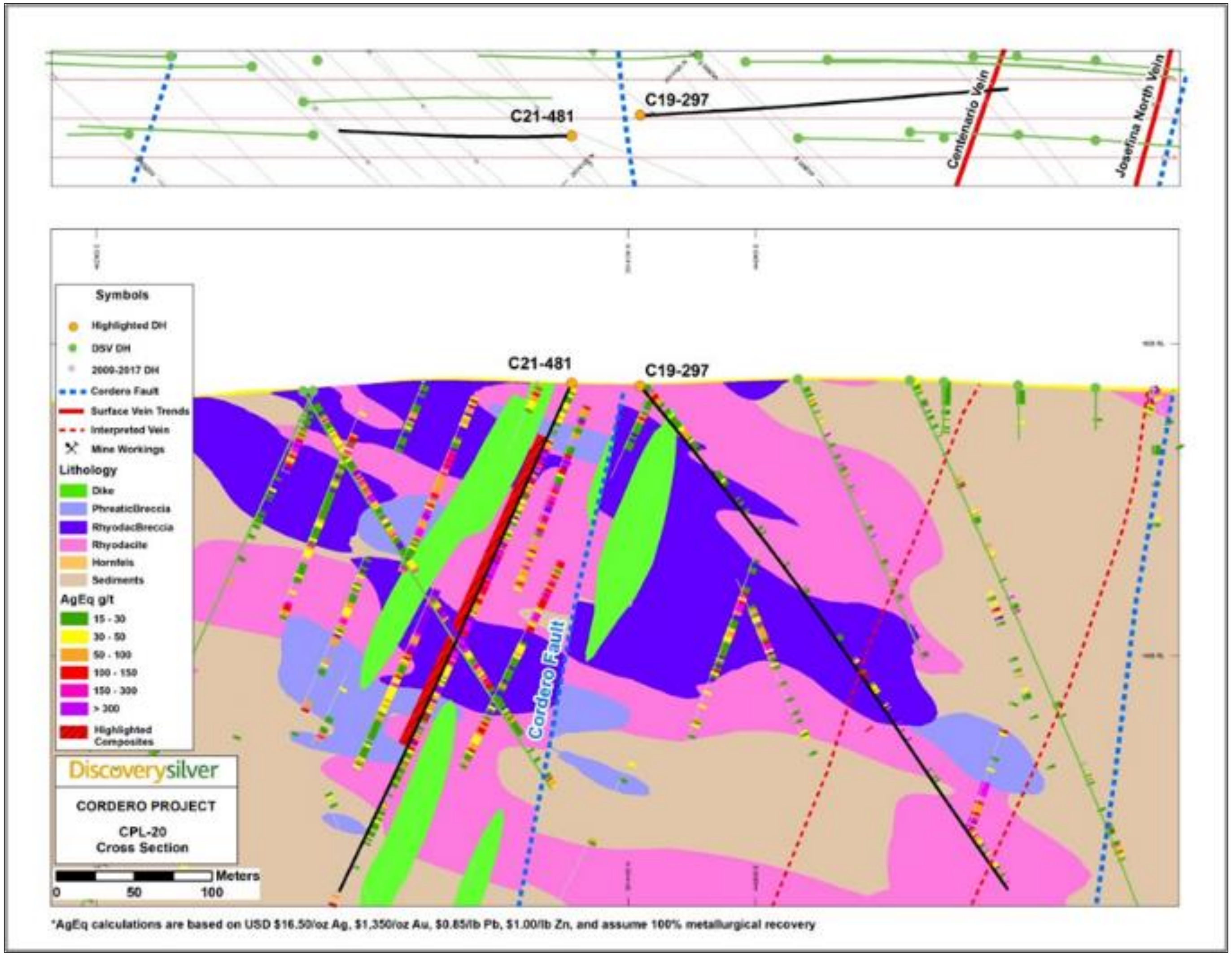
Note: [1]AgEq calculated using prices of $16.50/oz Ag, $1,350/oz Au, $0.85/lb Pb and $1.00/lb Zn, with 100% metallurgical recoveries. Source: Discovery Silver, 2022.

Figure 10-3: Lithology Plan Map showing Locations of the Section Lines (Used in Following Figures)



Source: Discovery Silver, 2022

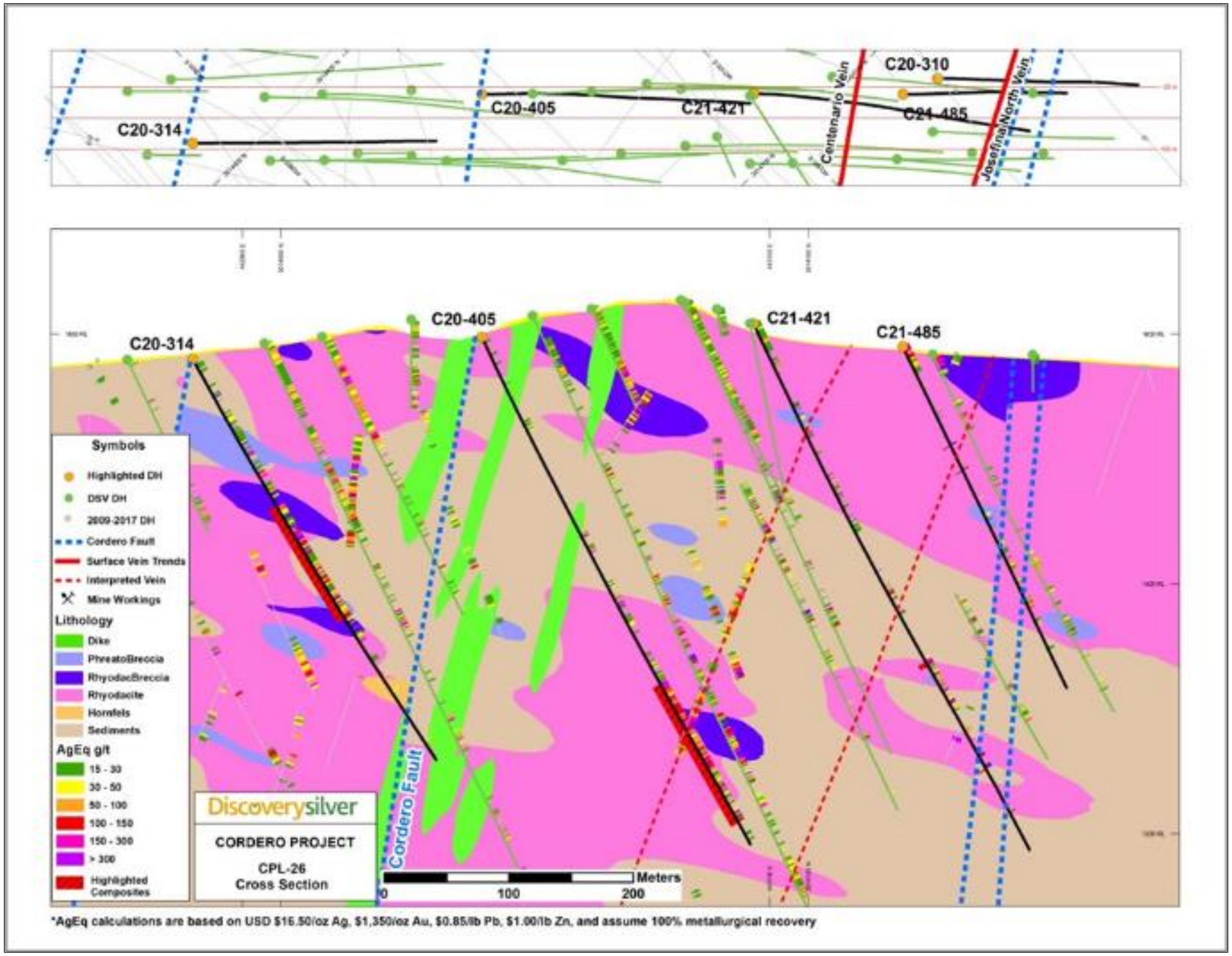
Figure 10-4: Cross-Section CPL-20 showing Geological Interpretation and Silver Equivalent Grades



*AgEq calculations are based on USD $16.50/oz Ag, $1,350/oz Au, $0.85/lb Pb, $1.00/lb Zn, and assume 100% metallurgical recovery

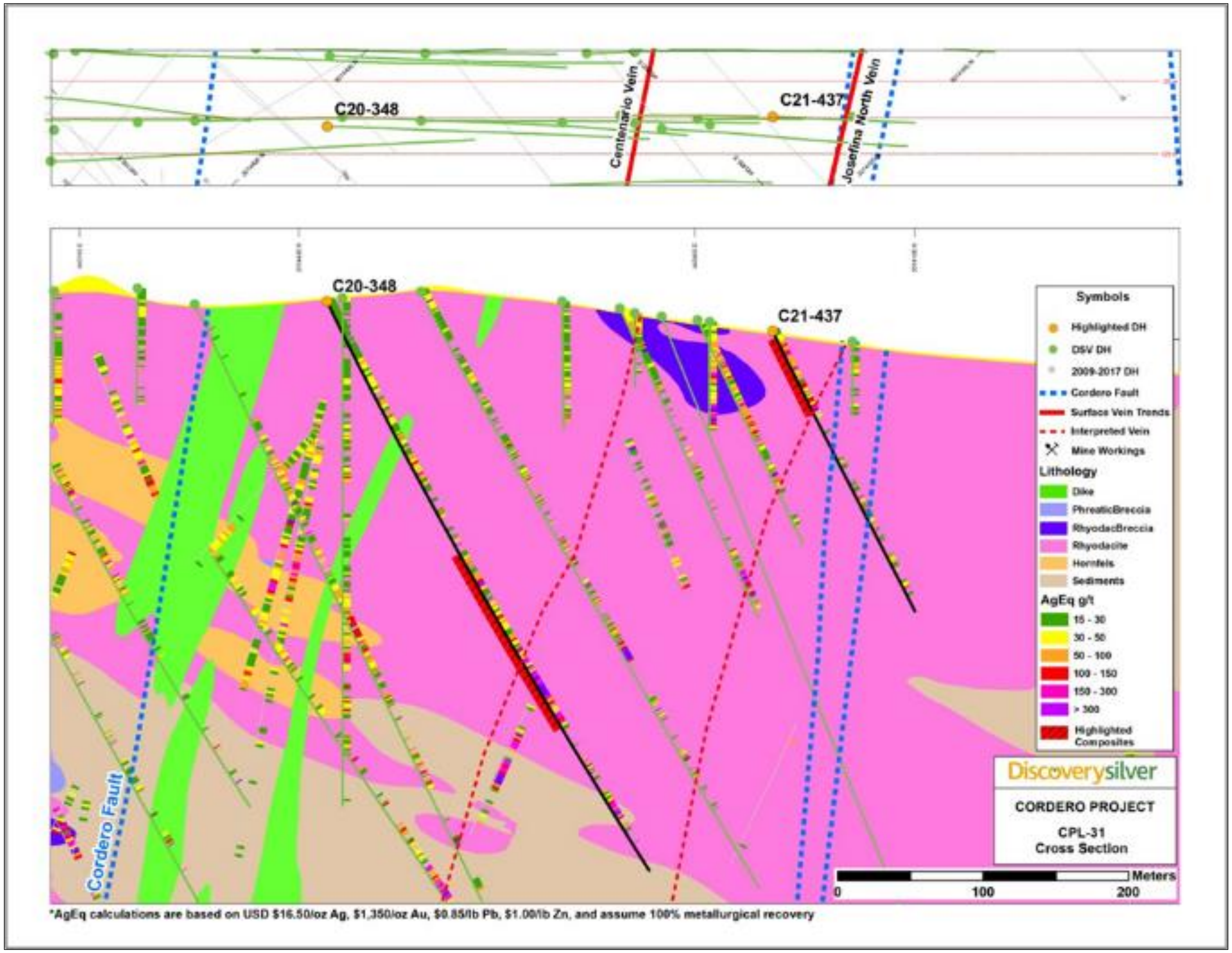
Source: Discovery Silver, 2021.

Figure 10-5: Cross-Section CPL-26 showing Geological Interpretation and Silver Equivalent Grades



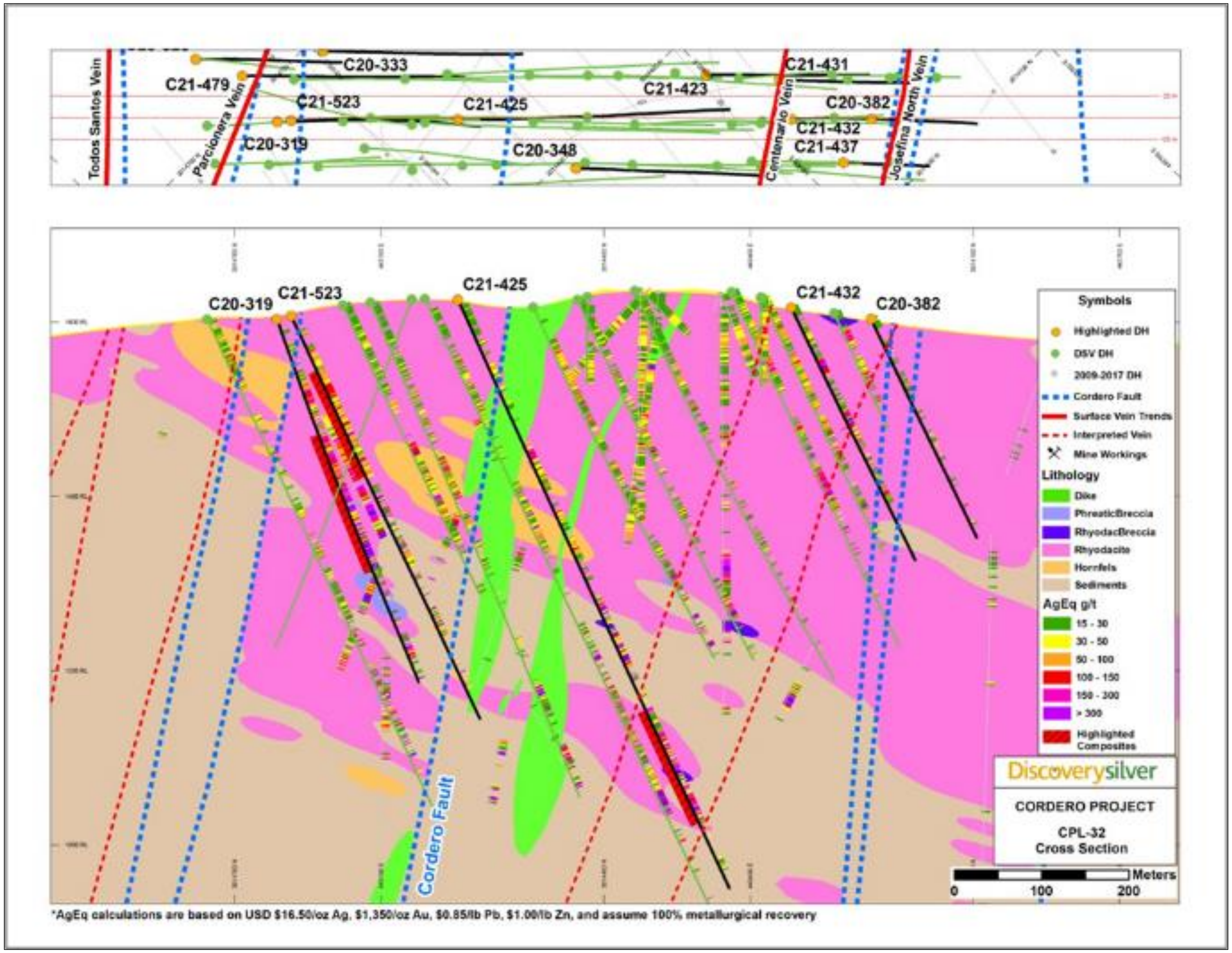
Source: Discovery Silver, 2022.

Figure 10-6: Cross-Section CPL-31 showing Geological Interpretation and Silver Equivalent Grades



Source: Discovery Silver, 2022.

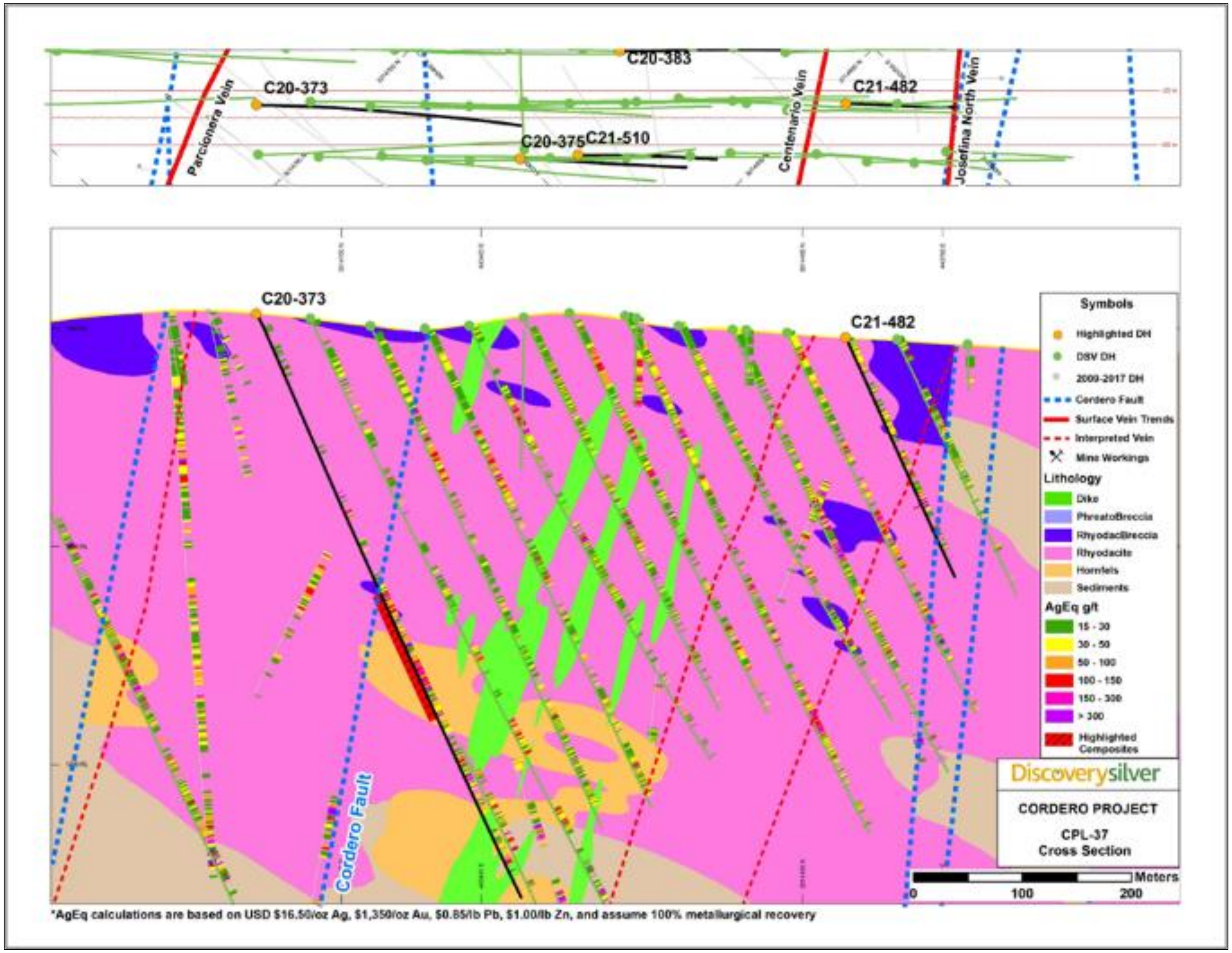
Figure 10-7: Cross-Section CPL-32 showing Geological Interpretation and Silver Equivalent Grades



*AgEq calculations are based on USD $16.50/oz Ag, $1,350/oz Au, $0.85/lb Pb, $1.00/lb Zn, and assume 100% metallurgical recovery

Source: Discovery Silver, 2022.

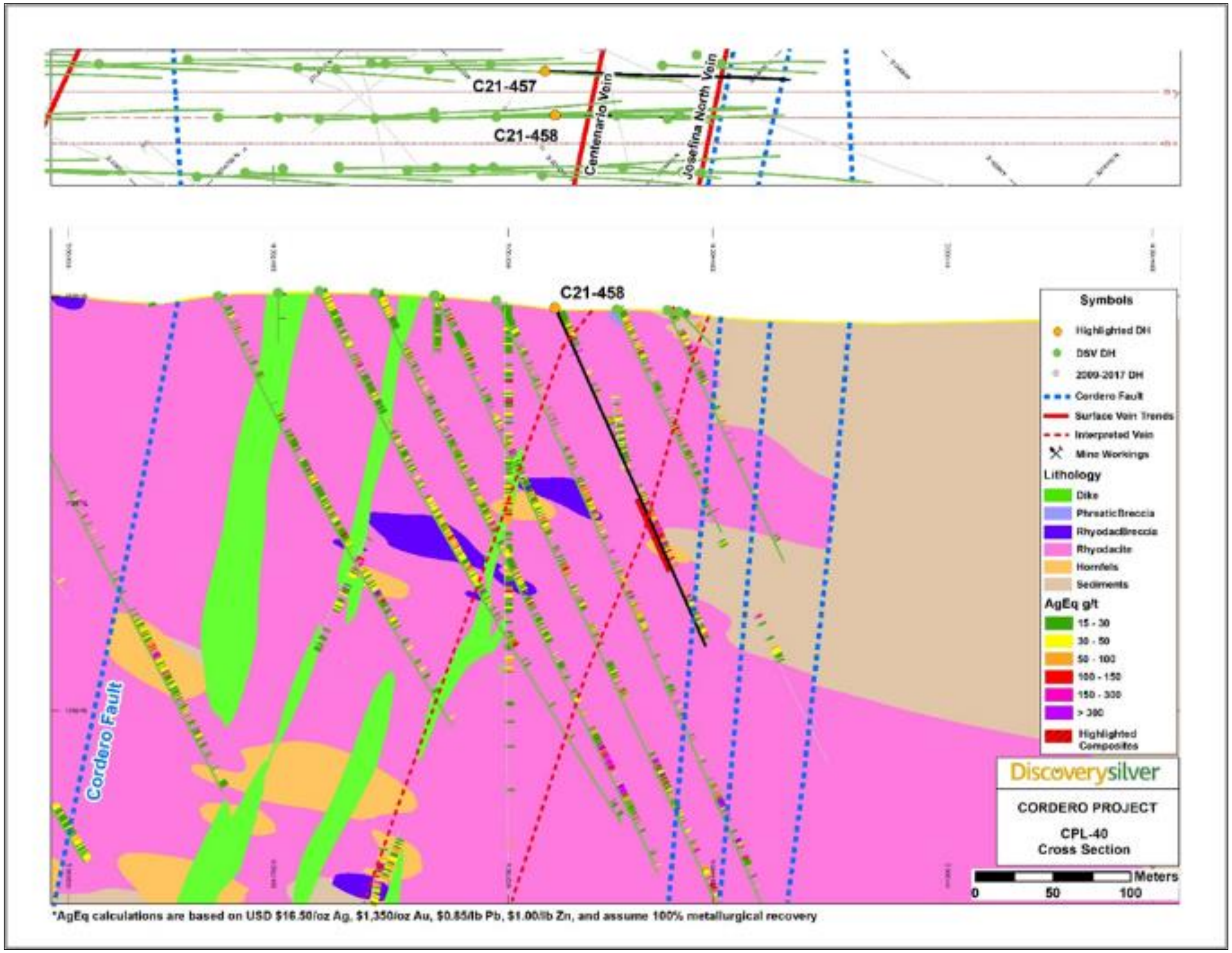
Figure 10-8: Cross-Section CPL-37 showing Geological Interpretation and Silver Equivalent Grades



*AgEq calculations are based on USD $16.50/oz Ag, $1,350/oz Au, $0.85/lb Pb, $1.00/lb Zn, and assume 100% metallurgical recovery

Source: Discovery Silver, 2022.

Figure 10-9: Cross-Section CPL-40 showing Geological Interpretation and Silver Equivalent Grades



*AgEq calculations are based on USD $16.50/oz Ag, $1,350/oz Au, $0.85/lb Pb, $1.00/lb Zn, and assume 100% metallurgical recovery

Source: Discovery Silver, 2022.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Summary

Approximately half of the samples included in the current mineral resource estimate are from drilling programs conducted by Levon ending in 2017 (see Table 11-1). The other half of the samples were generated by Discovery Silver drill programs from 2019 to July 13, 2022 (see Table 11-2). Of the 723 drill holes currently in the drill hole database, 690 holes comprised of 191,866 core samples totalling 275,904 m were included in the current 2022 mineral resource estimate.

Table 11-1: Summary of Levon Diamond Drilling Campaigns from 2009 to 2017

Year	No. Of Holes	Range of Hole IDs		Meters
		From	To	
2009	8	C09-1	C09-9	2,844
2010	89	C10-10	C10-97	35,857
2011	109	C11-98	C11-206	57,989
2012	44	C12-207	C13-250	17,076
2013	16	C13-251	C13-266	9,529
2014	8	C14-267	C14-274	4,662
2017	18	C17-275	C17-292	5,664
Total	292			133,620

Source: Discovery Silver, 2022.

Table 11-2: Summary of Discovery Silver Diamond Drilling Campaigns from 2019 to December 2022

Year	No. of Holes	Range of Hole IDs		Meters
		From	To	
2019	17	C19-293	C19-309	5,905
2020	99	C20-310	C20-408	39,484
2021	120	C21-409	C21-586	52,133
2021	2	CG21-001	CG21-002	807.9
2022	149	C22-587	C22-653	59,621
2022	89	COX22-001	COX22-089	4546.45
2022	3	CG22-003	CG22-005	1151.5
Total	479			163,648.9

Source: Discovery Silver, 2022.

11.2 Levon 2009 to 2017 Drill Hole Samples

All drill core was sawn in half with mechanized core saws along the mark on the whole drill core, and half of the core samples were submitted for sample preparation and assaying, while the other half was left in the core box for future reference and analytical testwork.

From 2009 to 2012, and in 2017, assays for the Levon drill samples were performed by ALS Geochemistry (ALS) in Vancouver, a commercial laboratory that is independent of Levon and accredited by the Standards Council of Canada to the ISO/IEC 17025 standard. Sample preparation and assaying involved the following steps:

1. Sawn 1/2 core samples were prepared for assaying at the preparation facility in Chihuahua, Mexico, by drying and crushing to 85% minus 10 mesh, followed by riffle-splitting and pulverizing to 95% minus 150 mesh.

2. Assaying of the pulps was carried out at ALS. Gold analyses were performed by 30-gram fire assay with an atomic absorption (AA) finish (ALS Method Code Au-AA23). Silver, zinc, and lead were analyzed as part of a multi- element inductively coupled argon plasma (ME-ICP41) package using an aqua regia digest with over-limit results re-analyzed using ICP-AES (atomic emission spectroscopy) and a four-acid digest.

For 2013 and 2014, assays were performed by Activation Laboratories Ltd. (ActLabs) in Mexico. ActLabs is independent of Levon and accredited by the Standards Council of Canada to the ISO/IEC 17025 standard. Sample preparation and assaying involved the following steps:

1. Samples were assayed for gold by fire assay with an atomic absorption spectrometry (AAS) finish and a 5 ppb gold detection limit. Base metals were determined as part of a 38-element ICP package using an aqua regia digest (nitric and hydrochloric acids). The elements in the ActLabs multi-element ICP package include the same elements as those in the ALS ICP package used later by Discovery (see Table 11-3). In addition, the analyses included Hf, Sn, Y and Zr.

2. In accordance with its quality control protocol, Levon inserted standards, blanks, and core duplicates every 20th sample. Levon primarily used reference materials prepared commercially as pulps by Western Management Consultants of Vancouver.

3. Up to six different reference materials were used for all the drill programs.

4. The blank material was rhyolite from a road quarry near Parral.

Out of approximately 66,300 samples submitted between 2009 and 2017, there were 7,157 blank samples submitted to monitor contamination and 6,650 reference materials submitted to monitor accuracy. The assays of reference material and blanks showed no significant divergences from recommended or expected values.

Levon also implemented a program of field duplicate checks that was run on quarter-core splits obtained with a core-saw; these field duplicates confirmed that the procedures used to split were not biasing the assay results.

For the various drilling campaigns, referee laboratory samples were performed by ActLabs when ALS was contracted to do the assaying of drill core. When ActLabs was the primary laboratory in 2013 and 2014, ALS was the referee laboratory. For referee samples, every 20th coarse reject was delivered to the referee laboratory for sample pulp preparation and assay analysis.

11.3 Sample Preparation, Analysis and Security for Discovery Silver's Drilling Campaigns (2019-2022)

A total of 191,866 drill core samples collected from July 2021 to July 13, 2022 were included in the current mineral resource estimate. There was 23,774.1 m of core drilled after July 13, 2022 ending in mid-December 2022 at C22-735 as part of the ongoing drill campaign including infill holes, oxide holes and piezometer hole; those assays were not included in the database used for the current mineral resource estimate (Table 11-3).

Table 11-3: Summary Statistics of Data Included in the 2022 Mineral Resource Estimate

Drill Holes	Drilled to C22-653	Drill Holes	
		In Database	In Estimate
Levon Resources	292	292	267
Discovery Silver	455	431	423
No. of Samples	N/A	198,976	191,866
Drill Holes Total	**748**	**723**	**690**
Levon Resources	133,619	133,616	122,189
Discovery Silver	171,683	160,711	153,715
Meters Total	**305,302**	**294,327**	**275,904**

Source: Discovery Silver, 2022.

Of the 723 drill holes currently in the drill hole database, 690 holes comprised of 191,866 core samples totalling 275,904 m were included in the current 2022 mineral resource estimate.

11.3.1 Sample Preparation

All core assays are from HQ drill core unless stated otherwise. Core samples from the program were cut in half using a diamond cutting saw, and transported to the ALS lab in Chihuahua City, Mexico, where pulps were prepared and subsequently sent for analysis to the ALS laboratory in Vancouver, Canada. Both ALS laboratories, the preparation laboratory in Mexico, and the analytical laboratory in Canada, are independent of Discovery Silver and accredited by the Standards Council of Canada to the ISO/IEC 17025 standard.

All samples were prepared using ALS Method Core Prep-31 that includes the following steps:

- air dry if necessary (maximum 120°C if oven drying is necessary)
- crush entire sample to at least 70% passing 2 mm
- riffle split 250 grams
- pulverize approximately 250 grams to at least 85% passing 75 µm.

11.3.2 Sample Analysis

Samples were analyzed for gold using standard fire assay-AAS techniques (ALS Method Code Au-AA24) on a 50-gram sub-sample of pulp material. This method has a 5 ppb detection limit.

Samples were also analyzed using a 33-element inductively coupled plasma method (ALS Method Code ME-ICP61). The method digests a 0.25-gram sample using a combination of three acids (nitric, perchloric, and hydrofluoric) with a final dissolution stage using hydrochloric acid. ICP-MS and ICP-AES are then used to measure the concentrations in solution, which can be converted to assay grades on a dry weight basis. This method is suitable for trace level and exploration samples. The elements and detection ranges of this analytical procedure are listed in Table 11-4.

Table 11-4: Analytes and Detection Ranges for the ME-ICP61 Multi-element ICP Suite from ALS

Analyte	Lower limit	Upper limit	Analyte	Lower limit	Upper Limit	Analyte	Lower limit	Upper limit
Ag (g/t)	0.5	100	Fe (%)	0.01	50	S (%)	0.01	10
Al (%)	0.01	50	Ga (ppm)	10	10000	Sb (ppm)	5	10000
As (ppm)	5	10000	K (%)	0.01	10	Sc (ppm)	1	10000
Ba (ppm)	5	10000	La (ppm)	10	10000	Sr (ppm)	1	10000
Be (ppm)	0.5	1000	Mg (%)	0.01	50	Th (ppm)	20	10000
Bi (ppm)	2	10000	Mn (ppm)	5	10000	Ti (%)	0.01	10
Ca (%)	0.01	50	Mo (ppm)	1	10000	Tl (ppm)	10	10000
Cd (ppm)	0.05	1000	Na (%)	0.01	10	U (ppm)	10	10000
Co (ppm)	1	10000	Ni (ppm)	1	10000	V (ppm)	1	10000
Cr (ppm)	1	10000	P (ppm)	10	10000	W (ppm)	10	10000
Cu (ppm)	0.02	10000	Pb (ppm)	2	10000	Zn (ppm)	10	10000

Source: Discovery Silver, 2022.

Samples that assayed over 10 g/t Au were re-assayed by fire assay on a 50-gram sub-sample with a gravimetric finish. Samples that assayed over 1,500 g/t silver were re-assayed using a standard 30-gram fire assay with a gravimetric finish (ALS Method Code Ag-CON01).

Samples that assayed between 100 to 500 g/t silver and/or over 1% zinc and/or 1% lead were re-assayed using ALS Method Code ME-OG62. The method uses a 0.25-gram sample weight and the same four acids as Method Code ME-ICP61, but dilutions and calibrations are appropriate for higher grade samples.

The analytical methods for gold and over-limit silver are consistent with the methods used for earlier Levon drill programs.

After 2019, all drill core was analyzed using an industry-standard four-acid "near-total" digestion. The Levon samples from 2013 and 2014 were analyzed using aqua regia to digest the sample; this approach is known to produce only a "partial" digestion, with the percentage of an element that is not dissolved by aqua regia varying from element to element. Since some elements in non-sulphide mineralogy may report lower with an aqua regia digest than they would with a four-acid digest, there is a possibility of a slight negative bias in mineral resource estimates in the vicinity of samples from holes drilled in 2013 or 2014. No attempt has yet been made to quantify this bias, or to correct for it; but given the very limited amount of drilling done in those years, less than 10% of Levon's holes (Table 11-1), the impact of having some aqua regia digest assays in the assay database is believed to be very minor.

11.3.3 Sample Security

Drill core is logged and sampled in a secure core storage facility located at the project site 40 km north of the city of Parral.

Drill core is placed into corrugated plastic core boxes at the drill site by the drillers. Tied core boxes are organized within the drill pad area and remain under the driller's supervision until it is collected by Discovery Silver personnel. The core is collected twice a day and transported to the Discovery Silver core logging facility within 1.5 km of the drill site.

After the drill core is sawn in half and placed in plastic bags. Groups of 4 to 5 sample bags are placed into large, poly-weave rice bags with their content marked on each bag. The bags are securely sealed and moved to a storage facility controlled by the company geologists. Twice per week, an ALS truck picks up the sample bags from site and delivers them directly to the ALS laboratory in Chihuahua for sample preparation.

The drilling area and camp site facilities are on a private property with restricted access to the public. The access gate remains locked at all times and only the landowners, drillers, and Discovery Silver personnel have a key to open the gate.

11.3.4 Quality Assurance and Quality Control

To ensure reliable sample assays, Discovery Silver has a rigorous quality assurance and quality control (QA/QC) program that monitors the chain of custody of samples and includes the insertion of blanks and certified reference materials (CRMs) at consistent intervals within each batch of samples.

The assays for quality control samples are reviewed as certificates received from the laboratory. Quality control failures on a batch basis are identified and investigated as required.

The following submission rates are used for quality control samples:

- Blanks are inserted every 18 samples.
- Standards are inserted every 15 samples.
- Checks of pulp duplicates are inserted every 100 samples.

11.3.4.1 Blanks

A landscaping rock, purchased from Home Depot locally, is used as the blank or barren sample material. The blank material is composed of reddish to greenish vesicular basaltic volcanic rock with a 3 cm average particle size weighing approximately 0.5 kg per sample submitted.

A total number of 4,746 blanks were inserted between July 2021 (PEA) and July 13, 2022 (PFS). Of these blanks only 26 values were over the upper threshold for gold, silver, and lead (23 of the 26 values). Maximum allowed values were set at five times detection limit for gold (0.025 g/t); five times detection limit for silver (2.5 ppm); lead to 725 ppm (0.0725 %) and zinc to 630 ppm (0.0630 %).

To resolve these results, a second or third verification reanalysis was completed as needed until the correct blank analysis or a value to within the upper threshold expected range was received. The majority of the blanks submitted had over-threshold values for gold, silver, and zinc well within expected ranges.

11.3.4.2 Certified Reference Materials

Discovery Silver purchased commercially available CRMs from Ore Research & Exploration Pty Ltd. of Australia. The materials are fine-grained, well-homogenized and assayed at a minimum of 25 laboratories to determine expected values. The matrix of the materials is from a rhyodacite volcaniclastic succession and mineralization assemblage that includes sphalerite, chalcopyrite, and lesser galena with a gangue of pyrite, pyrrhotite and magnetite. The CRMs are submitted as received in foil packets that have been nitrogen-flushed to eliminate oxidation.

Both CRMs 621 and 623 have been used for the entire period. CRM 622 was used in 2019 to 2020. CRM 620 was introduced in 2020 and CRM 624 was introduced in 2021.

The expected results for reference materials are summarized in Table 11-5 along with the average of the reported results for 2019 to 2022. The average reported values agree within ±2% of the expected values for all the elements and CRMs.

There was a low number of QC failures (less than 1%). All QC failures were rigorously investigated and where necessary, repeat assays were requested. ALS re-issued 40 corrected certificates and the revised assays were added to the database.

Table 11-5: Summary Table of Results for Certified Reference Materials used in the 2022 Mineral Resource Estimate

CRM Number	Number of Times Inserted	Expected Value	Standard Deviation	Average of Reported Values
Silver g/t				
620	3049	38.5	1.113	38.975
621	1843	69.2	2.010	69.021
622	108	102.0	2.185	101.409
623	3334	20.4	1.067	20.719
624	1417	45.3	1.260	45.440
Gold (g/t)				
620	3049	0.685	0.021	0.682
621	1843	1.25	0.028	1.257
622	108	1.85	0.025	1.841
623	3334	0.827	0.016	0.827
624	1417	1.16	0.030	1.165
Pb (%)				
620	3049	0.774	0.021	0.778
621	1843	1.36	0.023	1.347
622	108	2.21	0.044	2.168
623	3334	0.25	0.023	0.247
624	1417	0.624	0.016	0.610
Zn (%)				
620	3049	3.15	0.057	3.134
621	1843	5.22	0.100	5.233
622	108	10.24	0.192	10.130
623	3334	1.03	0.092	1.016
624	1417	2.40	0.044	2.363

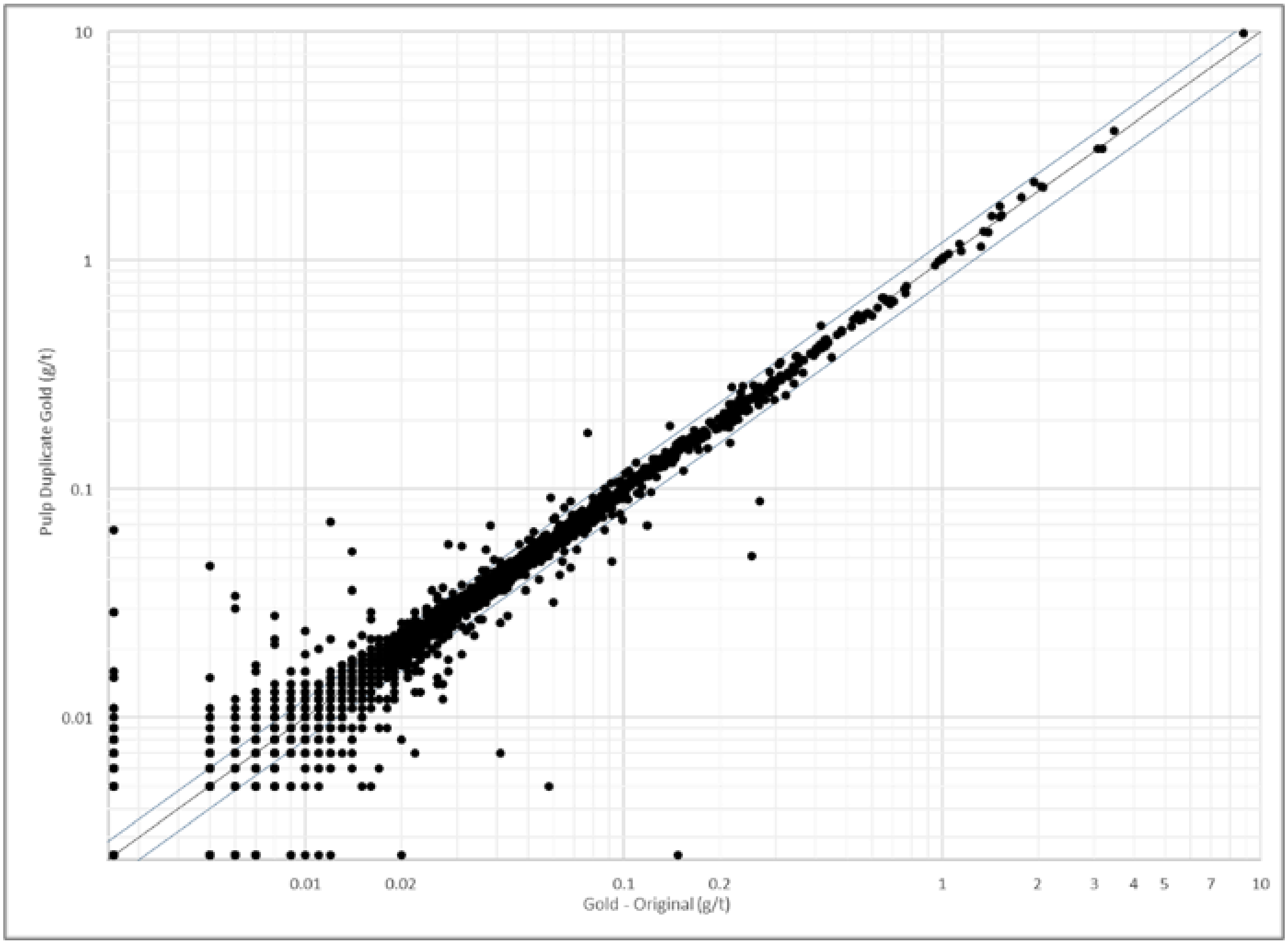
Source: Discovery Silver, 2022

11.3.4.3 Pulp Duplicates

ALS Geochemistry includes pulp duplicates routinely to internally monitor the precision of its assays. For samples analyzed by ALS in 2020 and 2021, data for 2,463 routine internal laboratory pulp duplicates were retrieved from ALS Geochemistry's Webtrieve client data management system. For samples with Pb and Zn greater than ten times the detection limit, approximately 90% of the Pb and Zn pulp duplicates agree within ±5%. For samples with silver and gold greater than ten times the detection limit, approximately 90% of the Au and Ag pulp duplicates agree within ±10%.

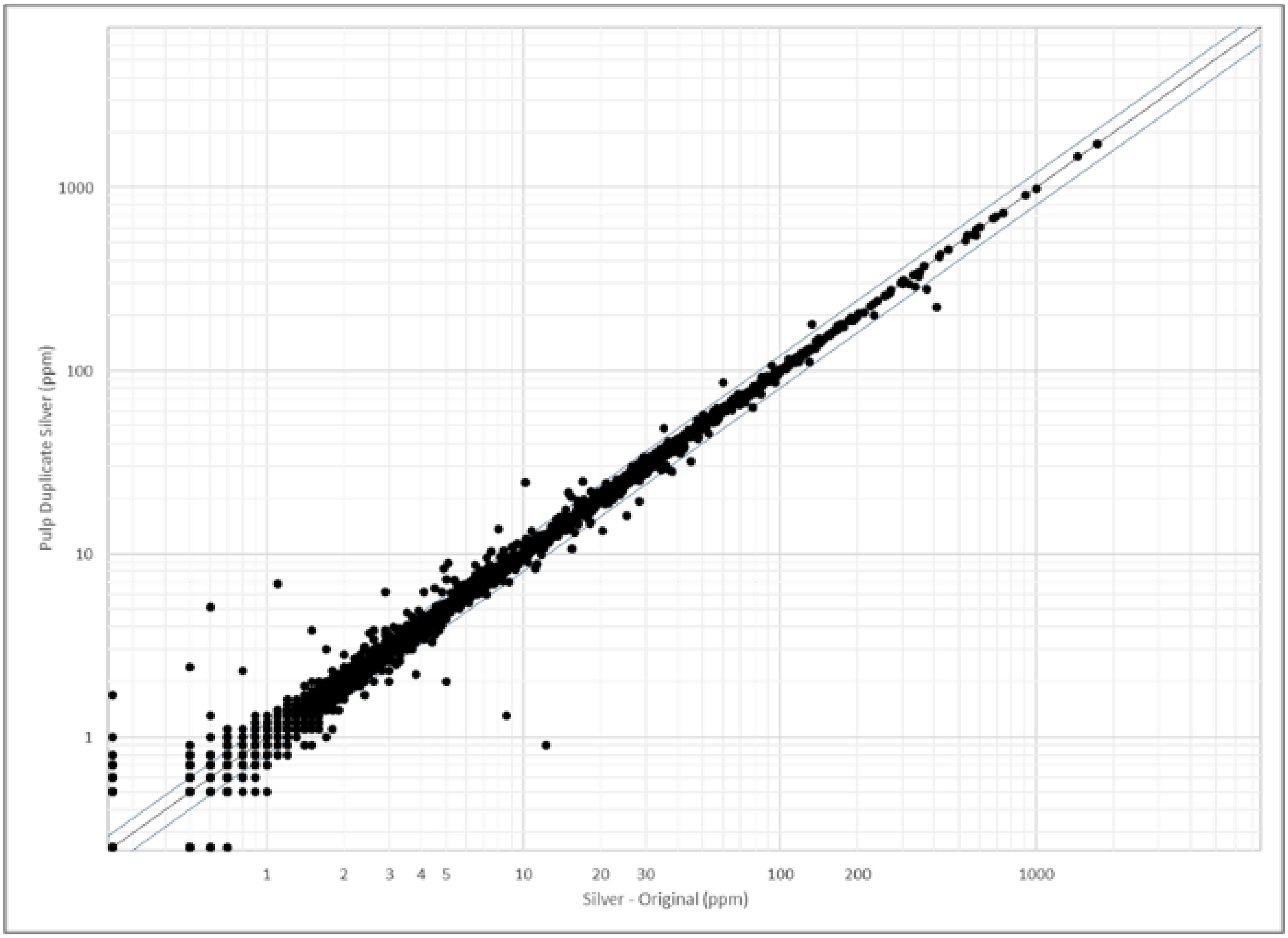
A comparison of pulp duplicates is shown in Figure 11-1 and Figure 11-2 for gold and silver, respectively. The blue lines represent ±20% error bars.

Figure 11-1: Comparison of Pulp Duplicates for Gold



Source: Discovery Silver, 2022.

Figure 11-2: Comparison of Pulp Duplicates for Silver



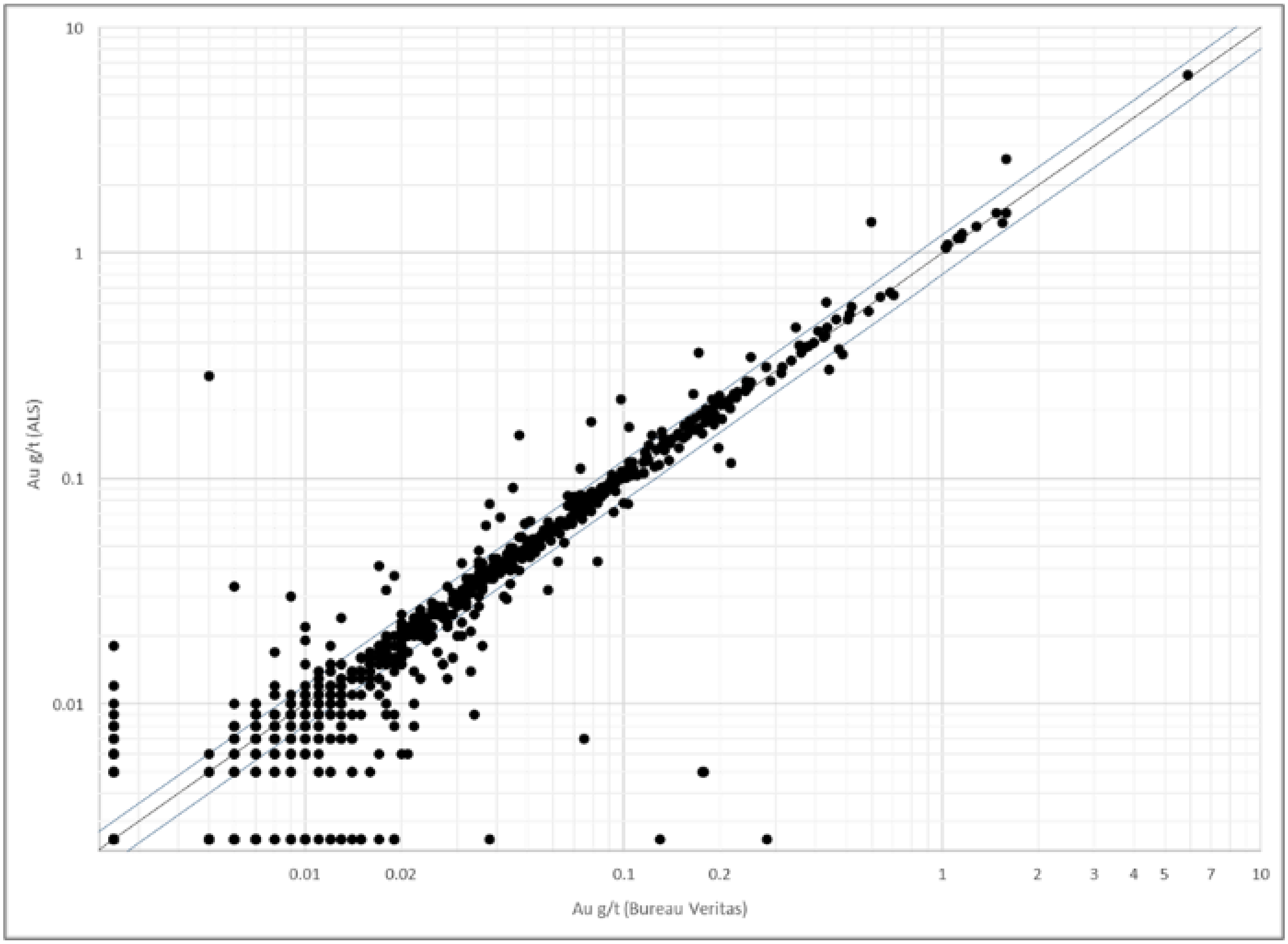
Source: Discovery Silver, 2022.

Precision for the pulp duplicates is within expectations for the analytical methods and generally improves with concentration, as is expected for all analytical methods.

11.3.4.4 Pulp Duplicate Check Assays

The sample pulps prepared at ALS were submitted for check assay to Bureau Veritas Commodities Canada Ltd. (Bureau Veritas), a laboratory that is independent of Discovery Silver and accredited by the Standards Council of Canada to the ISO/IEC 17025 standard. A total of 878 gold and silver assay results from both ALS were submitted to Veritas and were taken from drill holes C19-293 through C21-506.

Figure 11-3: Comparison of Gold from Pulp Duplicate Check Assays



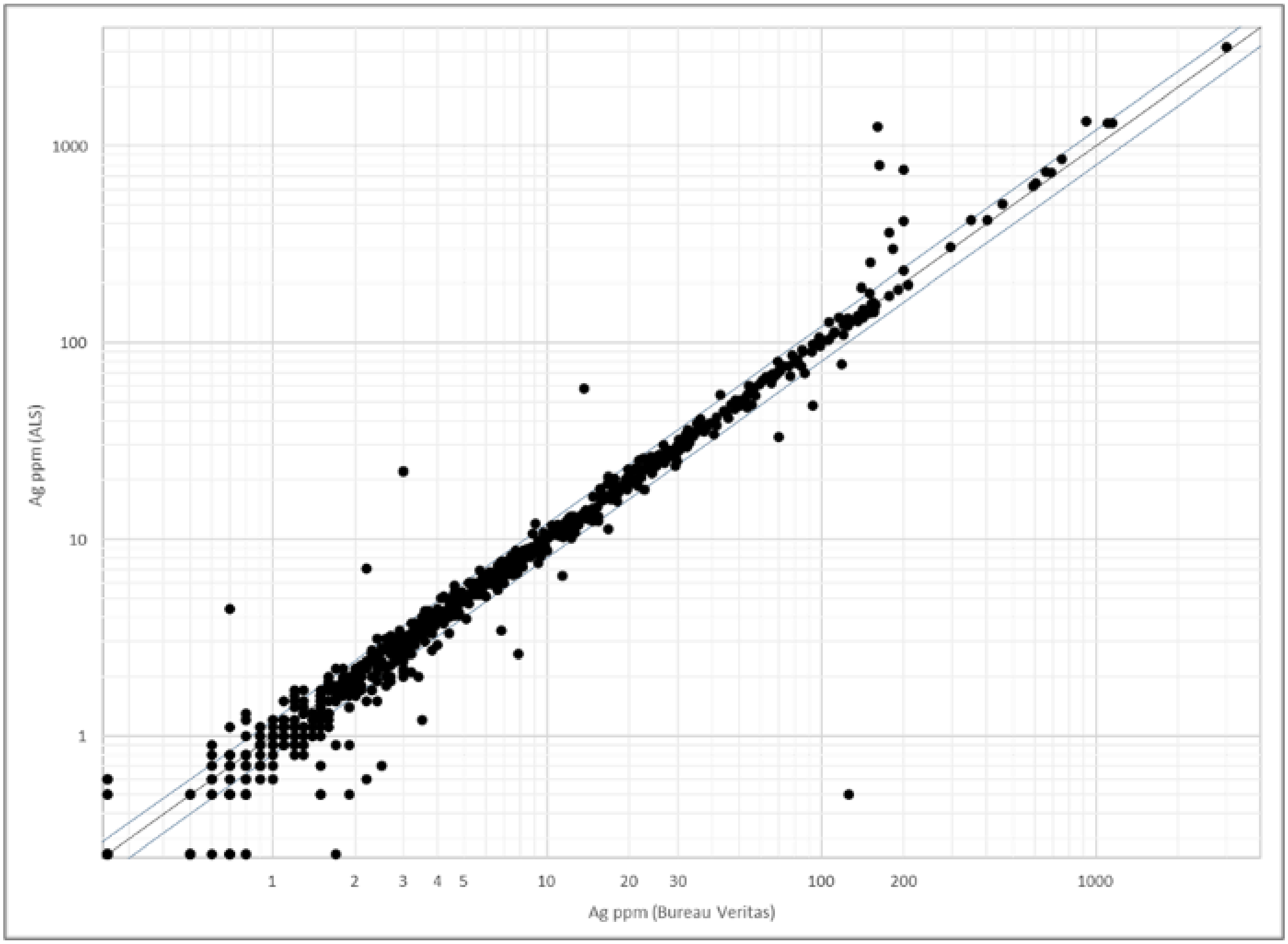
Source: Discovery Silver, 2022.

The gold values lower than 0.05 g/t gold at ALS reproduce as lower than 0.05 g/t gold at Bureau Veritas. Most of the results from the two laboratories agree within ±20%, but as expected, there is more variability in comparing gold results than for the other elements in the technical report. The variability of the gold assays is expected and is related to sub-sampling of the pulp.

The gold assays at both laboratories agree well, as shown in Figure 11-3. The blue lines represent ±20% error bars.

Samples with silver greater than 10 ppm generally repeated within ±20% and did not demonstrate a bias up to 200 ppm silver. This is within an acceptable range. For context, the silver results for pulp duplicates analyzed at ALS were generally within ±10% so that approximately half of the variability is accounted for with sub-sampling the pulp.

Figure 11-4: Comparison of Silver from Pulp Duplicate Check Assays



Source: Discovery Silver, 2022.

For the samples with silver over 200 ppm, ALS assays are higher, on average, by approximately 5%. The ALS method for this concentration range is a four-acid digest with an ICP finish but Bureau Veritas used a fire assay method (Method Code 550). It is not unusual for fire assay to under-report silver if the effect of volatilization is not accounted for properly.

There are several samples that plot as 200 ppm silver by Bureau Veritas but are values reported as greater than 200 ppm silver but not re-assayed by an over-range analytical method.

The silver assays at both laboratories agree, as shown in Figure 11-4. The blue lines represent ±20% error bars.

Both Pb and Zn were determined by Bureau Veritas using a four-acid digest and ICP finish similar to the ALS method. Bureau Veritas only reported Pb up to 10%. There is no evidence of bias between the ALS and Bureau Veritas assays for Pb and Zn.

11.3.4.5 Core Duplicates

For the Levon drill programs, IMC reviewed duplicate assay data for holes C11-98 to C14-274 as part of its work to develop the September 2014 Mineral Resource Estimate (Levon Resources Ltd., 2017). The 2017 Levon data provided to IMC consisted of 221 assays run on core duplicate samples prepared by ALS from holes C17-275 to C17-292, representing one duplicate assay approximately every 13th sample. IMC found a good agreement between the average of the assays from the original assays to the average from the check assays and concluded that there was no systematic bias caused by the method of splitting the core.

Lynda Bloom of Analytical Solutions Ltd. (Analytical Solutions) reviewed the data for 593 drill core duplicates collected during the drilling campaigns ending 2021. Discovery Silver's internal QA/QC database manager reviewed the data for the drill hole core duplicates collected during the 2022 drilling campaign.

Core duplicates were prepared by sawing the second half of the drill core in half again, thus creating a quarter-core duplicate. The last quarter of the drill core was returned to the core box for archiving. The depth intervals were the same for the original and duplicate core samples.

Core duplicate assays are collected primarily to measure the expected sampling variability between two halves of the core. Most companies find it is prudent to retain some drill core for auditing purposes and therefore it is industry practice to only use a quarter core for the duplicate sample. As a result, the quarter core duplicates do not provide a true representation of the sampling error associated with routine submission of half of the core.

In 2021, Analytical Solutions determined that better than 80% of the paired silver, gold, lead, and zinc assays agreed within ±50%. These results for half-core versus quarter-core duplicates from the Cordero project are typical of coarse-grained mineralization in base metal projects.

There were 12 cases in the 2019 dataset that had ten-fold differences in the assays for two or more elements. These broad differences may be caused by the style of mineralization, sample numbering issues, analytical problems, or many other possible sources of error. However, no action is taken when there are extreme differences as it is not possible to set a quality expectation for core duplicates and it would be difficult to define a suitable corrective action.

Analytical Solutions determined that sufficient core duplicates had been collected at the Cordero project to provide guidance on the impact of splitting core. The 2019 data can be used to inform future resource models and further core duplicates are not required.

It is the opinion of the QP that the sample preparation, security, analytical procedures, and quality control practices of Discovery Silver meet or exceed industry standards and that data from Discovery Silver's drill holes are acceptable for the estimation of the current 2022 Mineral Resource Estimate. Furthermore, the data collected by the previous owner, Levon, also has the reliability needed for use in mineral resource estimates. Accordingly, the merging of the Levon and Discovery Silver databases is appropriate for the purposes of mineral resource estimation.

11.3.5 Bulk Density Measurements

11.3.5.1 Dry Bulk Pulp Density Determination

For 8,064 samples, approximately one in every 12 samples, the grain density of the dry pulp material was measured using ALS Method Code OA-GRA 08b. Specific gravity was determined on a 3-gram split of the prepared pulp. The sample was weighed into an empty pycnometer. The pycnometer was then filled with a solvent (methanol or acetone) and weighed. From the weight of the sample and the solvent displaced, the specific gravity is calculated as follows:

$$\text{Dry grain density} = \text{Weight of sample (g)} / \text{Weight of solvent displaced (g)} \times \text{Specific Gravity of the Solvent}$$

ALS uses a silica sand with a density of 2.76 for its internal monitoring of the accuracy of its density measurements.

These are grain density measurements that will run higher than in-situ dry bulk density because the pulp powder no longer has the porosity that the rock sample had before it was pulverized. For mineral resource estimation, adjustment factors were developed for converting grain density measurements to reflect the lower dry bulk density. These were based on pulp density measurements and dry bulk density measurements done as part of the metallurgical testwork program.

11.3.5.2 On-Site Specific Gravity (SG) Density Determination and Additional Dry Bulk Density Determinations

Starting in November 2021, Discovery Silver used the whole core water immersion method for density determinations using the following formula:

$$\text{Density} = MA / (MA - Mw)$$

Core samples free of visible moisture were selected ranging between 10 to 20 cm in length with an average of 15 cm. The samples were dried, weighed in air on a digital scale (capacity of 2.5 kg), and the mass in air (MA) was recorded to the nearest 0.1 g. The sample was then suspended in water below the scale and its weight in water (Mw) was recorded to the nearest 0.1 g.

A total of 6,569 density measurements were completed from November 2021 to the end of August 2022. QA/QC protocols consisted of one set of duplicate measurement within each group of 30 samples and determination of the two standards Standard A and Standard B (core sized pieces of aluminum). Density measurements were selected in intervals within continuous rock units, and at least once in each lithology type within a given interval. SG samples were chosen that were typical of the surrounding lithology types. When the sample interval occurred in a section of missing drill core, or poorly consolidated material deemed unsuitable for measurement, the nearest neighbour of intact competent core was selected for SG determination.

Additionally, approximately 10% of the on-site samples (or 875 samples) analyzed for SG determinations were sent to ALS Vancouver for dry bulk density determinations. A total of 919 samples were sent to ALS Vancouver between February to May 2022.

Despite the core sample selected for SG determination being free of moisture and ranging between 10 to 20 cm in length, a number of observations were noted:

- The on-site SG determinations were in general 0.03 SG lower than the ALS dry bulk SG determinations.
- The SG differences ranged from 0.00 to 0.06 (0.6 for BrxPhreato and Veins) in general for all the on-site SG determinations.
- Unusual outliers included an SG of -0.01 for skarn samples and an SG of -0.03 vein samples when compared to all on-site determinations.
- The weights measured by the on-site scale (with an accuracy ±0.1 grams) are lower than expected (0.78 grams based on mean weight for Standard A – certified 500 grams), which may be a factor in the lower SG results.

The difference in SG results between the ALS dry bulk density and corresponding on-site SG determinations is due to several factors: moisture content, variations in outside temperatures, effects from cross breezes, operator error (poor calibration practices), and table vibration affecting scale measurements.

The distribution of both the on-site SG determinations (6,569 samples) and the ALS dry bulk density samples (875 samples) are of sufficient density and quality to provide good SG data for the 2022 resource pit.

11.4 QP Opinion

The QP concludes that the sample preparation, security, and analytical procedures are appropriate and adequate for the purpose of this technical report. The sample methods and frequency are appropriate, and the samples are of sufficient quality to comprise a representative, unbiased database.

12 DATA VERIFICATION

12.1 Database Verification

Discovery Silver has developed an extensive dataset for the Cordero project that is stored and managed using a GeoInfo Tools database management system designed for the mining and mineral exploration industry. Gernot Wober, VP Exploration for Discovery Silver, oversaw the data verification assessment on 66,300 samples from 252 of the 292 drill holes that Levon collected between 2009 and 2017. A total of 191,866 drill core samples collected between 2019 and 2022 are included in the 2022 mineral resource estimate (see Table 11-3). Discovery Silver did not use 40 of the 292 historical drill holes that fall outside of the 2022 mineral resource estimate.

Mr. Schwering compiled the assay certificates for 222 drill holes completed in 2021 and 2022. The subset of data includes 66,296 samples totalling 74,298 meters of sampling. The data subset accounts for approximately 25.9% of the total sample length included in the Leapfrog project, which serves as the basis for the mineral resource estimate. The compiled assay certificates were used to validate the silver, gold, lead and zinc values included in the Leapfrog database. Only 19 samples from two drill holes in the Leapfrog database had differing values from the compiled certificates, a percentage of 0.03%. All 19 records were in zones of very low-grade mineralization and will not materially impact the mineral resource estimate.

In addition to the manual audit of assay information contained in the database, Leapfrog also automatically mechanically audits the drill hole information checking for interval overlaps, gaps, duplicate intervals, total drill hole length and ID inconsistencies, non-numeric assay values, and negative numbers. All issues identified during the mechanical audit process were corrected prior to completing the mineral resource estimate.

Mr. Schwering believes the databases provided by Discovery Silver to be reliable and does not consider the minor discrepancies encountered during the verification process to be of material impact to the 2022 mineral resource data included in this estimate.

12.2 Site Visit by Hard Rock Consulting, LLC

J.J. Brown and Richard Schwering of Hard Rock Consulting, LLC (Hard Rock), the QPs, conducted a brief site visit from January 17 to 19, 2023. The weather during the site visit was sunny and clear, with cool morning temperatures warming to mild temperatures in the afternoon. Mr. Osbaldo Zamora-Vega Ph.D., P. Geol., was the company representative during the site visit and is currently employed by Discovery Silver as the Director of Geology.

The first day of the site visit started with a tour of the exploration camp facilities including the geology personnel office, core logging facility, and the core cutting and sampling facility. Active core sawing was being completed during the tour and the observed procedures conformed to those described in Section 11 of this report. Following the exploration camp tour, The QPs accompanied Mr. Zamora-Vega on a surface tour of the Cordero project. The surface tour included stops at several outcrops and old mine workings representing the rock types and mineralization expected near the surface of the deposit. The surface tour additionally included a stop to observe core drilling being conducted on site. The core drilling process largely conforms to what is described in Sections 10 and 11 of this technical report. Finally, the QPs noted the collar locations by Levon and Discovery Silver are clearly identifiable and permanently marked.

Day two of the site visit was spent in the core logging facility reviewing core intervals requested by the QPs. The requested intervals totalling 395 meters span the strike length of the deposit and include both mineralized and unmineralized representations of the major lithologies present on the property. A review of the core showed agreement and consistency between the lithology in drill hole logs and core observations. Where high-grade mineralization was present in the assays, a review of the core confirmed the presence of sulphide mineralization including sphalerite, galena, minor chalcopyrite, and abundant pyrite. Oxidation in the core was observed to be discrete, supporting the interpretation of the boundary in the mineral resource estimate. Finally, some of the intervals were selected because they intersected significant faults in the geological model. Intervals with poor rock quality determinations (rqd), otherwise surrounded by competent rock, were found within ±10 meters of the modelled fault location. These rubbly zones can be interpreted as fault intersections and lend support to the structural interpretation of the deposit.

The morning of day three was spent by Mr. Schwering reviewing the database procedures used at the Project Site. The GeoInfo Database, which manages drill hole intervals, includes internal checks to limit inaccuracies being accepted into the master database. The GeoInfo database is synchronized to a master server located in Tucson, Arizona, U.S.A. The collar and down-hole survey information are stored in a separate IMDEX HUB-IQ database. The IMDEX HUB-IQ also contains several internal checks to prevent inaccurate data being entered into the database.

12.3 QP Opinion

The site visit confirmed the geological model and deposit type presented in the technical report. The mineralized intervals reviewed during the site visit match closely for silver, lead, and zinc with visually observed sphalerite, galena, and rare tetrahedrite, chalcopyrite and pyrrhotite. The site visit and discussions with Discovery Silver personnel conform to the core handling, logging and sampling procedures described in Sections 10 and 11 of this technical report. Given the advanced stage of the project, checks of collar location using a handheld GPS and check samples of the core are considered unnecessary by the QPs. It is the opinion of the QPs that the data is representative and suitable for use in the current 2022 mineral resource estimate.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

Extensive metallurgical testwork has been undertaken on the Cordero project by Discovery Silver, and previously by Levon Resources dating back to 2011. The various phases of testwork have culminated in the selection of a robust, differential lead-zinc flotation flowsheet after relatively coarse (P_{80}=200 µm) primary grinding via conventional milling. This flowsheet has been proven to be effective across upwards of 50 variability, master and blended (oxide and sulphide) composites with average locked cycle test performance from the 2022 PFS program returning the following results:

- lead/silver concentrate grading 56% Pb and 3,217 g/t Ag at lead and silver recoveries of 87% and 75%, respectively
- zinc concentrate grading 52% Zn and 346 g/t Ag at zinc and silver recoveries of 85% and 10%, respectively
- global silver recovery (to lead and zinc concentrates) of 85%.

Due to the relatively coarse primary grind and concentrate regrinds, the concentrates and tails generated via the flotation circuit dewater readily. The majority of the final tails products from locked cycle testing have been shown to be non-acid-generating, with a relatively minor amount of samples being classified as potentially acid generating. Comminution testwork conducted on variability samples and composite blends indicate that Cordero ore exhibits a hard average Bond ball work index of 19 kWh/t and is classified as moderately competent with an average Axb value of 54.

Heap leaching of the oxide zone was considered for additional silver recovery, but column leach and bottle roll testwork was suspended in 2022 in favour of blending the oxide material in with the sulphides at low blend ratios, via the flotation circuit.

13.1 Previous Testwork Campaigns

Five phases of metallurgical testwork have been conducted on Cordero samples since 2011. The first two phases were completed under previous ownership (Levon Resources, described in "NI 43-101 Technical Report Preliminary Economic Assessment Update", April 18, 2018), and recent PFS phases undertaken by Discovery Silver. A brief overview of the three programs is provided below:

1. Preliminary Flotation Study (METCON, Tucson, AZ - August 2011) – The scope of work included sample preparation and head assay of 12 composite samples, comparative Bond ball work index tests, abrasion index testwork and sequential lead-zinc rougher flotation. As part of this study, 21 drill core samples were submitted to Terra Mineralogical Services (TMS) in Peterborough, ON for optical microscopy.
2. Metallurgical Evaluation of The Cordero Deposit (ALS Metallurgy, Kamloops, BC - August 2013) – Three production year composites (Years 1-2, Years 3-5 and Years 5+) were submitted for mineralogical analysis via QEMSCAN, batch rougher and cleaner flotation optimization and locked cycle testing using the optimized conditions for each composite.
3. Cordero PEA Metallurgical Testwork Program (Blue Coast Research, Parksville, BC - October 2021) – Testing was completed on 25 composites from across the oxide, transition and sulphide areas of the deposit. The sulphides were also tested by lithology (volcanic, breccia and sediments by pit phase). QEMSCAN mineralogy was conducted on 12 oxide and sulphide composites and comminution testwork (BBWI, BRWI, SMC and abrasion index) was conducted on select samples. The flotation conditions were further optimized for the sulphides and condemnation flotation

tests were completed on the oxide composites. Flotation testwork culminated in locked cycle testing using the optimized flowsheets for each sulphide composite. Coarse and fine cyanidation bottle roll tests were conducted on oxide and transition samples, and preconcentration was assessed at a high level via dense media separation and XRT/XRF technology.

4. Cordero PFS Metallurgical Testwork Program (Blue Coast Research, Parksville, BC – December 2022) – Fourteen master and blended (sulphide/oxide) composites and 30 variability composites were subjected to flotation testing using the optimized flowsheet developed in the 2021 PEA program. Flotation testwork culminated in 15 locked cycle tests across selected variability and blended/master composites, adding further confidence in the selected flowsheet. Comminution testwork (10 x SMC tests, 18 x Bond ball work index) were completed in this program, in addition to ABA/NAG testwork on final tails, QEMSCAN mineralogical analysis on the 30 variability composites, dewatering testwork on final concentrates and tails, Eriez Hydrofloat amenability testing, and oxide bottle roll leaching testing.

5. Limited column leaching and coarse bottle roll testwork was undertaken on oxide zone samples from Cordero. This testwork was completed at McClelland Laboratories in Reno, Nevada, but was halted due to a decision being made to blend the oxide material with the sulphide flotation feed at low blend ratios over the life of mine.

This section of the report provides a summary of the work conducted to date on the Cordero project with emphasis on the most recent testwork programs conducted at Blue Coast.

Oversight for the PEA and PFS testwork programs was provided by Mr. David Middleditch of Libertas Metallurgy Ltd. (Libertas), and Mr. Robert Raponi of Ausenco.

13.2 Sample Representivity and Head Assays

The samples selected for the Cordero PEA and PFS are considered representative of the deposit with respect to grade. Samples from the previous phases of testwork (ALS Metallurgy and METCON) were selected by the previous ownership.

The PEA samples were selected by Discovery Silver geologists with input from Libertas according to the following criteria:

- Samples to be selected by pit phase (P23, P29 and P34) and lithology (volcanics, sediments, breccia and oxide). The VOLC, SEDS and BRX lithologies are considered to be sulphide ore types, while the oxide lithology is predominantly oxide with minor amounts of transitional sulphide material.
- Lead, zinc, and silver grades to be representative of the pit phase average grades from the resource model at the time of sample selection, including an allowance for mining dilution.
- Sample intervals to be selected from multiple drill holes, at various depths, providing spatial coverage of each pit phase and lithology.

P23 was representative of the first phase of mining with samples sourced from the Pozo de Plata zone. P29 was representative of the next phase of mining with samples mostly sourced from the NE Extension zone. P34 was representative of the final phase of mining with samples mostly sourced from the south corridor. In total, 12 main lithology/pit composites were selected for the PEA (P23-VOLC, P23-SEDS, P-23-BRX, P23-OX, P29-VOLC, P29-SEDS, P-29-BRX, P29-OX, P34-VOLC, P34-SEDS, P-34-BRX, and P34-OX).

From these composites, the following four main sulphide composites were created:

- VOLC master composite
- SEDS master composite
- BRX composite 1
- P29-BRX (note: the BRX composites were subdivided due to the P29-BRX material not requiring a carbon pre-float ahead of lead-zinc flotation, whereas BRX composite 1 did require a carbon pre-float due to higher organic carbon content).

During the PEA, an additional 10 samples were selected from the low-grade sulphide lithologies and transition/oxide material for cyanide leach testwork.

Table 13-1 summarizes the PEA composite head assays.

The PFS metallurgical testwork program focused on expanding knowledge of the ore variability, while further optimization testwork on master composites built from the PEA lithology/pit composites was conducted in parallel. In total, 30 variability samples were selected for flotation testwork and mineralogical analysis, a further 10 variability samples were selected for comminution testwork, and a single “bulk” composite was selected for the purpose of generating concentrates and tails for dewatering testwork.

The following selection criteria were applied to the variability composites (flotation and comminution):

- discrete samples to be comprised of a continuous drill core interval, yielding sufficient mass for the planned comminution and flotation testwork
- covering a wide range of expected grades from low, mid, to high according to the preliminary mine plan at the time of selection
- weighting of the sample lithologies based on their weighting in the resource
- provide adequate spatial coverage of the deposit according to the mine plan at the time.

The bulk/dewatering composite was selected to be spatially representative of the entire sulphide resource and was comprised of multiple sample intervals from multiple drill holes. The head grade for this composite was targeted to be higher than the resource average to increase the metal units and therefore the mass of the final concentrates, thereby reducing the number of replicate tests required to generate sufficient mass for subsequent dewatering testwork. The PEA composite head assays are presented in Table 13-1.

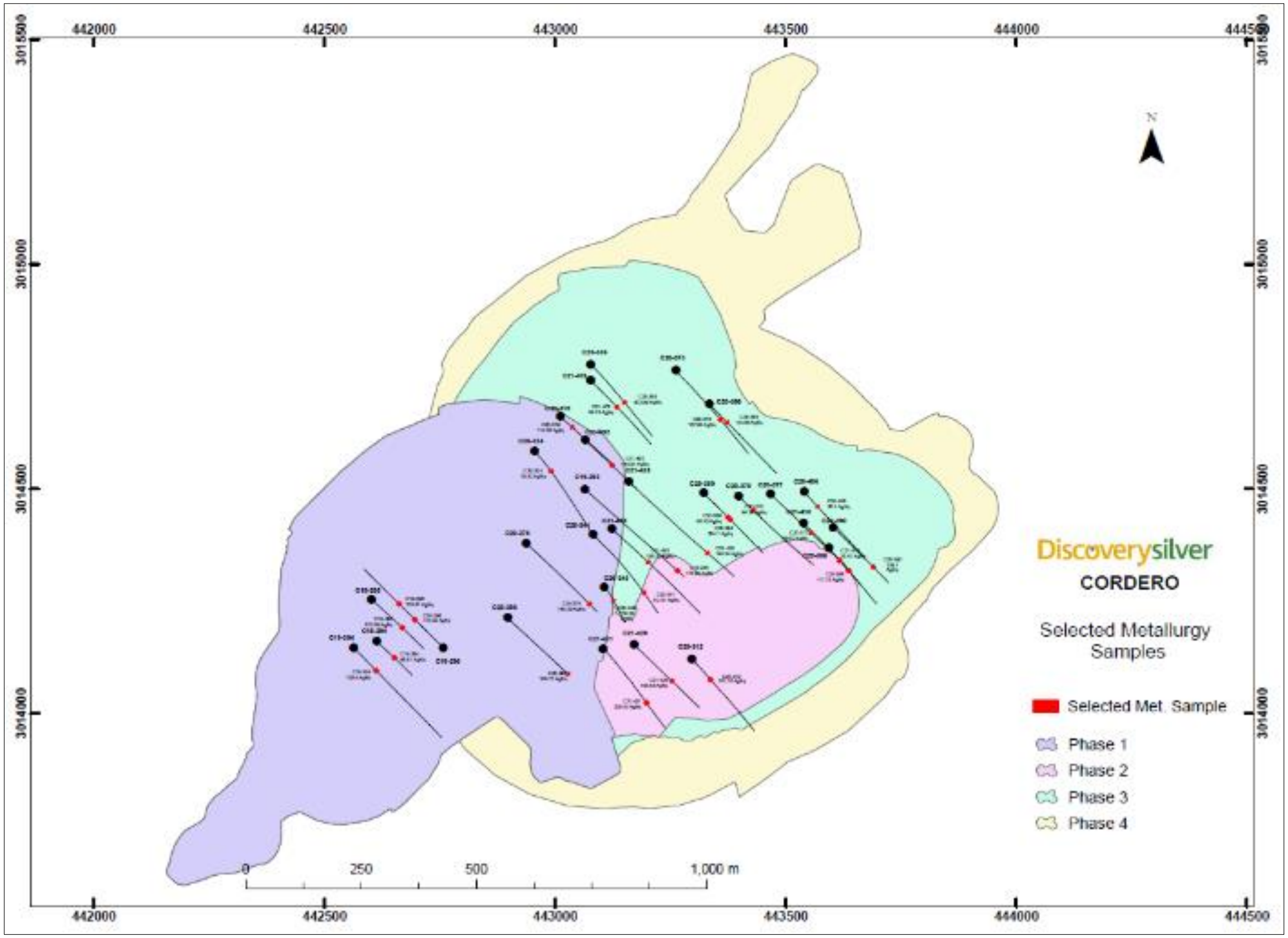
The sample selections are summarized in Figure 13-1 to Figure 13-6, with head assays for the 30 variability flotation samples provided in Table 13-2.

Table 13-1: PEA Composite Head Assay Summary

Composite ID	Assays								
	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Fe (%)	C_T (%)	C_{org}(%)	S_T (%)	S^{2-} (%)
P23-VOLC	0.18	37	0.55	0.63	3.17	0.50	0.02	3.51	3.06
P23-SEDS	0.30	29	0.48	0.30	3.54	5.67	0.24	3.78	3.68
P23-BRX	0.24	42	0.57	0.56	4.04	2.13	0.08	4.65	4.34
P23-OX	0.09	49	0.42	0.10	2.98	0.20	0.03	0.64	0.47
P29-VOLC	0.11	28	0.49	0.63	2.80	0.78	0.03	3.08	2.54
P29-SEDS	0.23	25	0.41	0.53	5.26	3.03	0.09	4.84	4.49
P29-BRX	0.21	40	0.58	0.79	4.45	1.19	0.05	5.27	4.62
P29-OX	0.06	50	0.41	0.20	6.11	0.07	0.04	0.66	0.50
P34-VOLC	0.08	37	0.38	0.81	3.80	1.00	0.04	3.64	3.25
P34-SEDS	0.06	28	0.42	0.83	5.67	2.69	0.19	5.90	5.79
P34-BRX	0.12	32	0.37	0.57	4.18	1.67	0.09	4.11	3.83
P34-OX	0.05	33	0.13	0.18	3.10	0.10	0.03	0.36	0.31
VOLC MC	0.11	35	0.42	0.68	3.44	0.79	0.02	3.20	2.82
SEDS MC	0.11	26	0.39	0.73	5.24	2.94	0.18	5.28	5.09
BRX Composite 1	0.21	40	0.49	0.59	3.92	2.07	0.07	4.41	3.98
Low-Grade VOLC	0.05	12	0.15	0.40	2.22	0.86	0.03	2.54	2.61
Low-Grade SEDS	0.08	17	0.16	0.28	3.52	3.59	0.31	3.74	3.54
Low-Grade BRX-VOLC	0.09	12	0.14	0.34	3.50	1.23	0.07	4.34	4.09
Low-Grade BRX-SEDS	0.16	21	0.27	0.28	4.27	1.79	0.11	5.18	4.85
TransOx-VAR-A	0.01	90	0.05	0.19	1.83	0.01	0.01	0.07	0.06
TransOx-VAR-B	0.05	50	0.23	0.23	3.21	0.01	0.01	0.04	0.02
TransOx-VAR-C	0.17	95	0.19	0.15	2.54	0.01	0.01	0.53	0.46
TransOx-VAR-D	0.04	45	0.14	0.41	1.73	0.41	0.02	0.51	0.47
TransOx-VAR-E	0.10	20	0.26	0.64	2.70	0.04	0.01	1.79	1.49
TransOx-VAR-F	0.02	11	0.13	0.47	3.22	0.39	0.01	1.34	1.18

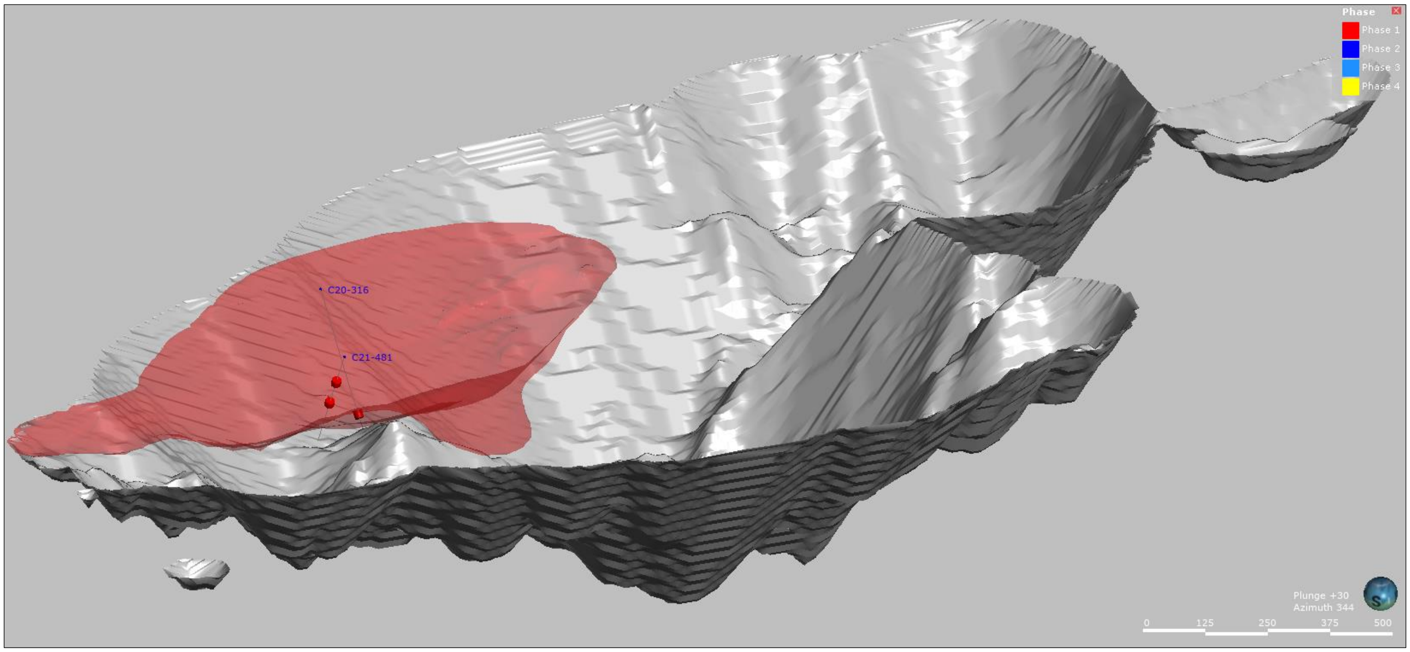
Source: Blue Coast PEA Testwork, 2021.

Figure 13-1: PFS Flotation Variability Sample Locations



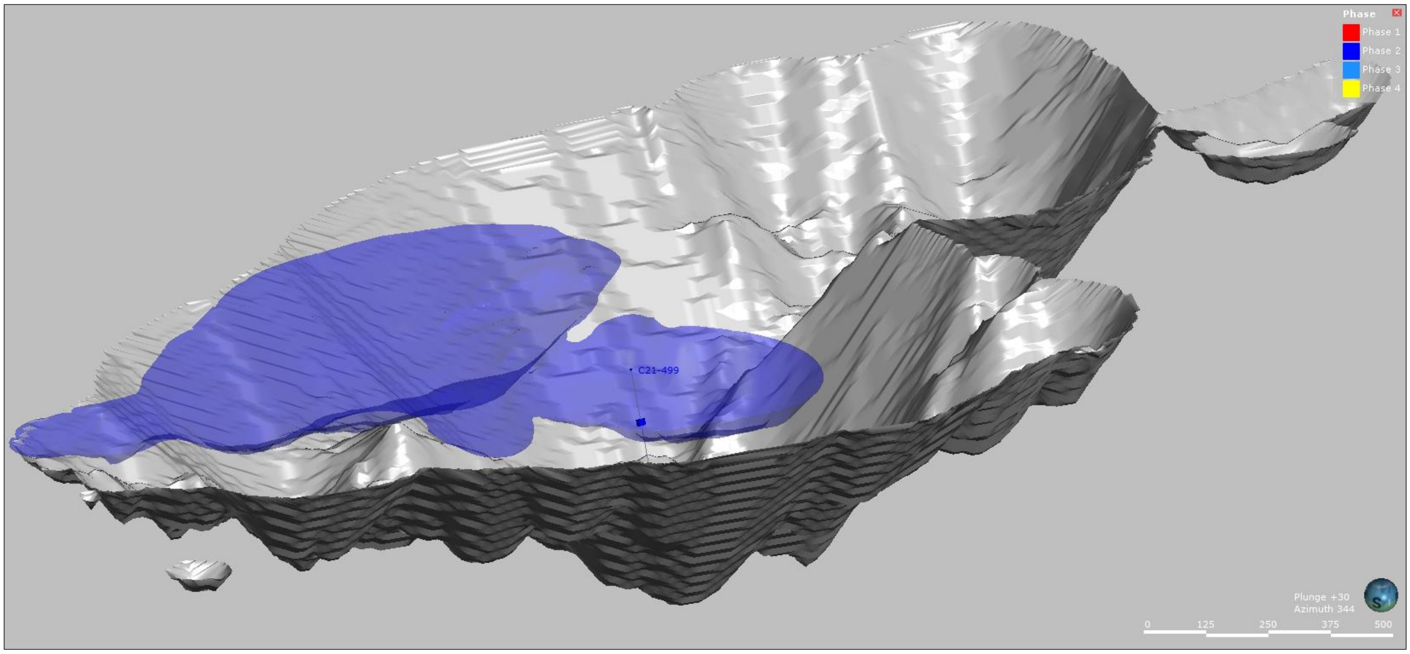
Source: Discovery Silver, 2022.

Figure 13-2: PFS Comminution Samples from Pit Phase 1



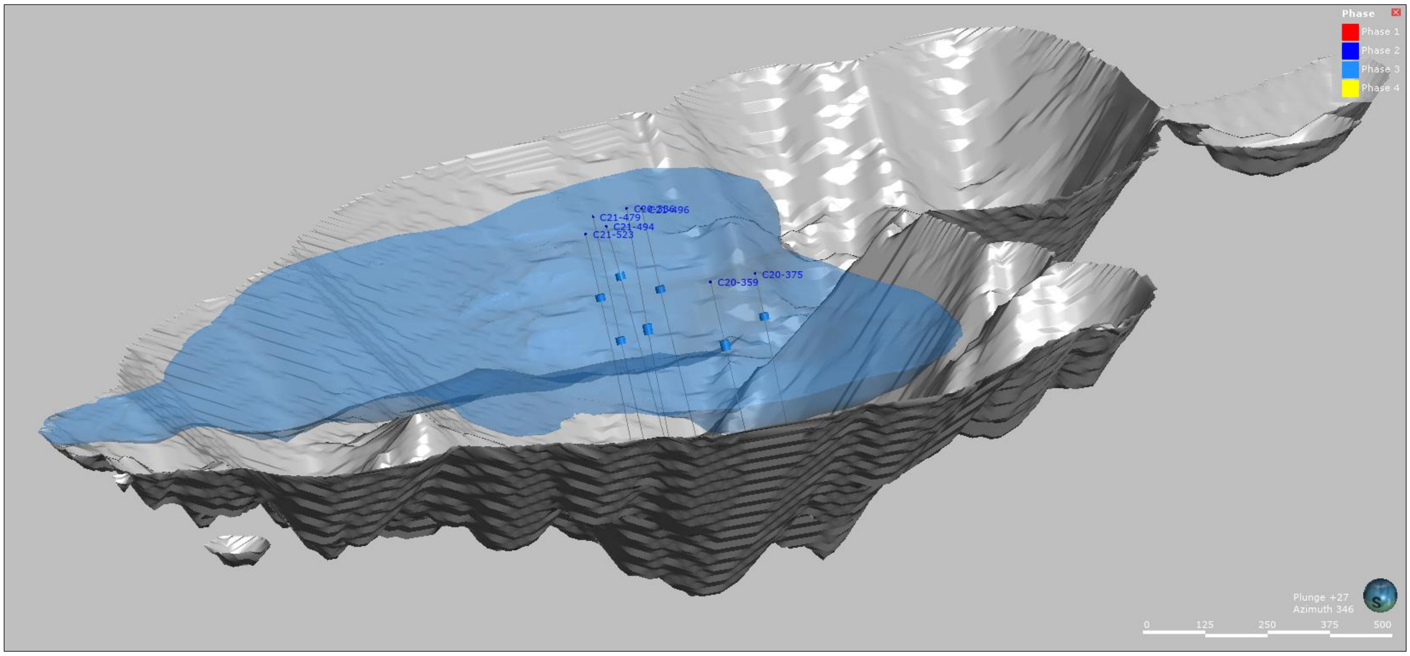
Source: Discovery Silver, 2022.

Figure 13-3: PFS Comminution Samples from Pit Phase 2



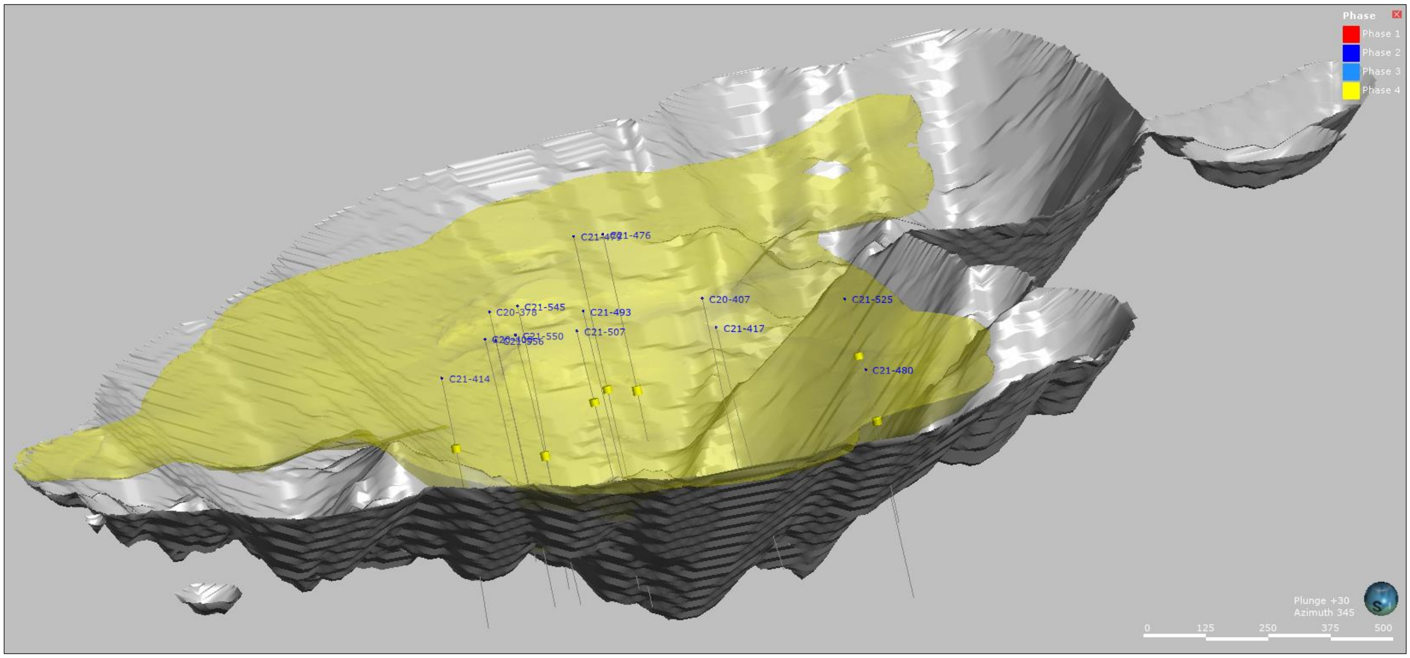
Source: Discovery Silver, 2022.

Figure 13-4: PFS Comminution Samples from Pit Phase 3



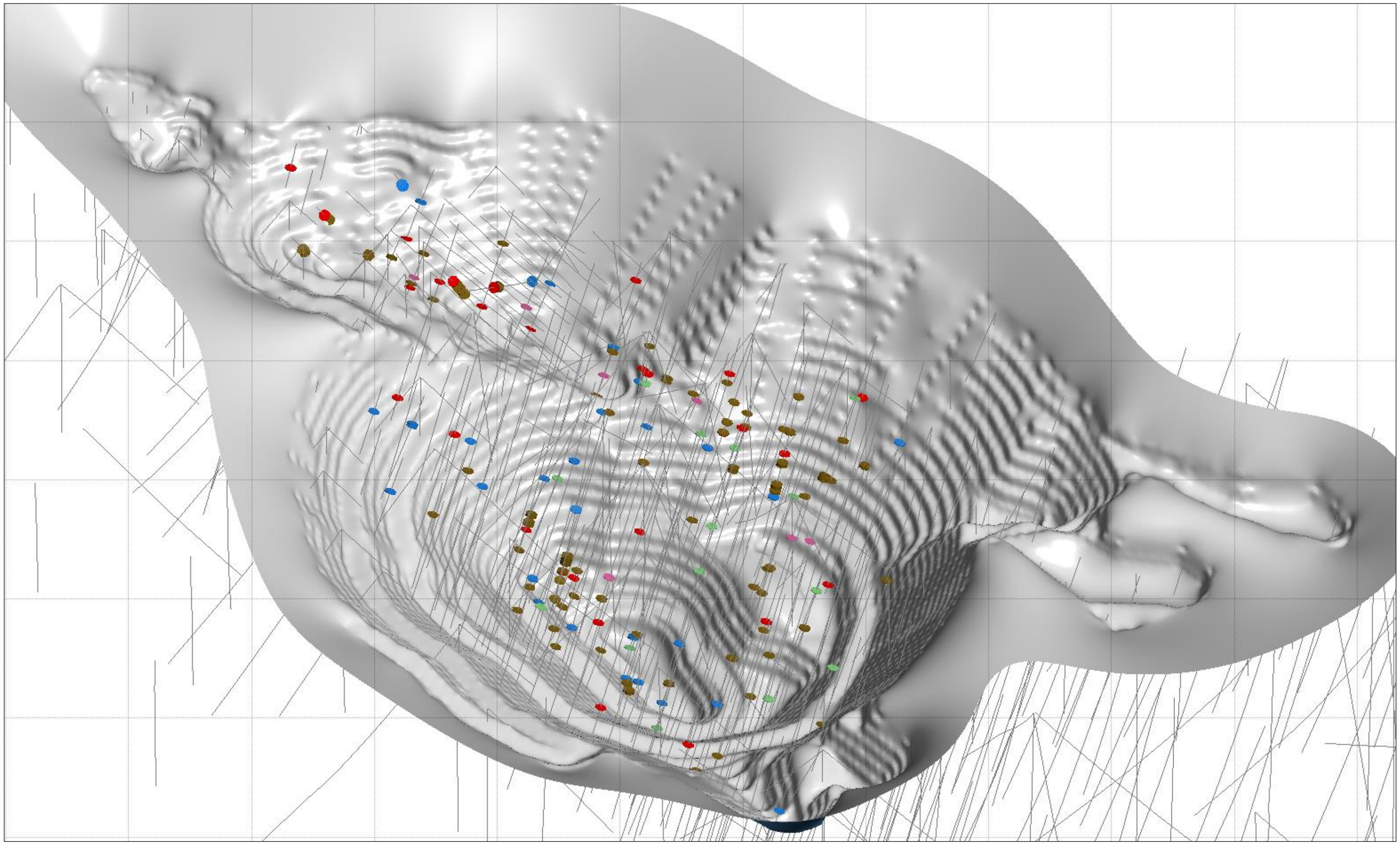
Source: Discovery Silver, 2022.

Figure 13-5: PFS Comminution Samples from Pit Phase 4



Source: Discovery Silver, 2022.

Figure 13-6: PFS Bulk/Dewatering Composite Sample Locations



Source: Discovery Silver, 2022.

Table 13-2: PFS Flotation Variability Samples Head Assays

Composite ID	Lithology	Assays						
		Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Fe (%)	S_T (%)	C_{org} (%)
Flot-01	VOLC HG+	0.24	67	0.98	1.38	4.91	5.88	<0.03
Flot-02	VOLC HG+	0.02	73	0.50	0.63	2.46	3.23	<0.03
Flot-03	VOLC HG+	0.18	63	0.70	1.08	6.31	7.55	<0.03
Flot-04	VOLC HG+	0.05	74	1.95	5.23	4.10	7.22	<0.03
Flot-05	VOLC HG	0.05	43	0.46	0.93	1.95	3.49	<0.03
Flot-06	VOLC HG	0.04	33	0.60	1.30	3.00	3.97	<0.03
Flot-07	VOLC HG	0.03	48	0.64	0.90	3.77	4.01	<0.03
Flot-08	VOLC HG	0.03	41	0.81	1.88	2.43	3.64	<0.03
Flot-09	VOLC HG	0.04	29	0.89	1.58	3.10	4.66	<0.03
Flot-10	VOLC HG	0.02	35	0.63	0.92	2.43	2.60	<0.03
Flot-11	VOLC MG	0.07	30	0.64	0.47	3.78	4.38	<0.03
Flot-12	VOLC MG	0.05	16	0.24	0.98	3.68	4.72	<0.03
Flot-13	VOLC MG	0.02	23	0.58	1.74	1.48	5.66	<0.03
Flot-14	VOLC MG	0.11	28	0.31	0.96	2.70	3.46	<0.03
Flot-15	VOLC MG	0.16	40	0.63	0.90	2.59	3.14	<0.03
Flot-16	VOLC MG	0.06	36	0.74	0.68	3.20	3.97	<0.03
Flot-17	VOLC LG	0.02	11	0.13	0.19	1.48	1.36	<0.03
Flot-18	VOLC LG	0.02	8	0.11	0.31	2.72	3.13	<0.03
Flot-19	SEDS HG+	0.10	39	0.83	1.72	3.97	4.94	0.04
Flot-20	SEDS HG+	0.03	44	0.79	2.21	2.32	3.92	0.95
Flot-21	SEDS HG	0.08	32	1.26	1.81	5.95	7.26	0.10
Flot-22	SEDS HG	0.06	49	0.72	1.94	3.84	4.90	0.21
Flot-23	SEDS MG	0.02	27	0.87	1.11	4.59	5.53	0.32
Flot-24	BRX-VOLC HG+	0.54	230	3.84	2.58	3.06	4.76	<0.03
Flot-25	BRX-VOLC HG	0.07	33	0.40	2.00	3.42	4.60	<0.03
Flot-26	BRX-VOLC HG	0.27	56	0.81	0.53	2.92	3.47	<0.03
Flot-27	BRX-VOLC MG	0.23	34	0.56	0.44	2.67	3.04	<0.03
Flot-28	HORN HG	0.15	27	0.42	2.12	9.89	9.91	<0.03
Flot-29	HORN MG	0.11	35	0.69	1.97	9.44	10.4	<0.03
Flot-30	BRX-SEDS MG	0.49	31	0.29	0.13	2.22	2.42	0.13

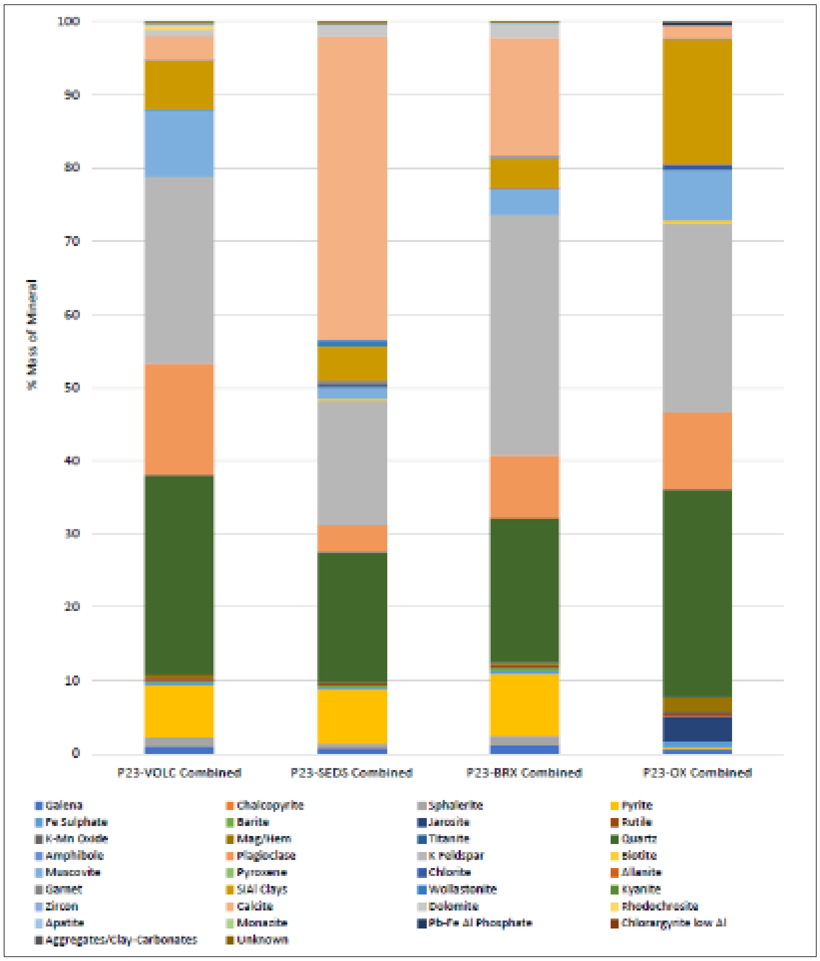
Source: Blue Coast PFS Testwork, 2022.

13.3 Mineralogical Analysis

During the 2021 PEA, QEMSCAN mineralogical analysis was conducted on the 12 lithology/pit phase composites. The analysis was conducted at Actlabs in Ancaster, ON under the direction of Blue Coast and Libertas. Additional QEMSCAN analysis was conducted on the 30 PFS variability samples in 2022, confirming the conclusions derived from the PEA phase. For each lithology (VOLC, SED, BRX and Oxide) a pit phase sample (P23, P29 and P34) was analyzed, giving a total of 12 samples. Each sample was ground to a nominal k_{80} of 120 µm and sized into three size fractions (+75 µm, -75/+38 µm, and -38 µm).

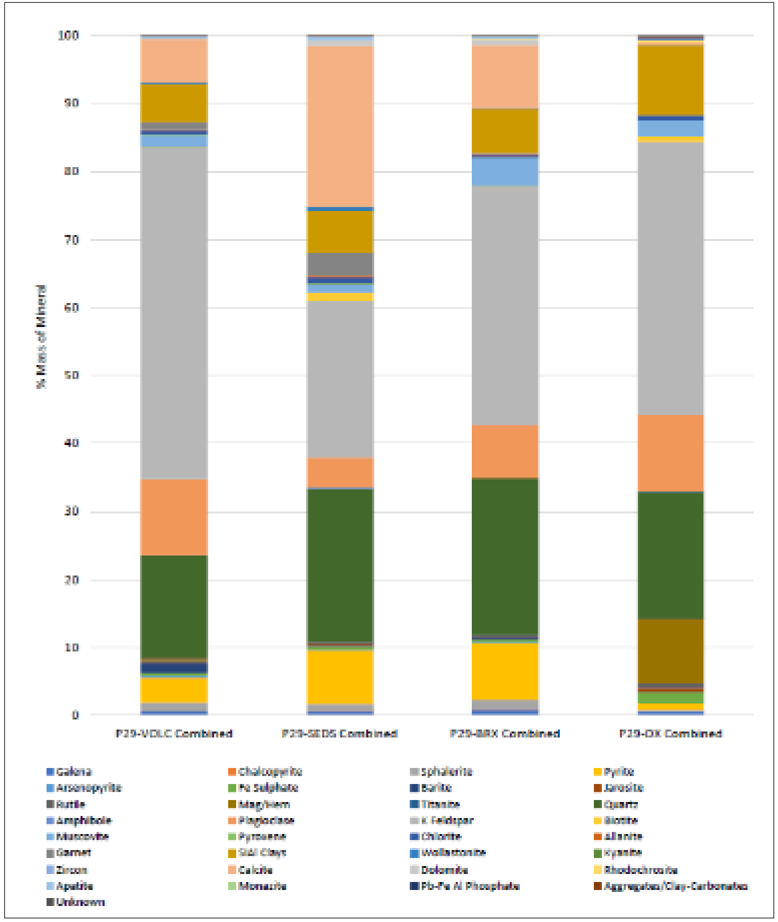
Modal mineralogy indicates that the predominant sulphide mineral contained across the volcanic, sedimentary, and breccia samples was pyrite. Sphalerite and galena were present in the volcanic, sedimentary, and breccia samples to a lesser extent. The oxide composites did not contain significant amounts of sulphide minerals. The gangue mineralogy was dominated by quartz, plagioclase, K-feldspar, Si/Al clays, and calcite. The sedimentary samples contained the largest concentration of calcite, while the oxide samples contained the least calcite. The oxide samples contained the most amount of Si/Al clays compare to the other lithologies. Graphical representations of the lithologies are presented in Figure 13-7 to Figure 13-9.

Figure 13-7: Pit 23 Lithology Composites Modal Mineralogy



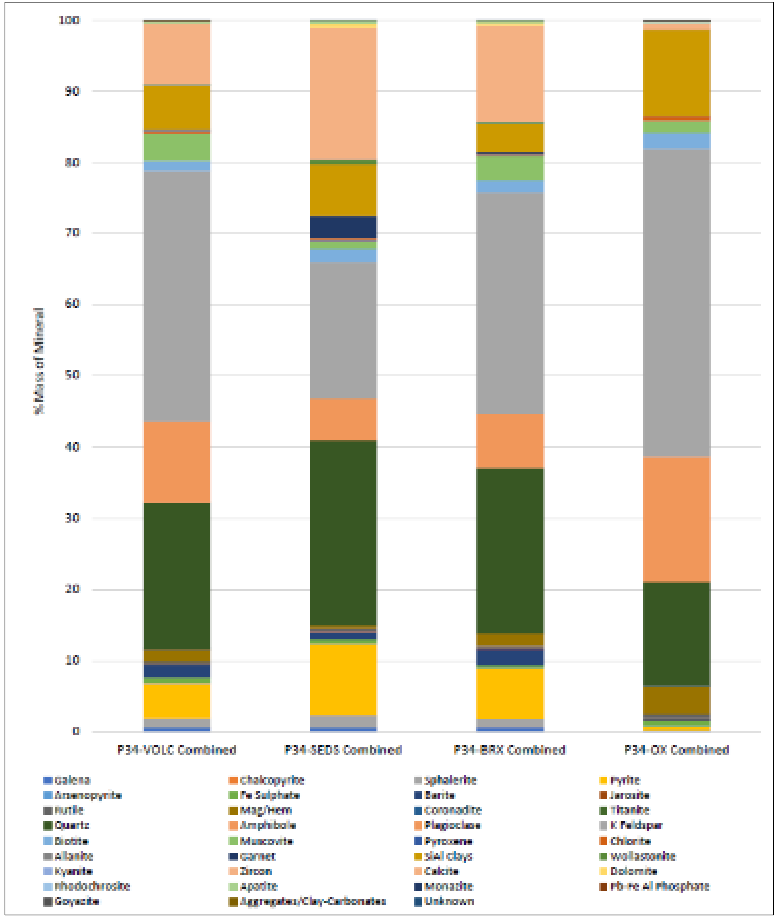
Source: Blue Coast PEA Testwork, 2021.

Figure 13-8: Pit 29 Lithology Composites Modal Mineralogy



Source: Blue Coast PEA Testwork, 2021.

Figure 13-9: Pit 34 Lithology Composites Modal Mineralogy



Source: Blue Coast PEA Testwork, 2021.

Liberation of the sphalerite and galena for each composite is summarized below. Both minerals were generally well liberated in the sulphide composites at the primary grind k_{80} of 120 µm with sphalerite, on average, more liberated than galena at 89% versus 66%. This data points towards the opportunity for implementation of coarser primary grinds at Cordero and only moderate regrinding to achieve clean lead and zinc concentrates. The PEA liberations for galena and sphalerite are summarized in Table 13-3.

Table 13-3: Summary of PEA Composites Galena and Sphalerite Liberation

Composite	Galena Liberation (%)	Sphalerite Liberation (%)
P23 VOLC	74	90
P23 BRX	73	81
P23 SEDS	72	85
P23 OX	52	96
P29 VOLC	67	90
P29 BRX	69	85
P29 SEDS	78	85
P29 OX	61	99
P34 VOLC	56	88
P34 BRX	82	90
P34 SEDS	64	81
P34 OX	44	95
Average	66	89

During the 2022 PFS, particle mineral analysis (PMA) was carried out on the 30 variability composites via QEMSCAN, which confirmed that the dominant sulphide minerals were galena, sphalerite, and pyrite, with trace amounts of chalcopyrite present. Large portions of the non-sulphide gangue consist of quartz, K-feldspars, and muscovite. Calcite was most present in the SEDS and BRX-SEDS samples, upwards of 33%.

At a primary grind size k_{80} of 200 µm across the 30 variability composites, the galena averaged approximately 65% liberation, while the sphalerite averaged approximately 78%. Where unliberated, the galena and sphalerite were in binary association with pyrite or ternary association with non-sulphide gangue.

13.4 Comminution Testwork

Various phases of comminution testwork have been completed for the Cordero project dating back to the 2011 METCON program. In the interests of brevity, data for like comminution tests have been collated and summarized in Table 13-4.

Twenty-two Bond ball work index tests were completed by Blue Coast Research during the PEA (four samples) and PFS phases (18 samples). The data confirms that the ore hardness ranges from “hard” to “very hard” with an average of 18.7 kWh/t and a 75th percentile hardness of 21.1 kWh/t. All tests were completed at a closing screen size of 212 µm. The coarser than standard closing screen size was selected due to the coarser primary grinds that were established during flotation optimization testwork discussed later in this report.

Table 13-4: Cordero Bond Ball Work Index Summary

Composite ID	Study Phase	Closing Screen Size (µm)	Specific Gravity	F_{80} (µm)	P_{80} (µm)	Grams per Revolution	BWI (kWh/t)	Category
Com/SMC-01	PFS	212	2.83	1523	158	1.58	18.3	Hard
Com/SMC-03	PFS	212	2.70	1699	165	1.45	19.7	Hard
Com/SMC-04	PFS	212	2.64	1845	162	1.71	16.7	Hard
Com/SMC-06	PFS	212	2.65	1692	168	1.28	22.2	Very Hard
Com/SMC-07	PFS	212	2.62	1665	172	1.18	24.2	Very Hard
Com/SMC-08	PFS	212	2.77	2093	165	1.93	14.9	Hard
Com/SMC-09	PFS	212	2.69	1685	171	1.36	21.3	Very Hard
Com/SMC-11	PFS	212	2.66	1784	173	1.30	22.0	Very Hard
Com/SMC-12	PFS	212	2.66	1260	164	1.38	22.1	Very Hard
Com/SMC-15	PFS	212	2.61	1853	171	1.36	20.9	Very Hard
Com/SMC-16	PFS	212	2.63	1226	161	1.43	21.2	Very Hard
Com/SMC-18	PFS	212	2.69	1496	161	1.68	17.6	Hard
Com/SMC-19	PFS	212	2.86	1658	159	1.58	18.0	Hard
Com/SMC-20	PFS	212	2.68	1212	143	1.55	18.2	Hard
Com/SMC-23	PFS	212	2.87	1742	156	1.73	16.2	Hard
Com/SMC-25	PFS	212	2.83	1611	160	2.11	14.3	Hard
Com/SMC-27	PFS	212	2.99	1604	164	2.04	15.1	Hard
Com/SMC-28	PFS	212	3.15	1469	168	2.07	15.5	Hard
VOLC MC	PEA	212	2.64	2119	169	1.42	19.5	Hard
SEDS MC	PEA	212	2.71	1956	165	1.46	18.9	Hard
P29-BRX	PEA	212	2.68	1905	167	1.59	17.9	Hard
BRX Composite 1	PEA	212	2.66	2119	158	1.51	17.6	Hard
Average							18.7	Hard
MIN							14.3	Hard
MAX							24.2	Very Hard
75th Percentile							21.1	Very Hard

Sixteen SAG mill comminution (SMC) tests were conducted during the PEA (six composites) and PFS (ten samples) testwork programs. The PEA tests were conducted at SGS Minerals in Burnaby, BC (SGS), and the PFS tests were conducted at Blue Coast. The results are summarized in Table 13-5.

Abrasion indices (Ai) were completed during the 2011 METCON study as well as during the 2021 PEA study. There is a clear difference in abrasion index between the two sets of data as summarized in Table 13-6. The combined datasets suggest that on average the abrasion index is “medium” (0.204) and the 75th percentile value of 0.325 is also classified as medium. However, caution should be exercised when using the 2011 data, as the origin on the samples is unknown.

Table 13-5: Cordero SMC Test Results Summary

Sample ID	Study Phase	SG	A	b	A x b	Hardness Percentile	ta	SCSE* (kWh/t)
Com/SMC-02	PFS	2.64	76.3	0.61	46.5	37	0.46	9.14
Com/SMC-05	PFS	2.55	77.8	0.57	44.3	38	0.45	9.25
Com/SMC-10	PFS	2.55	85.7	0.44	37.7	51	0.38	9.93
Com/SMC-14	PFS	2.59	70.0	0.76	53.2	27	0.53	8.59
Com/SMC-17	PFS	2.49	88.0	0.44	38.7	46	0.40	9.78
Com/SMC-21	PFS	2.75	55.8	1.38	77.0	15	0.73	7.55
Com/SMC-22	PFS	2.71	69.1	0.64	44.2	43	0.42	9.45
Com/SMC-24	PFS	2.70	62.4	0.99	61.8	22	0.59	8.18
Com/SMC-29	PFS	2.88	64.0	0.98	62.7	24	0.56	8.37
Com/SMC-30	PFS	2.86	67.6	1.04	70.3	19	0.64	7.95
P23-BRX	PEA	2.61	83.5	0.56	46.8	48	0.46	9.09
P23-OX	PEA	2.39	70.3	1.41	99.1	11	1.07	6.95
P23-SEDS	PEA	2.73	73.7	0.71	52.3	39	0.50	8.81
P23-VOLC	PEA	2.55	74.2	0.76	56.4	34	0.57	8.37
P29-OX	PEA	2.50	76.4	0.68	52.0	40	0.54	8.64
P34-OX	PEA	2.49	73.2	0.73	53.4	38	0.56	8.55
Average					56.0		0.55	8.66
MIN					37.7		0.38	6.95
MAX					99.1		1.07	9.93
75th Percentile					62.0		0.58	9.17

Table 13-6: Summary of Cordero Abrasion Index Testwork Results

Composite ID	Study Phase	Abrasion Index (Ai)	Category
CO9-4	METCON 2011	0.079	Mild
C10-9	METCON 2011	0.082	Mild
C10-46	METCON 2011	0.076	Mild
C11-102	METCON 2011	0.095	Mild
C11-115	METCON 2011	0.030	Mild
P23-BRX	PEA	0.351	Medium
P23-OX	PEA	0.133	Mild
P23-SEDS	PEA	0.142	Slightly Abrasive
P23-VOLC	PEA	0.299	Medium
P-29 OX	PEA	0.473	Moderately Abrasive
P-34 OX	PEA	0.488	Moderately Abrasive
Average		0.204	Medium
MIN		0.030	
MAX		0.488	
75th Percentile		0.325	Medium

It is recommended that additional abrasion index testwork be conducted to further increase the test database as the project advances into the feasibility stage.

13.5 Preconcentration (Dense Media Separation and Ore Sorting)

As part of the Blue Coast 2021 testwork program, a 5.0 kg run-of-mine composite grading 32 g/t Ag, 0.47% Pb, 0.73% Zn and 0.15 g/t Au was crushed to 100% passing -12.5 mm (½”) and wet screened at 1.18 mm to remove fine material. The fines were weighed and submitted for assay while the coarser material was subjected to dense media separation (DMS) amenability testing at four different specific gravities (3.05, 2.95, 2.85 and 2.75). The results for this test are summarized in Table 13-7.

Table 13-7: Summary of Dense Media Separation Results

Product	Weight		Assays						% Distribution					
	g	%	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Fe (%)	S (%)	Au	Ag	Pb	Zn	Fe	S
SG 3.05 Sink	237.3	4.9	0.96	220	3.35	4.74	20.0	24.4	31.0	34.0	35.5	31.9	25.9	28.1
SG 2.95 Sink	72.8	1.5	0.28	70	0.90	2.13	11.3	10.2	2.8	3.3	2.9	4.4	4.5	3.6
SG 2.85 Sink	180.7	3.8	0.24	45	0.63	1.42	8.21	7.71	5.8	5.3	5.1	7.3	8.1	6.8
SG 2.75 Sink	234.0	4.9	0.23	35	0.54	0.95	5.01	5.31	7.2	5.3	5.6	6.3	6.4	6.0
SG 2.75 Float	3202.5	66.7	0.05	11	0.15	0.27	1.81	1.91	22.1	22.4	21.1	24.5	31.6	29.6
-1.18 mm	871.2	18.2	0.26	53	0.76	1.03	4.97	6.14	31.1	29.8	29.8	25.5	23.6	25.9
Direct Head	4800.0	100.0	0.13	34	0.46	0.68	3.99	4.20	-	-	-	-	-	-
Reconciliation	100.0	-	122.1	94.8	100.9	108.0	96.0	102.3	-	-	-	-	-	-
SG 3.05 & Fines	1108.5	23.1	0.41	88	1.32	1.83	8.20	10.0	62.0	63.7	65.3	57.5	49.5	54.0
SG 2.95 & Fines	1181.3	24.6	0.40	87	1.29	1.85	8.39	10.0	64.8	67.1	68.2	61.9	54.0	57.6
SG 2.85 & Fines	1362.0	28.4	0.38	82	1.20	1.79	8.36	9.73	70.6	72.4	73.3	69.1	62.1	64.3
SG 2.75 & Fines	1596.0	33.3	0.36	75	1.11	1.67	7.87	9.09	77.9	77.6	78.9	75.5	68.4	70.4

Source: Blue Coast PEA Testwork, 2021.

Mass recoveries to the sinks were generally low, resulting in high upgrades and high mass rejection but at the expense of metal recovery. The highest metal recovery to combined DMS sinks and fines was achieved at SG 2.75 where 67% of the mass was rejected to the floats. The upgraded product grades were 75 g/t Ag, 0.36 g/t Au, 1.11% Pb and 1.67% Zn at metal recoveries of 78%, 79%, 79% and 76% respectively. These recoveries are likely too low to justify pre-concentration, but the mass rejection profiles at the SG’s tested suggest that further optimization at lower media SG would likely result in higher metal recoveries while still removing significant amounts of barren, waste material.

Also, during the Blue Coast Research 2021 testwork program, composites of sulphide and oxide material were shipped to Steinert in Kentucky, USA for ore sorting testwork via X-ray transmission (XRT) technology. Samples included a 42 kg sulphide composite grading 25 g/t Ag, 0.42 g/t Au, 0.45% Pb and 0.40% Zn. Mass rejection to the waste stream with XRT technology was lower than the DMS testwork at Blue Coast but recoveries to concentrate were significantly higher. The results for Step 4 of the XRT testwork at Steinert are summarized in Table 13-8.

XRT ore sorting rejected approximately 24% of the sample mass with metal recovery losses of just 5%, 7%, 3% and 7% for silver, gold, lead and zinc, respectively.

Table 13-8: Summary of Step 4 XRT Ore Sorting Testwork Results

Product	Mass (kg)	Mass (%)	Grade				Recovery, %			
			Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag	Au	Pb	Zn
Feed	42.2	100.0	25.5	0.42	0.45	0.4	100	100	100	100
Step 4 Concentrate	32.0	75.8	31.8	0.52	0.57	0.48	95	93	97	91
Step 4 Waste	10.2	24.2	5.7	0.12	0.06	0.14	5	7	3	7

Source: Steinert, 2021.

13.6 Flotation Testwork – Flowsheet Development

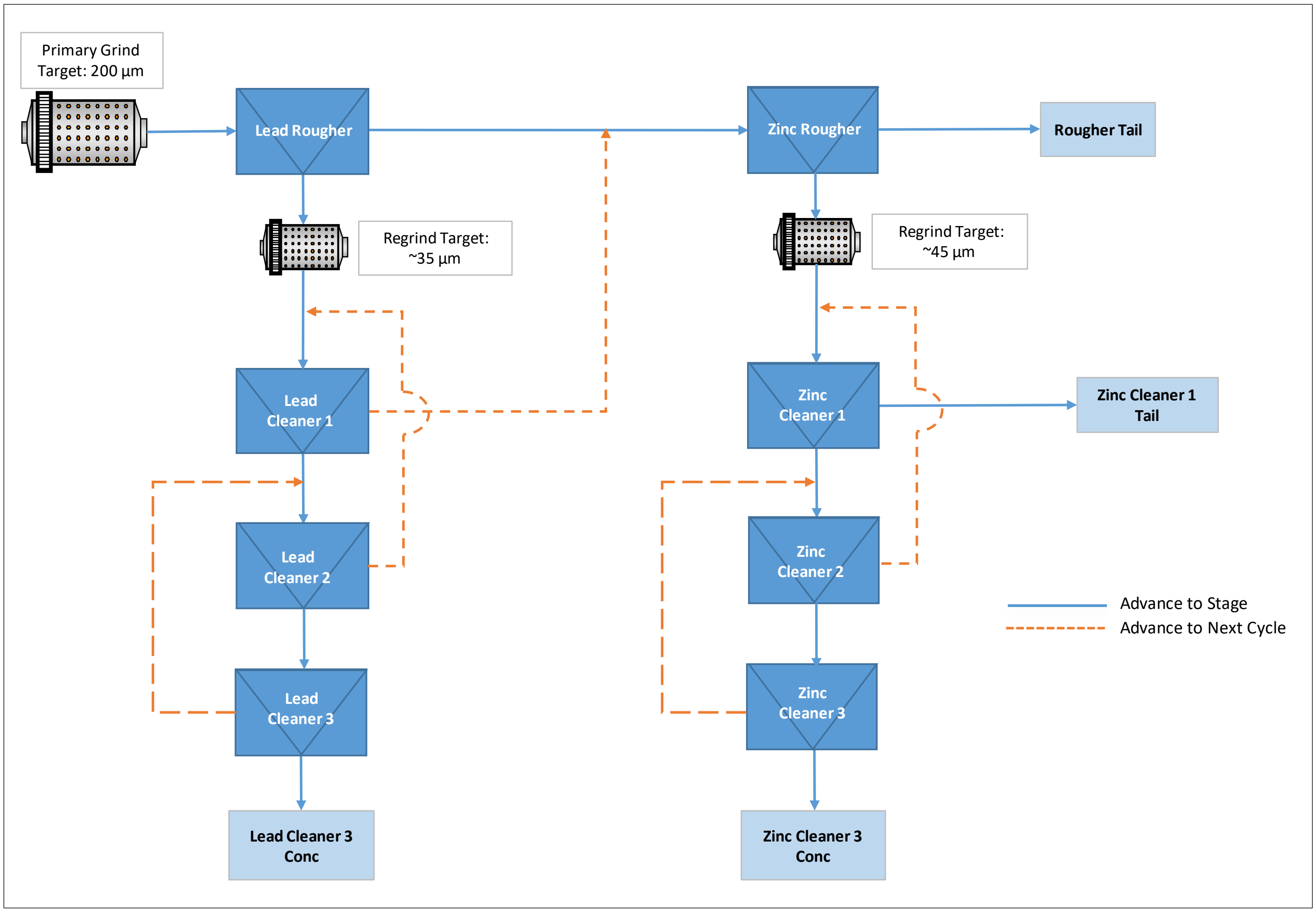
A conventional, differential lead-zinc flotation flowsheet has been successfully employed on samples from Cordero across three phases of metallurgical testwork since the ALS Metallurgy program in 2013. Although optimization of the various flowsheet parameters has resulted in an evolution of the flowsheet, it remains largely unchanged from 2013 and has been proven on upwards of 50 various samples and composites from multiple lithological zones within the deposit. Therefore, it is concluded that the selected flowsheet is extremely robust and wholly suitable for the processing of all sulphide ores and blended sulphide/oxide ores with an oxide blend component of up to 10%.

The salient features of the optimized flowsheet for the run of mine 90% sulphide, 10% oxide composite are as follows:

- primary grind k_{80} of 200 µm with 120 g/t $ZnSO_4$ (zinc sulphate) and 40 g/t NaCN (sodium cyanide) added to the mill as zinc depressants
- 11 minutes of lead rougher flotation with 15 g/t Flottec X5000 (aerophine) collector at either natural pH or at pH 9.0, adjusted with 350-400 g/t soda ash
- regrinding of the lead rougher concentrate to a P_{80} of 30 µm with 30 g/t $ZnSO_4$ and 10 g/t NaCN
- three stages of lead cleaner flotation (7, 4 and 3 minutes respectively) with total 2 g/t X5000 collector at either natural pH or at pH 9.0, adjusted with 95 g/t soda ash
- 8 minutes of zinc rougher flotation after conditioning with 155 g/t $CuSO_4$ (Copper sulphate) at pH 11.0, adjusted with 1,000 to 1,200 g/t lime; 14 g/t of 5100 collector (allyl alkyl thionocarbamate) was staged dosed across the zinc roughers
- regrinding of the zinc rougher concentrate to a k_{80} of 45 µm with 125 g/t of lime
- three stages of zinc cleaner flotation (6, 4 and 2 minutes respectively) at pH 11.5 adjusted with lime and a further 2 g/t of 5100 collector.

The simplified, locked cycle test flowsheet configuration is shown in Figure 13-10.

Figure 13-10: Cordero Optimized Locked Cycle Test Flowsheet Configuration (No Carbon Pre-float)



Source: Blue Coast PEA Testwork, 2021.

A carbon pre-float stage, ahead of lead rougher flotation was required for some of the sedimentary and breccia composites containing elevated organic carbon, however this was not required for any of the run of mine blended composites.

Average locked cycle test performance (total 15 locked cycle tests) from the 2022 PFS program returning the following results:

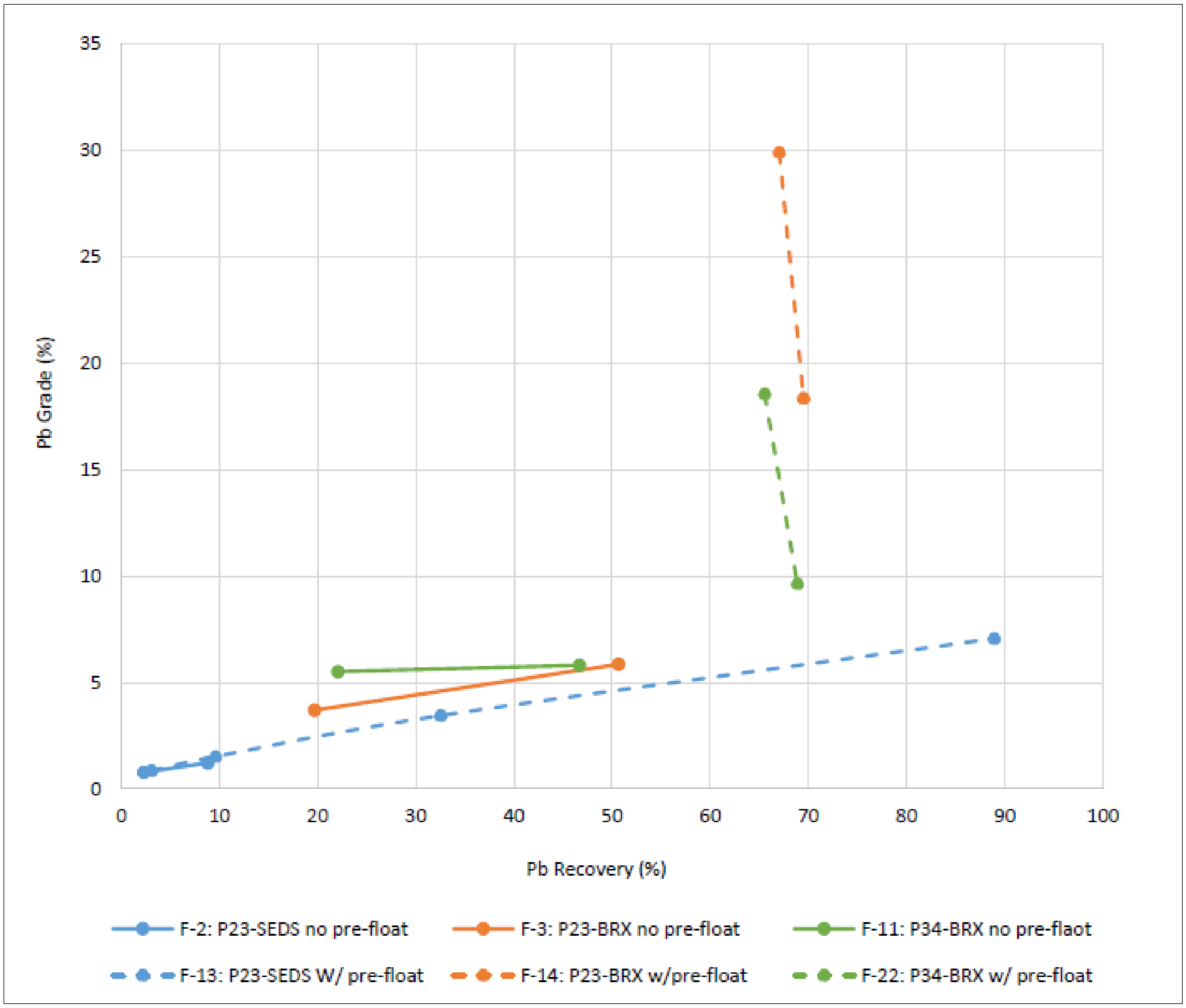
- lead/silver concentrate grading 56% Pb and 3217g/t Ag at lead and silver recoveries of 87% and 75%, respectively
- zinc concentrate grading 52% Zn and 346g/t Ag at zinc and silver recoveries of 85% and 10%, respectively
- global silver recovery (to lead and zinc concentrates) of 85%.

13.6.1 Carbon Pre-flotation

Early in the Blue Coast Research PEA testwork program it was observed during the flotation of the three sedimentary and two poorer performing breccia samples that carbonaceous material was present and was preferentially floating in the lead circuit, resulting in lower lead and silver recoveries. The carbonaceous material was concluded to be the main contributing factor to the poor lead metallurgy in initial sighter tests. Carbon pre-float rougher tests were conducted on the P23-SEDS, P23-BRX, and P34-BRX composites to assess whether the carbon could be removed with minor silver, lead, and zinc losses while improving the flotation performance.

Significant improvements in lead circuit performance were achieved by the addition of the pre-flotation step and metal losses to the pre-flotation concentrate were low. The results are summarized in Figure 13-11.

Figure 13-11: PEA Carbon Pre-flotation Test Results (Pb Rougher Grade Recovery Curves)



Source: Blue Coast PEA Testwork, 2021.

At 5-6 minutes of flotation, the carbon pre-float for P23-SEDS misplaced less than 5% of the silver and lead and was deemed to be successful. However, a five-minute pre-flotation stage misplaced over 14% of the silver and lead in the P23-BRX and P34-BRX composites and was deemed much less successful. Therefore, pre-flotation kinetics were completed, and a shorter pre-flotation residence time of two minutes was derived, reducing silver and lead misplacement to <5% for the breccia composites.

During the PFS, carbon pre-flotation was included in the sedimentary and breccia variability sample flotation tests by default but was not required for all samples where organic carbon content was sufficiently low. Carbon pre-flotation was also not required when various run-of-mine blends were tested due to the relatively low blend proportion of sedimentary and breccia material in these composites, per the mine plan. It was concluded that below an organic carbon head grade of ~0.13% C_{ORG}, the carbon pre-float is not required; however, it is recommended that the design basis for the flotation circuit retain the carbon pre-float for periods when elevated organic carbon head grades may occur.

13.6.2 Primary Grind vs. Recovery

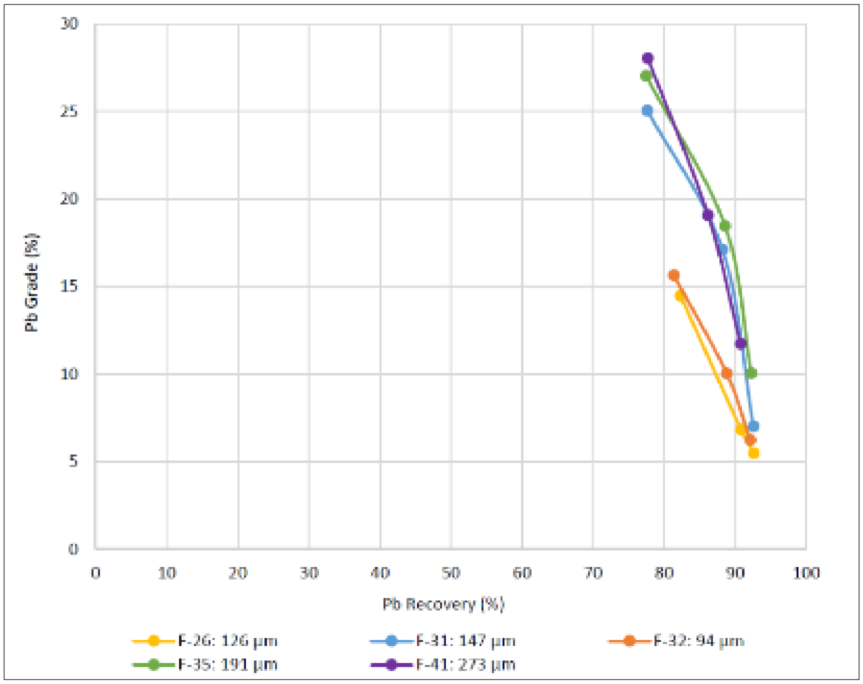
The impact of primary grind on lead and zinc rougher performance was investigated during the PEA via a series of tests (grind versus recovery batch rougher tests) for the VOLC and SEDS master composites. The range of primary grinds tested was k_{80} of approximately 100 µm to approximately 275 µm. The conditions were held constant for each batch of sensitivity tests with the only difference being the SEDS master composite tests employed a carbon pre-float ahead of the lead rougher. Zinc depressants (30 g/t $ZnSO_4$, 10 g/t NaCN), lead collector (12 g/t 3418A), lead circuit pH 9.0, zinc activator (175 g/t copper sulphate), zinc collector (10 g/t 5100) and zinc rougher pH 11.0 were the conditions employed.

Lead rougher recoveries exceeding 90% were consistently achieved across the entire primary grind range for the VOLC master composite, with higher rougher concentrate grades achieved at the coarser grinds. For the SEDS master composite, the lead rougher recovery ranged from 83-88% with the higher recoveries again achieved at the coarser primary grinds. Silver recovery tracked lead recovery closely, approaching 86% for the VOLC master composite and 82% for the SEDS master composite.

Zinc rougher recoveries were also superior at the coarser grinds for both composites at 68-72% zinc recovery for the VOLC master composite and 85-88% for the SEDS master composite.

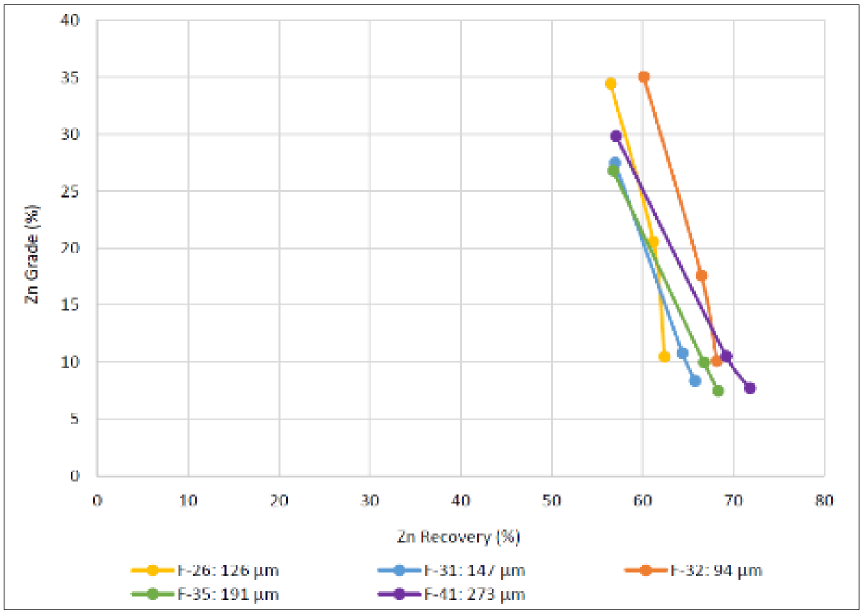
Upon completion of the grind sensitivity testwork a primary grind P_{80} of 200 µm was selected as the optimum. This was later validated on the P29 BRX composite and the BRX composite 1 and shown also to be effective. Results for the testwork described above are outlined in Figure 13-12 to Figure 13-15.

Figure 13-12: VOLC Master Composite Primary Grind vs. Recovery Sensitivity Lead Grade Recovery Curves



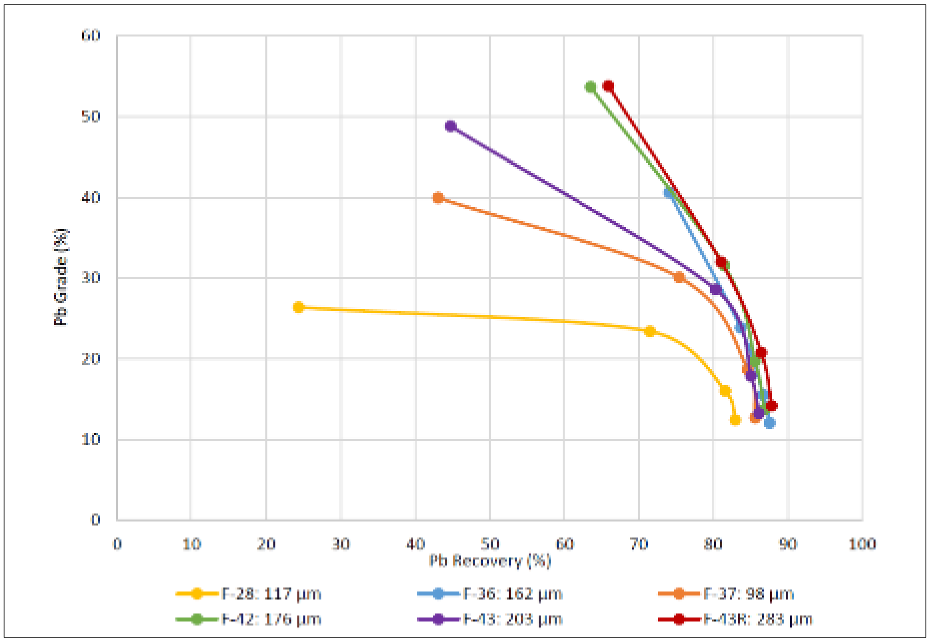
Source: Blue Coast PEA Testwork, 2021.

Figure 13-13: VOLC Master Composite Primary Grind vs. Recovery Sensitivity Zinc Grade Recovery Curves



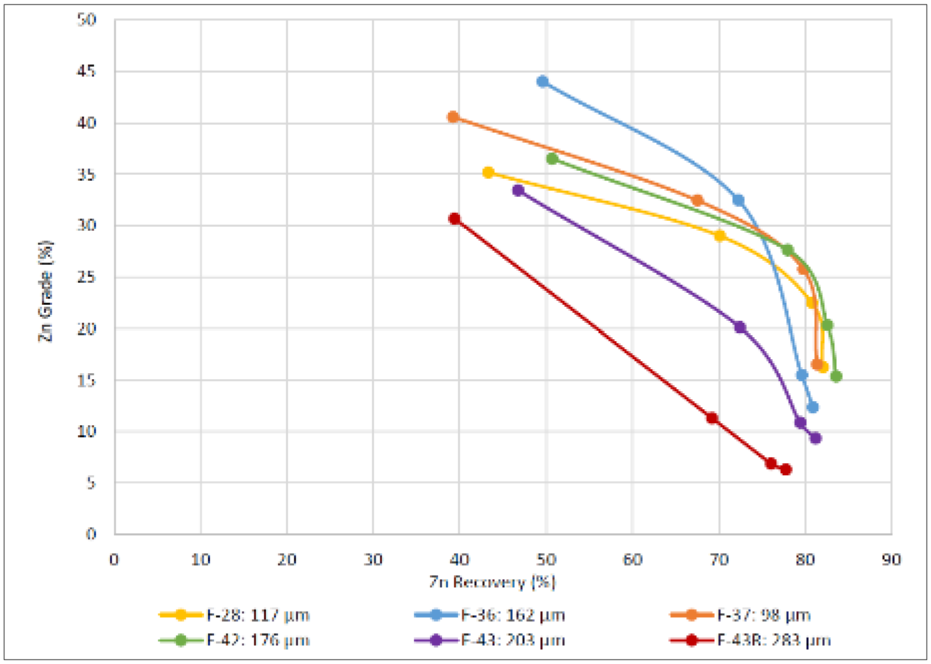
Source: Blue Coast PEA Testwork, 2021.

Figure 13-14: SEDS Master Composite Grind vs. Recovery Sensitivity Lead Grade vs. Recovery



Source: Blue Coast PEA Testwork, 2021.

Figure 13-15: SEDS Master Composite Grind vs. Recovery Sensitivity Zinc Grade vs. Recovery



Source: Blue Coast PEA Testwork, 2021.

13.6.3 Depressant Dosage Sensitivity

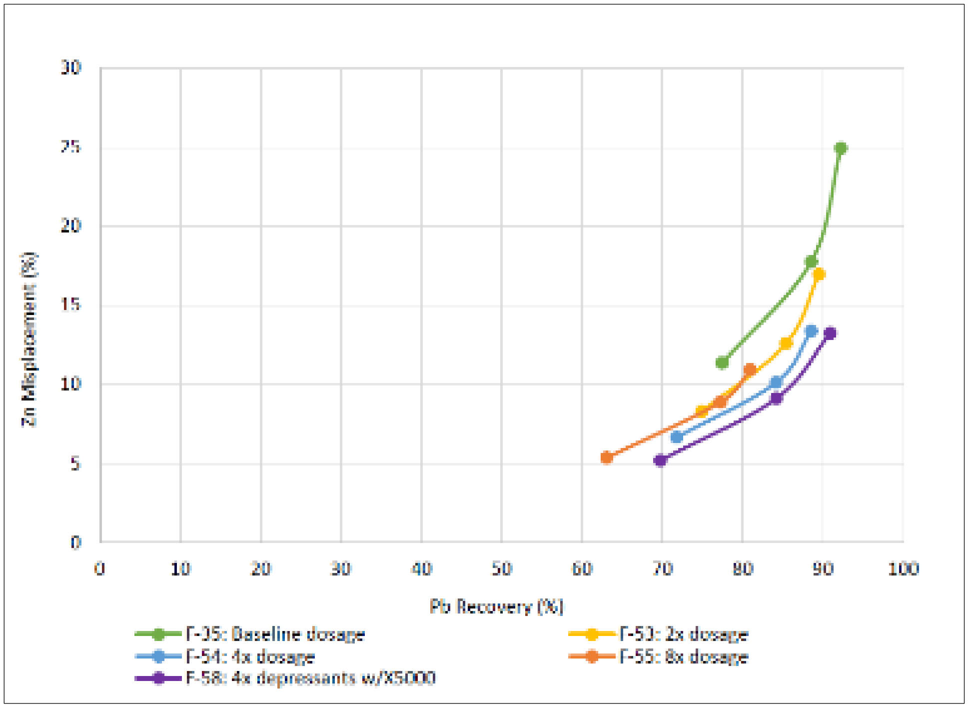
A series of depressant dosage sensitivity tests were conducted on the PEA VOLC master composite using the baseline (30 g/t $ZnSO_4$ and 10 g/t NaCN) dosage, 2x, 4x and 8x dosages to determine the impact of increased dosages. Lower dosages were not tested, as the original baseline levels used at ALS/METCON were considered to be at the low end of industry practice. All other variables were held constant except for test F-58 where X5000 collector was used in place of 3418A. X5000 is a direct replacement for 3418A from a different supplier and has the same reagent chemistry.

The most favourable results were achieved using the 4x depressant dosage (120 g/t $ZnSO_4$ and 40 g/t NaCN), where 91% lead recovery and 13% zinc misplacement to the lead rougher concentrate was achieved, compared to the baseline result of 92% lead recovery and 25% zinc misplacement. The data also suggest that X5000 gave slightly better selectivity and lead recovery versus 3418A, but as these reagents are chemically very similar, this may just be attributed to intra-test variability. Regardless, the decision was made to proceed with X5000 as the primary lead/silver collector due to its lower price.

The same screening approach was not applied to the other composites; however, through optimization of the SEDS master composite, BRX composite 1, and P29 BRX composite, the same depressant dosage in the primary grind (120 g/t $ZnSO_4$ and 40 g/t NaCN) was selected as the optimum. It should be noted that the increased depressant dosages in the primary grind and lead circuit had a positive impact on the zinc circuit, whereby higher zinc rougher concentrate grades and recoveries were achieved at the higher dosages.

This may appear counterintuitive but increasing the NaCN dosage likely had a depressing effect on the pyrite, which in turn enabled a more favourable flotation environment for zinc in the zinc circuit, allowing the zinc circuit to be operated at more moderate pH levels. Depressant sensitivity is illustrated in Figure 13-16.

Figure 13-16: VOLC Master Composite Depressant Sensitivity Lead-Zinc Selectivity Curves



Source: Blue Coast PEA Testwork, 2021.

13.6.4 Cleaner Circuit Optimization

Cleaner circuit optimization was conducted on each of the four PEA master composites (VOLC MC, SEDS MC, P29-BRX and BRX composite 1) and resulted in an optimized cleaner flowsheet for each circuit that was similar for all composites in terms of configuration and reagent dosages.

Fourteen cleaner tests were conducted across the four main composites. The basic flowsheet configuration was considered to be conventional with sequential lead and zinc roughing with a carbon pre-float after the primary grind where required, regrinding of each rougher concentrate, and three stages of cleaning for each circuit. All tests were completed in open circuit with no advancement of the lead cleaner 1 tail to the zinc circuit.

For the lead circuit, the following cleaner circuit conditions were employed:

- regrind of the lead rougher concentrate to P_{80} of 20 to 30 µm
- 30 to 60 g/t $ZnSO_4$ and 10 to 20 g/t NaCN in the regrind
- 2 to 6 g/t X5000 collector
- three stages of cleaning at pH 9.0 (maintained with soda ash).

For the zinc circuit, the following cleaner circuit conditions were employed:

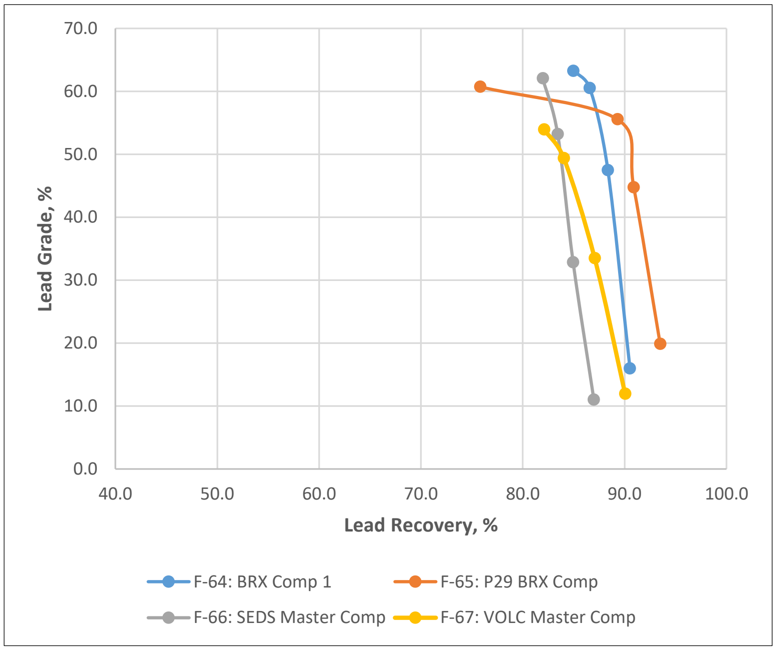
- regrind the zinc rougher concentrate 20 to 30 µm with 125 g/t lime in the regrind mill
- 2 g/t 5100 collector
- three stages of cleaning at pH 11.5 (maintained with lime).

The lead and zinc grade recovery curves for the optimum cleaner tests for each composite are shown in Figures 13-17 and 13-18, respectively.

At a nominal lead concentrate grade of 50% Pb, the lead recovery to lead-silver concentrate ranged from ~83% to 91% with very low zinc misplacement of ~3% to 6%. Silver recoveries ranged from approximately 65% to 79% at high concentrate grades (>3000 g/t Ag).

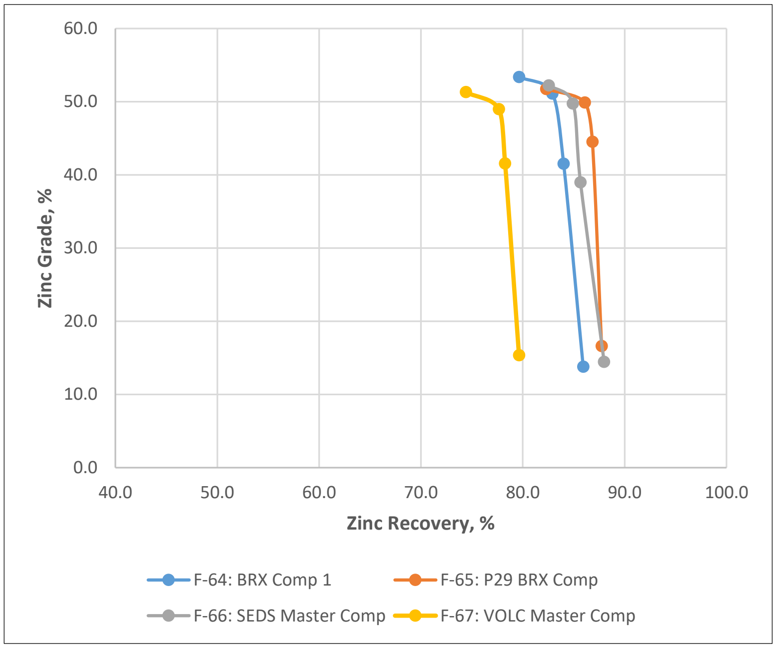
At nominal zinc concentrate grades of 50% Zn, the zinc recovery to zinc concentrate ranged from approximately 78% to 86%. Additional silver recovery to the zinc concentrate ranged from 8% to 11% at grades ranging from 170 to 370 g/t Ag.

Figure 13-17: Cleaner Circuit Optimization Lead Grade vs. Recovery Curves



Source: Blue Coast PEA Testwork, 2021.

Figure 13-18: Cleaner Circuit Optimization Zinc Grade vs. Recovery Curves

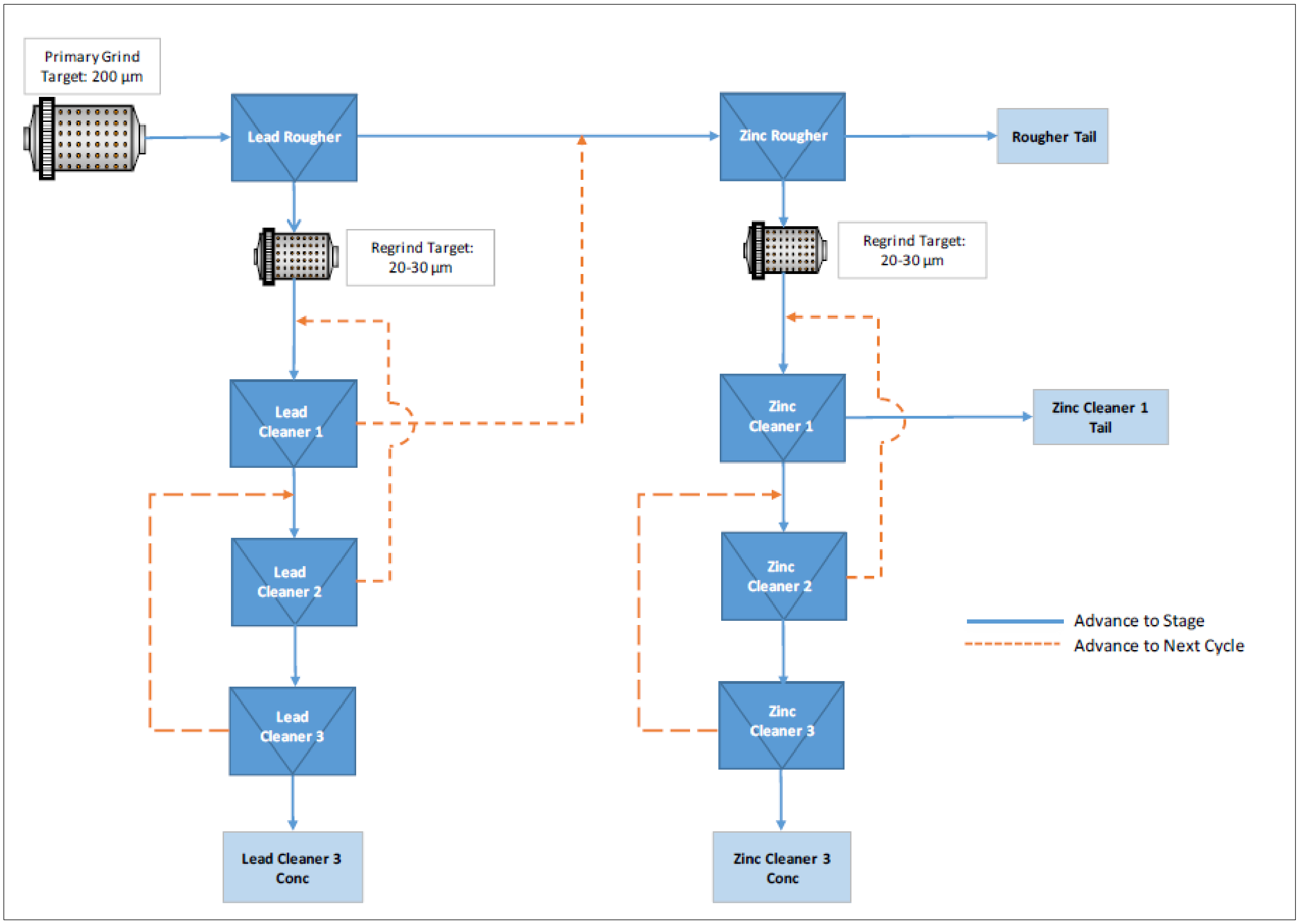


Source: Blue Coast PEA Testwork, 2021.

13.6.5 Sulphide Master Composite Locked Cycle Tests

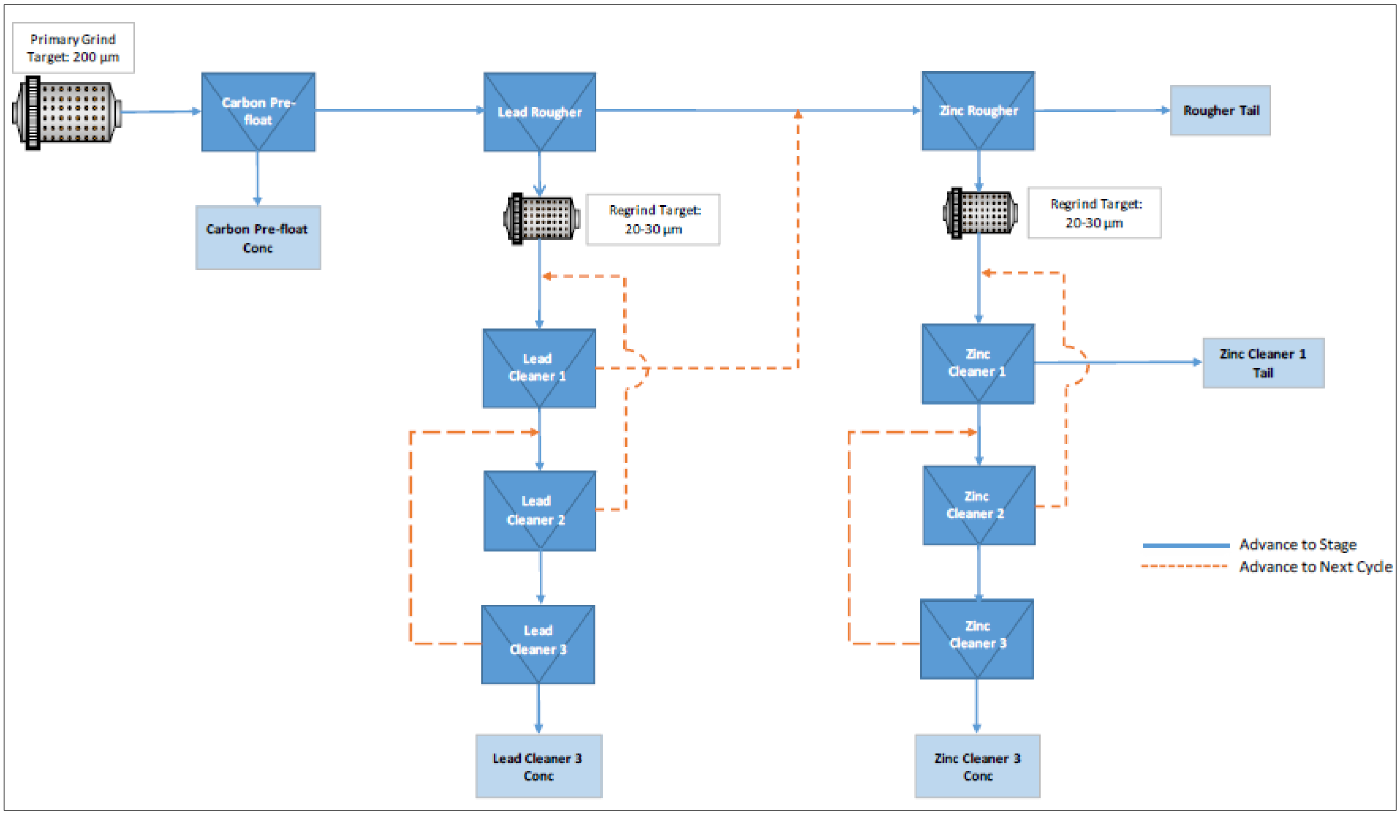
Each of the four PEA sulphide master composites was subjected to a locked cycle test using the optimized batch rougher and cleaner test conditions and flowsheet configurations. The flowsheets were identical except for the requirement for a carbon pre-float ahead of the lead circuit, which was required for the SEDS master composite and BRX composite 1, but not for the VOLC master composite and P29 BRX composite. The flowsheet configurations are shown in Figure 13-19 and Figure 13-20.

Figure 13-19: VOLC MC and P29 BRX LCT Flowsheet Configuration No Carbon Pre-float



Source: Blue Coast PEA Testwork, 2021.

Figure 13-20: SEDS MC and BRX Composite 1 LCT Flowsheet with Carbon Pre-float



Source: Blue Coast PEA Testwork, 2021.

Each test was conducted over six cycles with the intermediate streams being advanced to the subsequent cycles per the flowsheet configurations shown above. All tests were considered to be stable, passing the Blue Coast and Libertas QA/QC protocols and confirming steady state was achieved. The results for each locked cycle test are summarized in Table 13-9 and discussed below.

Table 13-9: VOLC Master Composite Locked Cycle Test Results LCT-3

Product	Weight		Assays				Recovery (%)			
	g	%	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Au	Ag	Pb	Zn
Pb Cleaner 3 Concentrate	43.6	0.7	1.94	3318	50.1	5.77	12.7	70.1	85.2	6.2
Zn Cleaner 3 Concentrate	64.7	1.1	0.65	400	1.3	50.9	6.3	12.5	3.3	81.1
Zn Cleaner 1 Tail	293.4	4.9	1.30	36	0.19	0.57	57.3	5.1	2.1	4.1
Rougher Tail	5612.7	93.3	0.03	5	0.04	0.06	23.7	12.3	9.4	8.6
Calculated Head	6014.3	100	0.11	34	0.43	0.67	100	100	100	100

Source: Blue Coast PEA Testwork, 2021.

LCT-3 (VOLC master composite) achieved a final lead concentrate grading 50% Pb at 85% lead recovery, 70% of the silver reported to the final lead concentrate with a grade of over 3300 g/t. The final zinc concentrate produced by LCT-3 was 51% with a recovery of 81%. Results are shown in Table 13-10.

Table 13-10: SEDS Master Composite Locked Cycle Test Results LCT-4

Product	Weight		Assays				Recovery (%)			
	g	%	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Au	Ag	Pb	Zn
Pre-float Concentrate	50.3	0.8	0.23	58	0.75	0.44	1.6	1.8	1.5	0.5
Pb Cleaner 3 Concentrate	39.7	0.7	2.33	2886	54.0	2.90	13.0	70.1	82.9	2.6
Zn Cleaner 3 Concentrate	75.6	1.3	0.43	213	0.80	51.4	4.6	9.8	2.3	88.7
Zn Cleaner 1 Tail	284.4	4.7	0.71	21	0.19	0.48	28.2	3.7	2.1	3.1
Rougher Tail	5565.7	92.5	0.07	4	0.05	0.04	52,6	14.6	11.2	5.0
Calculated Head	6015.8	100	0.12	27	0.43	0.67	100	100	100	100

Source: Blue Coast PEA Testwork, 2021.

LCT-4 (SEDS master composite) achieved a final lead concentrate grading 54% Pb at 83% lead recovery, 70% of the silver reported to the final lead concentrate with a grade of over 2800 g/t. The final zinc concentrate produced by LCT-4 was 51% with a recovery of 89%. Metal losses to the carbon pre-float concentrate were minimal at less than 2%. Results are shown in Table 13-11.

Table 13-11: P29 BRX Composite Locked Cycle Test Results LCT-1

Product	Weight		Assays				Recovery (%)			
	g	%	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Au	Ag	Pb	Zn
Pb Cleaner 3 Concentrate	57.0	0.9	3.14	2923	53.0	3.95	12.8	78.6	91.1	4.5
Zn Cleaner 3 Concentrate	97.1	1.6	0.97	237	1.07	46.3	6.7	10.8	3.1	89.6
Zn Cleaner 1 Tail	453.3	7.5	1.91	18	0.15	0.18	61.7	3.8	2.1	1.6
Rougher Tail	5434.4	89.9	0.05	3	0.02	0.04	18.8	6.8	3.7	4.2
Calculated Head	6014.8	100	0.23	35	0.55	0.83	100	100	100	100

Source: Blue Coast PEA Testwork, 2021.

LCT-1 (P29 BRX composite) achieved a final lead concentrate grading 53% Pb at 91% lead recovery, 79% of the silver reported to the final lead concentrate with a grade of 2900 g/t. The final zinc concentrate produced by LCT-1 was 46% Zn at a zinc recovery of 90%. Results are shown in Table 13-12.

LCT-2 (BRX composite 1) achieved a final lead concentrate grading 56% Pb at 89% lead recovery, 75% of the silver reported to the final lead concentrate with a grade of over 3,700 g/t Ag. The final zinc concentrate produced by LCT-2 graded 55% Zn at a zinc recovery of 86%. Metal losses to the pre-float concentrate were minor and less than 1.5%.

Deleterious elements reporting to the concentrate are discussed in Section 13.9, Concentrate Quality.

Table 13-12: BRX Composite 1 Locked Cycle Test Results LCT-2

Product	Weight		Assays				Recovery (%)			
	g	%	Au (g/t)	Ag (g/t)	Pb (%)	Zn (%)	Au	Ag	Pb	Zn
Pre-float Concentrate	13.3	0.22	0.87	239	2.38	0.44	0.9	1.4	1.2	0.2
Pb Cleaner 3 Concentrate	43.9	0.73	3.38	3774	55.7	2.92	11.7	74.8	89.2	3.9
Zn Cleaner 3 Concentrate	52.0	0.87	0.95	397	1.10	54.6	3.9	9.3	2.1	85.8
Zn Cleaner 1 Tail	178.5	2.98	1.91	30	0.20	1.01	26.9	2.4	1.3	5.5
Rougher Tail	5710.6	95.2	0.13	5	0.03	0.03	56.6	12.0	6.3	4.7
Calculated Head	5998.3	100	0.21	37	0.46	0.55	100	100	100	100

Source: Blue Coast PEA Testwork, 2021.

13.7 Flotation Testwork – Variability Testwork

Batch rougher and cleaner flotation testwork was conducted on the 30 variability composites during the 2022 PEA testwork program. The optimized flowsheet derived from the sulphide master composites was used for all variability samples, with minor adjustments made to collector and copper sulphate dosage on a metal units (g/t/%) basis. A select number of variability composites were subjected to confirmatory locked cycle testing using to further increase confidence in the flowsheet and metallurgical projections.

Detailed analyses of the variability rougher flotation tests are included in the Blue Coast PFS testwork report and are summarized below:

- Samples not requiring a carbon pre-float (volcanic and breccia-volcanic samples) produced average lead rougher recoveries of 93% for lead and 80% for silver, with an average zinc misplacement of 12%.

- Samples requiring a carbon pre-float (sedimentary and breccia-sedimentary samples) produced slightly lower average lead rougher recoveries of 86% for lead and 74% for silver, with average a zinc misplacement of 11%.

- Zinc rougher recoveries were 85% for zinc and 13% for silver (no pre-float samples) and 78% for zinc and 12% for silver (with pre-float samples).

The results were encouraging and head grade versus metal recovery relationships were observed for lead, zinc and silver.

Variability cleaner flotation testwork conducted in this program showed the following:

- The volcanic, breccia-volcanic, and hornblende lithologies showed that the lead rougher can be floated at natural pH, removing the soda ash, with no negative impact on the final concentrate grades or recoveries, the reagent suite for the cleaner tests is as follows:

  Lead Circuit:

  - Lime - pH modifier (cleaner portion only)
  - Zinc Sulphate Heptahydrate ($ZnSO_4 \cdot 7H_2O$) – zinc depressant
  - Sodium Cyanide (NaCN) – pyrite and zinc depressant

  - X5000 (a Flottec proprietary collector) – as the primary lead sulphide collector
  - Methyl isobutyl carbinol (MIBC) – alcohol based frother

  Zinc Circuit:

  - Lime – pH modifier
  - Copper Sulphate Anhydrous ($CuSO_4$) – zinc sulphide activator
  - Aero 5100 – allyl alkyl thionocarbamate used as the primary zinc sulphide collector
  - Methyl isobutyl carbinol (MIBC) – alcohol based frother

- The sedimentary and breccia sedimentary lithologies showed that soda ash is still required on two composites (Flot-21 and Flot-23) to facilitate high Ag, Pb, and Zn recoveries.

Average batch cleaner performance of the variability samples that did not require a carbon pre-float were as follows:

- 66% Pb grade, 79% Pb recovery
- 54% Zn grade, 79% Zn recovery
- 3517 g/t Ag in Pb concentrate, 277 g/t Ag in Zn concentrate, 75% Global Ag recovery.

Average batch cleaner performance of the variability samples that did require a carbon pre-float are as follows:

- 63% Pb grade, 77% Pb recovery
- 55% Zn grade, 69% Zn recovery
- 2955 g/t Ag in Pb concentrate, 217 g/t Ag in Zn concentrate, 67% Global Ag recovery.

Individual cleaner tests results are summarized in Tables 13-13 and 13-14.

Table 13-13: PFS Variability Cleaner Test Performance with Pre-float

Composite ID	Final Concentrate Grades					Final Concentrate Recoveries (%)					Global Ag Recovery (%)
	Final Pb Concentrate			Final Zn Concentrate		Final Pb Concentrate Recovery (%)			Final Zn Concentrate Recovery (%)		
	Ag (g/t)	Pb (%)	Zn (%)	Ag (g/t)	Zn (%)	Ag	Pb	Zn	Ag	Zn	
Flot-20	2865	73.5	1.5	106	65.3	49.0	71.5	0.6	4.1	54.0	53.1
Flot-21	1234	50.8	5.1	101	56.8	66.4	74.7	4.7	7.6	73.5	73.9
Flot-22	4523	76.1	2.7	94	60.2	76.7	87.3	1.1	5.5	86.7	82.1
Flot-23	1208	53.3	2.6	96	48.6	52.1	71.8	2.6	5.6	67.0	57.7
Flot-30	4943	63.0	1.6	689	45.9	63.8	80.3	4.5	4.3	61.8	68.1
Average	2955	63.3	2.70	217	55.4	61.6	77.1	2.7	5.4	68.6	67.0

Source: Blue Coast PFS Testwork, 2022.

Table 13-14: PFS Variability Cleaner Test Performance no Pre-float

Composite ID	Final Concentrate Grades					Final Concentrate Recoveries (%)					Global Ag Recovery (%)
	Final Pb Concentrate			Final Zn Concentrate		Final Pb Concentrate Recovery (%)			Final Zn Concentrate Recovery (%)		
	Ag (g/t)	Pb (%)	Zn (%)	Ag (g/t)	Zn (%)	Ag	Pb	Zn	Ag	Zn	
Flot-01	4865	71.9	1.91	125	56.1	81.1	85.7	1.5	3.9	82.4	85.0
Flot-02	4981	71.3	2.17	2530	61.9	48.1	84.0	2.0	34.6	82.6	82.7
Flot-03	4804	67.5	1.75	254	60.1	66.1	77.2	1.2	7.4	87.1	73.5
Flot-04	2577	73.7	3.32	49	60.2	83.6	91.2	1.5	5.3	88.2	88.9
Flot-05	4267	71.3	3.05	617	61.4	53.6	85.0	1.3	25.4	85.8	78.9
Flot-06	3658	74.2	2.44	127	61.0	72.3	83.9	1.2	7.1	84.6	79.4
Flot-07	3592	66.2	2.14	116	44.0	55.0	72.4	1.6	4.2	76.6	59.2
Flot-08	3439	72.7	2.92	60	51.5	78.8	86.5	1.5	4.6	84.7	83.4
Flot-09	2016	69.9	2.39	71	48.0	76.7	87.0	1.7	6.5	80.9	83.2
Flot-10	3156	60.3	2.90	119	43.0	68.6	77.0	2.5	5.6	79.3	74.2
Flot-11	3070	65.3	4.38	147	57.3	81.2	83.3	7.3	2.7	67.0	84.0
Flot-12	4002	66.1	2.57	93	58.9	70.4	78.2	0.7	9.2	87.9	79.6
Flot-13	2123	70.3	8.23	104	64.0	73.1	84.7	3.3	11.1	79.9	84.2
Flot-14	2610	52.1	8.01	334	43.7	40.4	66.8	3.2	21.2	70.4	61.6
Flot-15	4025	71.4	2.57	140	59.0	75.1	82.8	1.9	4.7	79.6	79.8
Flot-16	3064	62.0	5.98	124	54.9	77.9	79.8	7.7	2.9	66.2	80.8
Flot-17	892	28.2	6.09	474	39.5	8.7	24.7	3.5	8.8	43.8	17.5
Flot-18	2805	57.0	2.73	160	48.0	31.5	48.6	0.8	10.2	79.3	41.7
Flot-24	4786	76.8	2.39	183	53.7	91.7	93.7	4.2	3.1	81.5	94.8
Flot-25	4786	74.1	2.85	74	54.6	63.2	79.9	0.6	7.2	88.0	70.4
Flot-26	4349	72.9	1.41	385	54.1	76.7	85.9	2.3	6.3	81.1	83.0
Flot-27	4861	75.6	1.20	292	54.4	78.9	86.1	1.6	5.4	83.2	84.3
Flot-28	3101	62.4	4.44	31	48.0	62.2	84.8	1.1	4.5	84.5	66.8
Flot-29	2575	54.3	3.37	44	50.5	73.7	80.8	1.6	4.3	82.2	77.9
Average	3517	66.1	3.38	277	53.7	66.2	78.8	2.3	8.6	79.4	74.8

Source: Blue Coast PFS Testwork, 2022.

Six of the 30 variability samples were selected for locked cycle testing. The results of these tests are summarized in Table 13-15.

All tests yielded final concentrates grading >50% Pb and >45% Zn except for LCT-9 on variability sample Flot-17 (volcanic low grade) which had a low head grade of 0.11% Pb and 0,18% Zn. These head grades are below the current economic cut-off grade.

Table 13-15: PFS Variability Locked Cycle Test Summary

Test ID	Composite	Product	Mass Rec. (%)	Assays			Distribution (%)		
				Ag (g/t)	Pb (%)	Zn (%)	Ag	Pb	Zn
LCT-2	Flot-04 (VOLC HG+)	Pb Cleaner 3 Conc	2.59	2518	71.7	4.39	91.4	96.8	2.2
		Zn Cleaner 3 Conc	8.32	55	0.45	56.7	6.4	2.0	92.4
		Zn Cleaner 1 Tail	8.15	11	0.11	3.01	1.2	0.5	4.8
		Rougher Tail	80.9	1	0.02	0.03	1.0	0.8	0.5
		Calculated Head	100.0	71	1.92	5.11			
LCT-4	Flot-24 (BRX-VOLC HG+)	Pb Cleaner 3 Conc	5.06	4634	72.6	1.94	92.9	96.2	3.8
		Zn Cleaner 3 Conc	4.65	219	1.48	52.2	4.0	1.8	92.7
		Zn Cleaner 1 Tail	9.07	24	0.24	0.63	0.9	0.6	2.2
		Rougher Tail	81.2	7	0.07	0.04	2.2	1.4	1.4
		Calculated Head	100.0	252	3.82	2.62			
LCT-5	Flot-19 (SEDS HG+)	Pb Cleaner 3 Conc	1.37	2395	53.5	4.00	80.6	89.3	3.4
		Zn Cleaner 3 Conc	2.89	182	1.48	52.7	12.9	5.2	95.9
		Zn Cleaner 1 Tail	6.98	12	0.14	0.48	2.1	1.2	2.1
		Rougher Tail	88.7	3	0.04	0.03	6.3	4.5	1.6
		Calculated Head	100.0	41	0.82	1.64			
LCT-6	Flot-08 (VOLC HG)	Pb Cleaner 3 Conc	1.19	3270	68.6	3.13	85.5	93.1	1.7
		Zn Cleaner 3 Conc	3.67	100	0.76	55.5	8.0	3.2	95.5
		Zn Cleaner 1 Tail	7.19	20	0.17	0.44	3.1	1.4	1.5
		Rougher Tail	87.9	2	0.02	0.03	3.3	2.3	1.3
		Calculated Head	100.0	46	0.88	2.14			
LCT-9	Flot-17 (VOLC LG)	Pb Cleaner 3 Conc	0.36	712	19.3	6.49	25.6	63.6	13.3
		Zn Cleaner 3 Conc	0.32	550	3.48	34.5	17.5	10.1	62.3
		Zn Cleaner 1 Tail	2.09	38	0.25	0.47	7.9	4.8	5.5
		Rougher Tail	97.2	5	0.02	0.03	49.0	21.5	19.0
		Calculated Head	100.0	10	0.11	0.18			
LCT-10	Flot-30 (BRX-SEDS MG)	Carbon Pre-float	0.74	82	0.3	0.15	2.0	0.8	0.8
		Pb Cleaner 3 Conc	0.48	4277	52.2	1.35	68.9	86.8	4.6
		Zn Cleaner 3 Conc	0.19	1042	2.96	46.0	6.8	2.0	64.0
		Zn Cleaner 1 Tail	2.07	21	0.16	0.17	1.5	1.2	2.6
		Rougher Tail	96.5	6	0.03	0.04	20.8	9.3	28.0
		Calculated Head	100.0	30	0.29	0.14			

Source: Blue Coast PFS Testwork, 2022.

13.8 Flotation Testwork – Oxide/Sulphide Blended and Sulphide Run-of-Mine Composites

A further four locked cycle tests were conducted on sulphide master composites during the PFS. These composites were selected to be representative of the various sulphide ore pit phases, in addition to a run-of-mine blended composite. The composites are described below, and the results are presented in Table 13-16.

- P23 Master Composite – A blended, sulphide only master composite representing pit phase P23
- P29 Master Composite - A blended, sulphide only master composite representing pit phase P29
- P34 Master Composite – A blended, sulphide only master composite representing pit phase P34
- ROM Composite – Run-of-mine, master composite comprising of sulphide material only.

Table 13-16: PFS Sulphide Master Composite Locked Cycle Test Results

Test ID	Composite	Product	Mass Rec (%)	Assays			Distribution (%)		
				Ag (g/t)	Pb (%)	Zn (%)	Ag	Pb	Zn
LCT-1	P23 MC	Pb Cleaner 3 Concentrate	0.90	3516	56.5	2.48	85.2	92.3	4.0
		Zn Cleaner 3 Concentrate	0.93	287	1.67	53.0	7.2	2.8	89.3
		Zn Cleaner 1 Tail	2.38	7	0.09	0.14	0.4	0.4	0.6
		Rougher Tail	95.8	3	0.03	0.03	7.2	4.5	6.0
		Calculated Head	100.0	37	0.55	0.55	100.0	100.0	100.0
LCT-3	P29 MC	Pb Cleaner 3 Concentrate	0.77	3085	61.1	4.49	80.5	89.8	5.1
		Zn Cleaner 3 Concentrate	1.13	249	1.54	50.7	9.5	3.3	84.2
		Zn Cleaner 1 Tail	5.37	15	0.13	0.74	2.6	1.3	5.9
		Rougher Tail	92.7	2	0.03	0.04	7.3	5.6	4.9
		Calculated Head	100.0	29	0.52	0.68	100.0	100.0	100.0
LCT-7	P34 MC	Pb Cleaner 3 Concentrate	0.75	2868	43.8	4.25	64.6	84.7	3.8
		Zn Cleaner 3 Concentrate	1.35	446	0.54	52.9	18.0	1.9	85.3
		Zn Cleaner 1 Tail	5.59	13	0.09	0.56	2.1	1.3	3.7
		Rougher Tail	92.3	5	0.05	0.06	15.2	12.1	7.2
		Calculated Head	100.0	33	0.39	0.83	100.0	100.0	100.0
LCT-8	ROM Composite	Pb Cleaner 3 Concentrate	0.69	3643	62.4	3.77	75.4	89.1	3.5
		Zn Cleaner 3 Concentrate	1.04	385	0.75	58.6	12.0	1.6	81.2
		Zn Cleaner 1 Tail	5.33	12	0.11	1.37	1.9	1.2	9.7
		Rougher Tail	92.9	4	0.04	0.04	10.7	8.0	5.6
		Calculated Head	100.0	33	0.49	0.75	100.0	100.0	100.0

Source: Blue Coast PFS Testwork, 2022.

Due to the relatively low proportions of organic carbon-bearing ores (sediments, breccia-sediments) in the mine plan and subsequent sulphide master composites, the carbon pre-float was not required for either of the sulphide master composite locked cycle tests. The same LCT flowsheet that was developed for the PEA and PFS variability testwork programs was employed during these tests. Results were encouraging, and further confirmed that the selected flowsheet was appropriate for Cordero ores:

- Lead and silver recoveries to lead concentrate ranged from 85% to 92% and 65% to 85%, respectively.
- Lead concentrate grades ranged from 44% to 62% Pb and 2,900 to 3,600 g/t Ag. Zinc grade of the lead concentrate was consistently below 4.5% Zn.
- Zinc and silver recoveries to zinc concentrate ranged from 81% to 89% and 7% to 18%, respectively.
- Zinc concentrate grades ranged from 51% to 59% Zn and 290 to 446 g/t Ag.

The decision was made part way though the PFS to blend in the silver bearing oxide material, at low blend ratio (maximum 10%) rather than batch process it through heap leaching or flotation. This decision resulted in a simplification of the overall project construction and operation, and was supported by the following locked cycle testwork data on blended composites:

- P23 9S10X Composite – 90% sulphide P23 MC and 10% Oxide blended composite
- P29 9S10X Composite – 90% sulphide P29 MC and 10% Oxide blended composite
- P34 9S10X Composite – 90% sulphide P34 MC and 10% Oxide blended composite
- ROM 9S10X Composite – 90% sulphide ROM and 10% oxide blended composite

The results demonstrated that sulphide and oxide material could be blended, at up to 10% oxide contribution with little to no negative impacts on sulphide ore performance, achieving the following:

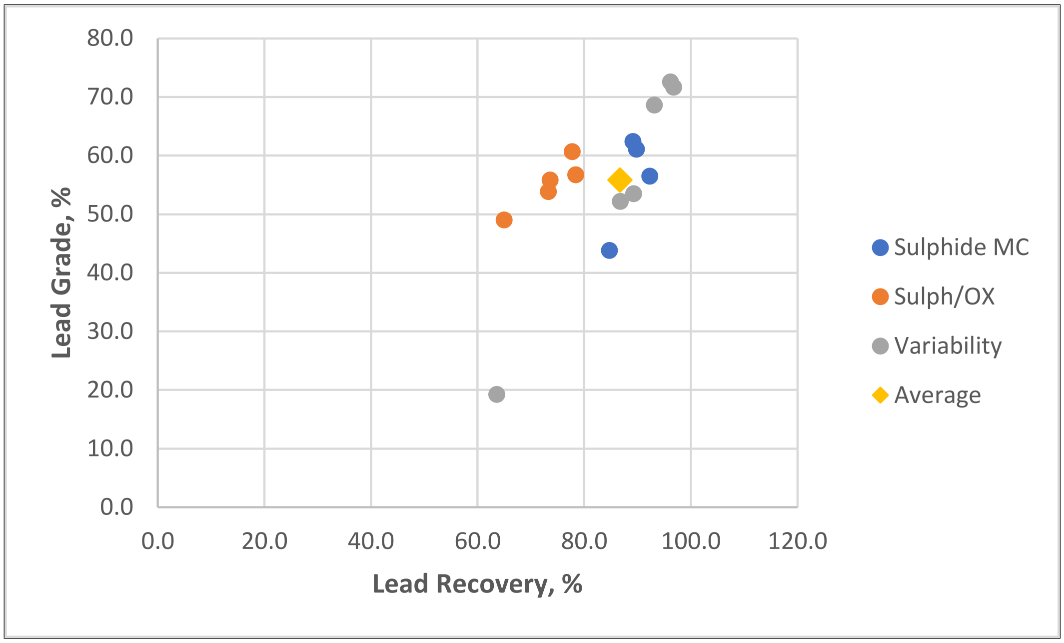
- Lead and silver recoveries to lead concentrate ranged from 80% to 86% and 65% to 78%, respectively.
- Lead concentrate grades ranged from 49% to 61% Pb and 3,250 to 3,700 g/t Ag. Zinc grade of the lead concentrate was consistently below 4.5% Zn.
- Zinc and silver recoveries to zinc concentrate ranged from 87% to 89% and 7% to 16%, respectively.
- Zinc concentrate grades ranged from 51% to 54% Zn and 290 to 446 g/t Ag.

Figure 13-21 to Figure 13-23 summarize all PEA and PFS LCT results conducted to date. The average performance of all LCTs yields a lead concentrate grading 56% Pb and 3,217 g/t Ag at 87% and 75%, respectively. The average zinc concentrate graded 52% Zn at an 85% Zn recovery and an additional 10% silver recovery. Global average silver recovery to both lead and zinc concentrate was 85%. LCT results are presented in Table 13-17.

Table 13-17: PFS Sulphide/Oxide Blended Composite LCT Results

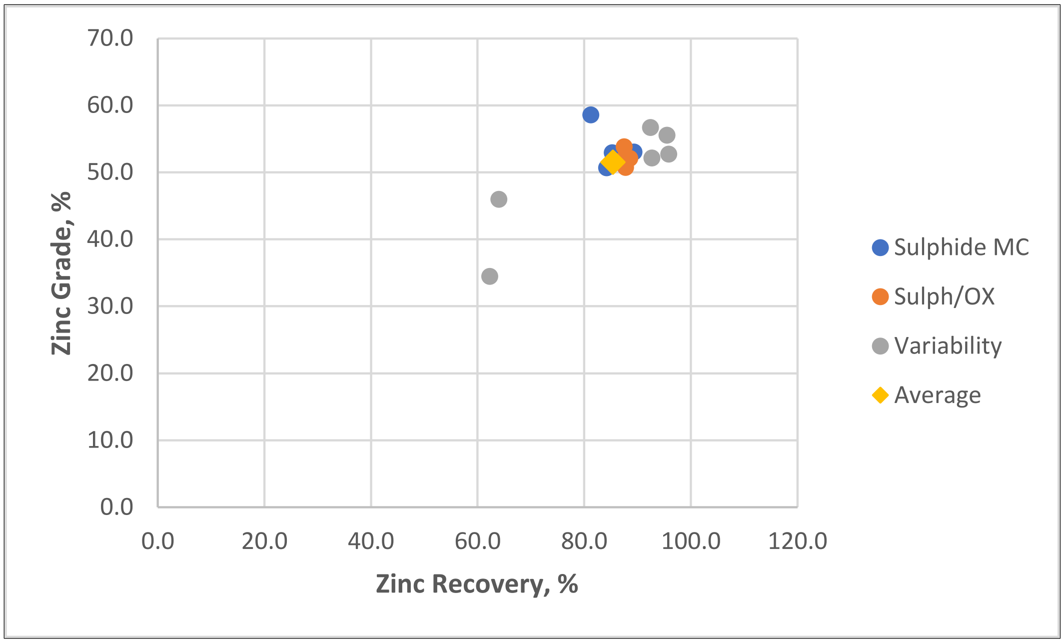
Test ID	Composite	Product	Mass Rec (%)	Assays			Distribution (%)		
				Ag (g/t)	Pb (%)	Zn (%)	Ag	Pb	Zn
LCT-11	P23 9S10X	Pb Cleaner 3 Conc	0.81	3694	56.7	1.50	78.4	84.4	2.3
		Zn Cleaner 3 Conc	0.88	321	1.07	52.1	7.4	1.7	88.6
		Zn Cleaner 1 Tail	4.52	7	0.10	0.11	0.8	0.8	1.0
		Rougher Tail	93.8	5	0.08	0.04	13.4	13.0	8.1
		Calculated Head	100.0	38	0.54	0.52	100.0	100.0	100.0
LCT-12	P29 9S10X	Pb Cleaner 3 Conc	0.70	3250	60.6	4.36	77.7	86.1	4.7
		Zn Cleaner 3 Conc	1.05	255	1.14	53.8	9.2	2.4	87.5
		Zn Cleaner 1 Tail	5.40	6	0.11	0.13	1.2	1.2	1.1
		Rougher Tail	92.9	4	0.05	0.05	11.9	10.3	6.7
		Calculated Head	100.0	29	0.49	0.65	100.0	100.0	100.0
LCT-13	P34 9S10X	Pb Cleaner 3 Conc	0.65	3369	49.0	3.54	65.0	80.4	3.1
		Zn Cleaner 3 Conc	1.24	434	0.75	52.3	16.0	2.3	87.7
		Zn Cleaner 1 Tail	5.10	9	0.09	0.17	1.4	1.2	1.2
		Rougher Tail	93.0	6	0.07	0.06	17.6	16.1	8.0
		Calculated Head	100.0	34	0.39	0.74	100.0	100.0	100.0
LCT-14	ROM 9S10X	Pb Cleaner 3 Conc	0.75	3506	53.9	3.55	73.2	83.7	3.9
		Zn Cleaner 3 Conc	1.19	335	0.83	50.7	11.1	2.1	87.8
		Zn Cleaner 1 Tail	5.04	9	0.11	0.15	1.2	1.2	1.1
		Rougher Tail	93.0	6	0.07	0.05	14.5	13.0	7.3
		Calculated Head	100.0	36	0.48	0.69	100.0	100.0	100.0
LCT-15	ROM 9S10X	Pb Cleaner 3 Conc	0.74	3522	55.8	4.27	73.6	84.3	4.7
		Zn Cleaner 3 Conc	1.14	328	0.85	51.5	10.5	2.0	86.5
		Zn Cleaner 1 Tail	5.74	13	0.12	0.20	2.1	1.4	1.7
		Rougher Tail	92.4	5	0.07	0.05	13.8	12.3	7.2
		Calculated Head	100.0	35	0.49	0.68	100.0	100.0	100.0

Figure 13-21: PEA and PFS LCT Lead Recovery and Grade to Lead Concentrate



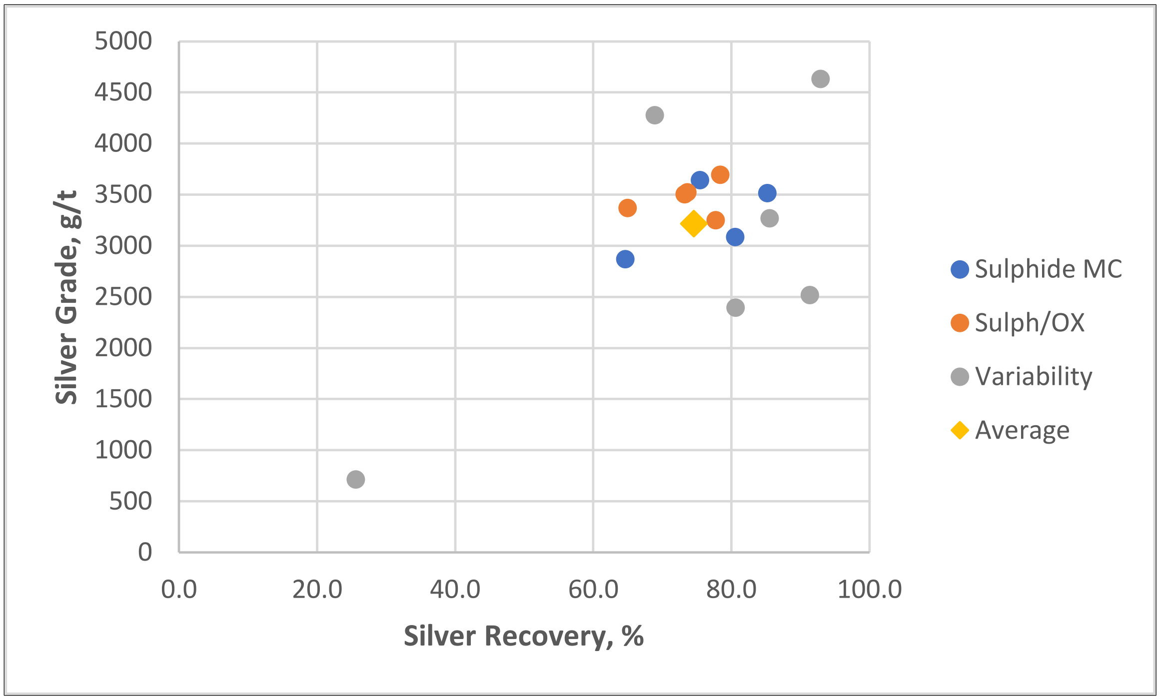
Source: Libertas Metallurgy, 2023.

Figure 13-22: PEA and PFS LCT Zinc Recovery and Grade to Zinc Concentrate



Source: Libertas Metallurgy, 2023.

Figure 13-23: PEA and PFS Silver Recovery and Grade to Lead Concentrate



Source: Libertas Metallurgy, 2023.

13.9 Concentrate Quality

The final lead and zinc concentrates from the locked cycle tests were subjected to the following concentrate quality analyses:

- four-acid digest ICP multielement scan
- halide analysis
- sodium peroxide fusion
- total sulphur and organic carbon via ELTRA
- mercury analysis.

The data are summarized in Table 13-18 and 13-19.

Table 13-18: LCT Lead Concentrate Quality

Test ID	0.2	0.01	0.01	0.034	2	0.2	2	0.03	0.01	0.2	0.01	2	1
	g/t	%	%	g/t	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm
	Ag	Al	As	Au	Ba	Be	Bi	C_{org}	Ca	Cd	Cl	Co	Cr
	4AD-ICP	FUS-Na2O2	FUS-Na2O2	FA/ICP	4AD-ICP	4AD-ICP	4AD-ICP	HCl-Eltra	4AD-ICP	4AD-ICP	INAA	4AD-ICP	4AD-ICP
Pb Concentrate LCT Avg	3326	0.87	0.31	4.93	455	0.28	424	0.84	0.92	494	0.01	11	9
Pb Concentrate MAX	4680	2.06	0.74	28.84	943	0.33	1564	1.60	2.78	779	0.02	16	23
Pb Concentrate MIN	2299	0.13	0.02	0.23	131	0.23	119	0.09	0.12	153	0.01	5	2
Pb Concentrate 75th %	3547	1.23	0.45	3.35	729	0.31	467	1.34	1.20	640	0.01	13	11

Test ID	1	0.01	0.01	20	20	20	5	20	0.1	2	0.01	0.01	1
	ppm	%	%	ppm	ppm	ppm	ppb	ppm	%	ppm	%	%	ppm
	Cu	F	Fe	Ga	Ge	Hf	Hg	In	K	Li	Mg	Mn	Mo
	4AD-ICP	FUS-ISE	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	1G	4AD-ICP	FUS-Na2O2	4AD-ICP	4AD-ICP	FUS-Na2O2	4AD-ICP
Pb Concentrate LCT Avg	7418	0.02	5.76	<20	40	<20	13054	82	0.74	4	0.09	0.09	18
Pb Concentrate MAX	34732	0.03	8.37	<20	56	<20	30900	499	1.50	7	0.22	0.11	36
Pb Concentrate MIN	120	0.01	1.86	<20	23	<20	1050	20	0.20	2	0.01	0.05	1
Pb Concentrate 75th %	8260	0.02	7.73	<20	48	<20	20050	47	0.98	5	0.14	0.10	28

Test ID	0.01	10	1	0.002	0.0002	20	20	0.01	2	10	0.01	10	1
	%	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm
	Na	Nb	Ni	P	Pb	Rb	Re	S_{tot}	Sb	Se	Si	Sn	Sr
	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	Eltra	4AD-ICP	4AD-ICP	FUS-Na2O2	4AD-ICP	4AD-ICP
Pb Concentrate LCT Avg	0.023	21.9	45	0.020	57.404	72	28	16.135	8782	423	3.549	72	32
Pb Concentrate MAX	0.072	46.9	147	0.071	71.309	141	62	19.647	64641	1654	7.200	346	56
Pb Concentrate MIN	0.010	10.0	11	0.000	43.682	20	20	12.882	2685	100	0.530	10	10
Pb Concentrate 75th %	0.027	29.1	47	0.020	59.579	97	33	17.391	5529	440	4.628	57	47

Test ID	10	10	0.01	2	1	10	0.0002	4
	ppm	ppm	%	ppm	ppm	ppm	%	ppm
	Ta	Te	Ti	Tl	V	W	Zn	Zr
	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP
Pb Concentrate LCT Avg	27	1948	0.04	46	22	434	3.43	21
Pb Concentrate MAX	47	1948	0.06	62	62	613	4.72	38
Pb Concentrate MIN	16	1948	0.01	20	3	195	1.37	5
Pb Concentrate 75th %	33	1948	0.05	59	25	586	4.35	26

Source: Libertas Metallurgy, 2023.

Table 13-19: LCT Zinc Concentrate Quality

Test ID	g/t	%	%	g/t	ppm	ppm	ppm	%	%	ppm	%	ppm	ppm
	Ag	Al	As	Au	Ba	Be	Bi	C_{org}	Ca	Cd	Cl	Co	Cr
	4AD-ICP	FUS-Na2O2	FUS-Na2O2	FA/ICP	4AD-ICP	4AD-ICP	4AD-ICP	HCl-Eltra	4AD-ICP	4AD-ICP	INAA	4AD-ICP	4AD-ICP
Zn Concentrate LCT Avg	280	0.69	0.31	0.54	389	<0.2	10	0.30	0.52	4860	0.03	10	6
Zn Concentrate MAX	470	3.67	0.88	1.30	1157	<0.2	14	0.56	1.25	5364	0.07	20	11
Zn Concentrate MIN	57	0.06	0.01	0.06	44	<0.2	4	0.05	0.07	4485	0.02	5	2
Zn Concentrate 75th %	350	0.72	0.58	0.88	546	<0.2	13	0.38	0.76	5011	0.03	13	8

Test ID	ppm	%	%	ppm	ppm	ppm	ppb	ppm	%	ppm	%	%	ppm
	Cu	F	Fe	Ga	Ge	Hf	Hg	In	K	Li	Mg	Mn	Mo
	4AD-ICP	FUS-ISE	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	1G	4AD-ICP	FUS-Na2O2	4AD-ICP	4AD-ICP	FUS-Na2O2	4AD-ICP
Zn Concentrate LCT Avg	5610	0.01	7.29	<20	30	<20	11429	93	0.49	1	0.05	0.89	5
Zn Concentrate MAX	14165	0.02	10.40	<20	49	<20	25200	264	0.80	5	0.10	1.10	9
Zn Concentrate MIN	1416	0.00	4.91	<20	20	<20	296	33	0.10	0	0.01	0.13	2
Zn Concentrate 75th %	6380	0.01	8.44	<20	35	<20	17800	71	0.70	3	0.07	0.98	7

Test ID	%	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm
	Na	Nb	Ni	P	Pb	Rb	Re	S_{tot}	Sb	Se	Si	Sn	Sr
	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	Eltra	4AD-ICP	4AD-ICP	FUS-Na2O2	4AD-ICP	4AD-ICP
Zn Concentrate LCT Avg	0.01	12	20	0.02	1.05	40	28	32.16	1094	32	2.92	140	22
Zn Concentrate MAX	0.02	17	47	0.03	1.63	65	41	35.19	6613	61	16.30	634	52
Zn Concentrate MIN	0.00	10	0	0.00	0.49	20	20	29.07	98	10	0.21	10	4
Zn Concentrate 75th %	0.02	13	28	0.02	1.53	58	35	33.57	1074	45	2.79	96	28

Test ID	10	10	0.01	2	1	10	0.0002
	ppm	ppm	%	ppm	ppm	ppm	%
	Ta	Te	Ti	Tl	V	W	Zn
	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP	4AD-ICP
Zn Concentrate LCT Avg	21	<10	0.020	9	9.6	5173	52.82
Zn Concentrate MAX	45	<10	0.044	35	36.5	7360	56.05
Zn Concentrate MIN	10	<10	0.000	2	1.0	0	48.31
Zn Concentrate 75th %	26	<10	0.027	12	11.9	7076	53.90

Source: Libertas Metallurgy, 2023.

In the interests of brevity, only the main deleterious elements are discussed. These are as follows:

- Mercury (Hg) content of the lead and zinc concentrates averaged 13 g/t and 11 g/t, respectively.
- Organic carbon content of all concentrates was below 1.6% C_{ORG}.
- Arsenic (As) content of the lead and zinc concentrates averaged 0.31% and 0.31%, respectively.
- Cadmium (Cd) content of the lead and zinc concentrates averaged 494 g/t and 4,490 g/t, respectively.
- Chlorine (Cl) content was consistently low (0.07% Cl) and often below detection limit.

13.10 Dewatering Testwork

Dewatering testwork was completed on the final tails by Metso Outotec Group at SGS Lakefield in August 2022 and by SGS Canada on the lead concentrate and zinc concentrates. The samples for this testwork were generated at Blue Coast Research during the PFS testwork program via multiple 10 kg batch cleaner flotation tests on the bulk/dewatering composite using the optimized flowsheet. The final lead and zinc concentrates had a measured P_{80} of 50 µm and 63 µm, respectively, while the final tails were measured to have a k_{80} of 190 µm.

13.10.1 Thickener Testwork

Static thickener testwork only was conducted on the final concentrates due to sample mass limitations. BASF Magnafloc 1011 was selected as the optimum flocculant at moderate dosages of 17 to 20 g/t. High-density thickener underflows were achieved for both concentrates, as shown in Table 13-20.

Table 13-20: Pb and Zn Concentrates Static Settling Test Results

Sample ID	Floc Dosage (g/t)	Feed % Solids	U/F % Solids	Unit Area $m^2/(t/d)$	Initial Settling Rate $m^3/m^2/d$	Supernatant Clarity	TSS mg/L
Pb Concentrate	17	20.0	75	0.04	1955	Clear	23
Zn Concentrate	20	12.0	68	0.06	1310	Clear	55

Source: SGS Lakefield Testwork, 2022.

For the final tailings, dynamic thickener testwork was conducted and is summarized below. Good underflow density was achieved (63% solids w/w) with 30 g/t of BASF Magnafloc 1011 at a feed flux of 0.80 $t/(m^2 \cdot h)$, as shown in Table 13-21.

Table 13-21: Final Tails Dynamic Settling Test Results

	Feed		Flocculant		Underflow		Overflow
Run No.	Flux t/(m^2·h)	Liquor RR (m/h)	Type	Dose (g/t)	Density (% Solids)	YS Pa	Solids (mg/L)
1	0.80	3.32	905 VHM	40	60.1	119	121
2	0.80	3.32	905 VHM	50	60.0	99	115
3	0.80	3.32	905 VHM	30	61.0	131	133
4	0.60	2.49	905 VHM	30	61.5	135	<100
5	0.40	1.66	905 VHM	30	63.0	159	<100
7	0.30	1.24	905 VHM	30	63.7	162	<100
8	0.40	1.66	MF 1011	30	63.0	128	210

Source: Metso-Outotec Testwork, 2022.

13.10.2 Filtration Testwork

Pressure filtration tests were conducted by SGS Lakefield on both concentrate thickener underflow samples at 550 kPa (80 PSI) and 690 kPa (100 PSI).

Pressure filtration tests were conducted on the lead cleaner concentrate underflow sample at 75.0% w/w solids based on the results of the static settling tests. Pressure filtration was conducted at 5.5 bar (80 PSI) and 6.9 bar (100 PSI) pressure levels. Scoping tests were conducted using a range of filter cloths. Testori P4408 TC polypropylene cloth was selected for the tests.

Pressure filtration test cake thicknesses ranged from 15 to 30 mm (note: cake thickness in the test equipment is equivalent to half of the filter chamber thickness at full scale). Filter throughput ranged from 2564 to 4098 kg/m^2·h when calculated using the filtration time only; however, when calculated using an estimated full cycle time, the filter throughput was recalculated to a range of 271 to 501 kg/m^2·h.

The discharge cake residual moisture content ranged from 7.9% to 9.0% w/w. The surface of all discharged cakes was dry to touch. Wall separation occurred on all filter cakes after forming.

Pressure filtration tests were conducted on the zinc cleaner concentrate underflow sample at 68.0% w/w solids based on the results of the static settling tests. Scoping tests were conducted using a range of filter cloths. Testori P4408 TC polypropylene cloth was selected for the tests.

Pressure filtration test cake thicknesses ranged from 15 to 30 mm (note: cake thickness in the test equipment is equivalent to half of the filter chamber thickness at full scale). Filter throughput ranged from 1522 to 1871 kg/m^2·h when calculated using the filtration time only; however, when calculated using an estimated full cycle time, the filter throughput was recalculated to a range of 187 to 339 kg/m^2·h. The discharge cake residual moisture content ranged from 8.7% to 10.8% w/w. The surface of all discharged cakes was dry to touch. Wall separation occurred on all filter cakes after forming.

For the 90% sulphide 10% oxide final tails, five pressure filtration runs were completed be Metso Outotec. Run 1 produced a filter cake with a moisture content of 13 %w/w at a filtration rate of 152 kg/m^2.h. Pressing pressure was 12.0 bar, air drying pressure was 10.0 bar and cycle time was 13.0 minutes.

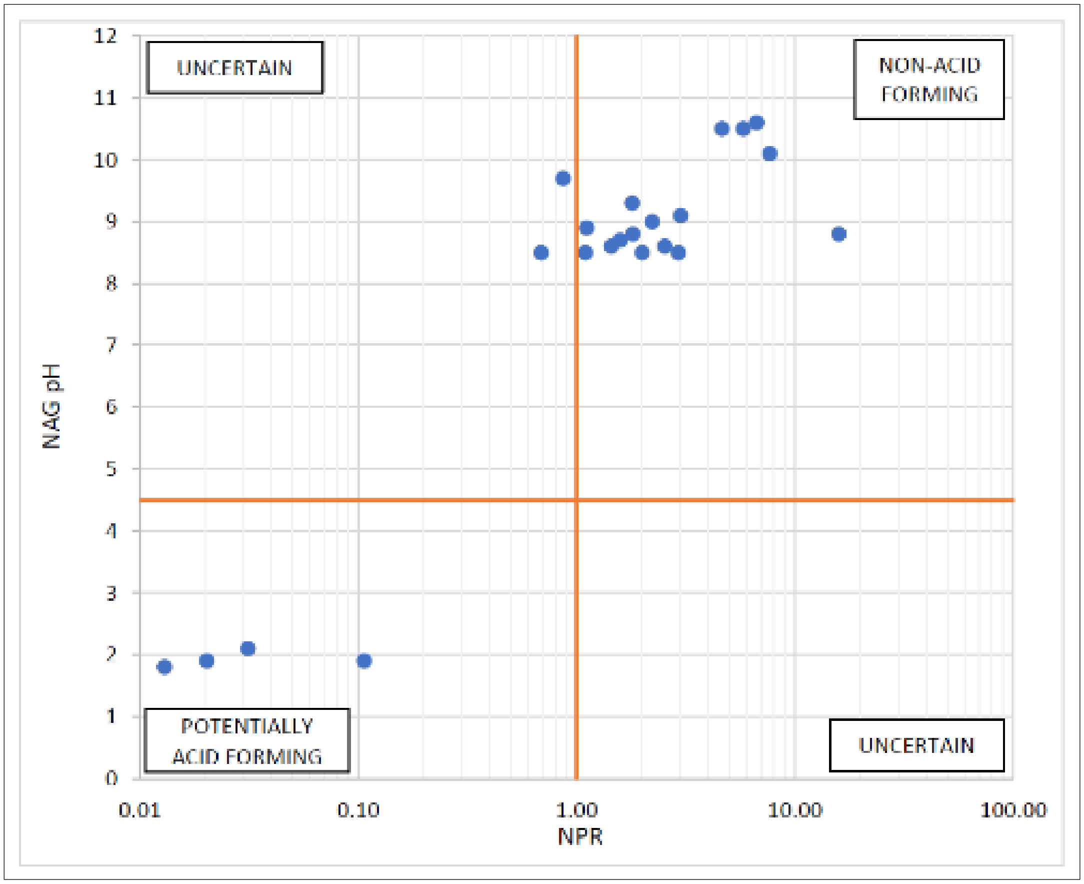
For the 100% sulphide final tails, at the same parameters listed above, the filter cake had a moisture content of 12.7% w/w at a filtration rate of 171 kg/m^2.h.

13.11 ABA & NAG Testwork

Acid base accounting (ABA) and net acid generation (NAG) testwork was conducted on the final Zn cleaner 1 tails and final rougher tails of LCT-1 to LCT-11, for a total of 22 samples. Sixteen of the 22 samples tested fall into the non-acid-forming classification, while four of the samples (Flot-04 Zn cleaner 1 tails, P29 MC Zn cleaner 1 tails, Flot-24 Zn cleaner 1 tails, and Flot-08 Zn cleaner 1 tails) fall into the potentially acid forming classification.

Two of the samples (Flot-19 Zn cleaner 1 tails and Flot-08 rougher tails), fall into the uncertain category based on the standard definitions used for ARD potential (quadrants are defined by a neutralization potential ratio (NPR) of 1.0 and a NAG pH of 4.5, X and Y axis, respectively). Due to the likelihood that the rougher tails and zinc cleaner 1 tails, and that the mass of the zinc cleaner tails is a relatively minor component of the overall tailings stream, all final tails will be non-acid-forming. Results are shown in Figure 13-24.

Figure 13-24: ARD Classification Based on ABA and NAG Testwork Results



Source: Blue Coast PEA Testwork, 2021.

13.12 Regrind Energy Consumption

Due to sample mass constraints, no concentrate regrind specific energy consumption testwork has been completed on the project to date. The regrind sizes for plant design purposes were derived from batch cleaner and locked cycle testwork at Blue Coast Research. On average, the lead rougher concentrate was reground to 31 μm and the zinc rougher concentrate was reground to 45 μm for the 11 locked cycle tests where regrind sizes were measured. Results are shown in Table 13-22.

Table 13-22: Summary of Lead and Zinc Regrind Sizes

Composite ID	Pb Rougher			Zn Rougher		
	Mass (g)	Regrind Time (mins)	Regrind P_{80} (μm)	Mass (g)	Regrind Time (mins)	Regrind P_{80} (μm)
P23 MC	73	2	35	69	2	47
Flot-04	113	4	36	320	12	47
P29 MC	115	4.5	27	94	4.5	34
Flot-24	205	8	40	214	7.5	46
Flot-08	89	4	36	143	4	69
Flot-19	127	4.5	32	151	5.5	53
Flot-30	57	3	24	56	3	13
P23 9S1OX	94	4	31	100	4	32
P29 9S1OX	114	4	23	111	5	51
P34 9S1OX	105	4	31	130	6	56
ROM 9S1OX	123	4	25	114	6	50
Average	110	4	31	137	5	45

Source: Blue Coast Research, 2022.

13.13 Recovery Models

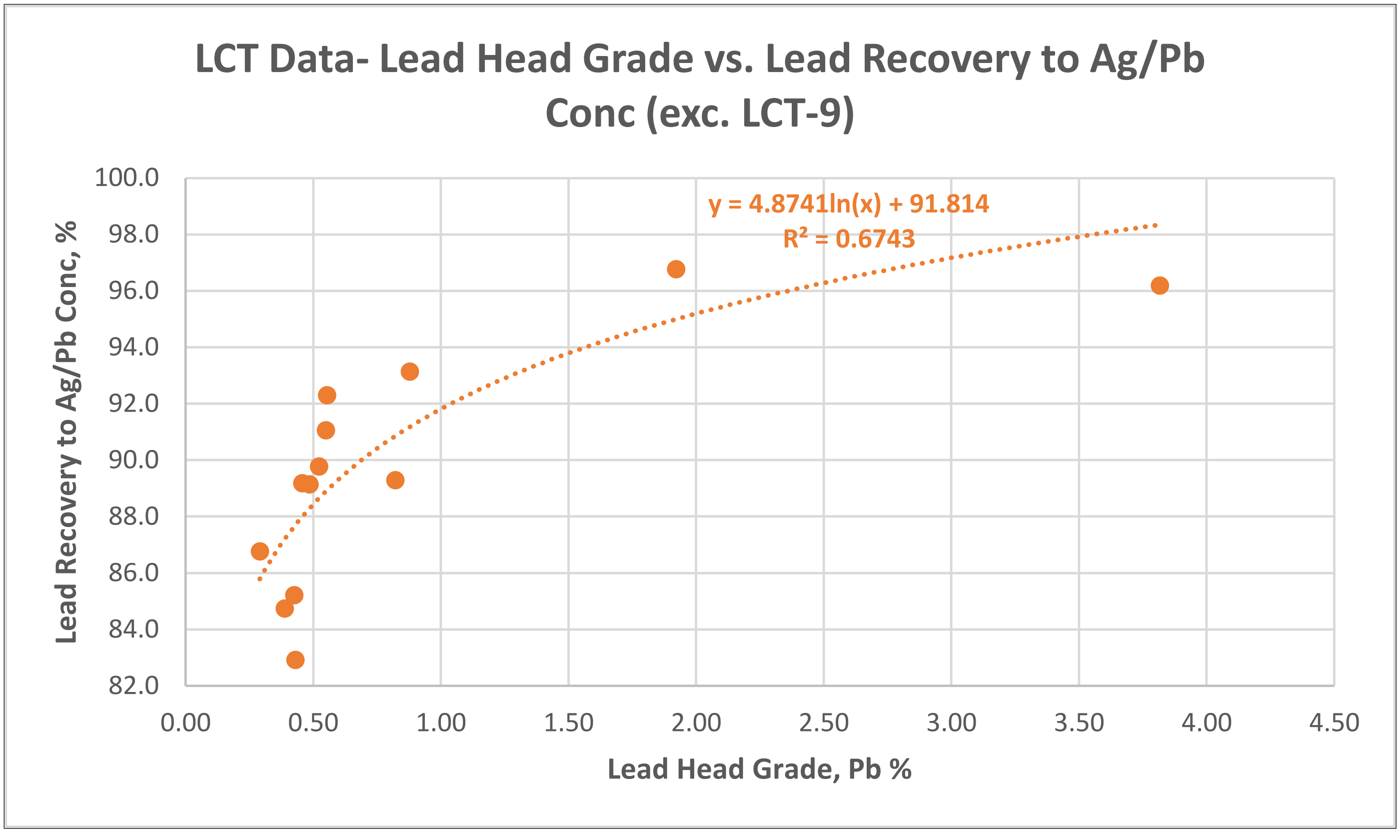
A series of recovery and grade models were developed for the Cordero project using the PEA and PFS sulphide ore locked cycle test dataset. The models are regression based and are described below.

13.13.1 Lead Recovery to Lead Concentrate

The lead head grade vs. lead recovery to lead concentrate relationship is shown below. LCT-9 (VOLC low-grade variability sample) was excluded from the dataset due to the concentrate grade achieved being only 19% Pb. The relationship is shown in Figure 13-25.

Lead recovery (%) = 4.874 x ln (Pb head grade %) + 91.84

Figure 13-25: Lead Recovery to Lead Concentrate Recovery Model



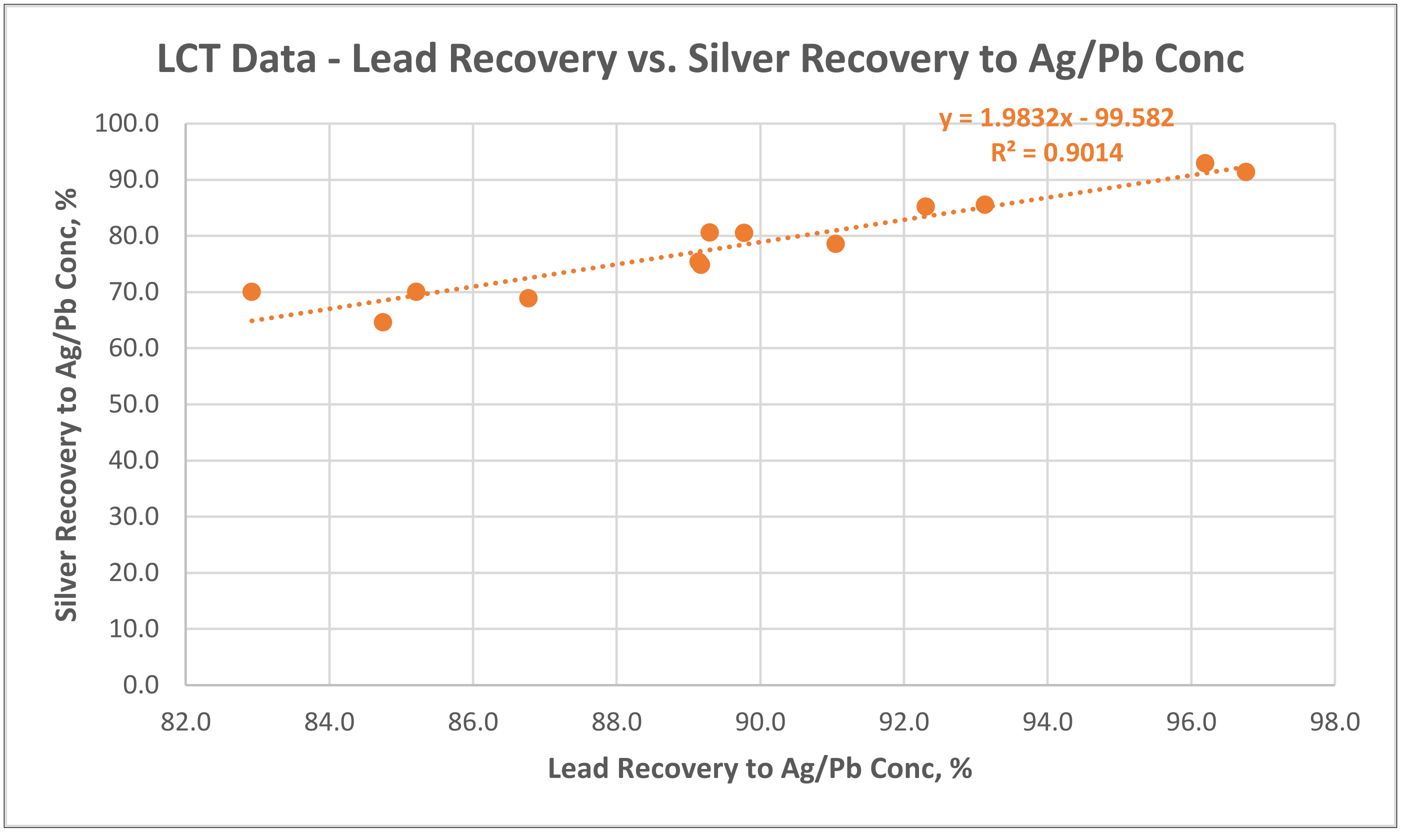
Source: Libertas Metallurgy, 2022.

13.13.2 Silver Recovery to Lead Concentrate

Silver recovery is calculated as a function of lead recovery to lead concentrate. The relationship is linear and is derived from the PEA and PFS sulphide ore locked cycle tests as shown in Figure 13-26.

Silver recovery = (1.983 x Lead recovery % to lead conc.) - 99.582

Figure 13-26: Silver Recovery to Lead Concentrate Recovery Model



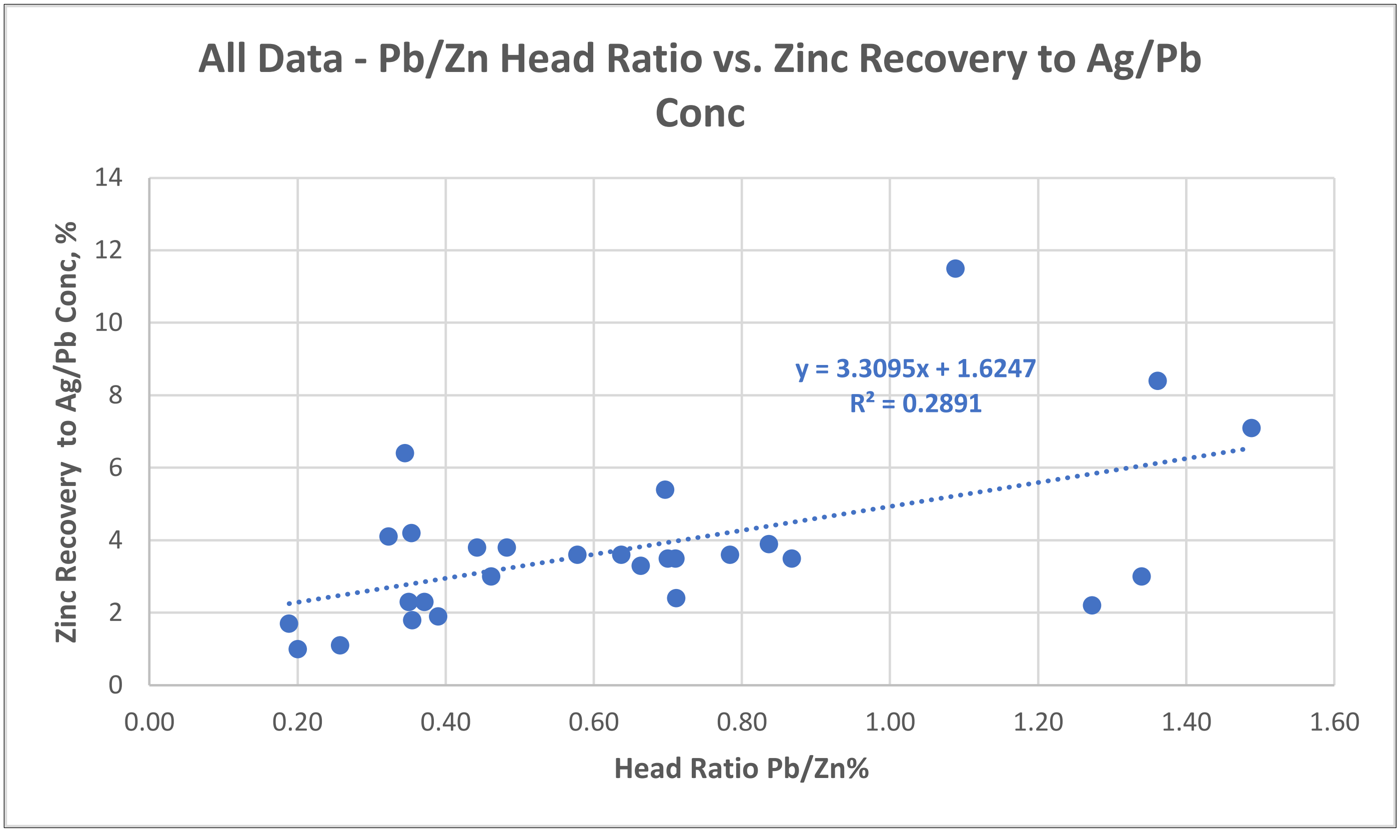
Source: Libertas Metallurgy, 2022.

13.13.3 Zinc Misplacement to Lead Concentrate

The zinc misplacement to lead concentrate was calculated from batch variability cleaner flotation testwork data. The relationship was derived from the Pb/Zn head grade ratio, as indicated in Figure 13-27.

Zinc Misplacement % = (3.310 x (Pb head %/Zn head%)) + 1.6247

Figure 13-27: Zinc Misplacement to Lead Concentrate Model



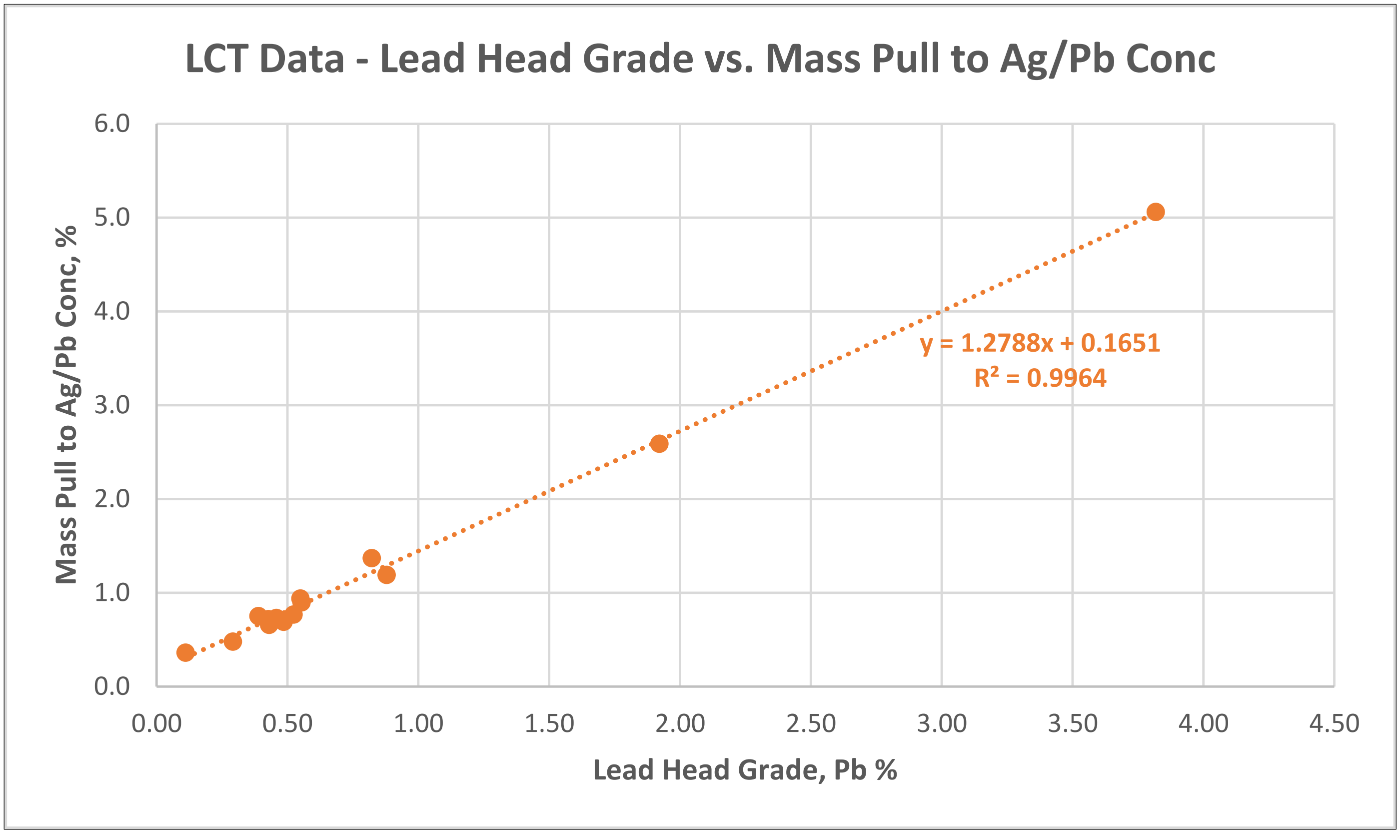
Source: Libertas Metallurgy, 2022.

13.13.4 Lead and Silver Concentrate Grade

Lead, silver and zinc grade to lead concentrate were calculated via simple mass pull and recovery formulae. The mass pull to lead concentrate was derived from the sulphide LCT data set, with lead head grade and mass pull to lead concentrate exhibiting a strong liner relationship with an r^2 of 0.99.

Mass pull to lead conc. (%) = (1.279 x lead head grade %) + 0.165

Figure 13-28: Mass Pull to Lead Concentrate Model



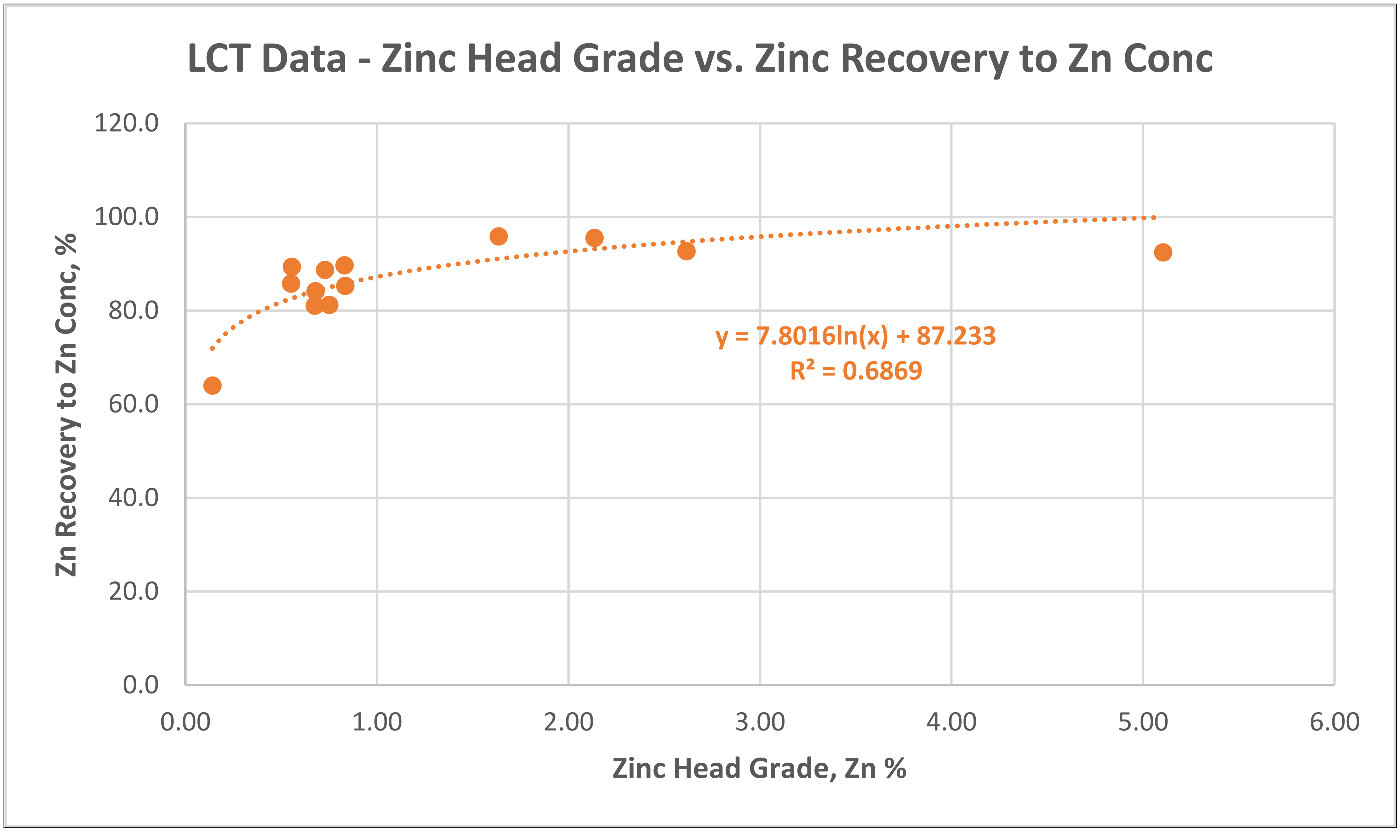
Source: Libertas Metallurgy, 2022.

13.13.5 Zinc Grade and Recovery to Zinc Concentrate

A simple recovery model derived from zinc head grade and locked cycle test zinc recovery to zinc final concentrate was used to project zinc recovery, per the Figure 13-29:

Zinc Recovery to Zinc Concentrate % = 7.802 x ln (Zn head grade %) + 87.233

Figure 13-29: Zinc Recovery to Zinc Concentrate Model

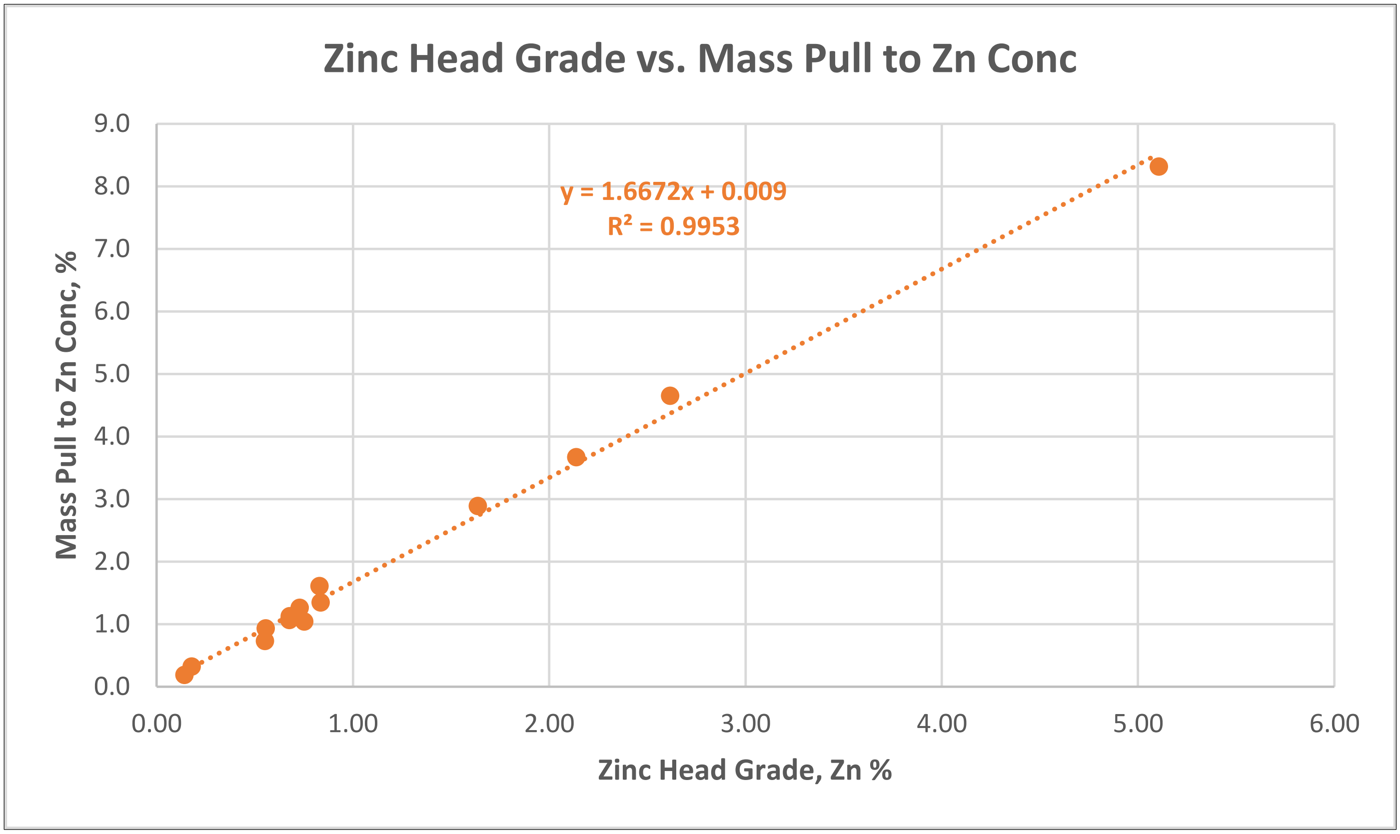


Source: Libertas Metallurgy, 2022.

Zinc concentrate grade was calculated from the zinc recovery and mass pull to zinc concentrate. Zinc concentrate mass pull was derived from the following relationship:

Mass Pull to Zinc Concentrate % = (1.667 x (Zn head grade %)) + 0.009

Figure 13-30: Mass Pull to Zinc Concentrate Model



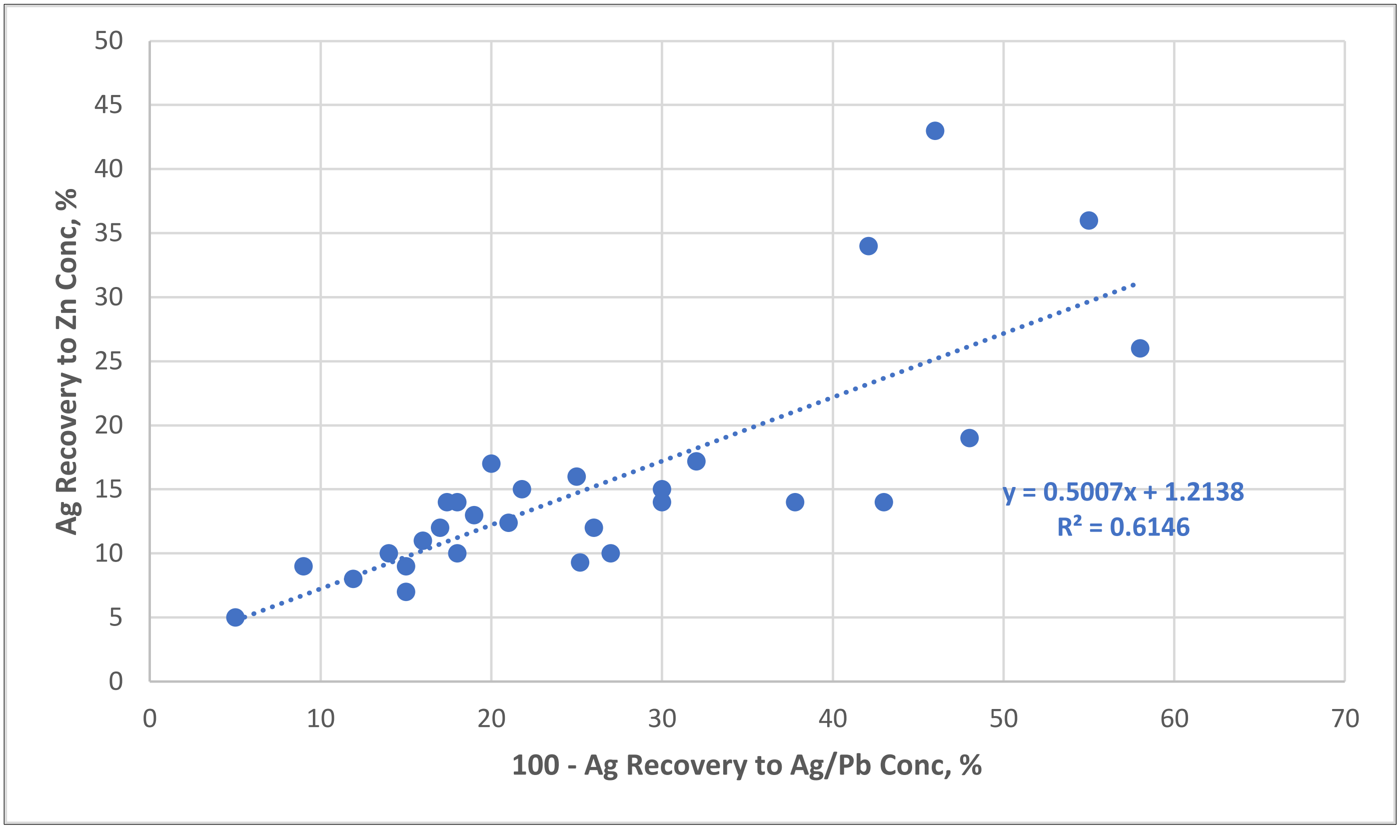
Source: Libertas Metallurgy, 2022.

13.13.6 Silver Recovery to Zinc Concentrate

Silver recovery to zinc concentrate was calculated from batch variability flotation test data after subtracting the silver recovery to the lead concentrate per the relationship shown in Figure 13-31.

Silver Recovery to Zinc Concentrate = (0.501 x (100 – silver recovery to Pb concentrate %)) + 1.214

Figure 13-31: Silver Recovery to Zinc Concentrate Model



Source: Libertas Metallurgy, 2022.

13.13.7 Gold Recovery

No mathematical models were derived for gold recovery to either the lead or zinc concentrates. Gold contributes a relatively minor amount to the overall project value and straight-line averages from the locked cycle dataset were used as placeholders for the PFS.

- Gold recovery to lead concentrate = 12.6% (average)
- Gold recovery to zinc concentrate = 9.5% (average)
- Gold grades were then calculated from the result of the mass pull formulae described earlier.

13.14 Penalty/Deleterious Elements:

The following penalty/deleterious elements have been identified as of interest for the lead and zinc final concentrates:

- Lead Concentrate: As, Sb, Se, Cl+F, Hg
- Zinc Concentrate: As, Fe, Cd, SiO_2, Mn, Cl+F, Hg and Cu+Pb+SiO_2

Relationships between head grade and penalty element concentration in the final concentrates were developed based on concentrate assays from the locked cycle tests. The relationships are outlined in Table 13-23, where:

y = concentration of the penalty element (% or g/t)

x = lead head grade (%)

z = zinc head grade (%).

Table 13-23: Penalty Element Concentration Equations

Element	Symbol	Unit	Lead/Silver Concentrate	Zinc Concentrate
Arsenic	As	%	$y = 0.00005 * x$	$y = 0.00006 * z$
Iron	Fe	%	N/A	$y = 0.0016 * z$
Cadmium	Cd	%	N/A	$y = 0.00009 * z$
Silicon Dioxide	SiO_2	%	N/A	$y = 0.0007 * z$
Manganese	Mn	%	N/A	$y = 0.0002 * z$
Chlorine + Fluorine	Cl + F	ppm	$y = 4.1539 * x$	$y = 7.9436 * z$
Mercury	Hg	ppm	$y = 0.1929 * x$	$y = 0.2165 * z$
Copper + Lead + Silicon Dioxide	Cu + Pb + SiO_2	%	N/A	$y = 0.001 * x$
Antimony	Sb	%	$y = 0.0002 * x$	N/A
Selenium	Se	g/t	$y = 7.7148 * x$	N/A

Source: Ausenco, 2023.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

The previous Cordero mineral resource estimate (MRE) was completed in November 2021 by RedDot3D Inc. (RedDot). The current mineral resource estimate was calculated for Discovery Silver by RedDot, with continuous assistance and review from this report's QP for mineral resources, Richard A. Schwering, SME-RM. All information contained in Section 14 of this report has been reviewed in detail by the QP. Additional validations steps taken by the QP are disclosed where appropriate. The geological modelling, geostatistics, and grade estimates were completed using Leapfrog Geo® and Leapfrog EDGE® software ("Leapfrog") version 2021.2.5.

The current mineral resource estimate is based on a drill dataset consisting of 275,904 m of drilling (690 drill holes); of which 153,715 m of drilling (423 drill holes) was completed by Discovery. The mineral resource estimate incorporates geological and structural domains based on lithological and structural controls that are interpreted from a better understanding of the deposit through recent drilling.

Ordinary kriging was used to interpolate silver, lead, zinc and gold grades into blocks and sub-blocks, using variogram models based on pairwise relative experimental variograms for the analysis of spatial continuity.

Resource classification was based on block-by-block metrics that relate to the proximity of nearby data. An optimized pit shell further constrains the reported mineral resource to fulfil the requirement for "reasonable prospects for eventual economic extraction".

The mineral resource is split into sulphide and oxide portions. Since silver, lead, zinc, and gold all contribute to revenue, a net smelter return (NSR) is calculated as the net revenue from metal sales (considering metallurgical recoveries and payabilities) minus treatment costs and refining charges. The tabulated grades and metal contents are in-situ estimates, and do not include factors such as external dilution, mining losses and process recovery losses. As such, these are mineral resources, not mineral reserves, and do not have demonstrated economic and technical viability. Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates.

14.1.1 Sulphide Resource Estimate

Sulphide mineralization is categorized as all mineralization that is located beneath the distinct oxide boundary; it extends to depths of up to 100 m below surface. The $7.25/t NSR reporting cut-off used for sulphide mineralization is based on the estimated processing and G&A cost for standard flotation processing of this material.

Table 14-1: Sulphide Mineral Resources for the Cordero Project, with an Effective Date of January 18, 2023 above an NSR Cut-off of $7.25/t and within a Reporting Pit Shell

Class	Tonnage	Grade					Contained Metal				
		Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
	Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
Measured	250	23	0.08	0.33	0.57	**55**	185	604	1,824	3,132	**439**
Indicated	403	18	0.04	0.27	0.56	**46**	228	524	2,387	4,947	**598**
M&I	**653**	**20**	**0.05**	**0.29**	**0.56**	**49**	**413**	**1128**	**4,211**	**8,079**	**1037**
Inferred	**109**	**13**	**0.02**	**0.21**	**0.38**	**33**	**46**	**82**	**510**	**923**	**118**

Notes: **1.** AgEq for sulphide mineral resources is calculated as Ag + (Au x 15.52) + (Pb x 32.15) + (Zn x 34.68); these factors are based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 87%, Au – 18%, Pb – 89% and Zn – 88%. **2.** The tabulated grades and metal contents are in situ estimates, and do not include factors such as external dilution, mining losses and process recovery losses. As such, these are mineral resources, not mineral reserves, and do not have demonstrated economic and technical viability. **3.** Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates. **4.** The tabulated numbers have been rounded to reflect the level of precision appropriate for the estimates and may appear not to sum correctly due to rounding.

14.1.2 Oxide Resource Estimate

Oxide mineralization lies above the oxide boundary, where the material is weathered and well defined by alteration minerals. The depth of the oxide zone varies across the deposit from approximately 20 m in the Pozo de Plata zone to depths of up to 100 m in certain areas in the South Corridor and in the far northeast of the deposit. The $7.25/t NSR reporting cut-off used for oxide mineralization is based on the estimated processing and G&A cost for blending oxide material into the standard flotation process.

Table 14-2: Oxide Mineral Resources for the Cordero Project, with an Effective Date of January 18, 2023 above an NSR Cut-off of $7.25/t and Within a Reporting Pit Shell

Class	Tonnage	Grade					Contained Metal				
		Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
	Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
Measured	21	30	0.08	0.23	0.25	**49**	21	51	109	117	**33**
Indicated	42	24	0.06	0.24	0.31	**46**	33	85	224	288	**62**
M&I	**63**	**26**	**0.07**	**0.24**	**0.29**	**47**	**54**	**136**	**333**	**405**	**95**
Inferred	**36**	**18**	**0.04**	**0.28**	**0.37**	**43**	**21**	**40**	**216**	**292**	**49**

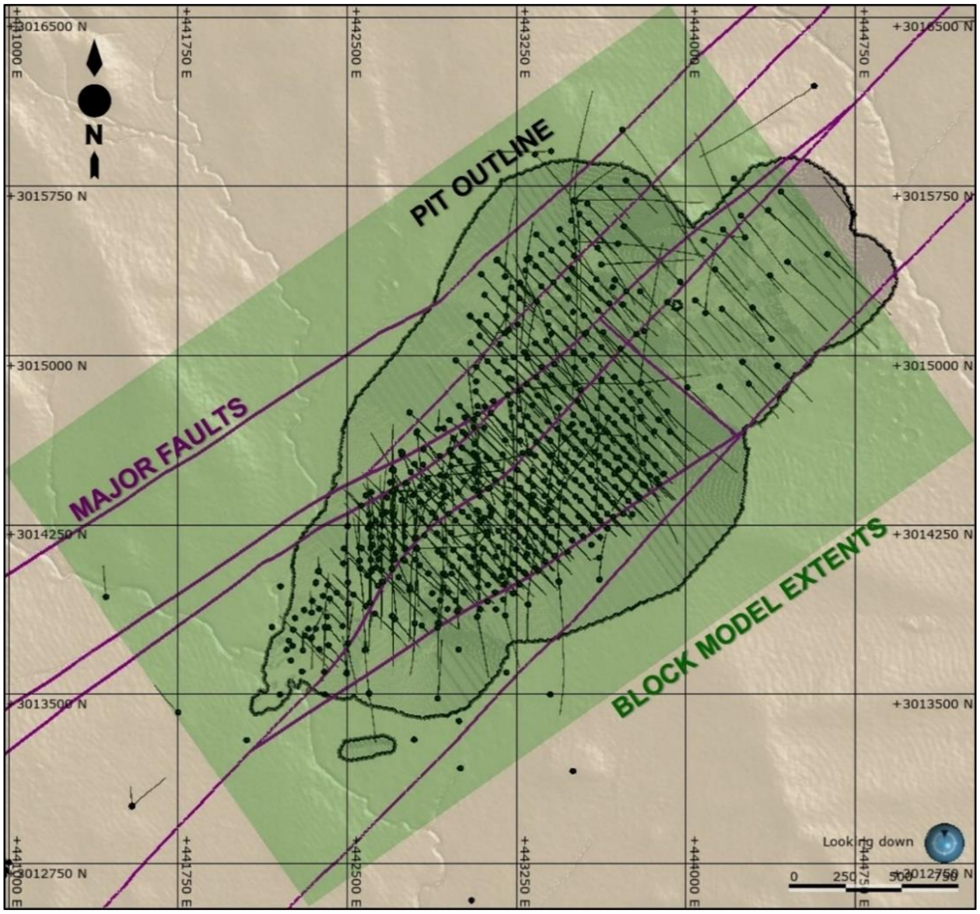
Notes: **1.** AgEq for oxide mineral resources is calculated as Ag + (Au x 22.88) + (Pb x 19.71) + (Zn x 49.39); this factor is based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 59%, Au – 18%, Pb - 37% and Zn - 85%. **2.** The tabulated grades and metal contents are in situ estimates, and do not include factors such as external dilution, mining losses and process recovery losses. As such, these are mineral resources, not mineral reserves, and do not have demonstrated economic and technical viability. **3.** Discovery Silver is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect the development of these mineral resource estimates. **4.** The tabulated numbers have been rounded to reflect the level of precision appropriate for the estimates and may appear not to sum correctly due to rounding.

14.2 Database

The supplied database consists of a total of 294,326 m of sampling in 723 drill holes. Of the total holes in the database, 275,904 m of sampled intersections from 690 holes are used within the mineral resource estimate project limits and of these, a total of 153,715 m (423 drill holes) were completed by the Company. The remaining 122,189 m was drilled historically between 2009 and 2017. An oxide drilling campaign adding 4,524 m of drilling was completed to better define and fill in the oxide portion of the deposit. Lithology from 258,271 m of drilling was used to support an updated geological model of the deposit.

The database was supplied by Discovery in the form of an Access database. Records were checked to ensure each drill hole had assay, survey, and collar information. The database was audited to generate master data tables in .csv format. For statistical analysis and grade estimation, missing assays were assigned an absent value. Drill hole information in this database includes older historical data, gathered by operators of the project before the Discovery Silver exploration campaign. Drilling data was provided in the UTM NAD 27, Zone 13 grid coordinate system. Drill spacing is generally just below 50 m in the densely drilled portions of the project. A plan view showing the drill hole locations within the resource block model extents and pit outline is presented in Figure 14-1.

Figure 14-1: Drill Hole Locations



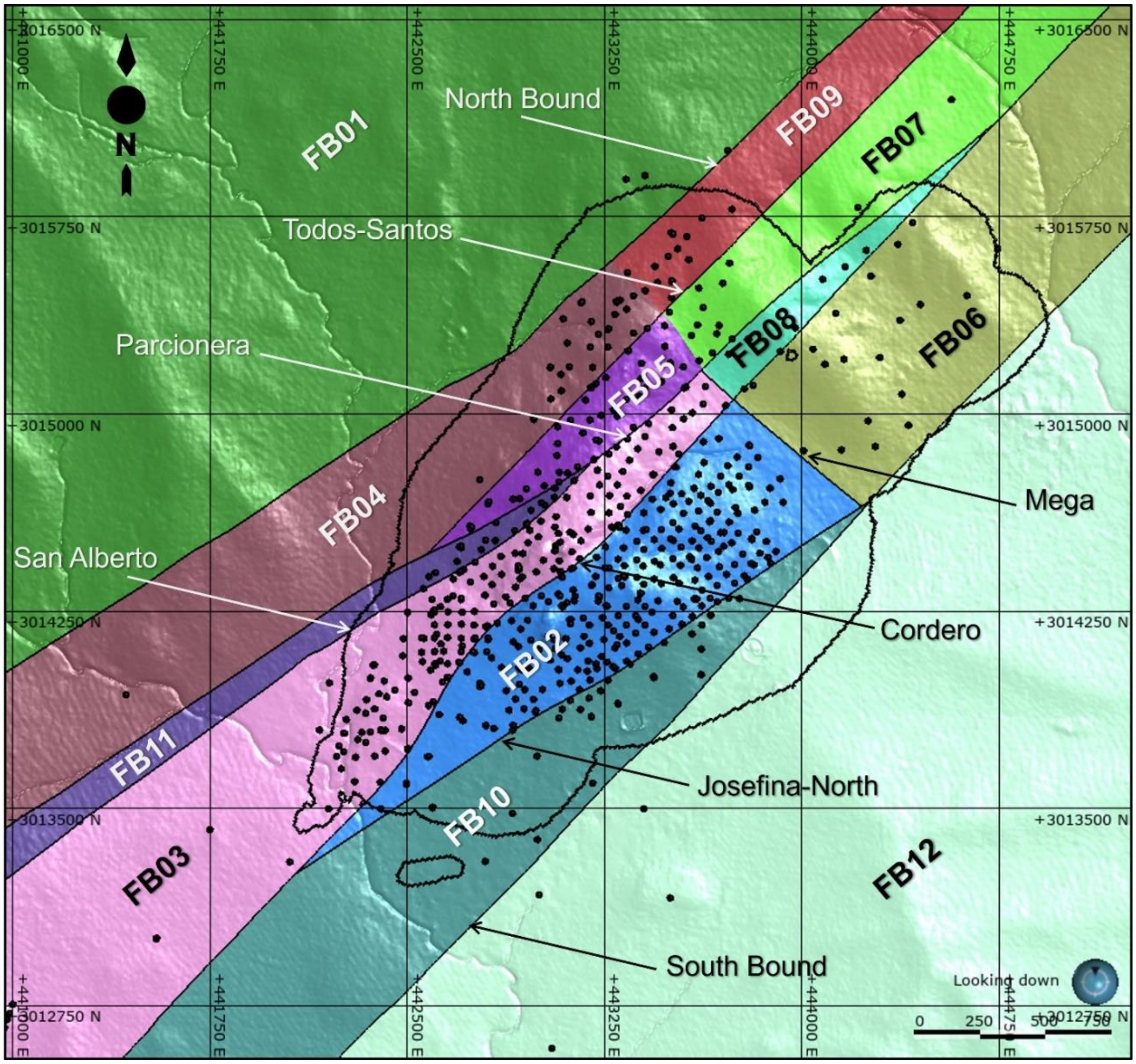
Source: RedDot, 2022.

14.3 Geological Modelling

14.3.1 Structural Model

Re-interpreted structural domains were modelled using surface maps, geology maps, 3D IP data, locations of surface workings, oriented core readings and logged lithologies in drill holes. Results from structural studies completed by other consultants were also considered. The detailed structural model was inspected to identify the magnitude of displacements and only faults with significant displacements were selected to be the bounding surfaces for fault blocks. This resulted in the creation of 12 fault blocks bounded my major structures as shown in Figure 14-2.

Figure 14-2: Fault Blocks



Source: RedDot, 2022

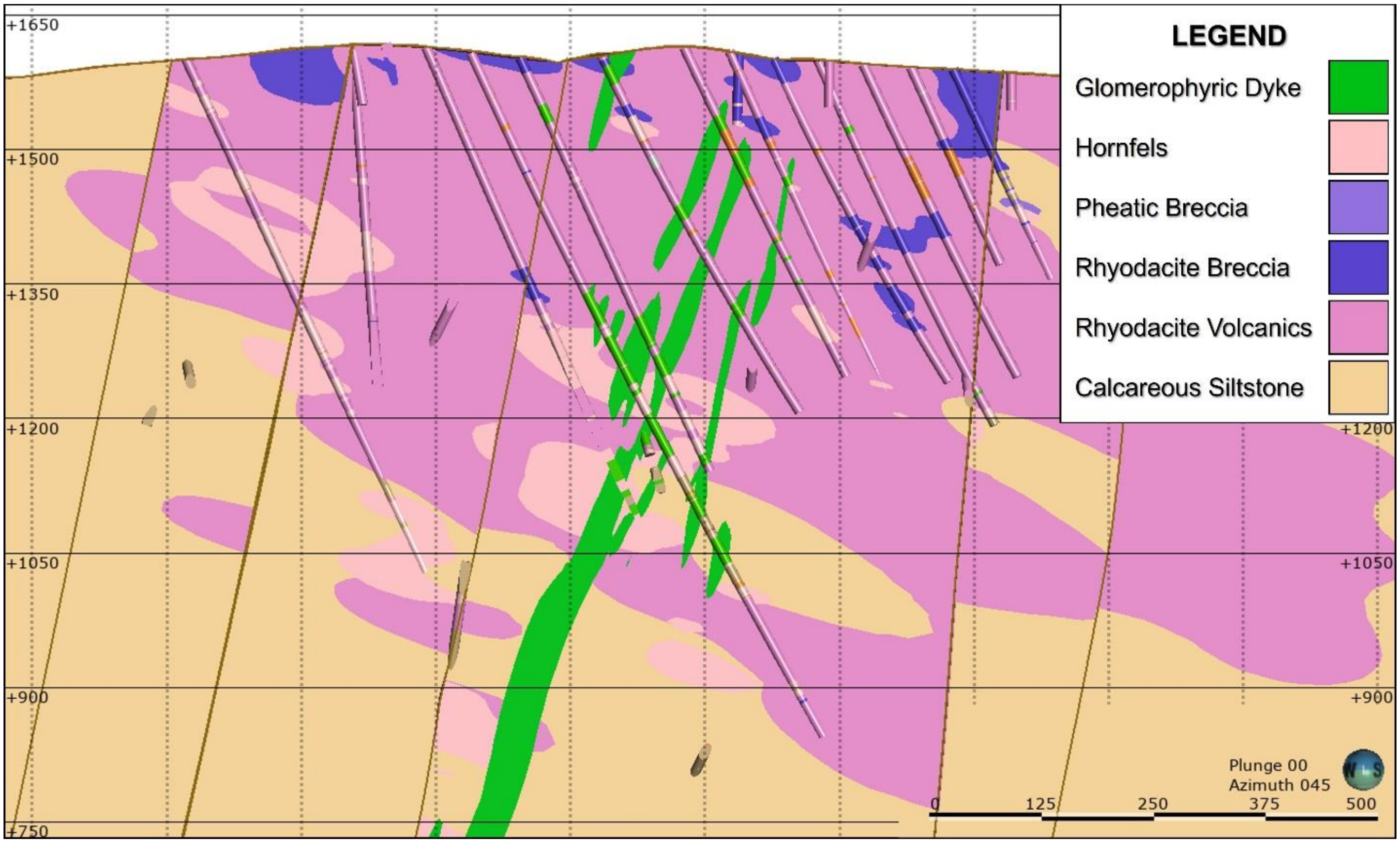
14.3.2 Lithology Model

Six distinct lithologies were formed by grouping together similar assemblages identified from the drill logging records:

- calcareous siltstone
- rhyodacite breccia
- phreatic breccia
- rhyodacite volcanics and intrusives
- hornfels
- glomerophyric dyke.

These units were modelled within the previously created fault blocks. Interpreted geological cross-sections and long sections were geo-referenced and used in conjunction with drill holes coded with lithology and modelled in 50-meter steps. A surface geology map was also used to define contacts on the topography surface. The intrusive method of creating lithological units was used in Leapfrog to model each unit. Manual edits were used to clean up contacts to coincide with contacts on the interpreted sections. An example of the geological 3D Leapfrog model is shown in Figure 14-3.

Figure 14-3: Example of a Northeast-Facing Lithology Cross-Section

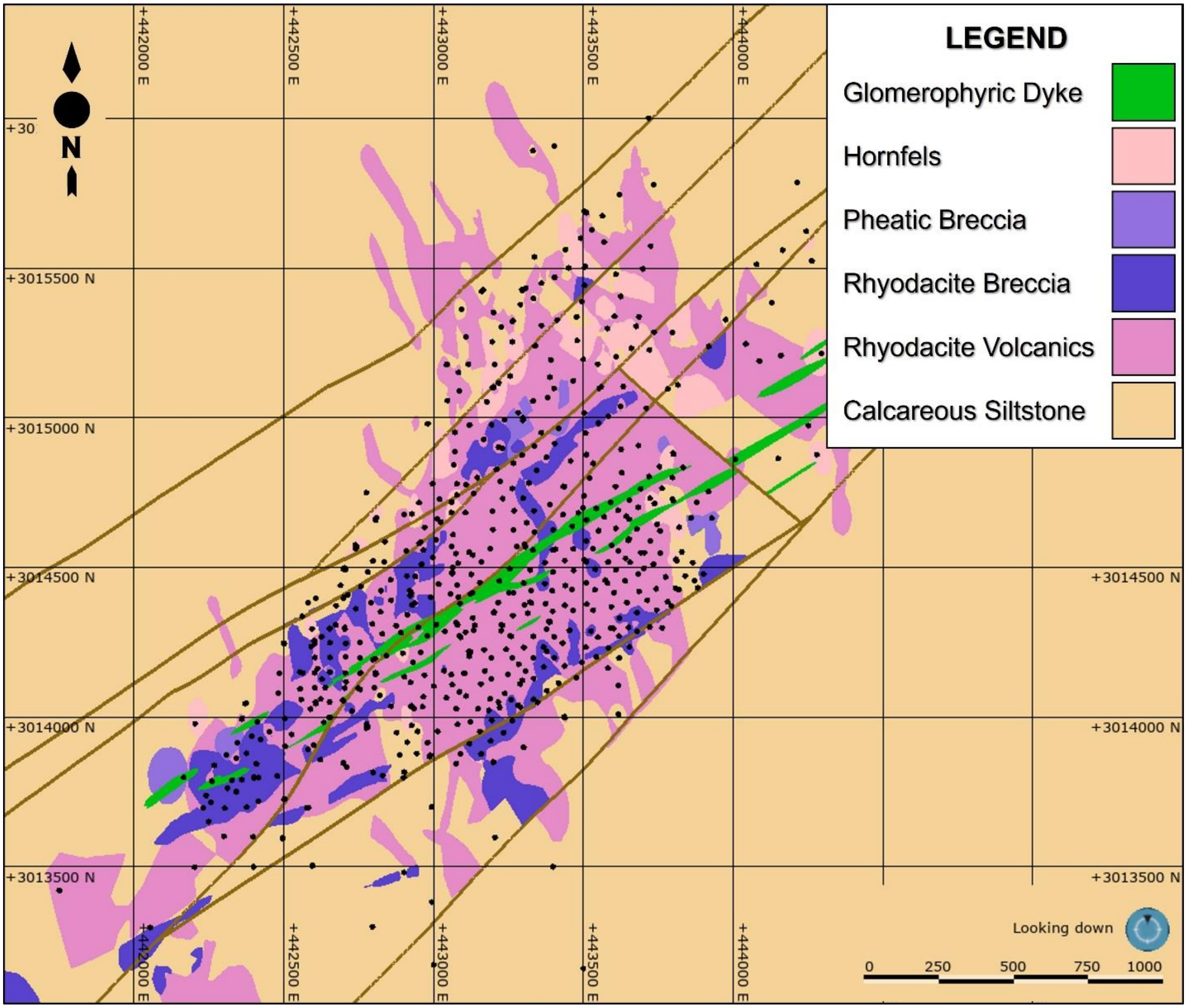


Source: RedDot, 2022.

Grade information was inspected across lithological boundaries and seems mostly mildly gradational between breccia and igneous lithologies except for breccia/siltstone contacts and a very sharp grade break at the glomerophyric dyke contacts. Structural breaks did however show abrupt changes in grades.

The geological model was truncated against the supplied topography surface. An overburden horizon above the other lithologies was also modelled. The bottom of this horizon was used as a boundary to truncate the tops of lithological units. It must be noted that the overburden is 2 m or less in most cases. The lithology model with overburden stripped away is shown in Figure 14-4.

Figure 14-4: Geological Model



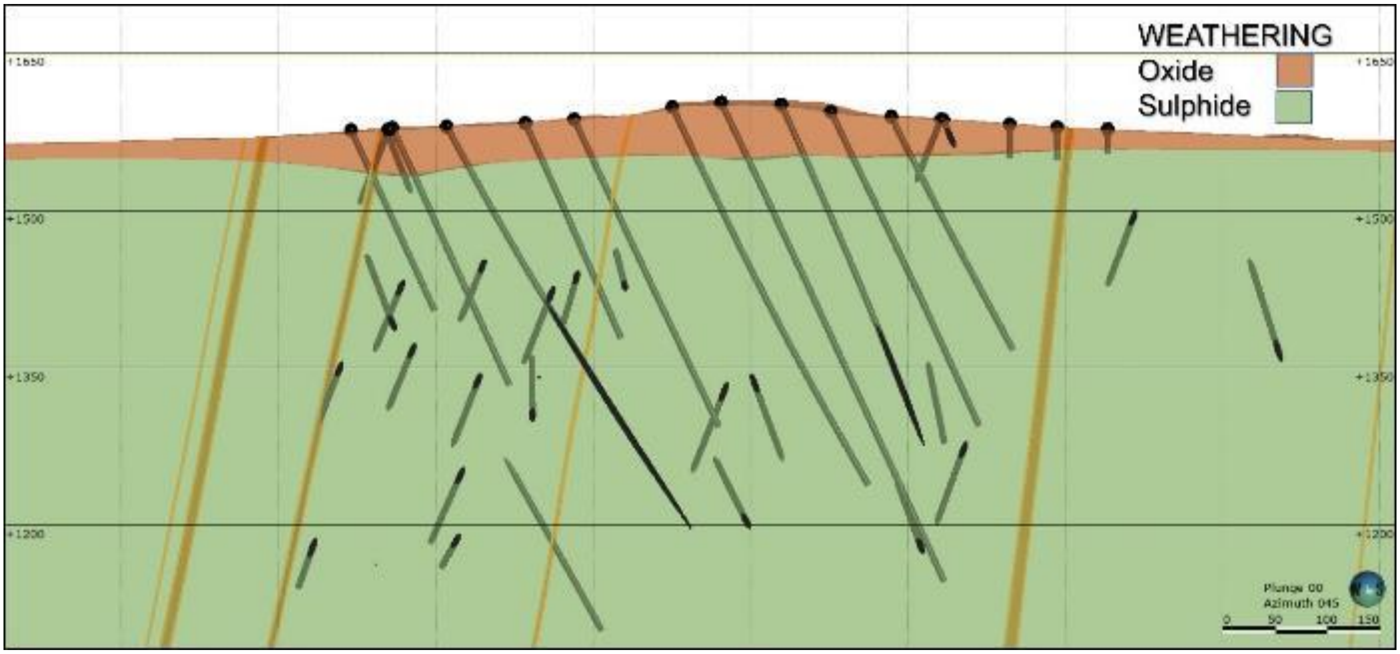
Source: RedDot, 2022

The QP for the mineral resource estimate validated the geologic model using statistical and visual methods. The geological model was back-marked to the lithology table. The total length for each modelled unit was compared to the total length from the logged lithology and the comparison between the two datasets showed good agreement. The modelled glomerophyric dyke, phreatic breccia, rhyodacite volcanics and intrusives, and rhyodacite breccia had greater than 80% matching lengths to the logged lithology. The modelled hornfels had a matching percentage of 79%, and modelled calcareous siltstone had a matching percentage of 72% when compared to the logged lithology. Only the modelled overburden had a low matching percentage, which can be explained by the thin overburden surface. Additionally, the average grade for the metals of interest was also compared between the logged lithology and the geologic model and there were no significant differences. Finally, the geologic model was reviewed in cross-section and compared against the logged lithologies from the drill holes. Some volume blowouts were observed on the edges of the model where the number of drill holes informing the model are low, but otherwise the geological model shows good agreement to the drill hole dataset.

14.3.3 Weathering Model

Contacts in drilling logs differentiating the weathered near-surface material from the unweathered underlying rock were used to model a base of oxide surface. The base of oxide surface was used as a hard boundary for density values as well as coding blocks into each category in the block model. A section of the weathering model is shown in Figure 14-5.

Figure 14-5: Example of Northeast-Facing Cross-Section through the Weathering Model Showing Modelled Weathering Volumes, Drill Holes Coded with Weathering Type and Steeply Dipping Faults



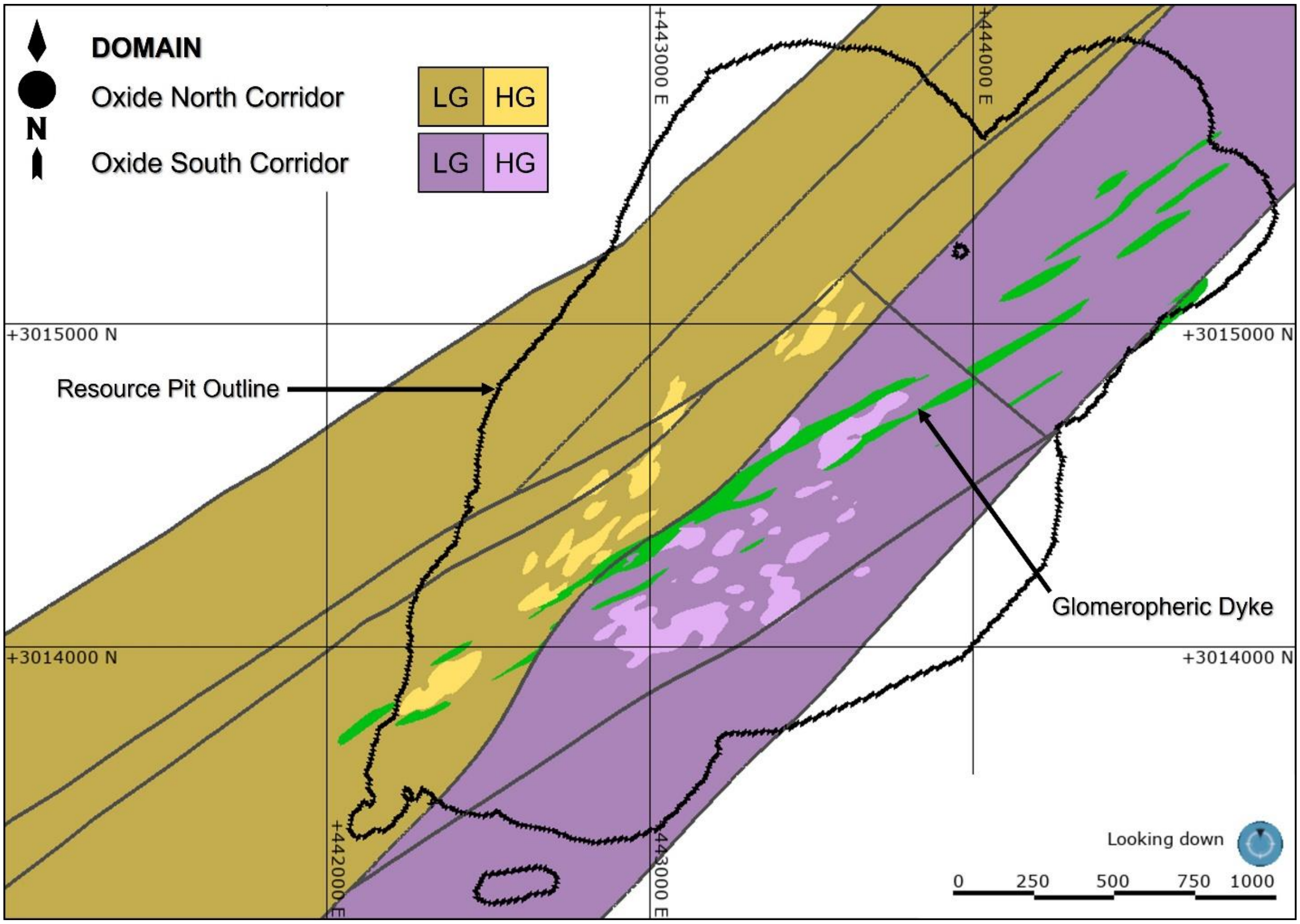
14.4 Estimation Domains

Adjacent fault blocks that were deemed to be hosting the same mineralization were combined, and fault blocks showing clear breaks in mineralization were split to create two oxide and three sulphide estimation domains. Within each of these domains there are two sub-domains: a high-grade sub-domain and a medium- to low-grade stockwork domain. The sub-domains were created by modelling grade interpolants using trends in each of the six main domains by using a 30 g/t AgEq cut-off and structural trends based on fault and vein orientations.

An additional sub-domain representing a mostly barren glomerophyric dyke was also modelled. Hard boundaries for the block model were then applied to these 11 estimation domains. Graphic representations of the estimation domains are provided in Figures 14-6 and 14-7.

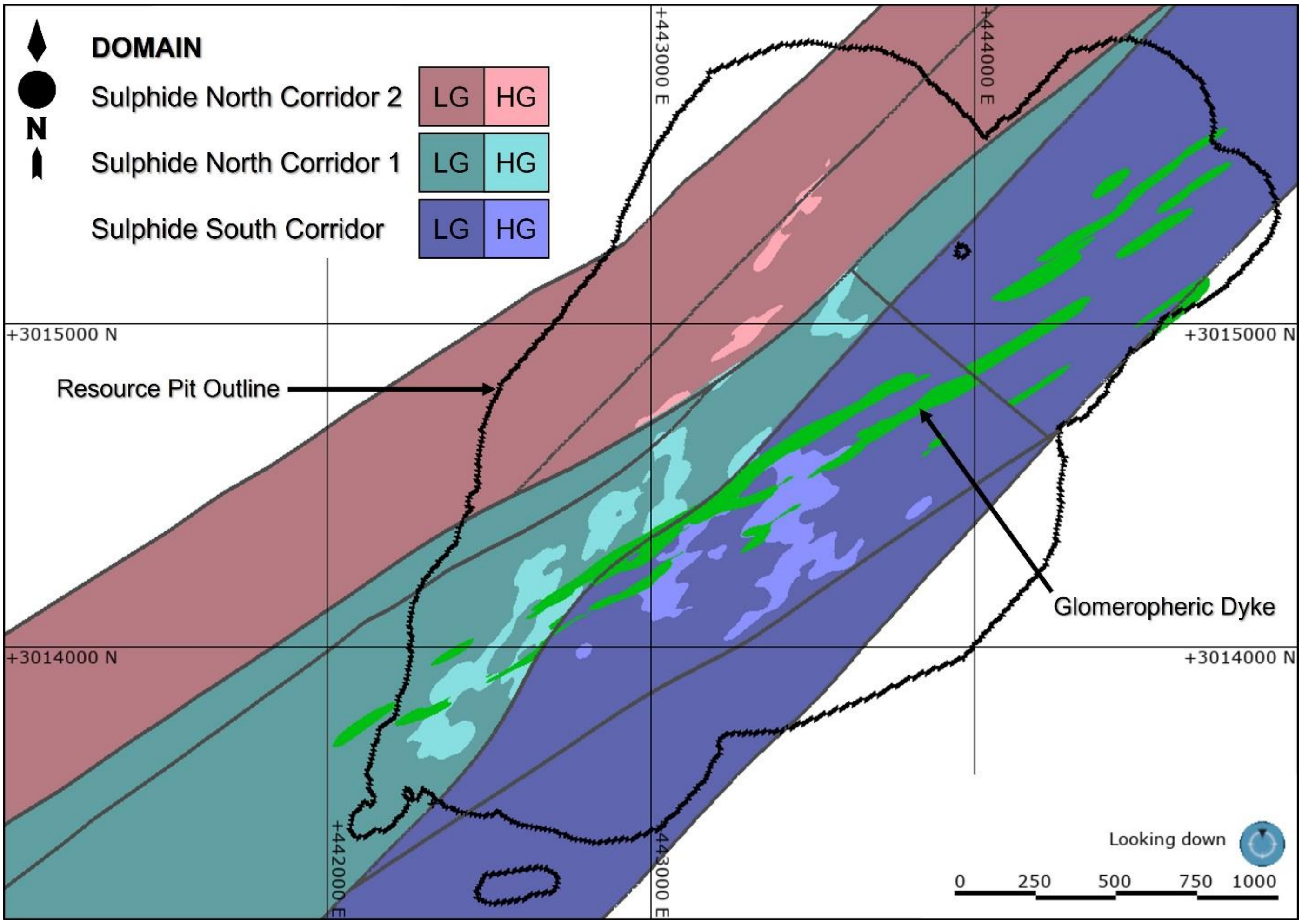
The QP for the mineral resource estimate statistically validated the sub-domain models. The difference in average AgEq grade inside each sub domain was within -10% of the original sample population grade above cut-off with the exception of the south corridor oxide domain, which had an average difference of -13.5%. The consistent lower average AgEq grade within each sub-domain represents a conservative grade envelope. The methodology to create the grade envelope was reviewed in Leapfrog, and the QP determined the modelling parameters were appropriate. Visually, the sub-domain models represent largely consistent and contiguous grade envelopes supported by multiple drill holes.

Figure 14-6: Oxide Domains



Source: RedDot, 2022.

Figure 14-7: Sulphide Domains



Source: RedDot, 2022.

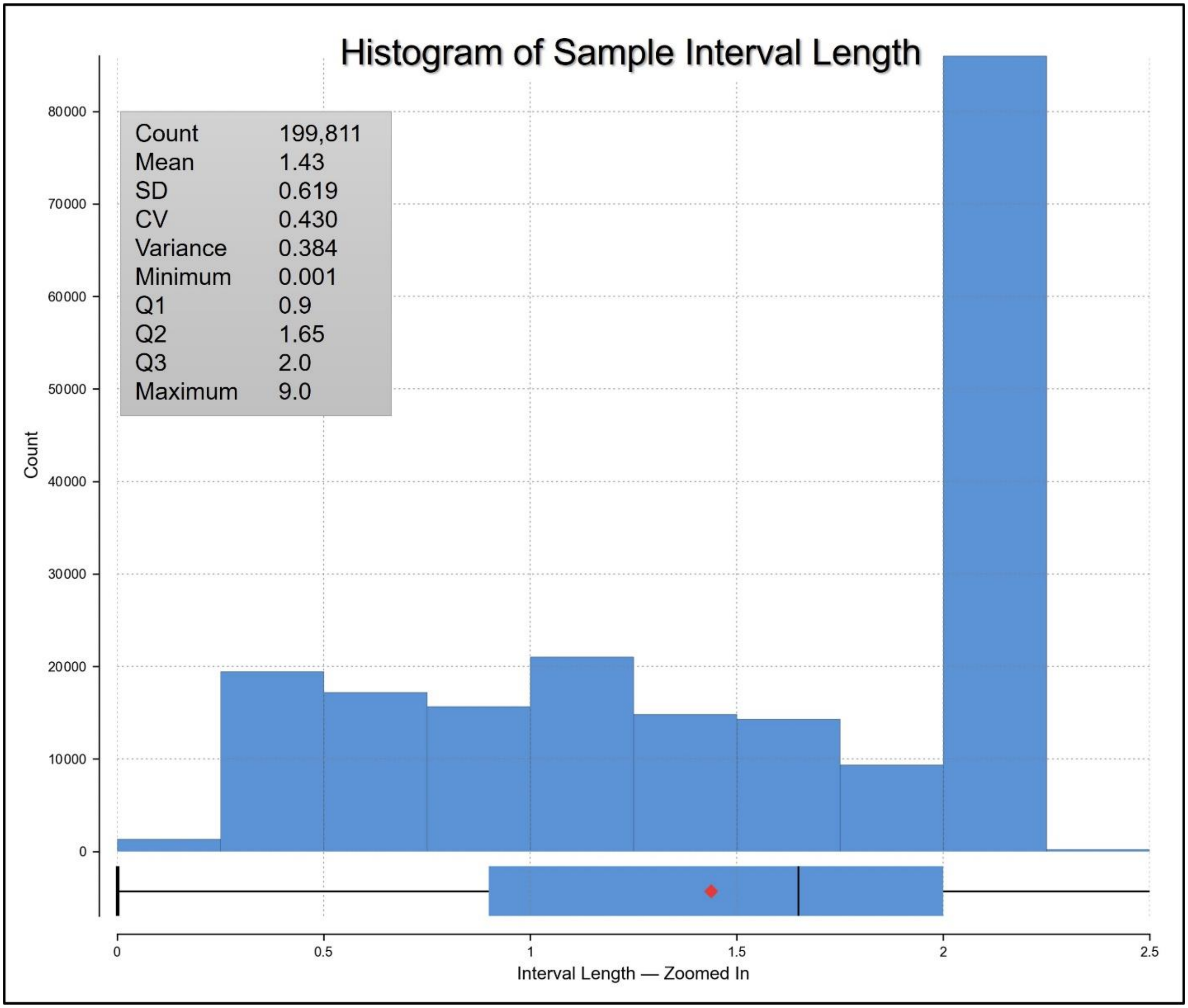
14.5 Drill Hole Composite Intervals

The data was examined to determine a suitable composite interval. The chosen interval should standardize the assay intervals to give an equal weight to each record but still reflect the variability in the original data as far as possible. A composite interval that is too large will over-smooth the data and tend to artificially increase the continuity between samples (the range of the variogram), whereas a composite interval that is too small will tend to understate the short-range variability of the data (the nugget).

The Cordero drilling was predominantly sampled at an interval of 2 m or less (see Figure 14-8). Assay records were assigned a domain code and then composited to approximate 2 m intervals. The composite interval was varied around an average of the selected 2 m interval while keeping as close as possible to a full 2 m. This was done where required to avoid excessively short interval composites from forming at domain boundaries or at the ends of holes.

For the 2 m composites, all grade distributions are positively skewed and exhibit quite low standard-deviation-to-mean ratios (coefficient of variation) in the high-grade sub-domain and only moderately high ratios in the medium- to low-grade stockwork sub-domains.

Figure 14-8: Histogram of Interval Length



Source: RedDot, 2022.

14.6 Capping Of Grade Outliers

The presence of high-grade outlier values was investigated as these values could adversely influence the estimate. The location of the high-grade outliers was not concentrated in one area, but rather disseminated throughout each domain for all estimation domains and for all elements. Appropriate cutting limits were selected by studying coefficient of variation plots, probability plots and decile analyses plots. Blocks were estimated with uncapped as well as capped values to assess the impact of the capping levels. The average silver grade estimates in the various domains were reduced by roughly 1.4%. The capping applied to the composite dataset resulted in a reduction in total silver content of 1.6% and a reduction in total metal content (AgEq) of 1.8%. Additional statistics summarizing variability and capping for each sub-domain are provided in Tables 14-3 to 14-6.

Table 14-3: Capping Statistics for Silver

Capping Statistics - Ag											
Domain	DOXNC		DOXSC		DSULNC1		DSULNC2		DSULSC		DYKE
	HG	LG	HG	LG	HG	LG	HG	LG	HG	LG	
Total Composites	1233	5118	2027	5177	9762	24568	1769	16536	8311	56836	6324
Length	2463	10240	4059	10342	19514	49143	3538	33057	16568	113677	12641
Min Before Capping	1.091	0.100	0.564	0.100	0.200	0.100	0.139	0.100	0.250	0.100	0.100
Max Before Capping	508	727	1100	1146	1161	1135	586	917	1449	2030	306
Mean Before	33.42	7.46	39.19	9.72	32.83	4.86	27.18	4.32	31.60	6.34	3.53
Std Dev Before	42.81	18.55	72.69	34.89	55.18	16.53	39.33	16.56	61.40	23.83	10.34
CV Before	1.28	2.49	1.85	3.59	1.68	3.40	1.45	3.83	1.94	3.76	2.93
Capping Value	426	82	636	227	555	115	320	200	590	323	72
No of Capped Comps	2	24	8	14	13	36	4	18	18	57	20
Mean After	33.33	6.92	38.19	8.84	32.60	4.59	26.85	4.16	31.01	6.14	3.33
Std Dev After	41.92	10.05	61.15	16.84	52.32	8.48	35.89	12.38	53.32	17.90	7.55
CV After	1.26	1.45	1.60	1.91	1.60	1.85	1.34	2.98	1.72	2.92	2.27
Capped %	0.16%	0.47%	0.39%	0.27%	0.13%	0.15%	0.23%	0.11%	0.22%	0.10%	0.32%
Metal % Capped	0.3%	7.3%	2.5%	9.1%	0.7%	5.6%	1.2%	3.9%	1.9%	3.1%	5.7%
Decile Analysis - Ag											
Decile Before (<40)	39%	47%	45%	49%	47%	63%	41%	64%	48%	61%	62%
Percentile Before (<10)	10%	17%	16%	24%	12%	24%	11%	28%	15%	26%	22%
Decile After Cap	38%	43%	44%	44%	47%	59%	40%	63%	47%	59%	60%
Percentile After Cap	10%	10%	13%	15%	11%	17%	10%	24%	13%	23%	17%

Table 14-4: Capping Statistics for Gold

Capping Statistics - Au											
Domain	DOXNC		DOXSC		DSULNC1		DSULNC2		DSULSC		DYKE
	HG	LG	HG	LG	HG	LG	HG	LG	HG	LG	
Total Composites	1233	5118	2027	5177	9762	24568	1769	16536	8311	56836	6324
Length	2463	10240	4059	10342	19514	49143	3538	33057	16568	113677	12641
Min Before Capping	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Max Before Capping	1.80	2.18	1.52	1.20	37.96	3.21	2.26	2.66	4.26	5.69	0.69
Mean Before	0.09	0.03	0.08	0.03	0.16	0.02	0.05	0.02	0.06	0.02	0.02
Std Dev Before	0.11	0.06	0.12	0.05	0.50	0.05	0.11	0.06	0.13	0.05	0.03
CV Before	1.22	2.07	1.44	1.41	3.05	2.05	2.19	3.81	1.99	2.57	1.79
Capping Value	None	0.42	0.91	None	5.00	0.62	0.62	0.83	1.45	1.00	0.28
No of Capped Comps	0	18	8	0	5	15	8	16	14	11	18
Mean After	0.094	0.030	0.083	0.033	0.159	0.023	0.047	0.015	0.062	0.018	0.019
Std Dev After	0.115	0.046	0.112	0.047	0.274	0.039	0.077	0.045	0.102	0.035	0.030
CV After	1.222	1.555	1.337	1.408	1.726	1.733	1.646	3.004	1.655	1.981	1.584
Capped %	0.00%	0.35%	0.39%	0.00%	0.05%	0.06%	0.45%	0.10%	0.17%	0.02%	0.28%
Metal % Capped	0.0%	3.6%	1.4%	0.0%	3.0%	1.1%	5.4%	3.6%	1.9%	1.0%	2.0%
Decile Analysis - Au											
Decile Before (<40)	37%	47%	42%	39%	48%	59%	51%	61%	44%	47%	46%
Percentile Before (<10)	9%	15%	11%	10%	15%	17%	17%	27%	15%	16%	14%
Decile After Cap	37%	45%	41%	39%	46%	59%	48%	59%	43%	46%	45%
Percentile After Cap	9%	11%	10%	10%	12%	16%	12%	24%	13%	15%	12%

Table 14-5: Capping Statistics for Lead

Capping Statistics - Pb											
Domain	DOXNC		DOXSC		DSULNC1		DSULNC2		DSULSC		DYKE
	HG	LG	HG	LG	HG	LG	HG	LG	HG	LG	
Total Composites	1233	5118	2027	5177	9762	24568	1769	16536	8311	56836	6324
Length	2463	10240	4059	10342	19514	49143	3538	33057	16568	113677	12641
Min Before Capping	0.010	0.000	0.005	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.000
Max Before Capping	9.95	5.41	14.54	14.90	19.75	16.55	9.41	17.66	17.39	25.52	6.04
Mean Before	0.40	0.08	0.27	0.09	0.53	0.06	0.43	0.06	0.44	0.08	0.05
Std Dev Before	0.59	0.18	0.72	0.36	0.95	0.26	0.72	0.31	0.78	0.29	0.16
CV Before	1.46	2.20	2.71	3.87	1.79	4.37	1.66	4.83	1.80	3.76	3.45
Capping Value	4.75	1.20	4.20	3.65	7.32	2.57	5.00	2.76	6.00	3.60	0.84
No of Capped Comps	4	16	10	9	32	26	8	39	26	47	38
Mean After	0.393	0.077	0.244	0.087	0.523	0.057	0.427	0.060	0.428	0.075	0.042
Std Dev After	0.472	0.124	0.440	0.219	0.880	0.149	0.651	0.219	0.699	0.230	0.106
CV After	1.201	1.615	1.804	2.524	1.684	2.615	1.526	3.627	1.635	3.076	2.503
Capped %	0.32%	0.31%	0.49%	0.17%	0.33%	0.11%	0.45%	0.24%	0.31%	0.08%	0.60%
Metal % Capped	2.3%	4.6%	8.3%	6.1%	1.2%	6.0%	1.8%	6.8%	1.7%	2.6%	8.8%
Decile Analysis - Pb											
Decile Before (<40)	38%	48%	52%	52%	50%	73%	47%	74%	50%	67%	69%
Percentile Before (<10)	12%	16%	23%	26%	13%	32%	12%	37%	13%	28%	26%
Decile After Cap	36%	46%	47%	49%	49%	70%	46%	72%	49%	66%	66%
Percentile After Cap	10%	12%	14%	20%	12%	24%	10%	30%	11%	25%	18%

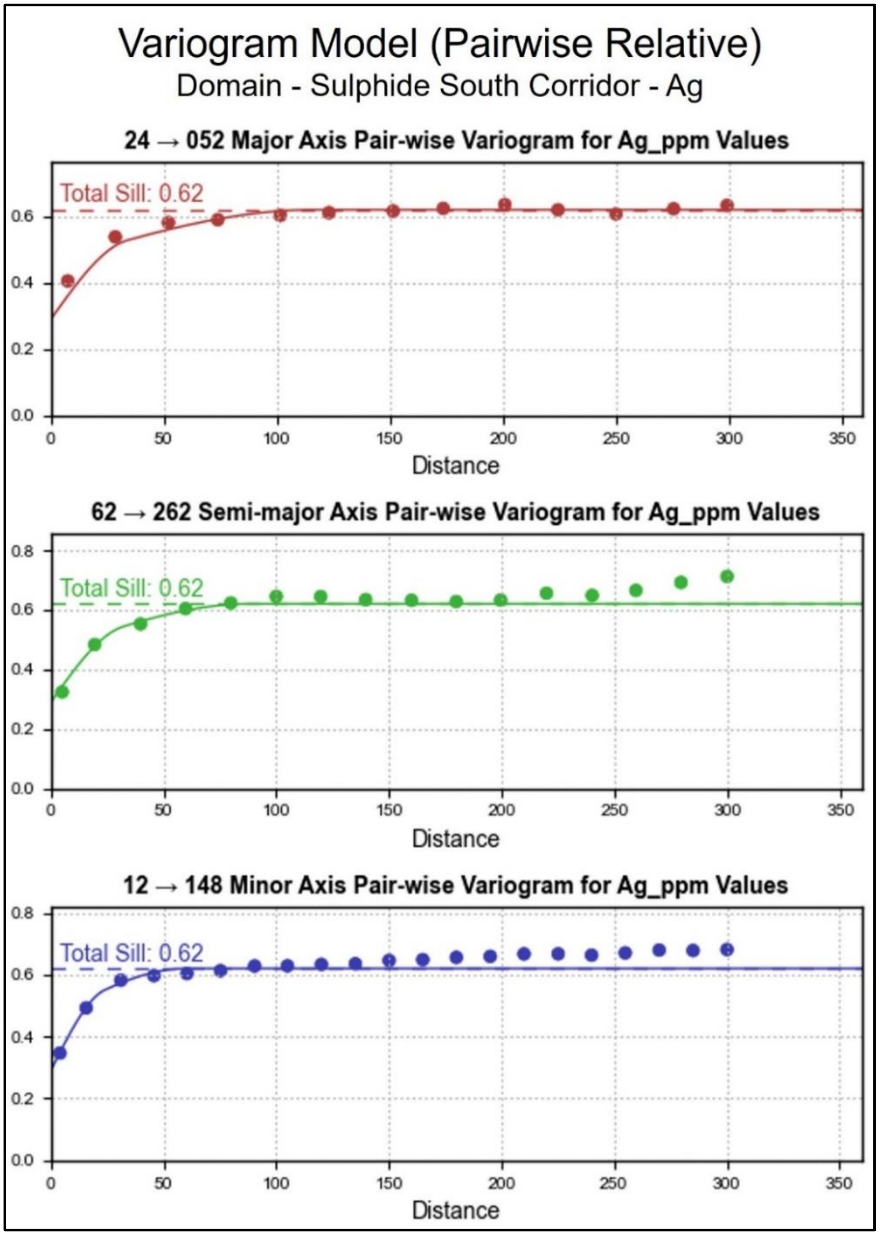
Table 14-6: Capping Statistics for Zinc

Capping Statistics - Zn											
Domain	DOXNC		DOXSC		DSULNC1		DSULNC2		DSULSC		DYKE
	HG	LG	HG	LG	HG	LG	HG	LG	HG	LG	
Total Composites	1233	5118	2027	5177	9762	24568	1769	16536	8311	56836	6324
Length	2463	10240	4059	10342	19514	49143	3538	33057	16568	113677	12641
Min Before Capping	0.006	0.002	0.007	0.001	0.002	0.000	0.008	0.001	0.004	0.000	0.001
Max Before Capping	3.65	6.78	16.86	8.88	19.15	30.00	15.28	12.20	37.04	30.54	5.27
Mean Before	0.22	0.13	0.34	0.14	0.70	0.15	0.93	0.15	0.95	0.20	0.12
Std Dev Before	0.28	0.29	0.78	0.34	1.07	0.49	1.13	0.44	1.42	0.56	0.32
CV Before	1.27	2.15	2.26	2.40	1.52	3.18	1.22	2.89	1.49	2.82	2.69
Capping Value	None	1.70	6.50	3.05	10.80	4.30	None	3.72	None	3.38	2.00
No of Capped Comps	0	28	5	13	9	36	0	49	0	350	37
Mean After	0.216	0.126	0.332	0.137	0.699	0.147	0.930	0.147	0.949	0.186	0.112
Std Dev After	0.275	0.201	0.610	0.249	1.033	0.333	1.134	0.357	1.418	0.424	0.256
CV After	1.272	1.596	1.836	1.819	1.477	2.262	1.219	2.430	1.494	2.276	2.297
Capped %	0.00%	0.55%	0.25%	0.25%	0.09%	0.15%	0.00%	0.30%	0.00%	0.62%	0.59%
Metal % Capped	0.0%	5.3%	3.5%	4.0%	0.4%	4.1%	0.0%	3.8%	0.0%	5.6%	5.3%
Decile Analysis - Zn											
Decile Before (<40)	39%	47%	51%	45%	45%	71%	38%	62%	43%	63%	64%
Percentile Before (<10)	10%	18%	18%	20%	11%	27%	8%	23%	10%	22%	22%
Decile After Cap	39%	44%	49%	43%	44%	69%	38%	60%	43%	61%	62%
Percentile After Cap	10%	12%	15%	16%	10%	22%	8%	19%	10%	16%	16%

14.7 Variography

Experimental pairwise relative semi-variograms were calculated and modelled for each metal in each mineralized domain. Spherical two structure models were fitted to experimental semi-variograms in most cases and for all metals. An example of experimental semi-variograms for silver with fitted models for the three principal directions is shown in Figure 14-9.

Figure 14-9: Example of Variogram Modelling (Domain NC2 High Grade)



Source: RedDot, 2022.

All the domains had sufficient samples to create good experimental semi-variograms for each metal. Strong anisotropy was observed for the most part and directional variogram models were used. The nugget values (i.e., the sample variability at close distance) were established from downhole variograms. All variogram model parameters are listed per element in Table 14-7. Nugget values were on average around 46% of the total sill value for all elements in all domains. Major axes range for the short first structures of all the variograms were approximately 36 m and the ranges for the second structure were 110 m on average.

Table 14-7: Variogram Model Parameters

Metal	Domain	Direction			Nugget	First Structure				Second Structure			
						Sill	Range in Meters			Sill	Range in Meters		
		Dip	D Azi	Pitch			Major	Semi	Minor		Major	Semi	Minor
Ag	DOXNC_HG	70	322	154	0.23	0.05	42	27	24	0.17	112	76	42
	DOXNC_LG	72	312	163	0.26	0.16	48	25	14	0.08	106	66	36
	DOXSC_HG	75	332	160	0.21	0.23	34	28	25	0.06	98	68	54
	DOXSC_LG	75	332	168	0.26	0.15	28	20	10	0.11	110	76	38
	DSULNC1_HG	72	308	162	0.40	0.16	32	18	12	0.12	116	78	38
	DSULNC1_LG	72	306	170	0.25	0.19	32	26	22	0.12	118	76	50
	DSULNC2_HG	78	316	152	0.23	0.27	40	28	10	0.08	104	76	38
	DSULNC2_LG	70	305	152	0.27	0.20	36	26	16	0.17	110	82	58
	DSULSC_HG	78	324	146	0.35	0.15	42	32	20	0.15	102	78	56
	DSULSC_LG	78	328	155	0.29	0.17	34	32	24	0.16	116	88	60
	DYKE	72	330	170	0.20	0.27	34	22	20	0.21	124	96	40
Au	DOXNC_HG	70	322	154	0.23	0.03	42	27	24	0.15	112	76	42
	DOXNC_LG	72	312	163	0.21	0.13	48	25	14	0.11	106	66	36
	DOXSC_HG	75	332	160	0.21	0.16	34	28	25	0.11	98	68	54
	DOXSC_LG	75	332	168	0.20	0.06	28	20	10	0.13	110	76	38
	DSULNC1_HG	72	308	162	0.20	0.12	32	18	12	0.16	116	78	38
	DSULNC1_LG	72	306	170	0.18	0.07	32	26	22	0.26	118	76	50
	DSULNC2_HG	78	316	152	0.26	0.09	40	28	10	0.10	104	76	38
	DSULNC2_LG	70	305	152	0.20	0.17	36	26	16	0.13	110	82	58
	DSULSC_HG	78	324	146	0.28	0.09	42	32	20	0.14	102	78	56
	DSULSC_LG	78	328	155	0.20	0.14	34	32	24	0.14	116	88	60
	DYKE	72	330	170	0.16	0.15	34	22	20	0.14	124	96	40
Pb	DOXNC_HG	70	322	154	0.29	0.08	42	27	24	0.10	112	76	42
	DOXNC_LG	72	312	163	0.30	0.22	48	25	14	0.05	106	66	36
	DOXSC_HG	75	332	160	0.21	0.20	34	28	25	0.09	98	68	54
	DOXSC_LG	75	332	168	0.26	0.14	28	20	10	0.11	110	76	38
	DSULNC1_HG	72	308	162	0.40	0.25	32	18	12	0.10	116	78	38
	DSULNC1_LG	72	306	170	0.31	0.27	32	26	22	0.15	118	76	50
	DSULNC2_HG	78	316	152	0.33	0.19	40	28	10	0.09	104	76	38
	DSULNC2_LG	70	305	152	0.37	0.23	36	26	16	0.23	110	82	58
	DSULSC_HG	78	324	146	0.40	0.19	42	32	20	0.10	102	78	56
	DSULSC_LG	78	328	155	0.36	0.24	34	32	24	0.19	116	88	60
	DYKE	72	330	170	0.29	0.29	34	22	20	0.19	124	96	40
Zn	DOXNC_HG	70	322	154	0.21	0.09	42	27	24	0.13	112	76	42
	DOXNC_LG	72	312	163	0.18	0.13	48	25	14	0.06	106	66	36
	DOXSC_HG	75	332	160	0.18	0.15	34	28	25	0.20	98	68	54
	DOXSC_LG	75	332	168	0.12	0.19	28	20	10	0.09	110	76	38
	DSULNC1_HG	72	308	162	0.38	0.23	32	18	12	0.12	116	78	38
	DSULNC1_LG	72	306	170	0.32	0.24	32	26	22	0.14	118	76	50
	DSULNC2_HG	78	316	152	0.27	0.26	40	28	10	0.07	104	76	38
	DSULNC2_LG	70	305	152	0.29	0.27	36	26	16	0.20	110	82	58
	DSULSC_HG	78	324	146	0.34	0.17	42	32	20	0.13	102	78	56
	DSULSC_LG	78	328	155	0.37	0.26	34	32	24	0.11	116	88	60
	DYKE	72	330	170	0.18	0.26	34	22	20	0.24	124	96	40

14.8 Estimation

Anisotropic search radii with variable orientations along mineralization trends were used to select data informing block estimates. Search distances and directions were based on the directional anisotropy of the silver variogram models. Ordinary kriging was used to estimate all blocks into the model in three estimation passes whereby each successive pass utilized a less restrictive sample search strategy to estimate any remaining unestimated blocks. The search radii for the first estimation pass were set to half of the variogram range in each direction. The second pass doubles the search radii, so that they are all equal to the variogram model ranges. In the third pass the search radii are tripled again. Search orientations and sample selection criteria for each domain is shown in Table 14-8.

Table 14-8: Search Parameters for All Domains

Domain	Pass	Search Ranges			Ellipsoid Directions			Number of Samples		
		Max	Int	Min	Dip	Azi	Pitch	Min	Max	Per Hole
DOXNC_HG	1	56	38	21	Variable Orientation			10	20	6
	2	112	76	42				8	20	5
	3	336	228	126				6	20	4
DOXNC_LG	1	53	33	18	Variable Orientation			10	20	6
	2	106	66	36				8	20	5
	3	318	198	108				6	20	4
DOXSC_HG	1	49	34	27	Variable Orientation			10	20	6
	2	98	68	54				8	20	5
	3	294	204	162				6	20	4
DOXSC_LG	1	55	38	19	Variable Orientation			10	20	6
	2	110	76	38				8	20	5
	3	330	228	114				6	20	4
DSULNC1_HG	1	58	39	19	Variable Orientation			10	20	6
	2	116	78	38				8	20	5
	3	348	234	114				6	20	4
DSULNC1_LG	1	59	38	25	Variable Orientation			10	20	6
	2	118	76	50				8	20	5
	3	354	228	150				6	20	4
DSULNC2_HG	1	52	38	19	Variable Orientation			10	20	6
	2	104	76	38				8	20	5
	3	312	228	114				6	20	4
DSULNC2_LG	1	55	41	29	Variable Orientation			10	20	6
	2	110	82	58				8	20	5
	3	330	246	174				6	20	4
DSULSC_HG	1	51	39	28	Variable Orientation			10	20	6
	2	102	78	56				8	20	5
	3	306	234	168				6	20	4
DSULSC_LG	1	58	44	30	Variable Orientation			10	20	6
	2	116	88	60				8	20	5
	3	348	264	180				6	20	4
DYKE	1	62	48	20	Variable Orientation			10	20	6
	2	124	96	40				8	20	5
	3	372	288	120				6	20	4

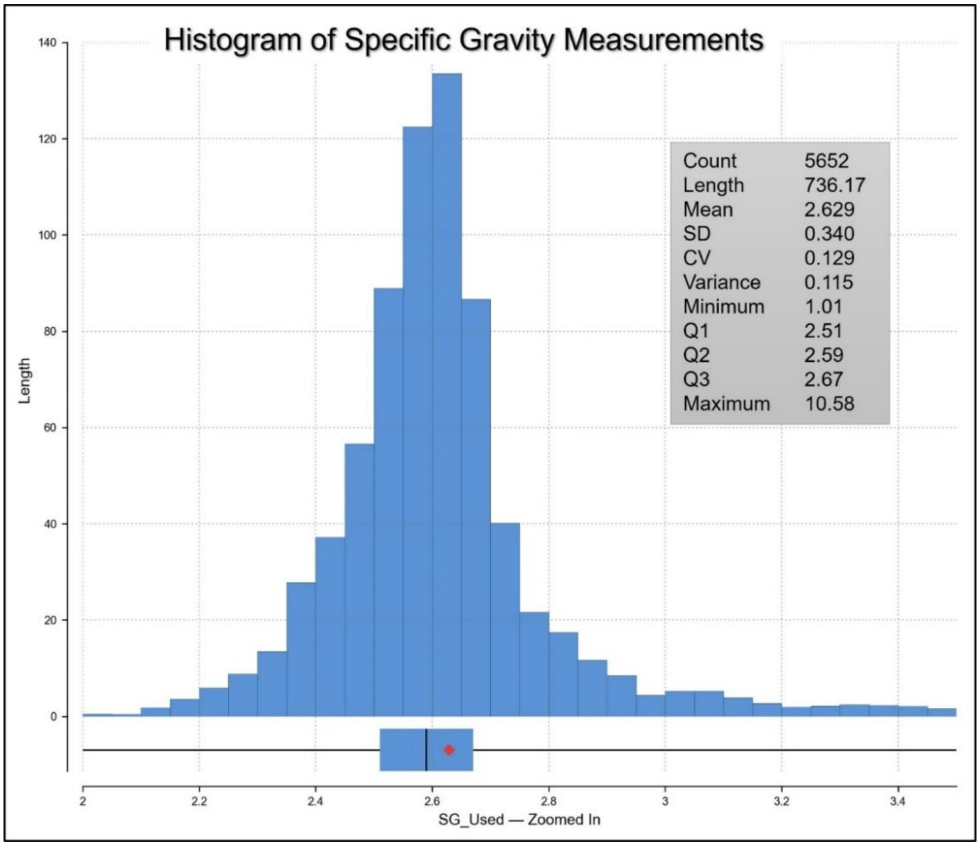
The search ellipse orientations in all cases display the strongest northeast-southwest trend with a steep dip towards the northwest and a shallow northeast plunge.

An estimation pre-pass using a very short search radius was used to ensure that drill hole data within a block were always used for the estimation of that same block, regardless of the setting of the maximum number of samples per drill hole. This ensures that the resource block model is consistent with drill holes in their immediate vicinity.

14.9 Density

A total of 5,649 density measurements were available to estimate specific gravity into the block model (see Figure 14-10). The inverse distance estimator was chosen, and estimates were completed for each of the main oxide and sulphide domains of the resource block model. The density values were not composited prior to estimation. Extreme high and low outlier values were trimmed to limit over and under-estimation of density values. Estimation of density was completed using a single pass. The search ellipse was oriented using variable orientations along mineralization trends. The size of the search ellipse was 1,500 m x 1,125 m x 750 m for all domains. Density could be estimated into blocks using a minimum of three samples, a maximum of 20 samples, and no limit to the maximum number of samples from a single drill hole. Statistics for the data used in the resource model is tabulated per lithotype in Table 14-9.

Figure 14-10: Specific Gravity Statistics



Source: RedDot, 2022.

Table 14-9: Bulk Density Values Per Lithotype

Name	Count	Mean	Std Dev	CV	Var	Min	Median	Max
Hornfels	931	2.69	0.25	0.09	0.06	1.26	2.65	5.56
Intrusive	3261	2.56	0.31	0.12	0.10	1.47	2.56	10.58
Replacement	2	3.02	0.69	0.23	0.48	2.56	2.56	3.54
Sediment	738	2.62	0.25	0.09	0.06	1.45	2.61	6.24
Skarn	313	2.90	0.35	0.12	0.12	1.75	2.84	6.45
Vein	399	2.85	0.51	0.18	0.26	1.01	2.68	6.06
Volcaniclastic	5	2.45	0.17	0.07	0.03	2.25	2.50	2.66

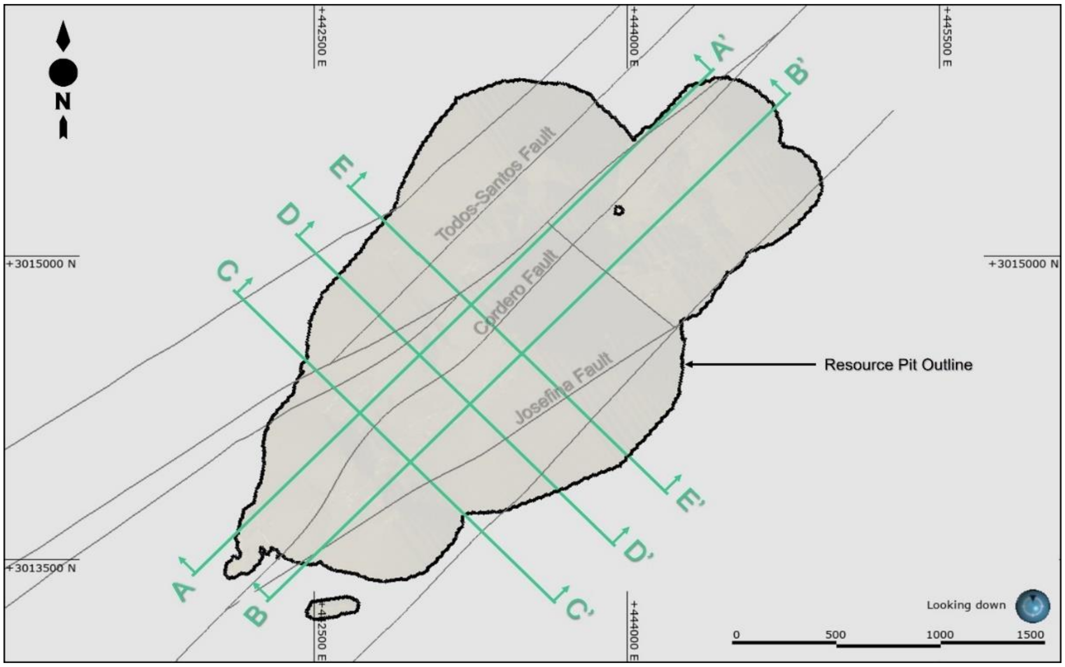
14.10 Block Model

The block model was constructed to fill the domain volumes with 20 m x 5 m x 10 m blocks in the X, Y and Z directions rotated to an azimuth of 55º to best represent the data density, the narrower, steeply dipping deposit shape, and to minimize blocks unsupported by data.

More precise representation of the domain volume was achieved by allowing sub-blocks to be created at domain boundaries. Each parent cell could be split in the X, Y and Z directions. Blocks were split in the X and Y directions to a minimum possible size of 2.5 m, while the height of the block was truncated precisely against the wireframe boundary. Each sub-block was assigned the estimate derived for the parent block.

Figure 14-11 is a location map showing the orientations of the sections.

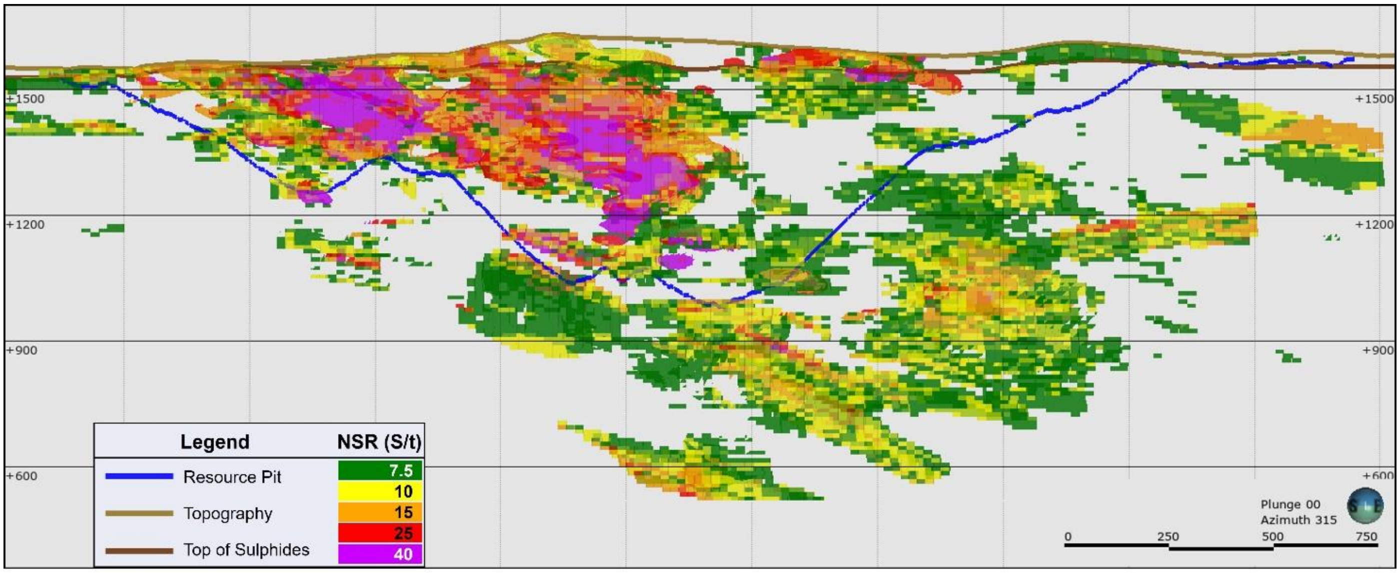
Figure 14-11: Locations of Sections



Source: RedDot, 2022.

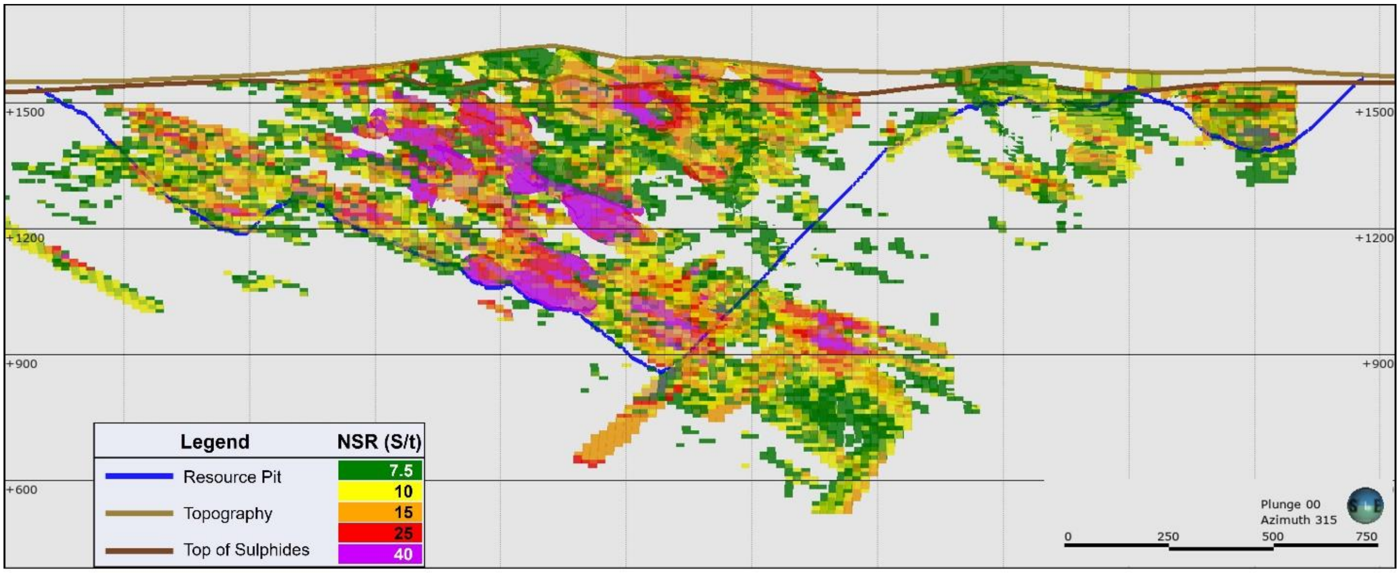
Two long sections and three cross-sections are shown in Figure 14-12 to Figure 14-16.

Figure 14-12: Long Section A-A'



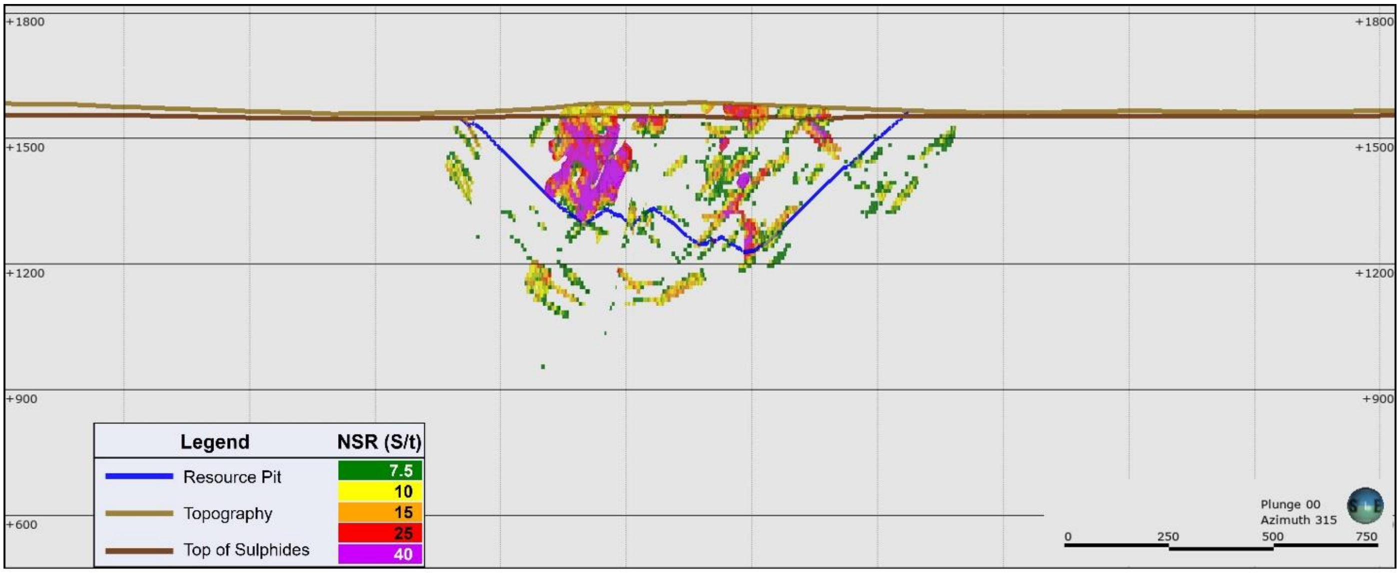
Source: RedDot, 2022.

Figure 14-13: Long Section B-B'



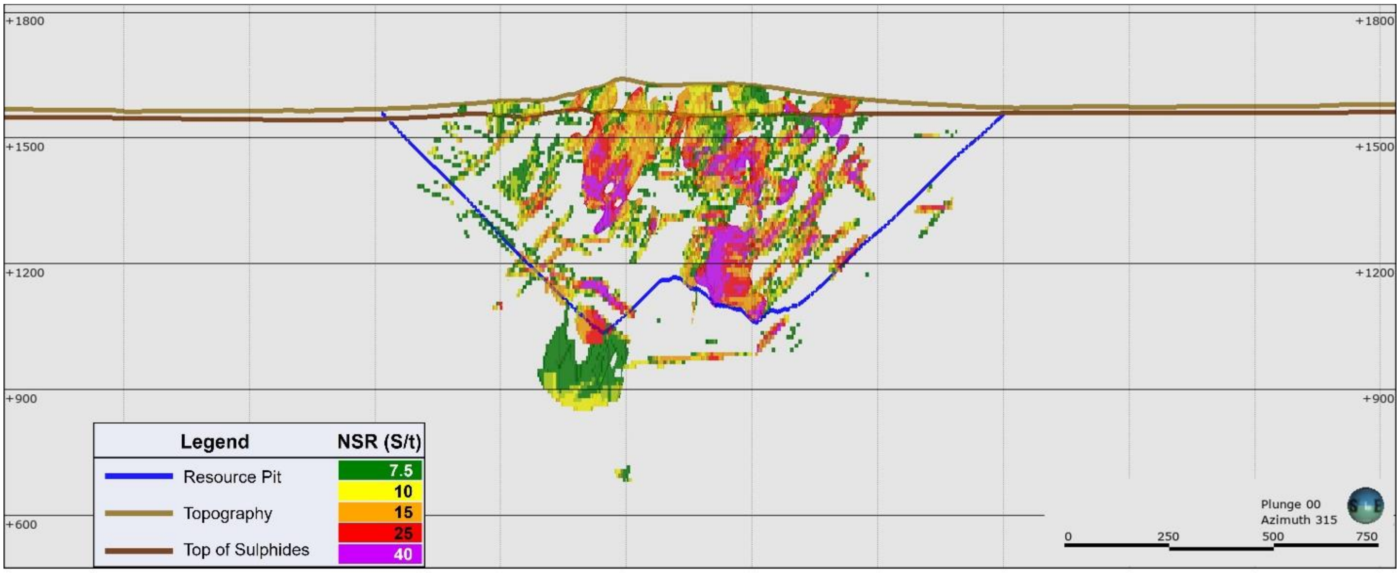
Source: RedDot, 2022.

Figure 14-14: Cross-Section C-C'



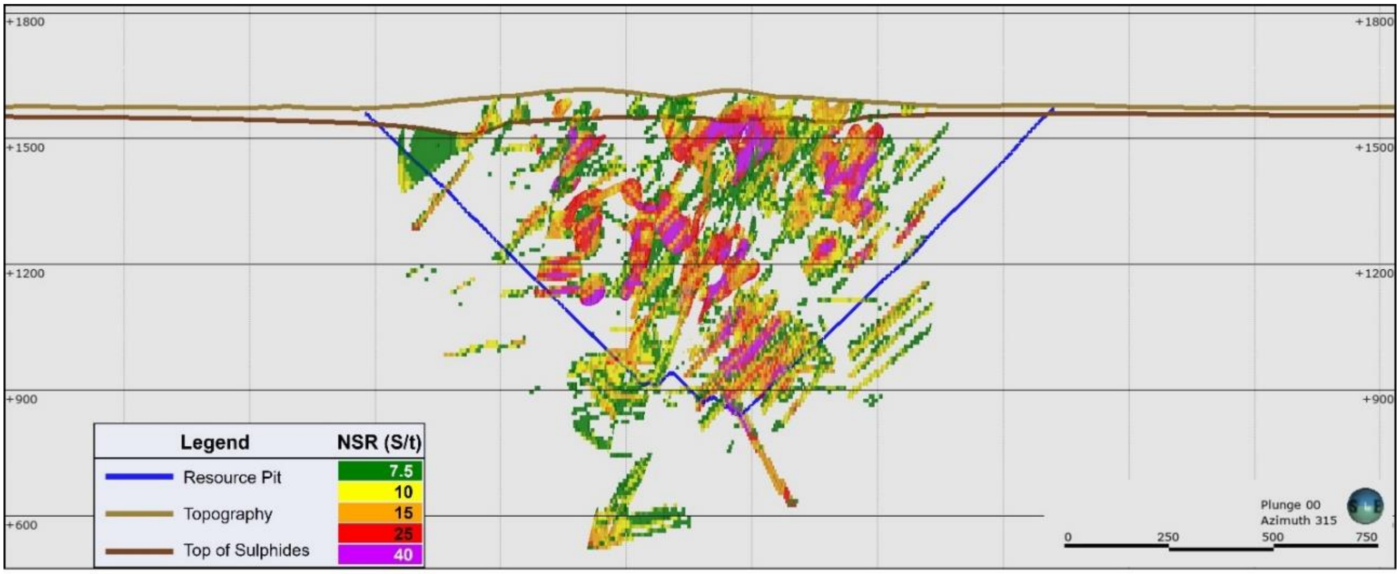
Source: RedDot, 2022.

Figure 14-15: Cross-Section D-D'



Source: RedDot, 2022.

Figure 14-16: Cross-Section E-E'



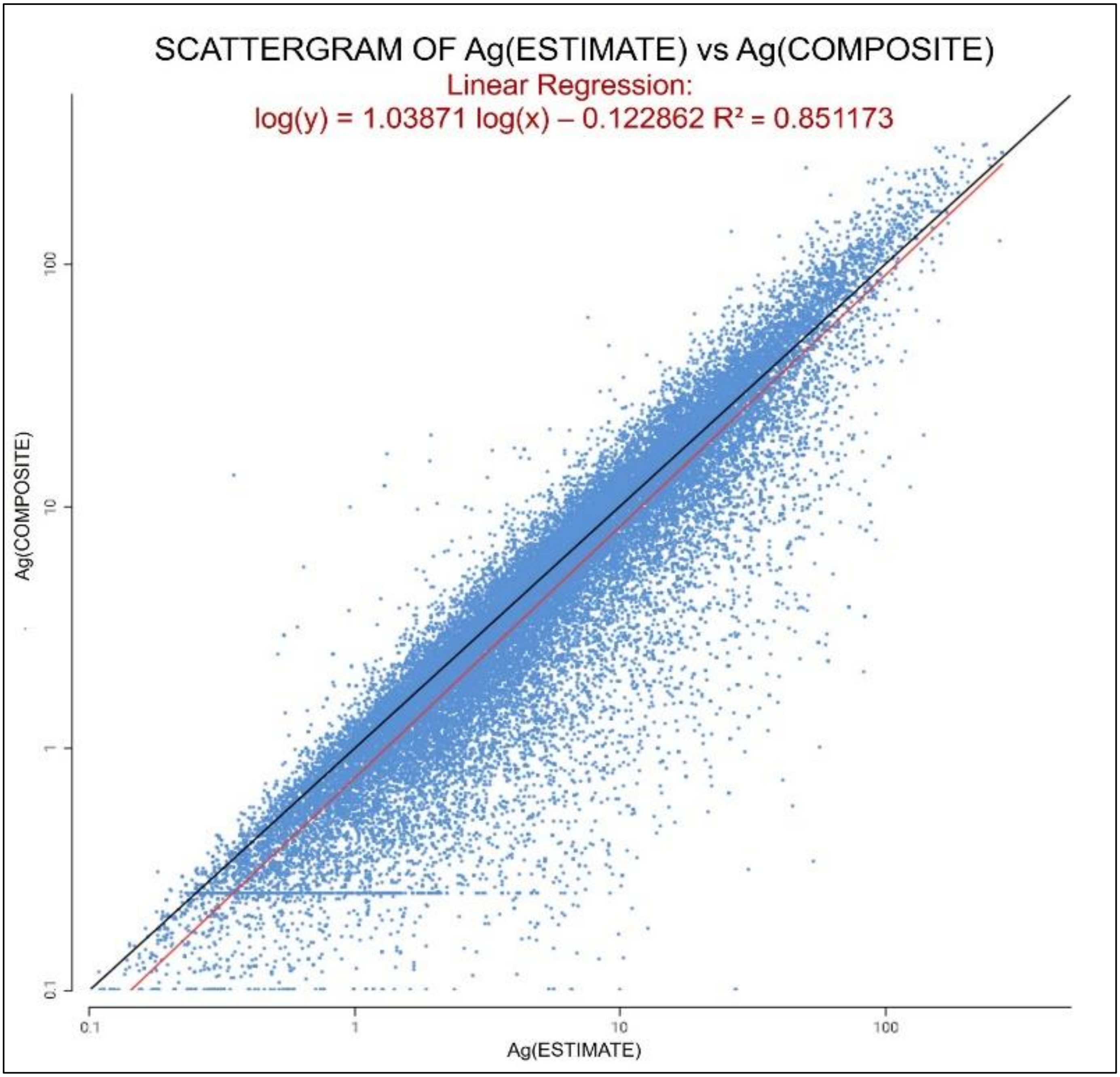
Source: RedDot, 2022.

14.11 Validation

The block estimates were validated by completing a series of visual comparisons while stepping through the model comparing block grades vs. composite grades for each of the estimated elements for each domain. Just over 100 blocks representing each of the domains were checked to verify that the informing data was selected according to the search strategy and the weights applied to each composite matched the block estimate. Scatter plots of each estimated metal show a good correlation between composite values and block estimates. The silver graph is shown in Figure 14-17.

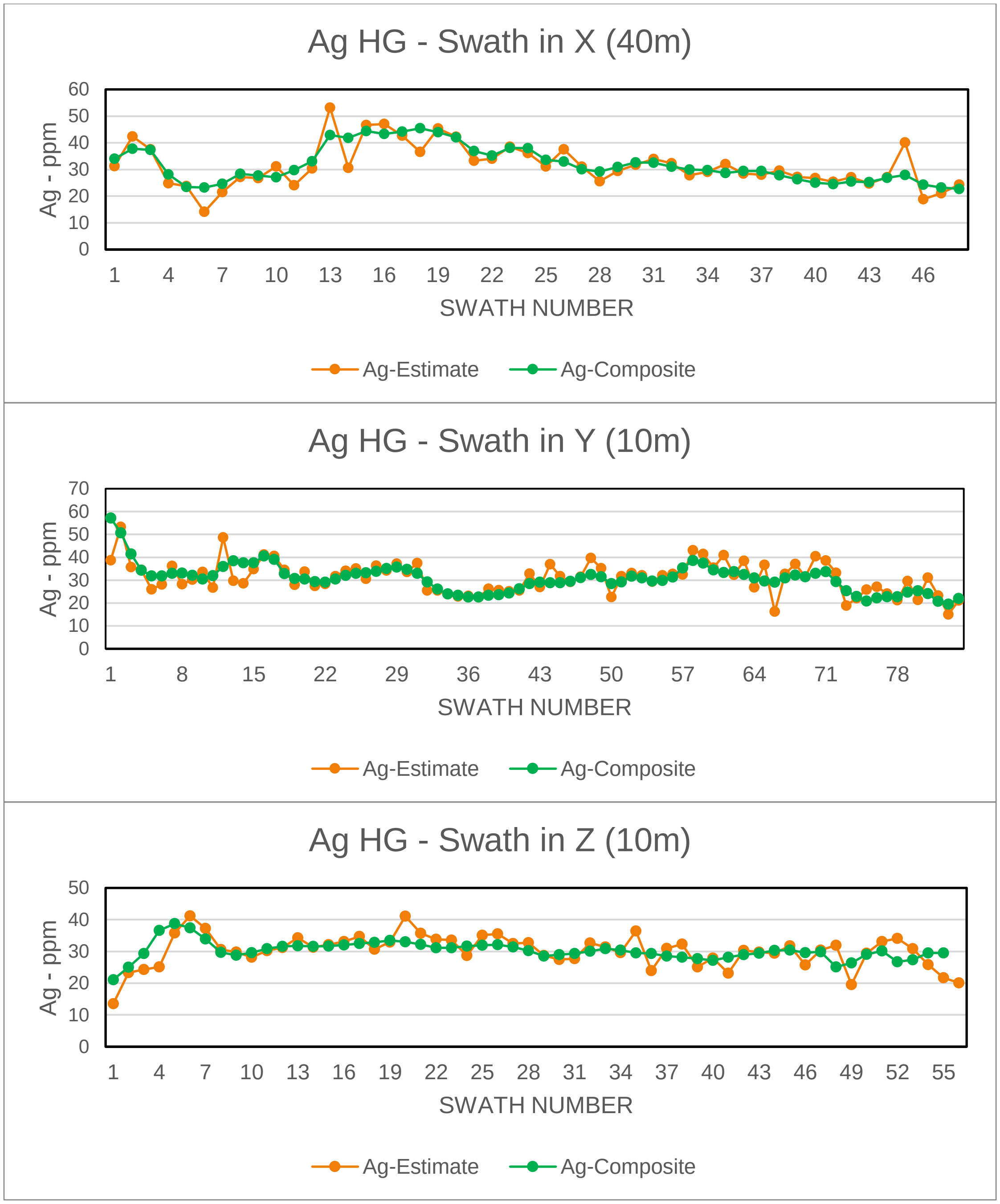
Additionally, swath plots were generated for eastings, northings, and elevation for HG and LG zones. Figure 14-18 and Figure 14-19, respectively, shows the swath plot for silver grades for HG and LG for all domains. The average modelled grade agrees well with the average grade of the composites across the model.

Figure 14-17: Scatterplot of Ag Composites vs. Ag Block Estimates



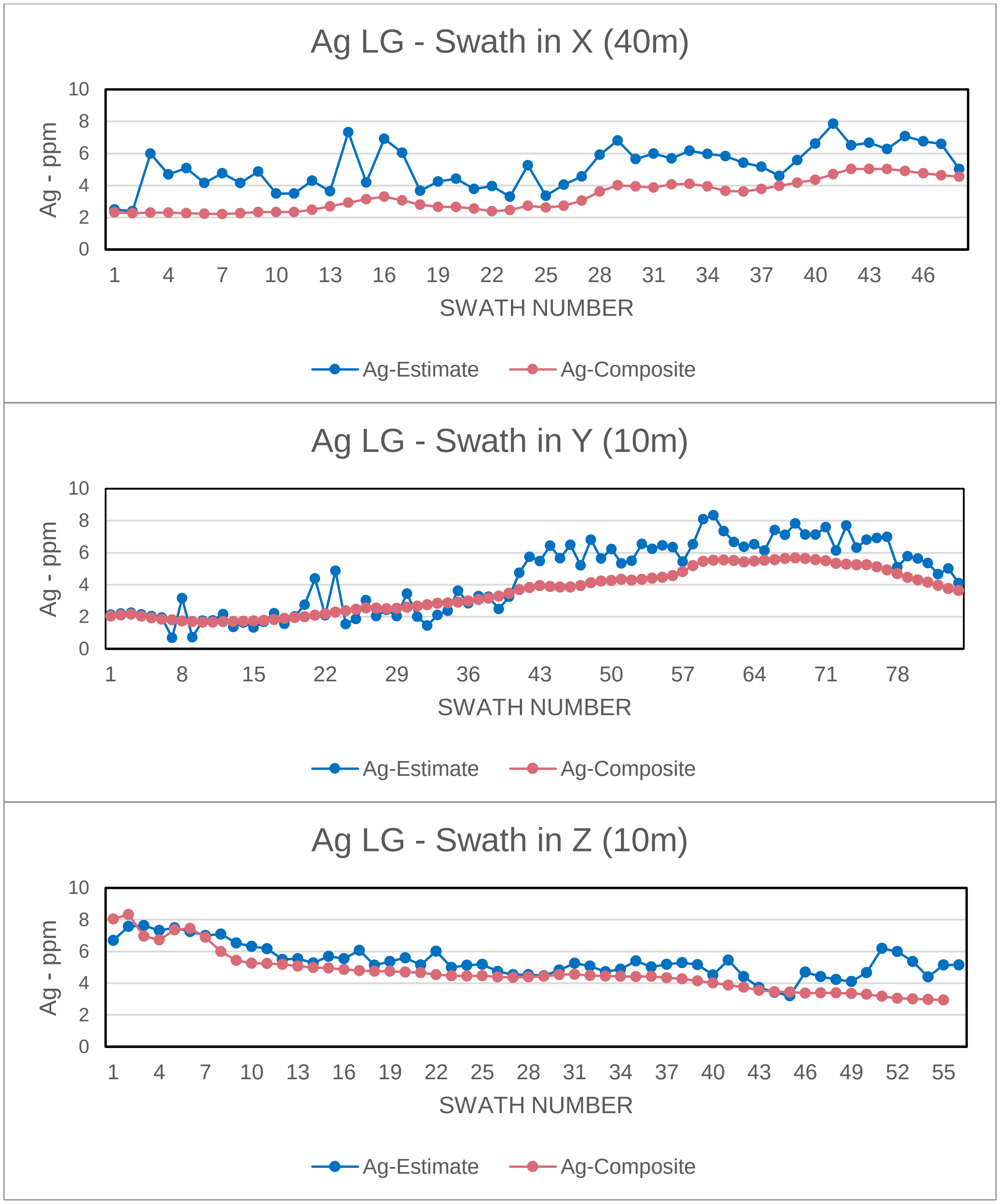
Source: RedDot, 2022.

Figure 14-18: Swath Plots of HG Ag Estimates



Source: RedDot, 2022.

Figure 14-19: Swath Plots of LG Ag Estimates



Source: RedDot, 2022.

In addition to the validation presented above, the QP for the mineral resource estimate ran nearest neighbour (NN) and inverse distance (ID) to the 2.5 power interpolants by domain and for each metal as a validation of the ordinary kriging (OK) estimate. The descriptive statistics show good agreement between average grades by domain, and globally. The OK estimate consistently shows the greatest reduction in coefficient of variation (CV) when compared to the NN model but does show good agreement with the ID interpolant. The reduction in CV indicates the presence of smoothing in the estimate. Q-Q plots comparing the OK and NN models by metal, by domain, and estimation pass were reviewed. The Q-Q plots confirm the presence of smoothing in the OK estimates across all domains, and metals, although most of the smoothing occurs in the third estimation pass. The first and second estimation pass show good agreement between the OK and NN models in the Q-Q plots.

The QP reviewed swath plots in the rotated X, Y, and Z directions by metal and domain. On a local scale, the NN model does not provide a reliable estimate of grade, but on a much larger scale, it represents an unbiased estimation of the grade distribution based on the total data set. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the distribution of grade from the NN model. Correlation between the grade models is generally good, though deviations occur. These deviations occur in areas of lower sample density and are located either on the margins or beyond the extent of the resource constraining pit.

The QP also visually validated the OK estimate in cross-section, long section, and down bench. The OK estimated grades show good agreement with the drill hole composites. The OK estimate shows good grade continuity along strike and down plunge. The presence of high-grade blowouts is limited to the margins of the estimate where drilling density is low and is located beyond the resource constraining pit.

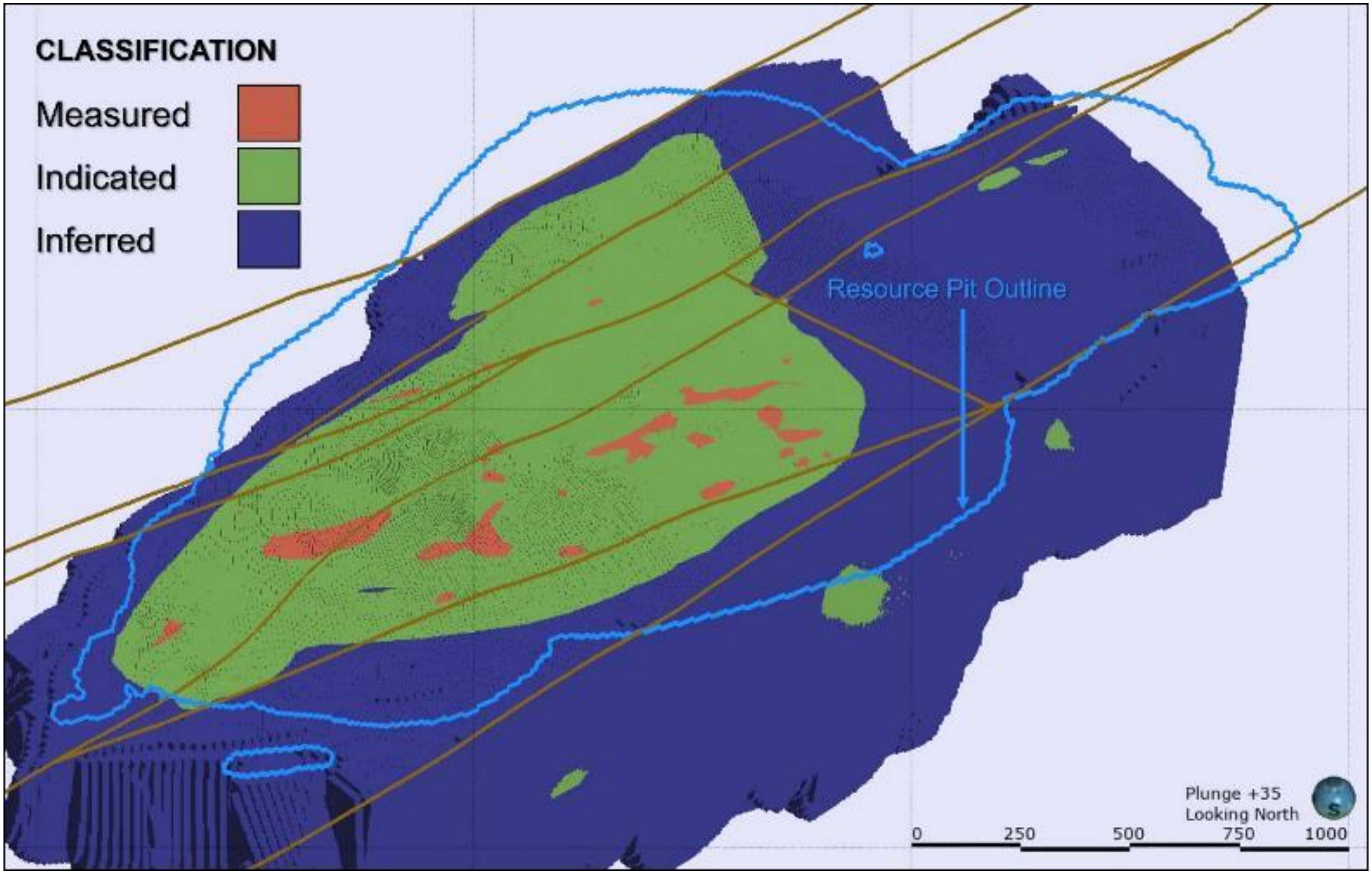
14.12 Classification

The block model was classified into “measured,” “indicated,” and “inferred” resource categories. Blocks were assigned a preliminary classification based on variography, drill hole spacing and number of samples in each pass as related to the search strategy. Search distances for the first pass is half the variogram range, and this was used as the initial classification for assigning blocks to the measured resource category. Blocks estimated in the second pass employed a search distance of the full variogram range and were allocated to the indicated resource category. Blocks estimated in the third pass that allowed a relaxed search of up to three times the variogram range were assigned to the inferred resource category.

The preliminary classification boundaries were then adjusted with a smoothing routine to create continuity of blocks within the corresponding resource category classification (Figures 14-20 and 14-21).

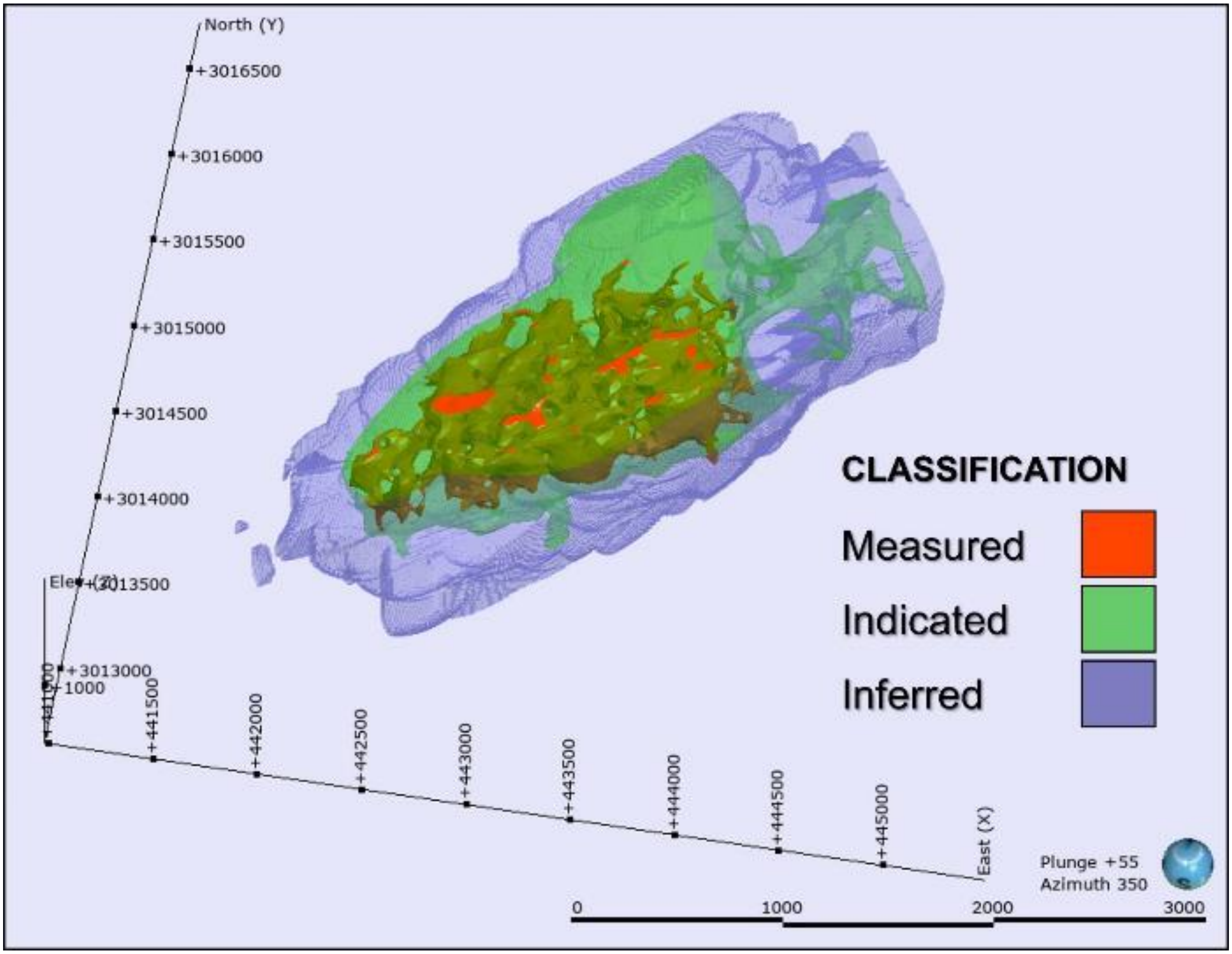
The smoothing step, which removes small islands of one classification stranded in a sea of a different classification, does not change the overall proportion of blocks in each category in the preliminary assignment of measured, indicated, and inferred codes. By aggregating the classification codes into coherent spatial regions, the smoothing ensures that the classification better adheres to the requirements of the CIM Definition Standard, which describes the differences between the three categories in terms of mine planning and detailed mine planning, which cannot be done on small islands that consist of only a few stranded blocks.

Figure 14-20 : Classification (Outer Surface)



Source: RedDot, 2022.

Figure 14-21: Classification (Transparent View)



Source: RedDot, 2022.

14.13 Mineral Resource Statement

14.13.1 Definitions

The Cordero mineral resources were classified as "measured," "indicated," and "inferred" in accordance with the "CIM Definition Standards for Mineral Resources and Mineral Reserves" (CIM, 2014), which provides the following definitions:

> *A* ***Mineral Resource*** *is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.*
>
> *An* ***Inferred Mineral Resource*** *is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. 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.*
>
> *An* ***Indicated Mineral Resource*** *is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.*
>
> *A* ***Measured Mineral Resource*** *is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.*

The Cordero resources reported in this report are mineral resources, not mineral reserves and do not have demonstrated economic viability. Inferred resources cannot become reserves unless future drilling improves the confidence in these areas so that they can later be classified as measured or indicated resources. There are no known legal, political, environmental, or other risks that could materially affect the potential development of the mineral resources.

The mineral resources are reported at an NSR cut-off that considers the likely process option, and the resources are constrained to lie within an open pit shell, since this is the likely extraction method.

14.13.2 Net Smelter Return (NSR) Cut-off

NSR is calculated as the net revenue from metal sales (taking into account metallurgical recoveries and payabilities) less treatment costs and refining charges. Mineral resources are reported at a $7.25/t NSR cut-off based on the estimated processing and G&A cost for sulphide mineralization.

The “reasonable prospects for eventual economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade considering reasonable extraction scenarios and processing recoveries. The QP considers that the Cordero mineralization is amenable to open pit extraction and that constraining the reported resources to an ultimate pit shell meets the “reasonable prospects” requirement of the CIM Definition Standards.

14.13.3 Pit Constraint & NSR Calculation Assumptions

Key assumptions are outlined below. Details of the procedure followed to calculate the NSR for the purposes of the resource pit are described in Section 15.

- Commodity Prices –Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb.
- Metallurgical Recoveries – Sourced from the Company’s 2021 and 2022 test programs.
- Operating Costs - Mining costs of $1.59/t for ore and waste (base case) were developed by Hard Rock Consulting LLC (Hard Rock). Processing costs of $5.22/t for mill/flotation and G&A costs of $0.86/t were developed by Hard Rock
- Pit slopes: A single pit slope of 45° was used.
- Commodity Price – Price assumptions were guided by the regulatory requirement for the MRE to have reasonable prospects for eventual economic extraction. Discovery Silver has used the 90th percentile of the commodity prices for the past decade as a guide to possible pricing in the coming decade, with a view towards ensuring that the open pit is not inadvertently undersized, leaving important infrastructure too close to the rim.

The pit optimization for the reporting pit shell is based on assumed off-site costs, metal recovery, and metal prices presented in Table 14-10.

Table 14-10: Pit Constraint Parameters

Parameter	Units	Ag	Au	Pb	Zn
Commodity Prices	$/oz or $/lb$/lb	$24.00	$1,800	$1.10	$1.20
NSR Royalty	%	0.5%	0.5%	-	-
Pit Slope Assumptions	A single fixed pit slope of 45º was used				
Process Recoveries					
(Oxide)					
Recovery to Pb concentrate	%	50%	10%	37%	-
Recovery to Zn concentrate	%	9%	8%	-	85%
(Sulphide)					
Recovery to Pb concentrate	%	Dependent on net payable metal factor			
Recovery to Zn concentrate	%	Dependent on net payable metal factor			
Net Metal Payable Factor					
Pb concentrate	%	95%	24.8%	94%	-
Zn concentrate	%	33.9%	0%	-	84%
Operating Costs					
Mining cost - Ore	$/t mined	$1.59			
Mining cost - Waste	$/t mined	$1.59			
Processing cost – Flotation (50,000 t/d)	$/t milled	$5.22			
G&A (50,000 t/d)	$/t milled	$0.86			
Treatment/Refining Charges					
Treatment charge – Pb con	$/dmt	$150			
Treatment charge – Zn con	$/dmt	$210			
Au refining charge	$/oz	$10.00			
Ag refining charge	$/oz	$1.40			

14.13.4 Sulphide Resource Estimate

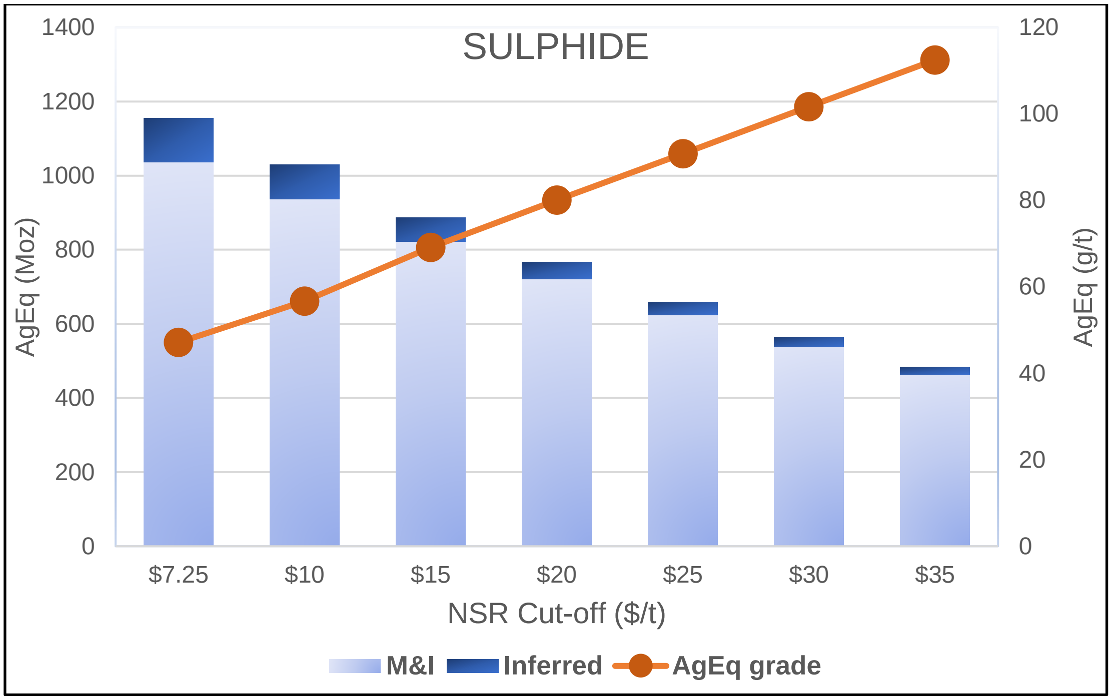
The MRE assumed a $7.25/t NSR cut-off for sulphide mineralization (see Table 14-11). A graph showing sensitivities to the NSR cut-off is provided in Figure 14-22. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Table 14-11: Sulphide Resource Estimate

NSR Cut-off ($/t)	Class	Tonnage	Grade					Contained Metal				
			Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
		Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
$7.25	Measured	250	23	0.08	0.33	0.57	55	185	604	1,824	3,132	439
	Indicated	403	18	0.04	0.27	0.56	46	228	524	2,387	4,947	598
	M&I	653	20	0.05	0.29	0.56	49	413	1128	4,211	8,079	1037
	Inferred	109	13	0.02	0.21	0.38	33	46	82	510	923	118

Notes: **1.** Mineral resources that are not mineral reserves do not have demonstrated economic viability. **2.** AgEq for sulphide mineral resources is calculated as Ag + (Au x 15.52) + (Pb x 32.15) + (Zn x 34.68); these factors are based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 87%, Au – 18%, Pb – 89% and Zn – 88%. **3.** AgEq for oxide mineral resources is calculated as Ag + (Au x 22.88) + (Pb x 19.71) + (Zn x 49.39); this factor is based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 59%, Au – 18%, Pb - 37% and Zn - 85%. **4.** The mineral resource is constrained by a pit optimization; supporting parameters for this pit constraint are provided in the pit constraint parameters in Table 1410. **5.** Individual metals are reported at in-situ grade. **6.** Sensitivity cut-offs reported are a subset of the in-pit mineral resource. **7.** The effective date of the mineral resource is January 18, 2023 and is based on drilling through to September 2022.

Figure 14-22: Sulphide Resource Estimate – NSR Cut-off Sensitivity



Source: RedDot, 2022.

14.13.5 Oxide Resource Estimate

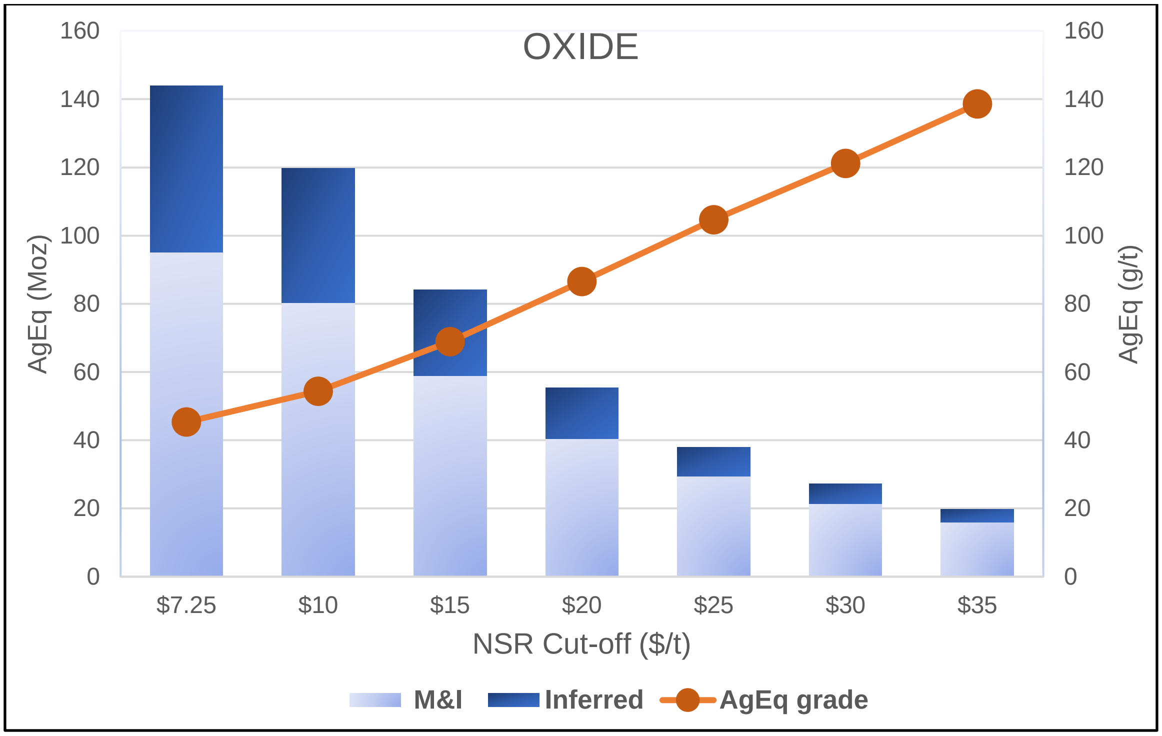
The MRE assumed a $7.25/t NSR cut-off for oxide mineralization (see Table 14-12). A graph showing sensitivities to the NSR cut-off is provided in Figure 14-23. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Table 14-12: Oxide Resource Estimate

NSR Cut-off ($/t)	Class	Tonnage	Grade					Contained Metal				
			Ag	Au	Pb	Zn	AgEq	Ag	Au	Pb	Zn	AgEq
		Mt	g/t	g/t	%	%	g/t	Moz	Koz	Mlb	Mlb	Moz
$7.25	Measured	21	30	0.08	0.23	0.25	49	21	51	109	117	33
	Indicated	42	24	0.06	0.24	0.31	46	33	85	224	288	62
	M&I	63	26	0.07	0.24	0.29	47	54	136	333	405	95
	Inferred	36	18	0.04	0.28	0.37	43	21	40	216	292	49

Notes: **1.** Mineral resources that are not mineral reserves do not have demonstrated economic viability. **2.** AgEq for sulphide mineral resources is calculated as Ag + (Au x 15.52) + (Pb x 32.15) + (Zn x 34.68); these factors are based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 87%, Au – 18%, Pb – 89% and Zn – 88%. **3.** AgEq for oxide mineral resources is calculated as Ag + (Au x 22.88) + (Pb x 19.71) + (Zn x 49.39); this factor is based on commodity prices of Ag - $24.00/oz, Au - $1,800/oz, Pb - $1.10/lb, Zn - $1.20/lb and assumed recoveries of Ag – 59%, Au – 18%, Pb - 37% and Zn - 85%. **4.** The mineral resource is constrained by a pit optimization; supporting parameters for this pit constraint are provided in the pit constraint parameters in Table 14-10. **5.** Individual metals are reported at in-situ grade. **6.** Sensitivity cut-offs reported are a subset of the in-pit mineral resource. **7.** The effective date of the resource is January 18, 2023 and is based on drilling through to September 2022.

Figure 14-23: Oxide Resource Estimate – NSR Cut-off Sensitivity



Source: RedDot, 2022.

14.14 QP Comment

The QP believes that the mineral resource estimates for the Cordero deposit have been generated using industry standard methods and follow procedures recommended by the CIM in "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" (CIM, 2019). As such, the resource block model and its global resource inventory are suitable for public disclosure and for further use in the preliminary feasibility of the technical and economic viability of the project.

15 MINERAL RESERVE ESTIMATES

15.1 Introduction

The Cordero project is planned to be an open pit operation using conventional mining equipment. All estimates are based on the mine plans generated by AGP for the pre-feasibility study work.

Costs are based on first principles build-up of operating and capital costs for the life of the project with most current vendor quotations for consumables and capital expenses based on local vendor submissions.

The reserves for the Cordero project are based on the conversion of the measured and indicated mineral resources in the study mine plan within the ultimate open pit limits. The level of information from drill holes and degree of certainty on assumptions used the mine plan estimates provides reasonable support to classify measured mineral resources as proven reserves. Indicated mineral resources are converted directly to probable reserves.

The total mineral reserves for the Cordero project are shown in Table 15-1.

15.2 Mineral Reserves Statement

The mineral reserves for the Cordero project are based on the conversion of measured and indicated mineral resources in the pre-feasibility study mine plan, and within the proposed ultimate open pit limits. The estimates were prepared under the supervision of Manuel Jessen, P.Eng. of AGP, a QP as defined under NI 43-101.

Mineral reserves estimates are based on metal prices of US$20/oz silver, US$0.95/lb lead, US$1.20/lb zinc, and US$1,600/oz gold and are approximately 302 Mt of ore containing 0.70% Zn, 0.44% Pb, 27.4 g/t Ag, and 0.08 g/t Au. Mineral reserves for the Cordero project are shown in metric units in Table 15-1. This estimate has an effective date of January 18th, 2023.

Proven and probable reserves is not a 1:1 conversion from measured and indicated resources, primarily due to the following assumptions: (1) mineral reserves only include high-grade oxides up to a maximum of 10% of the mill feed, and (2) an NSR cut-off of US$10.00/t was used to define sulphide reserves which is higher than the $7.25/t NSR used to determine resources overall.

Table 15-1: Proven and Probable Mineral Reserves

Reserve Class	Process Feed	Grade				Contained Metal			
	(Mt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (Moz)	Au (Moz)	Pb (Blb)	Zn (Blb)
Proven	164.0	28.93	0.10	0.45	0.67	152.52	0.52	1.63	2.42
Probable	138.4	25.61	0.06	0.43	0.73	113.95	0.27	1.30	2.22
Total Reserves	**302.4**	**27.41**	**0.08**	**0.44**	**0.70**	**266.47**	**0.79**	**2.94**	**4.65**

Note: This mineral reserve estimate has an effective date of January 18th, 2023, and is based on the mineral resource estimate dated January 18th, 2023, for Discovery Silver by AGP Mining Consultants Inc. The mineral reserve estimate was completed under the supervision of Manuel Jessen, P.Eng. of AGP, who is a QP as defined under NI 43-101. Mineral reserves are stated within the final pit designs based on a US$20.00/oz silver price, US$1,600/oz gold price, US$0.95/lb lead price and US$1.20/lb zinc price. An NSR cut-off of US$10.0/t was used to define sulphide reserves. The life-of-mine mining cost averaged US$1.60/t mined, preliminary processing costs were US$5.22/t ore and G&A was US$0.89/t ore placed. The metallurgical recoveries were varied according to head grade and concentrate grades. Lead concentrate recoveries were approximately 82.5%, 12.6% and 91.8% for silver, gold, and lead, respectively. Zinc concentrate recoveries were approximately 10.0%, 9.5% and 77.8% for silver, gold, and zinc, respectively.

Lerchs-Grossman (Hexagon MinePlan) pit optimizations were run using the study economic inputs, and pit shells were analyzed and used as a guide to assess the reserve pit optimality.

Mineral resources outside the pit limits are not considered in the mineral reserves statement; there is currently no plan to extend the mine operation using underground mining methods.

15.3 Factors that May Affect the Mineral Reserves

The QP has not identified any known legal, political, environmental, or other risks that would materially affect the potential development of the mineral reserves. Permitting risk is considered low as this project would increase employment in this mining friendly region.

Pit walls failures are always a risk in open pit mines. Conservative pit slope designs have been developed for the pre-feasibility study; however, there is always the potential for zones of unstable and weak rock formations. This risk is mitigated by mining in multiple areas and utilizing flexible haul road accesses.

Technical risks that have been identified as potentially affecting the mineral reserves include mining selectivity near the ore contacts, slope stability, and assumed process recoveries for given rock types. These are considered manageable risks that will be mitigated as more testwork and operating experience is obtained. Further metallurgical testwork will allow better definition of the oxides/sulfides blend in the mill feed. Depending on the results this could increase or decrease ore reserves.

15.4 Key Assumptions/Basis of Estimate

The parameters used for the estimate are shown in Table 15-2.

Table 15-2: Pit Optimization – General Parameters

Description	Units	Value			
Resource Classification		Measured + Indicated			
Mining Bench Height	m	10			
Metal Prices		Silver	Gold	Lead	Zinc
Mineral Reserves	USD	20.0 /oz	1600.0 /oz	0.95 /lb	1.20 /lb
Royalty	%	0.50%	0.50%	0.00%	0.00%
Sulphides Process Recoveries		Silver	Gold	Lead	Zinc
Recovery to Lead Concentrate	%	82.50%	12.60%	91.80%	
Recovery to Zinc Concentrate	%	10.00%	9.50%		77.80%
Oxides Process Recoveries		Silver	Gold	Lead	Zinc
Recovery to Lead Concentrate	%	50.00%	10.00%	37.00%	
Recovery to Zinc Concentrate	%	9.00%	8.00%		85.00%
Power Cost					
Cost of power	$/kWh	$0.054			
Fuel Cost					
Diesel Fuel Cost to site	$/L	$1.00			
Mining Cost					
Base Rate - 1550 Elevation					
Waste	$/t moved	$1.63			
Ore	$/t moved	$1.54			
Blended Rate	$/t moved	$1.60			
Processing					
Sulphides (Flotation)	$/t ore milled	$5.22			
General and Administrative Cost					
G&A Cost	$/t ore	$0.89			

Source: AGP Mining, 2022.

The net value calculations are in United States dollars (US$ or USD) unless otherwise noted. The mining cost estimates are based on the use of 190-tonne class trucks using a preliminary mine design to determine incremental hauls for mineralized material and waste. The smelting terms and recovery assumptions are based on creating zinc and lead bulk concentrates from the mill.

The determination of the ore and waste for the Cordero project was defined by NSR cut-off values. Silver, lead, zinc, and gold contribute to the value of the mined mineralized blocks.

The revenue for each block in the mine engineering block model was calculated based on the block head grade, metal recovery, selling price, smelting cost, transportation cost, refining cost, refining factors and concentrate grades (see Table 15-3). Sulphide recovery equations have been used for zinc, lead and silver in NSR calculations.

Table 15-3: Revenue Model – General Parameters

Metal	Base Prices	Concentrate Grade	Treatment Charges	Refining Charges	Sulphide Recovery		Oxide Recovery	
					Zn Con	Pb con	Zn Con	Pb con
Zinc	$1.20 /lb	50.00%	$210.00 /dmt	$0.00 /lb	77.80%		85.00%	
Lead	$0.95 /lb	63.60%	$150.00 / dmt	$0.00 /lb		91.80%		37.00%
Silver	$20.00 /oz			$1.40 /oz	10.00%	82.50%	9.00%	50.00%
Gold	$1600 /oz			$10.00 /oz	9.50%	12.60%	8.00%	10.00%

Source: AGP Mining, 2022.

NSR values were assigned to each block in the mine model and were used in the mine planning process to determine ore and waste material.

15.5 Pit Slopes

Wall slopes for pit optimization were based on provided geotechnical recommendations (KP, 2022). Table 15-4 shows the main criteria used to set pit wall slopes in the reserve pit design.

Table 15-4: Pit Slope Criteria

Pit Design Sector	Sub Sector	Geotechnical Unit	Bench Height (m)	Bench Face Angle (°)	Bench Width (m)	Inter-ramp Angle (°)
West	Upper	Siltstone	20	65	13	42
	Lower	Rhyodacite	20	70	9	51
North		Rhyodacite	20	80	9	58
East		Rhyodacite /Siltstone	20	75	9	54
South		Rhyodacite	20	75	9	54

Source: AGP Mining, 2022.

15.6 Pit Optimization

An ultimate pit limit analysis (UPLA) was conducted to determine the intermediate and final mining limits as well as to understand the sensitivity of these limits to changes in metal prices. UPLA outcomes were used to determine areas of the deposit with the most profitable extraction limits and identify the geometry of the proposed open pit. UPLA inputs were confirmed at an early stage of the process to produce a set of nested Lerchs-Grossman shells which guided the mine design process. A mining sequence (internal pit phases) was determined, focusing on how the intermediate pits would potentially interact and how ore will be operationally accessed.

As a starting point, sets of nested pit shells were generated using reference base prices (RF=1) of US$20.00/oz Ag, US$1,600/oz Au, US$0.95/lb Pb and US$1.20/lb Zn, with revenue factors ranging from 0.05 to 1.20 in steps of 0.05. This was done to determine the optimal pit limits at the project specified Reserves prices.

Repeated Lerchs-Grossman analyses were performed during the pit optimization process by varying wall slope assumptions to identify the most profitable in-pit road locations. Slopes were set to anticipate the effect of the inclusion of ramps in pit walls. Pit sectors discussed in Section 15.5 and the pit design from the PEA study were used as a guide to establish pit wall boundaries. Additionally, a series of strategic scenarios based on the preliminary set of nested pit shells with some varying some economic inputs was used as a guideline to determine the optimal pit size. The pit shell at a RF=0.6 was selected for further pit design and mine planning.

15.7 Mine Dilution

The mining strategy assumes a skin for dilution of 0.5 m on average for a 10 m bench height. AGP has applied an in-house routine to determine the diluted density and diluted metal grades for all blocks in the model.

The final sulphides dilution resulted in an overall of 2.4% increase in ore tonnes with a reduction of 3.5% in silver, 1.8% in zinc, 2.0% in lead and 1.5% in gold grades, as shown in Table 15-5.

Table 15-5: In-situ vs. Diluted Sulphides Resource in Pit Design

Description	Mineral Resource	Grade			
	(Mt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
In situ	368	23.3	0.07	0.34	0.61
Diluted	377	22.5	0.07	0.33	0.60
Difference (%)	**2.4%**	**-3.5%**	**-1.5%**	**-2.0%**	**-1.8%**

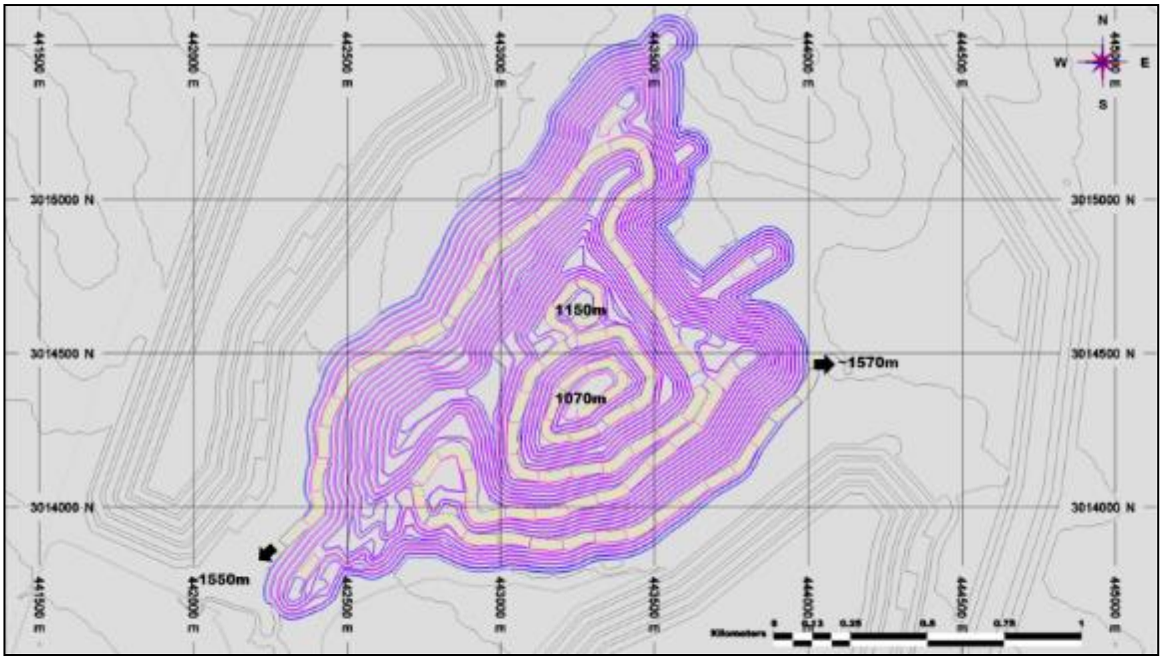
Note: Above table numbers do not reflect the final estimate for mineral reserves with the elevated cut off considered. Some variation may exist due to rounding. Source: AGP Mining, 2022.

15.8 Pit Design

Based on the pit optimization outcomes and to support practical access to mineralized areas, a set of pit designs were outlined using the selected ultimate pit limit (RF = 0.6) as the basis for sequencing the intermediate mining phases from the higher value pit shells at the southwest towards the northeast end of the ultimate pit limit. Recommendations for slopes by the geotechnical team applied to all intermediate pit phase designs.

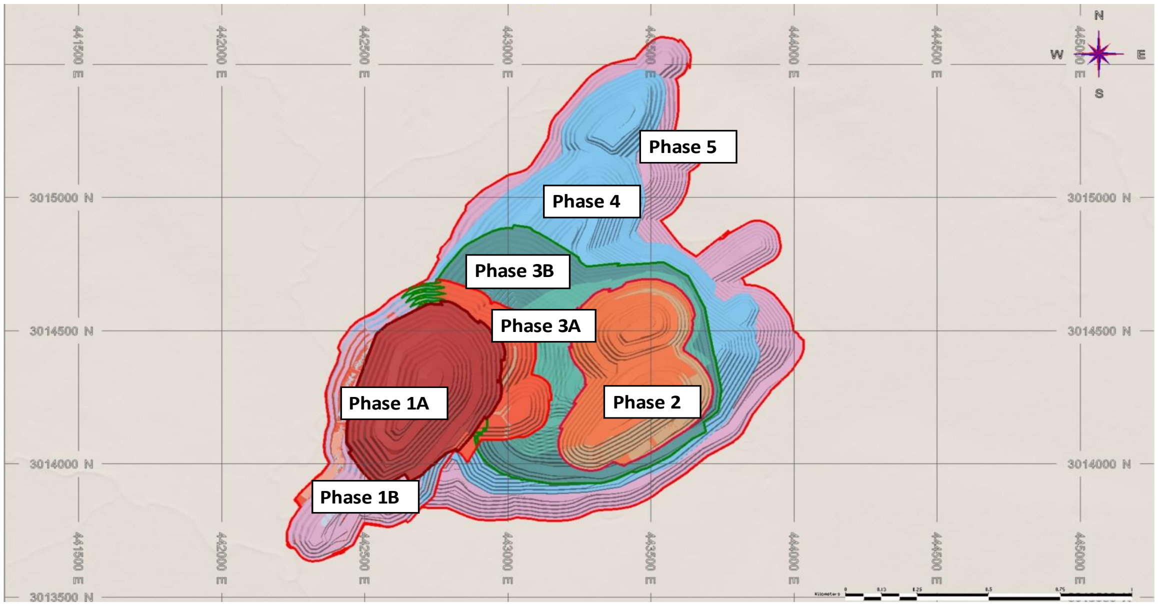
The proposed preliminary ultimate pit design and intermediate mining phases are shown in Figures 15-1 to 15-3.

Figure 15-1: Cordero Ultimate Pit Design



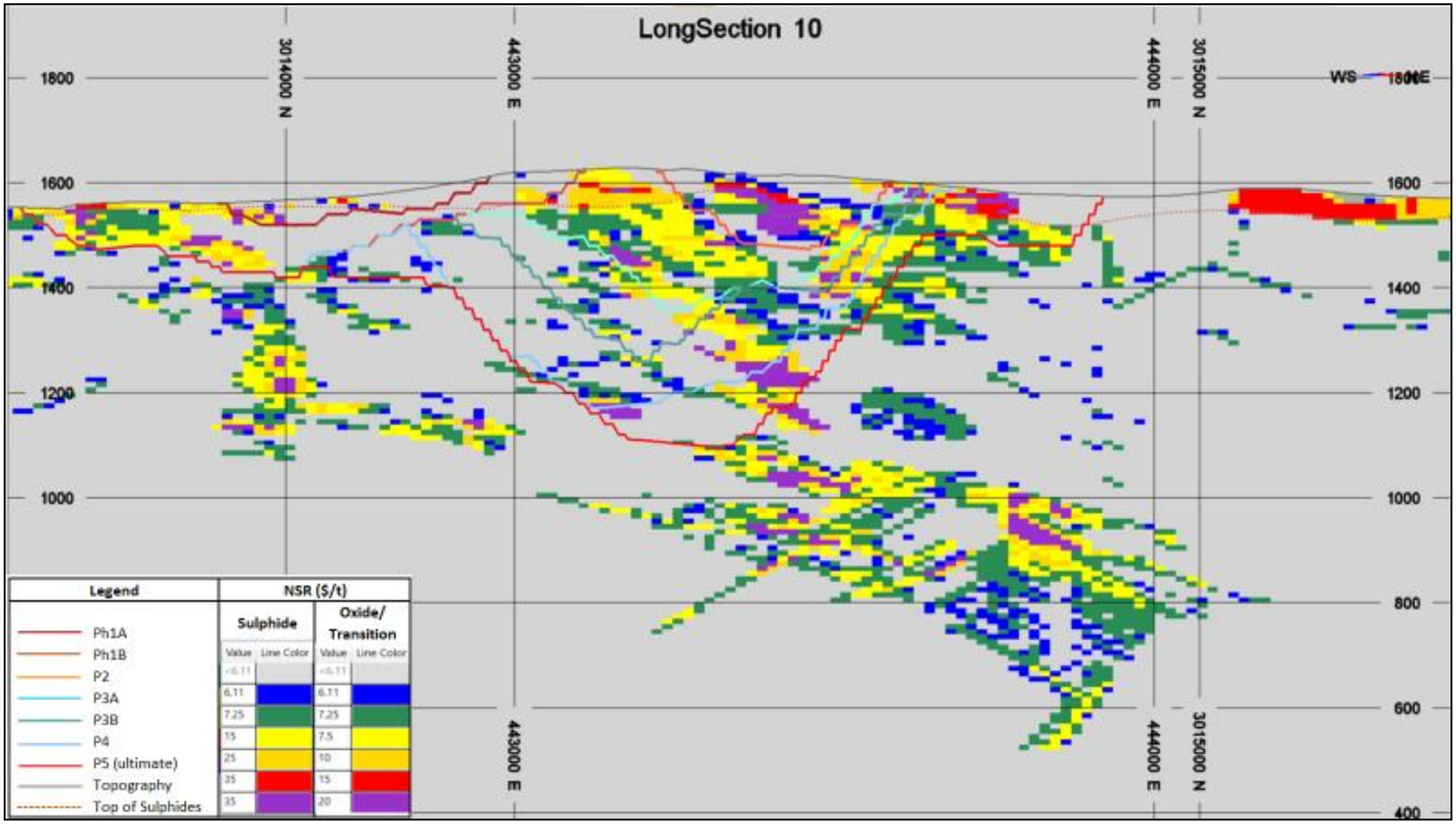
Source: AGP Mining, 2022.

Figure 15-2: Intermediate Pit Phases



Source: AGP Mining, 2022.

Figure 15-3: Ultimate and Intermediate Pit Phase Limits (Representative Cross-section)



Source: AGP Mining, 2022.

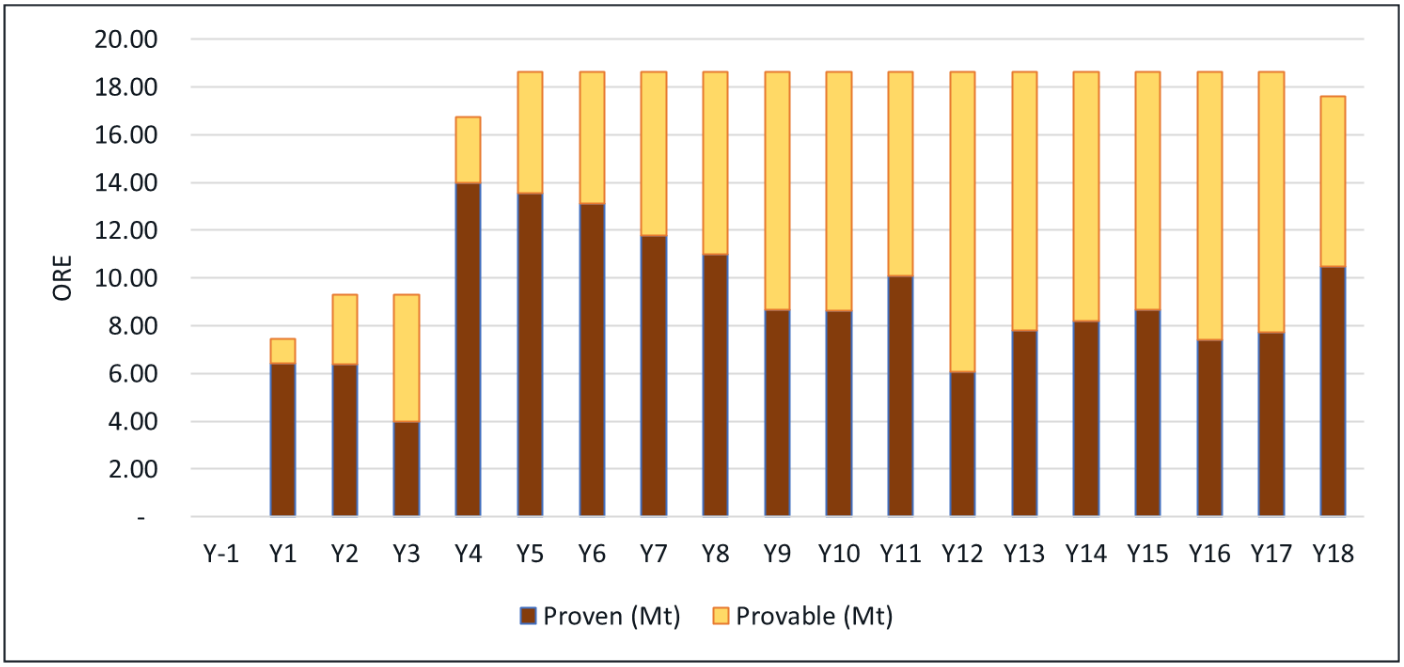
15.9 Mine Plan

The selected mine schedule plans to deliver 302.4 Mt of ore grading 27.4 g/t Ag, 0.08 g/t Au, 0.70% Zn and 0.44% Pb over a mine life of 18 years. Mineral reserves include 164 Mt of proven ore grading 28.9 g/t Ag, 0.10 g/t Au, 0.67% Zn and 0.45% Pb, and 138.4 Mt of probable ore grading 25.6 g/t Ag, 0.06 g/t Au, 0.73% Zn and 0.43% Pb. Table 15-6 shows the yearly distribution of the ore to the process plant through the life of mine.

The 6.2 % of the LOM ore tonnes are high-grade oxides. Oxides were included when plant capacity was available to displace lower value sulphides up to a maximum of 10% of the mill feed.

The total waste tonnage in the reserves mine plan is 640 Mt and will be delivered to either the tailings storage facility or the rock storage facility. The overall waste-to-ore strip ratio is 2.1:1. See Figure 15-4 and Table 15-6 for the yearly distribution of ore tonnes in the reserves mine plan.

Figure 15-4: Reserves Distribution in Production Plan



Source: AGP Mining, 2022.

Table 15-6: Production Schedule – Proven and Probable Mineral Reserves

	Description	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Total
Mill Feed	Ore (Mt)	-	7.50	9.30	9.30	16.70	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	18.60	17.60	302.40
	Ag (g/t)	0	44.42	51.6	50.29	35.81	30.54	26.61	31.14	26.55	28.42	30.03	30.61	24.77	18.53	21.76	24.36	19.56	18.56	13.65	27.41
	Au (g/t)	0	0.22	0.27	0.12	0.2	0.09	0.06	0.07	0.08	0.05	0.09	0.07	0.05	0.05	0.04	0.06	0.05	0.05	0.05	0.08
	Pb (%)	0	0.63	0.82	0.58	0.56	0.37	0.41	0.48	0.45	0.43	0.55	0.63	0.48	0.29	0.34	0.38	0.32	0.31	0.19	0.44
	Zn (%)	0	0.63	1.03	0.88	0.6	0.64	0.72	0.84	0.79	0.7	0.97	1.12	0.74	0.47	0.59	0.65	0.59	0.5	0.32	0.7
	NSR ($/t)	0	42.38	56.51	47.6	36.11	29.19	29.63	34.65	31.99	30.08	38.55	42.57	29.76	18.99	23.4	26.47	22.13	19.97	12.61	30.21
Oxides	Proven (Mt)	-	-	0.18	-	0.34	1.50	-	0.87	0.01	0.74	-	0.12	0.20	0.68	0.68	0.68	0.68	0.68	0.64	8.00
	Ag (g/t)	0.00	0.00	63.75	0.00	41.13	42.02	0.00	31.24	44.46	30.41	0.00	36.18	43.24	30.39	30.39	30.39	30.39	30.39	30.39	34.29
	Au (g/t)	0.00	0.00	0.07	0.00	0.06	0.05	0.00	0.08	0.03	0.08	0.00	0.08	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	Pb (%)	0.00	0.00	0.84	0.00	0.36	0.30	0.00	0.23	0.69	0.24	0.00	0.47	0.66	0.24	0.24	0.24	0.24	0.24	0.24	0.28
	Zn (%)	0.00	0.00	1.15	0.00	0.27	0.25	0.00	0.26	0.35	0.25	0.00	0.49	0.72	0.25	0.25	0.25	0.25	0.25	0.25	0.29
	NSR ($/t)	0.00	0.00	42.26	0.00	19.41	19.12	0.00	15.57	23.52	15.18	0.00	21.76	28.35	15.19	15.19	15.19	15.19	15.19	15.19	17.18
	Probable (Mt)	-	-	0.06	0.00	0.00	0.01	-	0.99	-	1.13	-	0.02	1.66	1.18	1.18	1.18	1.18	1.18	1.12	10.89
	Ag (g/t)	0.00	0.00	53.52	35.25	67.28	38.56	0.00	31.48	0.00	27.32	0.00	36.75	29.18	26.70	26.65	26.65	26.65	26.65	26.65	27.72
	Au (g/t)	0.00	0.00	0.06	0.09	0.08	0.07	0.00	0.06	0.00	0.07	0.00	0.06	0.05	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	Pb (%)	0.00	0.00	0.51	1.29	0.43	0.46	0.00	0.35	0.00	0.25	0.00	0.61	0.38	0.26	0.26	0.26	0.26	0.26	0.26	0.28
	Zn (%)	0.00	0.00	0.82	1.29	0.44	0.52	0.00	0.31	0.00	0.32	0.00	0.24	0.51	0.33	0.33	0.33	0.33	0.33	0.33	0.36
	NSR ($/t)	0.00	0.00	32.34	37.83	30.74	22.84	0.00	16.93	0.00	15.28	0.00	19.20	19.21	15.26	15.20	15.20	15.20	15.20	15.20	16.09
Sulphides	Proven (Mt)	-	6.42	6.19	3.97	13.65	12.05	13.13	10.93	10.99	7.95	8.64	9.98	5.88	7.11	7.52	7.98	6.73	7.06	9.83	156.01
	Ag (g/t)	0.00	45.30	55.24	49.22	36.65	29.64	27.02	31.91	27.35	28.80	35.47	30.25	24.12	16.56	21.86	22.77	18.31	13.29	12.16	28.65
	Au (g/t)	0.00	0.23	0.34	0.12	0.22	0.10	0.06	0.08	0.08	0.05	0.10	0.07	0.05	0.05	0.04	0.07	0.06	0.05	0.05	0.10
	Pb (%)	0.00	0.65	0.91	0.56	0.59	0.39	0.41	0.53	0.47	0.44	0.62	0.63	0.50	0.24	0.30	0.35	0.29	0.22	0.18	0.46
	Zn (%)	0.00	0.64	0.82	0.80	0.61	0.68	0.72	0.88	0.74	0.76	1.06	1.07	0.79	0.38	0.60	0.59	0.56	0.37	0.32	0.69
	NSR ($/t)	0.00	43.34	57.30	45.30	37.63	30.35	29.80	37.36	31.96	31.83	44.06	41.73	31.52	16.48	23.42	24.76	20.97	14.26	12.35	31.62
	Probable (Mt)	-	1.03	2.87	5.32	2.75	5.05	5.49	5.83	7.62	8.80	9.98	8.50	10.88	9.65	9.23	8.77	10.02	9.69	6.02	127.50
	Ag (g/t)	0.00	38.95	42.97	51.09	30.98	29.27	25.63	29.64	25.37	28.06	25.32	30.94	24.12	18.14	20.41	25.02	18.82	20.58	11.88	25.43
	Au (g/t)	0.00	0.17	0.14	0.13	0.17	0.07	0.07	0.07	0.08	0.05	0.07	0.07	0.05	0.04	0.03	0.04	0.05	0.05	0.05	0.06
	Pb (%)	0.00	0.53	0.64	0.59	0.45	0.36	0.41	0.44	0.42	0.47	0.50	0.62	0.48	0.33	0.40	0.45	0.36	0.38	0.19	0.44
	Zn (%)	0.00	0.58	1.49	0.94	0.55	0.68	0.72	0.93	0.86	0.73	0.90	1.19	0.75	0.56	0.64	0.77	0.66	0.64	0.32	0.76
	NSR ($/t)	0.00	36.43	56.14	49.33	30.65	29.42	29.22	35.42	32.03	31.63	33.77	43.90	30.45	21.56	25.05	30.42	24.20	25.04	12.27	30.51

Source: AGP Mining, 2022.

16 MINING METHODS

16.1 Overview

The Cordero project will use open pit mining methods with truck and shovel equipment that has been proven in similar operations. The major production unit operations will include drilling, blasting, loading, hauling, and dumping. These activities are planned to be completed with an owner/operator fleet.

The mine plan is based on proven and probable mineral reserves only. The mill facility will produce both zinc and lead concentrates, with contained payables for silver, gold, lead and zinc. The plant will primarily process sulphide mineral but includes the processing of high-grade oxides up to a maximum oxide/sulphide ratio of 1:9.

Waste rock material will be sent either to the waste rock facilities (WRF) located adjacent to the pit or to the tailings storage facility (TSF) embankment located east of the pit.

There is currently no plan to extend the mine operation using underground mining methods. Figure 16-1 shows the proposed mining area as well as the currently envisaged general facilities layout.

Figure 16-1: Mining Limits and General Facilities

Source: AGP Mining, 2022.

There may be opportunities to optimize the proposed haul road system, the oxide/sulphide blend to the mill, and reduce haul cycles as the project advances and greater knowledge of the deposit is gained. The opportunity to reduce haul cycles by including backfill in the mine plan is limited due to the spatial distribution of the ore but should be explored in further study stages.

The proposed ultimate pit limits are based on metal prices of $20/oz silver, $0.95/lb lead, $1.20/lb zinc and $1,600/oz gold, and have approximately 302 Mt of ore containing 0.70 % Zn, 0.44% Pb, 27.4 g/t Ag, and 0.08 g/t Au.

16.2 Geotechnical Parameters

16.2.1 General

Discovery Silver retained Knight Piésold (KP) for a PFS-level open pit slope geotechnical assessment for the Cordero project. KP completed two geotechnical site investigation programs in the proposed Cordero open pit area in 2021 and 2022. Major activities included oriented core drilling, detailed geomechanical logging, field point load testing, vibrating wire piezometer installation, rock sample collection, and laboratory testing. A separate hydrogeological site investigation program was conducted for the open pit by IDEAS in 2022.

Site-specific geology, structural geology, rock mass, and hydrogeological information was collected for geotechnical characterization. These input parameters were used to create a simplified geotechnical model for slope stability assessment and pit slope design.

16.2.2 Geotechnical Characterization

The Cordero property lies along the transition from the deeply incised dominantly volcanic Sierra Madre Occidental Province in the west to the more subdued topography related to the sediments of the eastern Mexican Basin and Range Province. The Cordero deposit is underlain by a pronounced north-northwest (NNW) trending fold and thrust marine sedimentary sequence.

The currently defined Cordero main resource pit is located along a central northeast (NE) trending magmatic-hydrothermal belt, namely the Cordero Porphyry Belt, with dimensions of approximately 2.4 km x 1.4 km. The deposit geology is comprised of mineralized Cenozoic facies, a felsic intrusive complex with a variety of breccias. The country rock is a Cretaceous, thin to medium-bedded, half-carbonate sequence consisting of interbedded calcareous mudstone, limestone, calcareous siltstone, and calcite sandstone.

Faulting is prevalent in the Cordero main deposit area, with evidence of early NNW-trending extensional faulting parallel to the sedimentary stratigraphy as well as late NE-trending transcurrent faulting across the stratigraphy. Two major NNW-trending, steeply SW-dipping extensional faults define the north and south boundaries of the resource pit. The Cordero Main structural corridor emplacement is complex in a transtensional NE-directed stress field with a series of steep NNW-dipping, strike-slip normal faults. A major sinistral (or left lateral) releasing bend has resulted in left lateral slip on the NNW-dipping Cordero Fault and Josefina Fault.

The bedding of the sedimentary package is generally dipping southeast (SE) with moderate to shallow angles. The veining system is predominantly NE-trending and steeply NNW-dipping, consistent with the faulting system. Rock mass fabric (fractures) within the sedimentary and volcanic packages are either parallel or orthogonal to the bedding, or in line with the NE-tending faulting/veining systems.

Four structural domains, namely the West (footwall), North (end wall), East (footwall), and South (end wall), were defined for pit slope stability analyses, based on the understanding of major structural features within the deposit.

The Cordero open pit slopes are expected to be comprised of a relatively homogeneous rock mass primarily consisting of folded Cretaceous shale-siltstone and volcanic rhyodacite. Detailed rock mass characterization was completed for these two major geotechnical units. Minor bedrock units including contact breccias (of sedimentary and intrusive rocks), hornfels, and dikes were not characterized individually given the small amount of tested data. Overburden, comprised of alluvium materials, is considered negligible for pit slope design.

The overall rock mass quality of the shale-siltstone (siltstone) unit is good, with a strong cross-bedding intact rock strength and lower along bedding strength due to anisotropy. The rhyodacite unit is a good quality rock mass with a high intact rock strength. The contact breccias are of fair to good rock mass quality, with medium strong to strong intact rock strength.

The groundwater table is relatively deep at the Cordero main deposit site. Measured static groundwater levels within and surrounding the deposit area vary between 50 to 150 meters below ground surface (mbgs), and range in elevations between 1,485 to 1,505 meters above sea level (masl).

The rock mass is relatively permeable due to consistent bedding, contact unconformities, and multiple subvertical to steeply dipping transcurrent faulting systems. The tested bedrock hydraulic conductivity values vary from 1×10^{-7} m/s to 6×10^{-5} m/s. The permeability of the rock mass increases along the bedding of the sedimentary rock, and within the breccia zone and fault zone.

16.2.3 Slope Stability Analyses

The currently proposed ultimate Cordero open pit will reach a maximum slope height of approximately 470 m. Four design sectors (west, north, east, and south) were delineated for the proposed open pit based on the wall orientations, structural features, projected wall geology, and rock mass characteristics. The proposed West and East Walls will be developed within the siltstone and rhyodacite unit, while the north and south walls will be largely formed in the rhyodacite unit.

Design methods used to determine appropriate pit slope angles included a kinematic stability assessment and an evaluation of the overall rock mass stability. The pit slope geometries for each design sector were determined based on the minimum acceptable factors of safety (FOS) and/or probability of failure (POF) criteria for each of these design methods.

Stereographic analyses were performed to determine the potential kinematic failure modes and their probability of occurrence in each design sector using the DSV 2019-2020 oriented core, DSV 2021 surface plane mapping, and KP 2021-2022 oriented core data. The subvertical to steeply dipping faulting, veining, and fracture systems in the bedrock are generally favourable for pit slope development. However, adverse structural features, including SE-dipping bedding within the sedimentary package, fractures, and lithology contacts, are identified in the western pit walls. Given a generally competent rock mass, steep bench face angles (BFAs) and inter-ramp angles (IRAs) can be kinematically achieved where adverse structural features are absent. Flatter IRAs, generally following the bedding dipping angles of the Siltstone unit, are recommended for the western pit walls.

Two-dimensional (2D) limit equilibrium slope stability models were developed for the highest pit wall of each design sector with representative geological profile(s). The limit equilibrium analyses calculated global FOS against large-scale, multiple-bench slope failures through the rock mass. Models incorporate the geotechnical properties of the various geological units and faults encountered at the site and determine the maximum IRAs, inter-ramp slope heights, overall slope angles (OSAs), and dewatering requirements for pit slope design. The analysis results indicate the kinematically determined IRAs are generally suitable and the overall slope angle is not a main controlling factor for pit wall development given predicted pore water pressure conditions and assumed low-damage wall blasting practices.

16.2.4 Recommended Pit Slope Design Criteria

Pit slope design criteria for the Cordero open pit were developed from site-specific geotechnical data collected from field and laboratory testing programs, geological and structural models, and from corresponding results of kinematic and limit equilibrium stability analyses. The site-specific geotechnical information and analyses have been utilized to identify specific design sectors for the proposed pit and to develop design parameters for benches, inter-ramp slopes and overall slopes in each of these sectors.

The PFS-level recommended pit slope configurations, including BFAs and IRAs for the proposed ultimate Cordero open pit, are summarized in Table 16-1. The recommended IRAs are also illustrated on Figure 16-2.

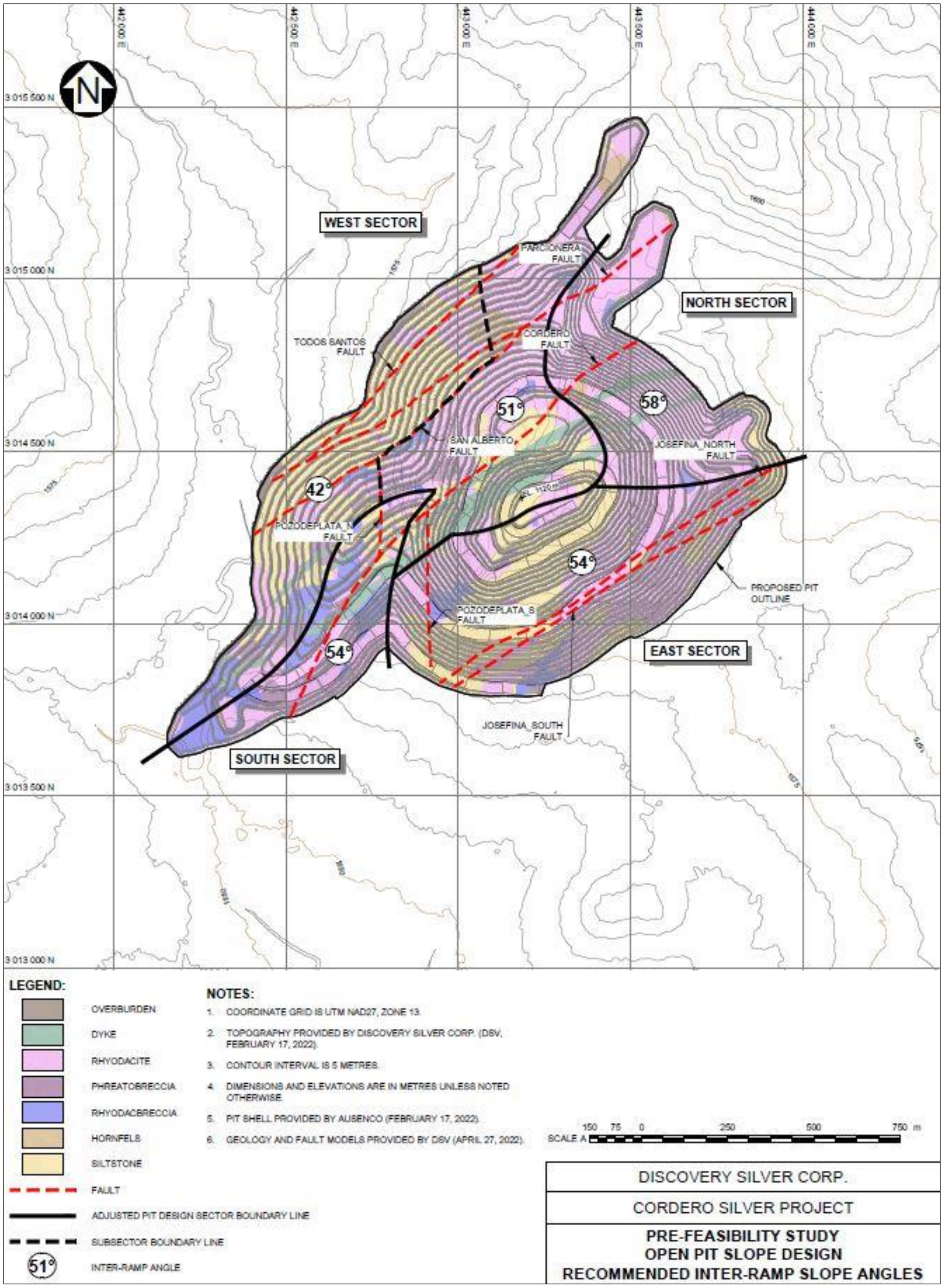
A 20 m bench height is assumed based on mine equipment selection. The IRAs of the west wall are determined by the adverse bedding/contact/fracture features. It is recommended that the maximum height of the inter-ramp slopes should not exceed 200 m due to variability of rock mass competency. A minimum of two step-outs (wider benches) or haul ramps are required to be incorporated into the over 400 m high final pit walls to effectively flatten the overall slope angle and provide additional access for debris cleanout. It is expected that the width of haul ramps will be in the order of 35 m and the resulting OSAs for the final pit walls will be approximately 2° to 5° flatter than the adopted IRAs in each design sector.

The slope design for the open pit mine plan not only includes specifications for slope geometry, but requires the implementation of good controlled, low-damage wall blasting and excavation practices, effective pit dewatering and slope depressurization, and systematic slope monitoring throughout pit operations.

Table 16-1: Recommended Open Pit Slope Design Criteria

Pit Design Sector	Sub Sector	Max. Pit Wall Height (m)	Geotech Unit	Bench Height (m)	Bench Face Angle (°)	Bench Width (m)	Inter-ramp Angle (°)	# of Step-outs or Ramps
West	Upper	470	Siltstone	20	65	13	42	1
	Lower		Rhyodacite	20	70	9	51	1
North		475	Rhyodacite	20	80	9	58	2
East		460	Rhyodacite / Siltstone	20	75	9	54	2
South		230	Rhyodacite	20	75	9	54	1

Figure 16-2: Open Pit Slope Design – Recommended Inter-ramp Slope Angles



NOTES:

1. COORDINATE GRID IS UTM NAD27, ZONE 13.
2. TOPOGRAPHY PROVIDED BY DISCOVERY SILVER CORP. (DSV, FEBRUARY 17, 2022).
3. CONTOUR INTERVAL IS 5 METRES.
4. DIMENSIONS AND ELEVATIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. PIT SHELL PROVIDED BY AUSENCO (FEBRUARY 17, 2022).
6. GEOLOGY AND FAULT MODELS PROVIDED BY DSV (APRIL 27, 2022).

Source: KP, 2023c.

16.2.5 Recommended Future Studies

The geotechnical data collected from the 2021 and 2022 site investigation programs is considered sufficient for a PFS-level pit slope design. However, there are uncertainties and data gaps relating to large-scale structural features, rock mass strength, rock defect strength, rock mass permeability and porewater pressure distribution. Additional geotechnical investigation and slope stability assessment are required should the project advance to the feasibility study and/or detailed engineering stages.

The recommended future work includes the following:

- a supplementary geotechnical drilling program in the proposed West Wall area where the siltstone package is encountered, for further bedding orientation and rock mass characterization
- additional laboratory rock strength testing to refine the intact rock and defect strength estimates of the siltstone unit
- further detailed slope stability analyses for the refinement of the pit slope designs.

16.3 Hydrogeological Considerations

The following is a high-level summary of the hydrogeological and related information available as of October 2022 for the Cordero project. The available information includes topography, meteorology, hydrology, geology, hydrogeology and geotechnical engineering, as well as the proposed PFS open pit designs. The available information has been utilized to develop an understanding of the pit area hydrogeological system for estimation of the potential open pit groundwater inflows and development of the open pit dewatering strategy (Ausenco, 2022a, 2022b). The analysis conducted has also supported the project PFS water balance and capital cost estimations.

16.3.1 Topographic, Meteorologic and Hydrologic Features

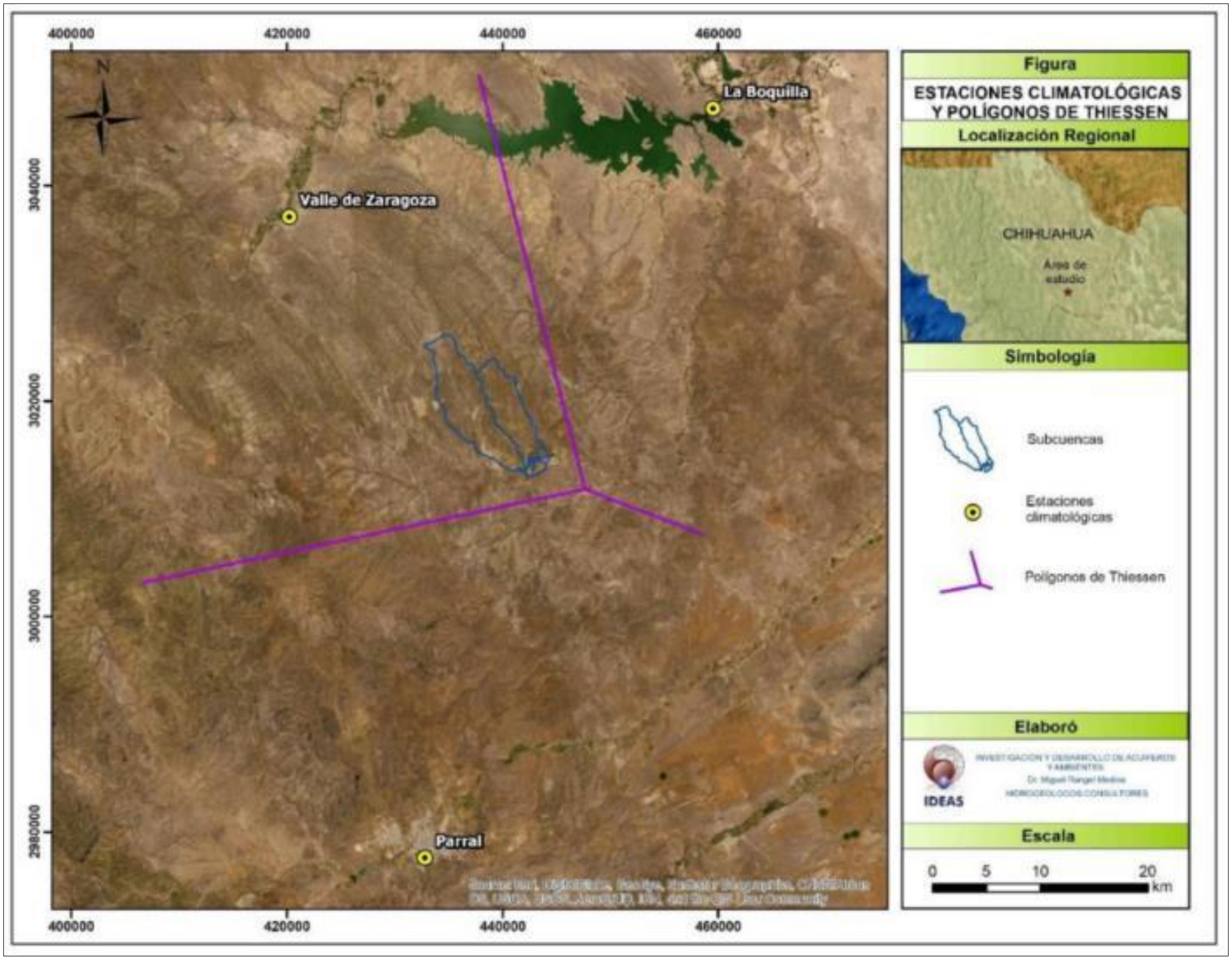
Topography in the project area is generally flat with slope gradients ranging 1% to 7% and mostly between 1% and 3% (IDEAS, 2022a). The ground surface elevations within the pit extent are at around 1,560 to 1,600 masl with an outcrop of bedrock at 1,640 masl near the center of the pit.

Among the three weather stations (the Parral, the La Boquilla, and the Valle de Zaragoza) existing in the area (see Figure 16-3), the Zaragoza Valley station was considered to be representative of the site conditions, with precipitation and evaporation data from 1968 to 2021 available. The average annual precipitation (as rainfall) has been estimated at 428.8 mm. Only 2% to 3% of rainfall may infiltrate as recharge into the groundwater system (IDEAS, 2022a).

Except for some small creeks, no large naturally occurring surface waterbodies (e.g., lakes) exist within the surface water catchments surrounding the pit (Figure 16-4). A water reservoir is identified around 28 km to the north of the site (known as La Boquilla Reservoir). No measured stream flows are available, and any normal condition flows are anticipated to be small and seasonal, due to the relatively dry climate.

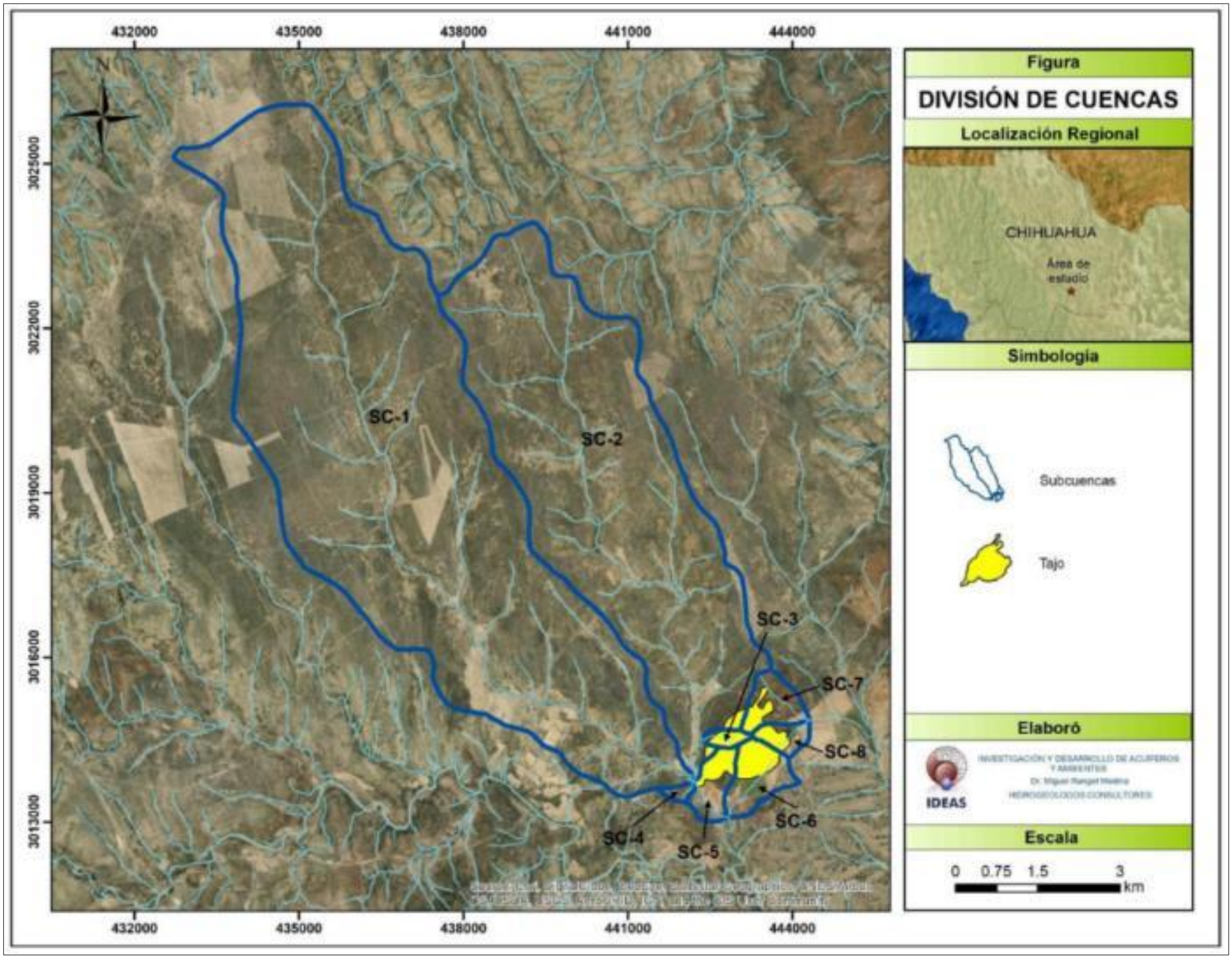
The information suggests that the contribution from precipitation and surface runoff to the pit dewatering system is expected to be low, and any pit inflows are expected to be mainly from groundwater.

Figure 16-3: Climate Stations in the Project Area



Source: IDEAS, 2022a.

Figure 16-4: Surface Water Catchments in the Project Area



Source: IDEAS, 2022a.

16.3.2 Geological Features

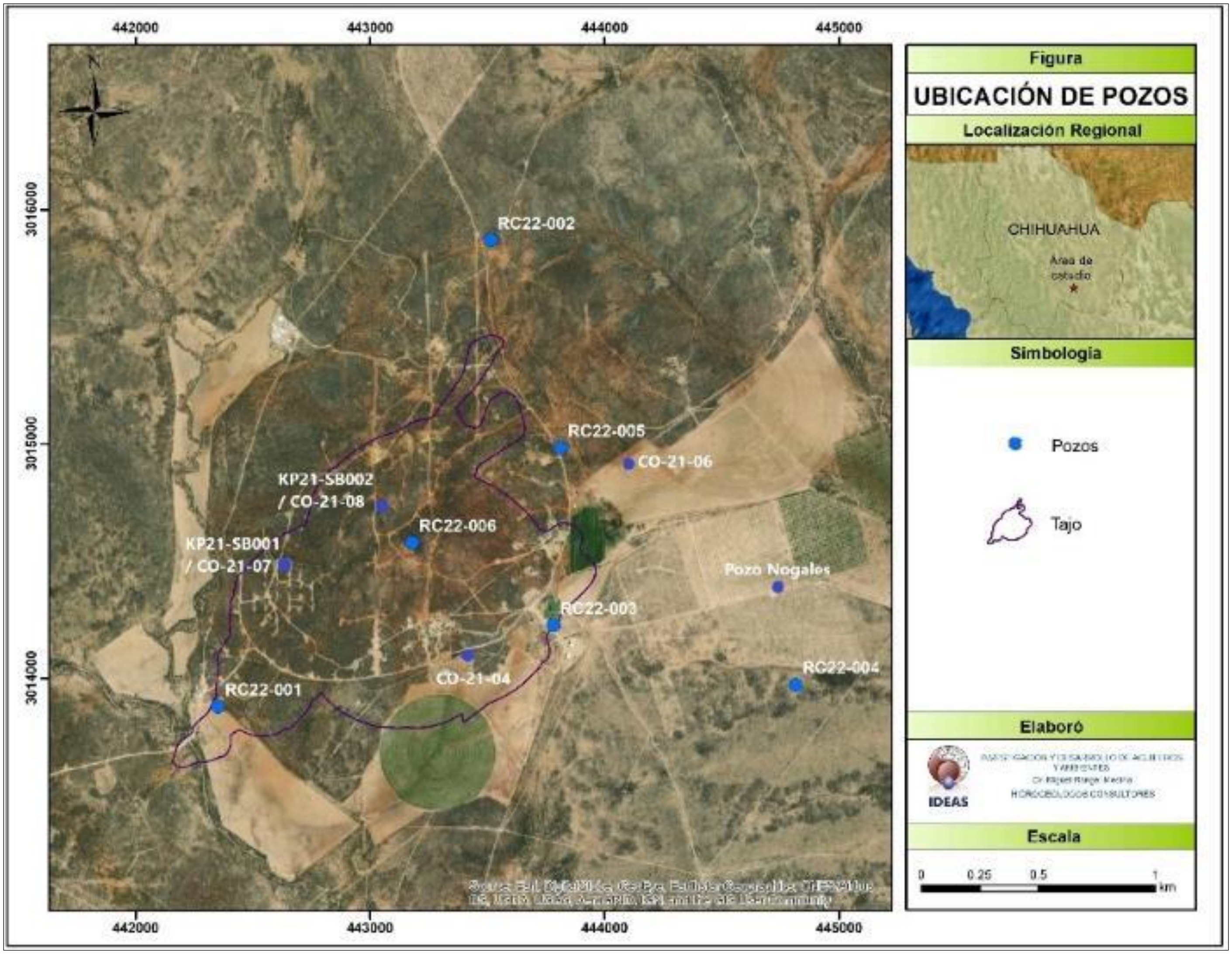
According to available drilling information, the geological map (KP, 2022a), and the Leapfrog deposit geological model (RockRidge, 2022), the lithological units in the proposed open pit area consist of volcanic rocks (predominated by rhyodacite) and sedimentary rocks (predominated by siltstone), together with some interpreted faults. No information is available regarding the geological characteristics and properties of the faults (e.g., normal or thrust, fault gauge) or whether they are conduits and/or boundaries to groundwater flow.

16.3.3 Hydrogeological Features

16.3.3.1 Site Investigation

Six monitoring wells (RC22-001 to RC22-006) and two vibrating wire piezometers (VWPs; KP21-SB001, KP21-SB002) have been installed in the open pit area (IDEAS, 2022a, 2022b, 2022c; KP, 2022b, 2022c). Their locations are shown in Figure 16-5. In addition, geophysical surveys were conducted to map the geological materials and structures in the area.

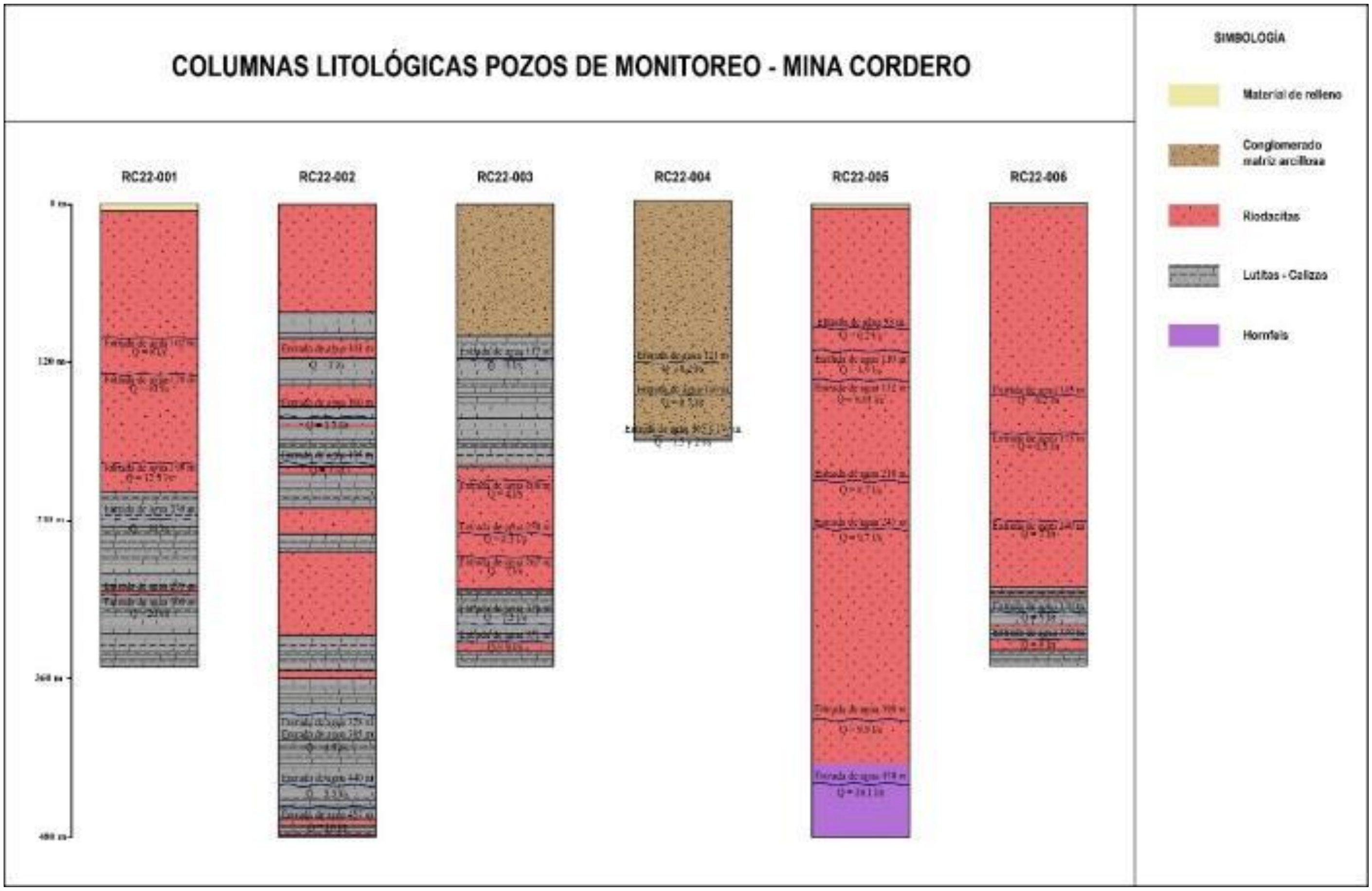
Figure 16-5: Locations of Monitoring Wells/VWPs in Pit Area



Source: IDEAS, 2022a.

The RC22 drill hole depths range from 180 to 480 mbgs. Lithological logs (Figure 16-6) and well constructions show that the wells were screened from around 100 mbgs to the bottoms of the drill holes, spanning multiple rock units (e.g., rhyodacite, shale-siltstone). The VWPs were installed in drill holes CO-21-07 (aka KP21-SB001) and CO-21-08 (aka KP21-SB002), with the sensors located at depths of 303.1 m (shale-siltstone) and 497.2 m (rhyodacite), respectively. Local water supply wells were identified in the vicinity of the proposed open pit, including two wells (CO-21-04 and CO-21-06) within close proximity and one well to the east (Pozo Nogales).

Figure 16-6: Lithology in the RC22 Monitoring Wells



Source: IDEAS, 2022c.

16.3.3.2 Hydraulic Parameters

The RC22 drill holes were tested using the airlift pumping and water level recover method for the estimation of transmissivity (T) and hydraulic conductivity (K) of the bedrock, with the results presented in Table 16.2 (IDEAS, 2022a).

Table 16-2: Estimated Transmissivities and Hydraulic Conductivities of Bedrock

Parameter / Well ID	RC22-001	RC22-002	RC22-003	RC22-004	RC22-005	RC22-006
Transmissivity (T, m^2/d), Test 1	5.7	18.9	4.8	1.3	203.0	66.9
Transmissivity (T, m^2/d), Test 2	1,313.3	2.5	32.1	-	529.6	18.2
Hydraulic Conductivity (K, m/d), Test 1	0.023	0.118	0.023	0.008	1.184	0.205
Hydraulic Conductivity (K, m/d), Test 2	5.261	0.016	0.169	-	3.075	0.091

The T values were adopted and evaluated in the following two cases (for the open pit inflow estimation purpose, see Section 16.3.4):

- Average or Base Case – This case considers the hydraulic conditions of the bulk rock mass and excludes those highlighted T values that are considered less representative. The high T values (e.g., RC22-001 test #2, 1,313.3 m^2/d) are likely influenced by the intersection of transmissive faults or fracture zones at a local scale. Similarly, the low T value (e.g., RC22-004 test #1, 1.3 m^2/d) is likely representative of the low permeable rock matrix outside of the pit area to the southeast (conglomerate). The calculated geometric mean T is 13 m^2/d (with the min of 3 m^2/d and the max of 67 m^2/d).

- Upper Bound Case – This case considers using all the T values available. The calculated geometric mean T is 28 m^2/d (with the min of 1 m^2/d and the max of 1,313 m^2/d).

In addition, three local wells (CO-21-17, CO-21-18, and CO-21-19 located respectively at 3.5, 8.6, and 9.9 km away from the pit) were test pumped with the estimated T and K values shown in Table 16-3 (IDEAS 2022a). The lithologies in these water wells are likely surficial (unconsolidated) sediments but no well logs are available to confirm this.

Table 16-3: Estimated Transmissivities & Hydraulic Conductivities of Surficial Sediments

Parameter / Well ID	CO-21-17 (Jorge Valles W1)	CO-21-18	CO-21-19 (Enrique Prieto W1)
Transmissivity (T, m^2/d), Pumping	16.68	1.08	51.75
Transmissivity (T, m^2/d), Recovery	-	1.07	37.32
Hydraulic Conductivity (K, m/d), Pumping	0.057	0.0144	1.365
Hydraulic Conductivity (K, m/d), Recovery	-	0.0143	0.985

16.3.3.3 Groundwater Levels

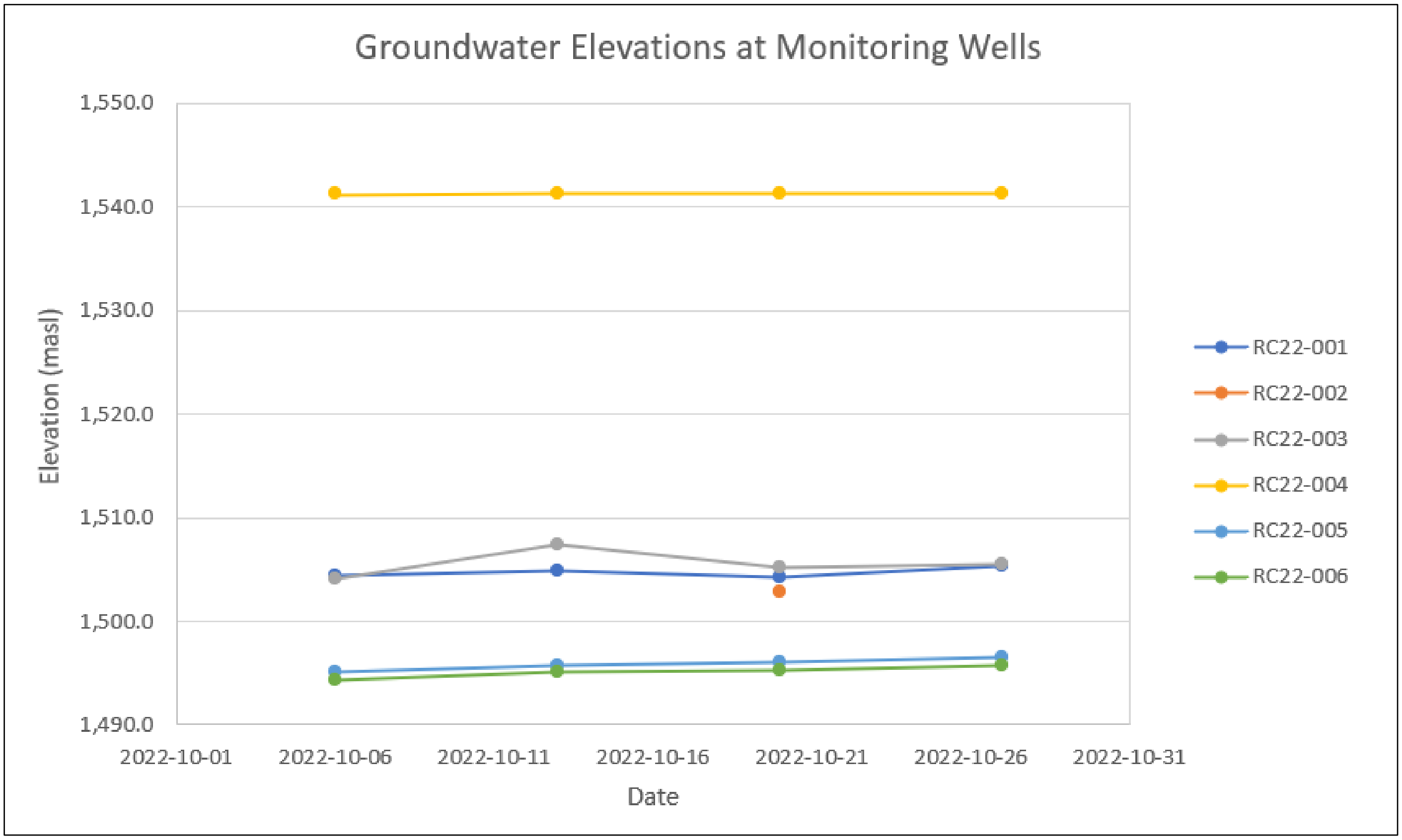
Static groundwater elevations representing pre-mining conditions have been measured in the RC22 wells and the VWPs. Table 16-4 and Figures 16-7 and 16-8 show the most recent measurements (up to October 27, 2022, provided to Ausenco via email by Discovery Silver). The groundwater elevations appear stable with small variations over time, indicating groundwater flow in the aquifer system is in a steady state. The average groundwater level across the pit is approximately 1,497 masl or 76 mbgs.

Table 16-4: Average Groundwater Elevations Measured in Monitoring Wells and VWPs

ID	Range of Groundwater Elevation (masl)	Average Groundwater Elevation (masl)	Time of Measurement	Lithology
RC22-001	1,504.3 - 1,505.4	1,504.7	Oct. 6, 13, 20, & 27, 2022	Bedrock
RC22-002	1,502.9	1,502.9	Oct. 20, 2022	Bedrock
RC22-003	1,504.2 - 1,507.7	1,505.6	Oct. 6, 13, 20, & 27, 2022	Bedrock
RC22-004	1,541.27 - 1,541.30	1,541.3	Oct. 6, 13, 20, & 27, 2022	Bedrock
RC22-005	1,495.1 - 1,496.5	1,495.9	Oct. 6, 13, 20, & 27, 2022	Bedrock
RC22-006	1,494.4 - 1,495.7	1,495.1	Oct. 6, 13, 20, & 27, 2022	Bedrock
KP21-SB001[a]	1,488.0 - 1,491.6	1,489.6	May 1, 2022 – Oct. 27, 2022	Bedrock
KP21-SB002[a]	1,482.3 - 1,485.8	1,484.0	May 1, 2022 – Oct. 27, 2022	Bedrock
Average	-	1,496.8[b]	-	Bedrock

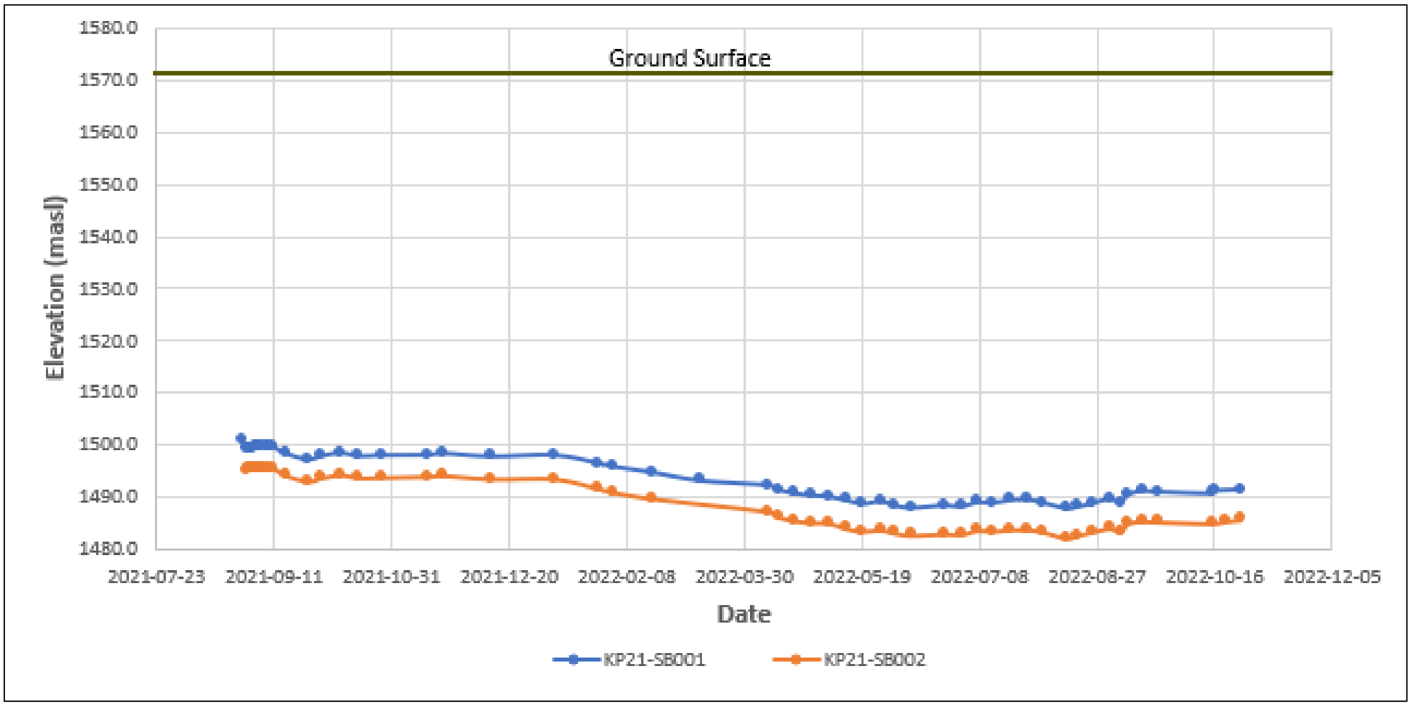
Note: [a] Data records from May 1 to October 27, 2022 (the stabilized water level); [b] excluding RC22-004 located outside the pit.

Figure 16-7: Groundwater Elevations Measured in Monitoring Wells



Source: Ausenco, 2022a.

Figure 16-8: Groundwater Elevations Measured in VWPs



Source: KP, 2022b, 2022c.

Some variation in groundwater flow patterns with depth has been noted based on hydrogeologic drilling investigation measurements and the available piezometer water level data. Shallow groundwater is influenced by topography and surface runoff and recharge processes, and deeper groundwater flow patterns are influenced by more district-scale geologic characteristics. Groundwater flow direction in the shallow groundwater system is interpreted to be from the northwest to southeast across the project area, generally following topography. Deeper groundwater flow is also interpreted to be also towards the southeast but controlled by geologic fault features and the bedrock fracture network.

16.3.3.4 Hydrostratigraphic Units / Conceptualization

Four hydrostratigraphic units are interpreted to exist in the pit area, as follows:

- Shallow alluvium – Present in local drainages, unsaturated to saturated conditions, recharged by direct precipitation and runoff, relatively high saturated permeability, mostly in local drainages in the surrounding area of the pit.
- Conglomerate – Present to the southeast of the pit, clastic material with a fine-grained low permeability (clayey) matrix.
- Shale-limestone – Intercalated sedimentary layers encountered throughout the ore deposit area. Enhanced permeability when intercalated with volcanic rock units (e.g., rhyodacite) and where faulted/fractured, and lower away from these zones.
- Volcanics (Rhyodacite) – Host to ore deposit mineralization, boundaries can be fault controlled, moderate to strongly fractured, relatively high permeability.

The surficial sediments are mostly above the static groundwater level in the pre-mining condition, which suggests that the future open pit inflow will be predominately from groundwater in the saturated bedrock formations intersected.

Based on the above, the hydrogeological system in the pit area is conceptualized as follows:

- Near-surface groundwater levels are controlled by topography, rainfall-runoff-recharge processes at a catchment scale. Deeper groundwater flow is controlled by district-scale geologic structures.
- Deeper groundwater levels and flow are controlled by the occurrence of geological faults and fracturing, and surface catchment boundaries are not necessarily groundwater boundaries.
- Deeper groundwater in the bedrock zone is typically under confined conditions, and is also expected to be compartmentalized, reflecting geological structure trends, with faults potentially acting as conduits as well as boundaries to groundwater flow.
- Groundwater horizontal gradients within the pit area are relatively flat (mimicking the flat topography), indicating higher permeability and good hydraulic connection of groundwater flow in the aquifer system. Groundwater gradients on the western and northeastern pit boundaries are steeper, indicating the occurrence of geological structures and potentially compartmentalization.

16.3.4 Pit Inflow Estimation

16.3.4.1 Methodology

As described in the previous sections, the contribution from rainfall or surface runoff to the potential pit inflow is expected to be small, and the pit inflow will be predominantly from groundwater. The flow within the unconsolidated sediments is anticipated to be limited; the pit inflow will primarily come from groundwater in the bedrock.

Considering that a three-dimensional (3D) numerical groundwater model has not yet been developed for the project, based on the information available, the well-known Cooper-Jacob approximation to the Theis solution for radial groundwater flow in a confined aquifer to a pumping well was utilized for a gross estimation of the potential pit inflow from groundwater (Cooper and Jacob, 1946). This analytical solution assumes that the 3D drainage condition can be represented as an equivalent large diameter pumping well.

The contribution from groundwater to the pit inflow will come from two sources:

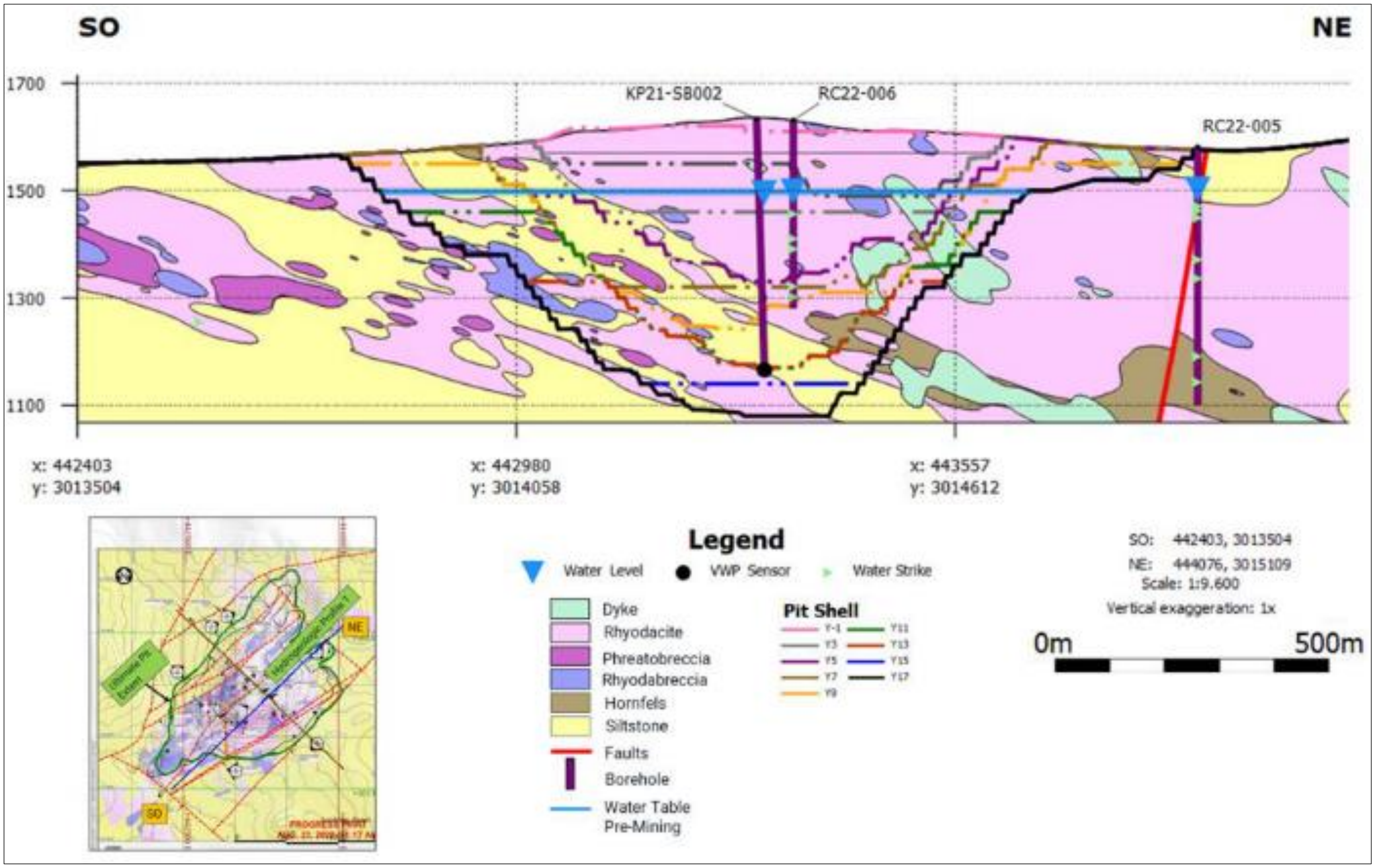
- water released from the storage of the saturated rock formations within the pit extent, which can be approximated with the pit volume multiplied by the bulk average effective porosity (assumed to be 1%, based on the literature and similar projects); and
- water flowing from the saturated rock formations surrounding the pit, due to the hydraulic gradients imposed by the water level drawdown during the pit dewatering, which can be approximated using the Cooper-Jacob solution, with the average pre-mining groundwater level (1,497 masl), the bulk bedrock transmissivity T (the geomean of 13 m^2/d for the base case, 28 m^2/d for the upper case, referring to Section 16.3.3.2), and the bulk bedrock storage coefficient assumed to be 1.0×10^{-6} (dimensionless).

16.3.4.2 PFS Pit Information

The project is designed to have a life of mine from Year -1 to Year 18 for the PFS, but the pit will be excavated with generation of waste rocks from Year -1 to Year 17. In Year 18, only the post-processing of ores will be carried out with no excavation.

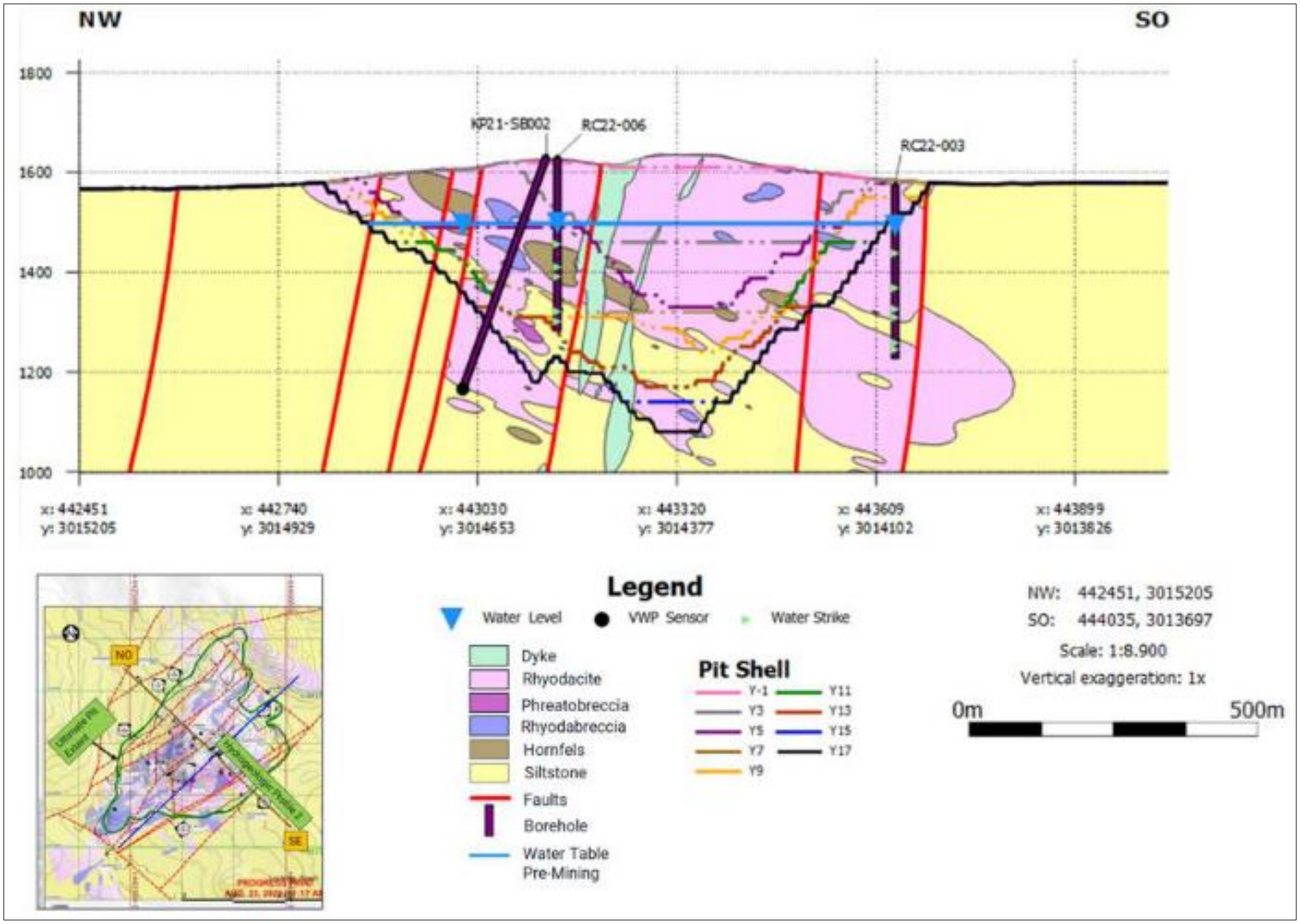
The progression of the pit shells from Year -1 to Year 17 (AGP, 2022), together with the pre-mining groundwater level and geology, is shown in Figures 16-9 and 16-10 (along the pit central line cross-sections). Note that the pit shell in Year 18 remains the same as that in Year 17.

Figure 16-9: Hydrogeologic Profile 1



Source: Ausenco, 2022a.

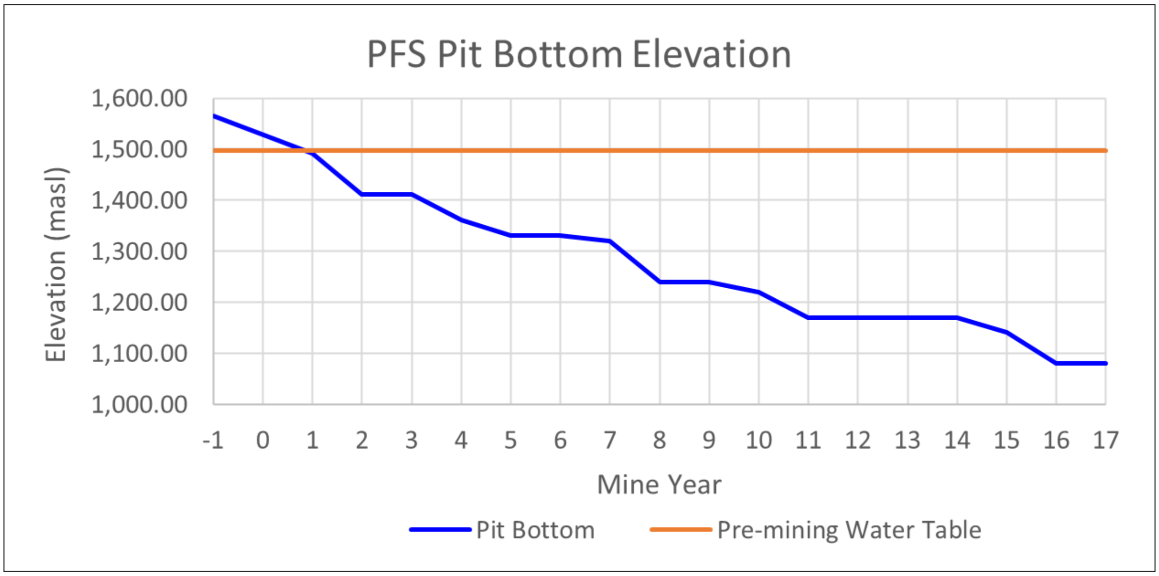
Figure 16-10: Hydrogeologic Profile 2



Source: Ausenco, 2022a.

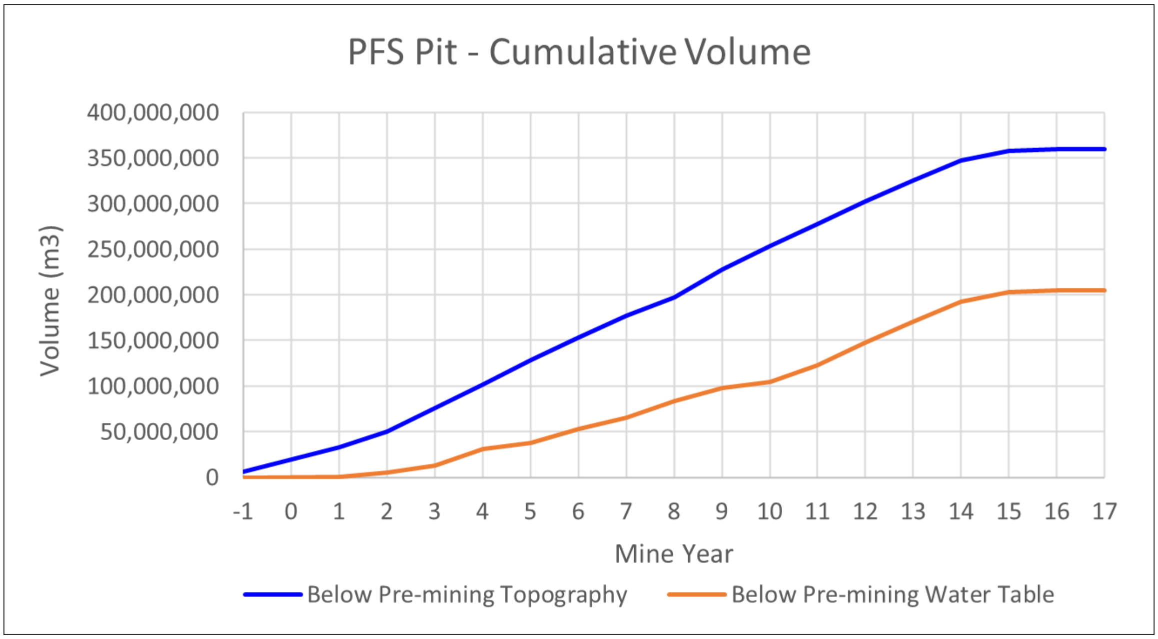
The pit depths through the mine Years -1 to 17 vs. the pre-mining static groundwater table (1,497 masl on average) are shown in Figure 16-11, and the cumulative pit volumes below the pre-mining topographic surface and the pre-mining water table are shown in Figure 16-12. The pit information was provided by AGP Mining to Ausenco on November 6, 2022 (AGP, 2022), which contains the mine years (from Years -1 to 15, and 17). The Year 16 pit is assumed to be identical to that of Year 17. No pit excavation is to occur in Year 18.

Figure 16-11: Cordero Pit Depth vs. the Pre-mining Water Table



Source: Ausenco, 2022a; AGP, 2022.

Figure 16-12: Cordero Pit Volume



Source: Ausenco, 2022a; AGP, 2022.

16.3.4.3 Pit Inflow Rates

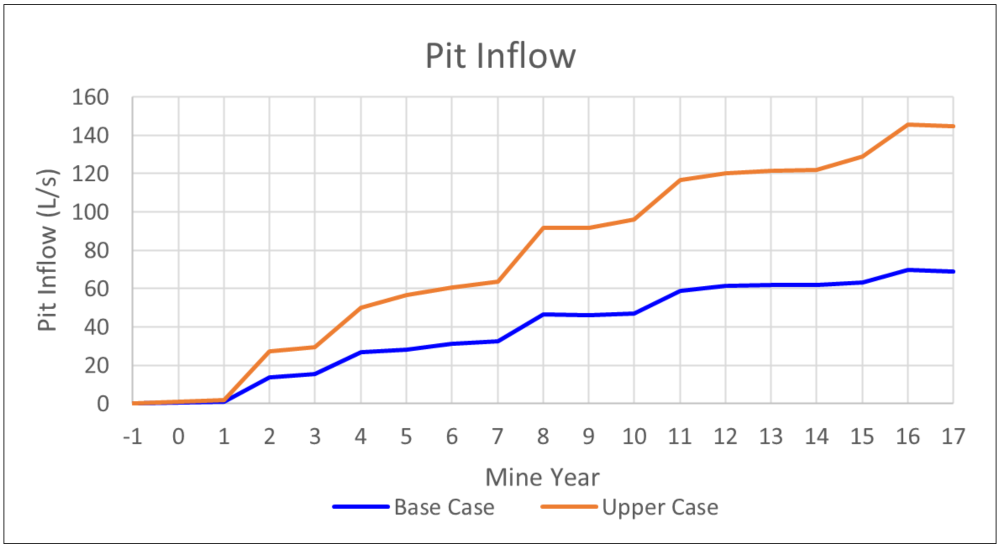
The inflow rates from groundwater into the pit through the mine years are shown in Table 16-5 and Figure 16-13 for the base case and upper case (Ausenco, 2022a). The base case represents the expected case and is recommended for the PFS water balance and capital cost analyses. The upper case represents the potential upper bound of inflow into the pit, in association with the uncertainties in the aquifer transmissivity (e.g., due to the faults with high permeability).

The pit intersects groundwater in the mine Year 1, and the inflow rates increase progressively as the pit deepens year by year. The maximum pit inflow is estimated to occur when the pit reaches its final depth, amounting to approximately 70 L/s for the base case and 145 L/s for the upper case. The base case pit inflow rates are the basis for design of the pit dewatering strategy (see the following section).

Table 16-5: Pit Inflow Rates

Mine Year	Pit Inflow (L/s)	
	Base Case	Upper Case
-1	0	0
1	1	2
2	14	27
3	15	30
4	27	50
5	28	57
6	31	61
7	32	64
8	47	92
9	46	92
10	47	96
11	59	117
12	61	120
13	62	122
14	62	122
15	63	129
16	70	145
17	69	145

Figure 16-13: Pit Inflow Rates



Source: Ausenco, 2022a.

16.3.5 Pit Dewatering Strategy

Based on the estimated pit inflow rates above, together with the available information (e.g., geology), the following pit dewatering strategy is recommended to meet the pit dewatering requirements and the mine water supply demands.

16.3.5.1 Dewatering Method

The information shows that the permeability of the bedrock formations present in the project area is enhanced when intersected by fault zones and associated fracturing, and at lithological contacts, especially zones with intercalated layers of sedimentary units such as shale and limestone. Groundwater investigative drilling and testing indicated that boreholes yielded significant amounts of water when these features were intersected (IDEAS, 2022a, 2022b). Therefore, pit dewatering using vertical pumping wells targeting permeable hydrogeologic units and features is recommended as the principal mine drainage measure to be implemented for the project (Ausenco, 2022b).

Two dewatering pumping well configurations are considered appropriate for the project:

- Perimeter wells – Initially, the dewatering pumping wells will be located around the pit perimeter so as not to interfere with mining activity. The wells would target groundwater bearing zones associated with fractured bedrock and geologic fault features. Data from the ongoing and future geotechnical and hydrogeological drilling programs (including installations of pumping wells and conducting pumping tests) is required to better understand the permeability distribution of the sedimentary rocks and the fault structures in the pit area to assist in the identification of potential dewatering pumping well locations.

- In-pit wells – As the mine progresses deeper, the pit perimeter dewatering wells may become less effective at controlling groundwater inflow to the pit as water levels are drawn down and well efficiency declines. Therefore, additional wells may be required in pit at lower elevations to maintain dewatering flow rates. It is recognized that in-pit wells will be mined out as the mine deepens and effort will be required to place them at locations to prolong operating life.

Other open pit mine water management elements that may be required as the mine develops (Ausenco, 2022b), including the following:

- Precipitation runoff collection sumps – Precipitation is relatively low in the project area and is not expected to impact operations significantly. Runoff volumes may be better managed by temporary channel and berm features constructed during the wetter season that direct water to temporary sump features in the base of the open pit.
- Sub-horizontal drains – These elements are usually applied as a slope depressurization measure in low permeability rock mass environments when passive drainage is slow and slope stability may be impacted by elevated pore pressures. It is possible that such passive drainage may be implemented for the lower pit slopes in their final analysis, to improve overall operating conditions.

16.3.5.2 Dewatering Well System

The following dewatering well system is proposed to serve the dual purpose of pit dewatering and mine water supply (Ausenco, 2022b). The early focus will be on water supply. So far, groundwater quality data has been collected from sampling of five agricultural water supply wells located in the surrounding area of the pit, and no sampling has been done in the installed RC22 monitoring wells within the pit limit (IDEAS, 2022a). The quality of pumped water from the pit dewatering is expected to be suitable for the mine water supply but will need to be confirmed by the future sampling.

16.3.5.2.1 Perimeter Wells

The average flow rates from air-lift testing of mine area hydrogeologic investigation boreholes (IDEAS, 2022a) were considered as input for estimation of dewatering pumping well potential yield. Using these measurements, the average flow rate is calculated to be 10 L/s. It is recognized that the inherent technical limitations of the air-lifting test method, and the relatively short duration of the tests means that there is uncertainty associated with the estimated potential well flow rates and their sustainability. Industry best practice is to conduct longer duration pumping tests in larger diameter wells for a more reliable estimation of sustainable well yield and as such are planned for the next phase of work.

To support advance dewatering of the mine and contribute to freshwater make-up demand for processing, it is assumed that a higher dewatering pumping well capacity can be achieved early in the mine life to support the operation. Considering the uncertainties in the subsurface geological features and structures, and to provide operational flexibility, up to eight perimeter wells (six operating, two on standby) each with a potential yield of 10 L/s would be installed along the perimeter of the ultimate pit, starting from Year 1. Therefore, the installed capacity of the dewatering system would be 80 L/s (eight wells), with an operational flow of around 60 L/s (six wells).

The perimeter dewatering pumping wells would target permeable hydrogeological units and features along the ultimate pit perimeter. Future investigation programs will assess the feasibility of the proposed system and better define the locations of the future pumping wells. Small diameter reverse circulation drilled boreholes (pilot boreholes), with hydraulic testing, is recommended as the most appropriate hydrogeological investigation approach.

The proposed dewatering wells would be completed with 10-inch diameter casing and screen string to house an 8-inch diameter electric submersible pump. The preliminary depth of the wells would be to 400 mbgs, with a string of louvered screen from around 100 m below the pre-mining water table to the bottom, and the pump intake set at 20 m above the bottom of the well. The goal of the well design is to draw water from the deeper rock units and minimize potential impact to levels adjacent to the open pit mine, whilst still meeting mine area drawdown targets.

The final design for construction will depend on actual hydrogeological conditions encountered.

16.3.5.2.2 In-Pit Wells

In-pit dewatering wells are recommended to be installed later in the mine life as water level drawdowns increase in the perimeter wells and efficiencies decrease. The in-pit wells will also target higher permeability features in the bedrock, the actual locations for these will be determined based on developing a deeper knowledge of the hydrogeologic regime in the area as the mine develops and based on performance analysis of the dewatering system. The in-pit wells will have the same specifications as those of the perimeter but with shorter depths.

In summary, the pit dewatering well system would consist of a total of six operating wells at any one time, with the expectation to pump up to around 60 L/s of water to meet the water supply demand throughout the life of mine. In addition, some contingencies would be needed for in-pit water management to collect precipitation runoff during operation, and possibly groundwater seepage in the later mine life.

16.3.5.3 Pumping Equipment for Dewatering Wells

For each dewatering pumping well, the following would be appropriate:

- concrete pad
- control panel and starter unit
- electric submersible pump
- steel rising main with one in-line non-return value
- 127 mm (5”) diameter flowmeter, gate valve, elbows, and manual pressure readout
- pressure sensor(s) with automatic shutdown switch
- visible warning/manual re-start system.

The final pump specifications will be determined following completion and testing of the pumping wells.

16.3.6 Hydrogeological Monitoring & Maintenance Program

Groundwater level monitoring is ongoing at the installed RC22 monitoring wells (RC22-001 to RC22-006) and VWPs (KP-SB001, KP-SB002). DSV and the project consulting team are making efforts to collect groundwater quality samples from the RC22 wells and to drill and install new piezometers (three new VWPs CG22-003 to CG22-005 have been recently installed) and are also planning new pumping wells to collect additional data.

16.3.7 Limitations, Risks & Recommendations

The hydrogeological conceptualization, the pit inflow estimation, and the recommended pit dewatering strategy were made based on the information available (e.g., meteorological, and hydrological data, geological model and map, airlift testing results, etc.), which was assumed to be reliable.

The number of wells was estimated based on the potential pit inflow rates that were calculated using the analytical Jacob-Copper approximation with assumptions, which is deemed to be for a high-level gross estimation at the PFS level. The pit inflow was estimated using the constant transmissivities from the RC22 drill hole airlifting tests (in realty, the transmissivity is expected to decrease as the pit goes deeper). Also, the pit is planned in phases with irregular geometries and different bases through the life of mine. For more accurate estimations of the pit inflow and the dewatering wells to meet the pit dewatering requirement, a 3D groundwater flow model is highly recommended. Such a model can also be used for pit depressurization analysis and for environmental assessment / permit applications of the project.

The well locations and target depths are dependent on the current understanding of geology and hydrogeology in the pit area, which can be improved when additional data is made available. The new data will improve the conceptual geological and hydrogeological models, which will most likely affect the well locations and depths proposed.

The uncertainty associated with the occurrence and nature of geological structures (e.g., faults) and the probable compartmentalization of groundwater flow pose some challenges for the design of the open pit dewatering system in terms of the quantity and occurrence of groundwater flow that may be encountered during mining, and the dewatering well locations and likely yield. Additional and ongoing investigation is required to better characterize the hydrogeological system.

Pumping tests (with pumping and observation wells) are required for the estimation of hydraulic parameters (e.g., transmissivity, storativity, hydraulic conductivity, and anisotropy) of the bedrock formations. More reliable estimation of the sustainable well yield should be performed by conducting long-term pumping tests of pumping wells.

Groundwater quality sampling is to be carried out in the already installed RC22 monitoring wells and in the future wells (including pumping wells) to confirm the suitability of groundwater from the future pit dewatering system for mine water supply.

16.4 Resource Model Importation

The 2022 resource model estimate was created using Leapfrog software for mineralization domains and Datamine software for block modelling. RockRidge consultants provided the resource block model in comma separated variable (.csv) format.

AGP used the provided resource block model as basis to generate the mine engineering block model (MEBM) in Hexagon MinePlan software including additional items required for the mine design and mine planning work. The MinePlan tool was used to generate pit shells using the Lerchs-Grossman pits shell generation, and for pit and dump designs, and mine scheduling. From the data provided, only measured and indicated (MI) resources were used in the present study mining plan.

A global resource check was completed to ensure contained metal matched between the resource and the MEBM platforms.

16.5 Economic Pit Shell Development

To determine the pit shells, the Lerchs-Grossman optimization method was applied. Mining costs and associated processing and general and administrative (G&A) costs were set for each block based on type of rock and depth. Preliminary overall pit slopes were also considered; they varied by zone in the pit between 42° to 58°.

Input parameters included metallurgical recoveries, pit slopes and assumed long-term metal prices. AGP worked with the study team to select appropriate operating cost parameters for the proposed Cordero open pit. The mining costs are based on cost estimates for equipment from vendors and previous studies completed by AGP. The costs represent what is expected as a blended cost over the life of the mine for all material types to the various destinations. Process costs and a portion of the G&A costs were provided by Ausenco and other team members based on preliminary costing results. Table 16-6 shows the general assumptions used to determine the Cordero pit limits.

A series of nested pit shells were generated and evaluated using strategic level mining schedules to determine the proposed mine size for the study work. Figure 16-14 shows the ore and waste distribution, using marginal net smelter return (NSR) cut-off values, in the series of nested pits developed during the strategic planning work.

Ore and waste for the Cordero project was defined by NSR cut-off values. Silver, lead, zinc, and gold contribute to the value of the mined mineralized blocks.

The revenue for each block in the mine engineering block model was calculated based on the block head grade, metal recovery, selling price, smelting cost, transportation cost, refining cost, and concentrate grades (see Table 16-6). Metal recoveries varied by rock type per the guidance from the metallurgical team. Sulphide recovery equations were used for zinc, lead and silver in NSR calculations.

Table 16-6: Revenue Model – General Parameters

Metal	Base Prices	Concentrate Grade	Treatment Charges	Refining Charges	Sulphide Recoveries		Oxide Recoveries	
					Zn Con	Pb con	Zn Con	Pb con
Zinc	$1.20 /lb	50.00%	$210.00	$0.00	77.80%		85.00%	
Lead	$0.95 /lb	63.60%	$150.00	$0.00		91.80%		37.00%
Silver	$20.00 /oz			$1.40	10.00%	82.50%	9.00%	50.00%
Gold	$1600 /oz			$10.00	9.50%	12.60%	8.00%	10.00%

NSR values were assigned to each block in the mine model and were used in the mine planning process. The NSR value for each block was estimated for each element as follows:

- Total block NSR value = revenue – costs
- Value per tonne = total block NSR value / block tonnage

Where:

- Revenue = (element grade)*(recovery)*(element selling price)*(block tonnes)*(percentage payable)
- Cost = (transportation, storage & handling costs) + (shipping costs) + (refining costs)

The parameters used are shown in Table 16-7. The net value calculations are in United States dollars (US$ or USD) unless otherwise noted. The mining cost estimates are based on the use of 190-tonne class trucks using a preliminary mine design to determine incremental hauls for mineralized material and waste. The smelting terms and recovery assumptions are based on creating zinc and lead bulk concentrates from the mill.

Table 16-7: Pit Optimization – General Parameters

Description	Units	Value			
Resource Classification		Measured + Indicated			
Mining Bench Height	m	10			
Metal Prices		**Silver**	**Gold**	**Lead**	**Zinc**
Mineral Reserves	USD	20.0 /oz	1600.0 /oz	0.95 /lb	1.20 /lb
Royalty	%	0.50%	0.50%	0.00%	0.00%
Sulphides Process Recoveries		**Silver**	**Gold**	**Lead**	**Zinc**
Recovery to Lead Concentrate	%	82.50%	12.60%	91.80%	
Recovery to Zinc Concentrate	%	10.00%	9.50%		77.80%
Oxides Process Recoveries		**Silver**	**Gold**	**Lead**	**Zinc**
Recovery to Lead Concentrate	%	50.00%	10.00%	37.00%	
Recovery to Zinc Concentrate	%	9.00%	8.00%		85.00%
Power Cost					
Cost of power	$/kWh	$0.054			
Fuel Cost					
Diesel Fuel Cost to site	$/L	$1.00			
Mining Cost					
Base Rate - 1550 Elevation					
Waste	$/t moved	$1.63			
Ore	$/t moved	$1.54			
Blended Rate	$/t moved	$1.60			
Processing					
Sulphides (Flotation)	$/t ore milled	$5.22			
General and Administrative Cost					
G&A Cost	$/t ore milled	$0.89			

Source: AGP Mining, 2022.

Wall slopes for pit optimization were based on recommendations discussed in Section 16.2. Allowances were made for ramps in the slopes to determine an overall angle for use in the Lerch-Grossman routine. The overall slope angle values are shown in Table 16-8. Slopes were flattened as required anticipating the inclusion of haulage ramps in different sectors of the pit.

Table 16-8: Pit Slope Criteria – Base Case

Pit Design Sector	Sub Sector	Geotechnical Unit	Bench Height (m)	Bench Face Angle (°)	Bench Width (m)	Inter-ramp Angle (°)	Slope height (m)	No. of Step-outs / Ramps	Overall Angle (°)
West	Upper	Siltstone	20	65	13	42	350	1	39
	Lower	Rhyodacite	20	70	9	51	320	1	47
North		Rhyodacite	20	80	9	58	450	2	52
East		Rhyodacite /Siltstone	20	75	9	54	520	1	52
South		Rhyodacite	20	75	9	54	500	0	54

Source: AGP Mining, 2022.

Nested Lerchs-Grossman pit shells were generated to gain an understanding of the mineral resource sensitivity to the various metal prices, the mining sequence, and to identify potential opportunities in the design process to follow. Undiluted measured and indicated material was used in the strategic analysis of the study case. The NSR was varied by applying a revenue factor (RF) from 0.05 to 1.20 at 0.05 increments to generate a set of nested pit shells maintaining all other parameters fixed. The chosen set of revenue factors result in an equivalent silver price varying from US$1/oz up to US$24/oz.

The net profit before capital for each pit was calculated on an undiscounted basis using US$20.00/oz Ag, US$1,600/oz Au, US$0.95/lb Pb and US$1.20/lb Zn. No infrastructure nor restricted areas were considered to constraint the pit limits.

Mill feed tonnages, waste tonnages, and potential net profit were plotted against revenue factor and are displayed in Figure 16-14.

The resulting nested pit shells assist in visualizing natural breakpoints in the deposit to act as guidance for potential intermediate pit phase limits. A spatial inspection of the resulting nested pit shell limits contributed to the decision of the selection of shells to be used as guide when determining intermediate mining phases to assure mineable widths between consecutive mining phases.

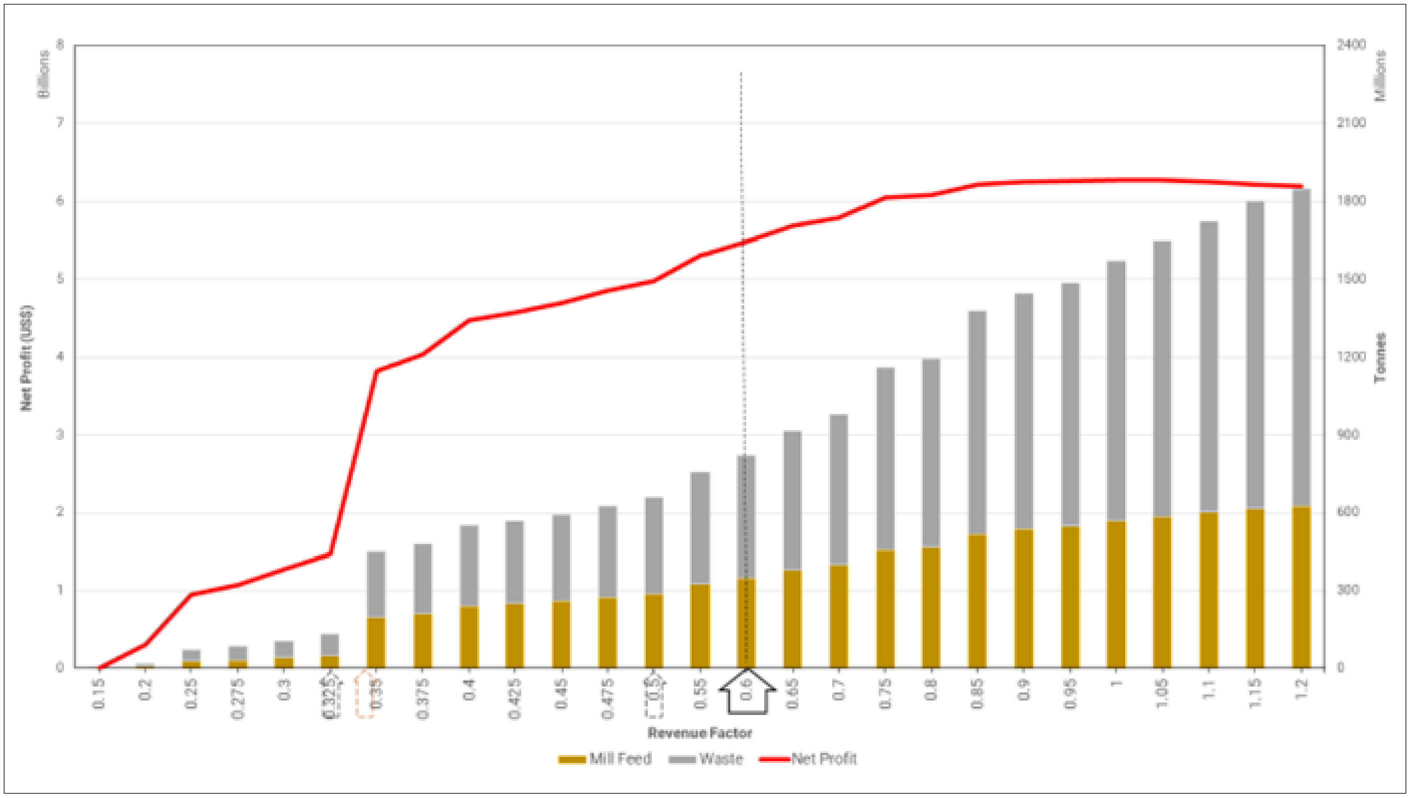
The first breakpoint was set at RF 0.325 (US$6.50/oz Ag) for a pit with an approximate cumulative waste tonnage of 84 Mt, and ore tonnage of approximate 50 Mt or approximately three years of mill feed. This breakpoint represented 23% of the net value of a $20/oz Ag pit, but with only 8% of the waste, and was used to outline pit Phases 1 and 2.

As evident in the figure, there is a big jump between RF 0.325 and RF 0.350. Pit Phase 3 limits were set visually within that range allowing quick access to ore after the mining of Phases 1 and 2.

To allow 'mineable width' between Phase 3 and the subsequent intermediate pit, the RF 0.40 (US$8/oz Ag) pit was selected as guide to outline pit Phase 4. The net profit increased beyond this point showing that there was still value to be obtained by going with a higher metal price.

The final pit shell selected represented the ultimate pit at RF 0.60 (US$12/oz Ag). The net profit continues to increase beyond this breakpoint, although preliminary economic analysis performed for pits at higher revenue factor did not show as robust a value once the capital expense to build the TSF and processing plant is included in the evaluation.

Figure 16-14: Cordero Potential Profit vs. Price by Pit Shell



Source: AGP Mining, 2022.

Pit shells at the selected revenue factor (RF=0.6) were set at different wall slopes (representing no-ramps, one, two and three ramps crossing the walls) to guide the decision of ramp placement in walls as the design progressed through the different bench elevations.

16.6 Dilution

To account for mining dilution, AGP modelled contact dilution into the in-situ MEBM. To determine the amount of dilution, and the grade of the dilution, the size of the block in the model was examined. Mining would be completed on 10 m benches and the block size within the model was 20 m x 5 m in plan view, and 10 m high.

The percentage of dilution was calculated for each contact side using an assumed 0.5 m average for the contact dilution skin. This dilution skin thickness was selected by considering the spatial nature of the mineralization, proposed grade control methods, GPS-assisted digging accuracy, and blast heave.

If the long plan dimension side of a mineralized block above cut-off is in contact with a waste block, then it is estimated that dilution of 10% (0.5 m * 20 m / 100 m^2) by volume would result. Similarly, if the short plan dimension side of a mineralized block above cut-off is in contact with a waste block, then it is estimated that dilution of 2.5% (0.5 m * 5 m /

100 m^2) by volume would result. Each of the four sides of the mineralized material block in plan are considered for adding dilution material, so the maximum dilution would be 25% by volume for an isolated block of mill or heap leach feed.

All mineralized blocks in the resource model contain grade values; however, the material outside the mineralized shapes with no grade estimates have been treated as though the grades are zero for dilution purposes. The in-situ NSR value per tonne stored in the block model was used as the grade for cut-off application. The NSR values for oxide material above cut-off were also considered mineral. An elevated NSR cut-off of US$7.50/t was used for oxide and transition material due to restricted mill blending but a potential future process capacity. The NSR for sulphide material was based on the mill destination with the marginal cut-off of US$6.11/t being used. As the NSR is inclusive of all revenues and royalties, these cut-off grades were used to flag initial feed and waste blocks. The marginal cut-off grade values represent the preliminary process and site G&A costs.

Using these NSR cut-off grades by rock type, the first step was to identify the mill feed and waste blocks in the model and flag it as ore (OWFL=1). The second step is to add dilution mass and metal into the mill feed blocks from the neighbouring waste blocks. The third step is to remove the dilution mass from the contact waste blocks to achieve a mass balance.

AGP has an in-house routine that applies the above three dilution steps to define new items called DDEN for density, as well as the diluted grade items (DAU, DAG, DPB, and DZN). The default waste blocks would receive OWFL=0.

In this manner, the contact diluted blocks were included in the tonnage and grade calculation of mill feed tonnes in the mine plan.

Comparing the in-situ values to the diluted values within the final mining limits, the diluted feed contained 2.4% more tonnes and 3.5% lower silver grade than the in-situ feed summary.

16.7 Pit Design

Based on the pit optimization outcomes, and to support practical access to mineralized areas, a set of pit designs were outlined using the selected ultimate pit limit (RF = 0.6) as basis and sequencing the intermediate mining phases from the higher value pit shells at the southwest end towards the northeast end of the ultimate pit limit. Recommendations for slopes by the geotechnical team applied to all intermediate pit phase designs. The southwest sector of the pit present shallower inter-ramp slopes than the northeast walls of the pit.

The ultimate pit was phased to allow the early access to mineralized areas, maintaining a minimum mining width of 35 m.

To closely follow directions used in an initial strategic analysis, the mining of the Cordero open pit has been split into 7 pit mining phases: phases 1A, 1B, 2, 3A, 3B, 4 and 5.

In the present study, the proposed preliminary ultimate pit design and intermediate mining phases are shown in Figure 16-15 and Figure 16-16.

The bottom bench in the ultimate configuration has an elevation of 1,070 masl. The final pit configuration has two pit exits, one towards the southwest limit of the mining area at an approximate elevation of 1,550 masl and a second one at the southeast edge of the mining limits at an approximate elevation of 1,570 masl. The top elevation of the pit walls is on average approximately 1,580 masl.

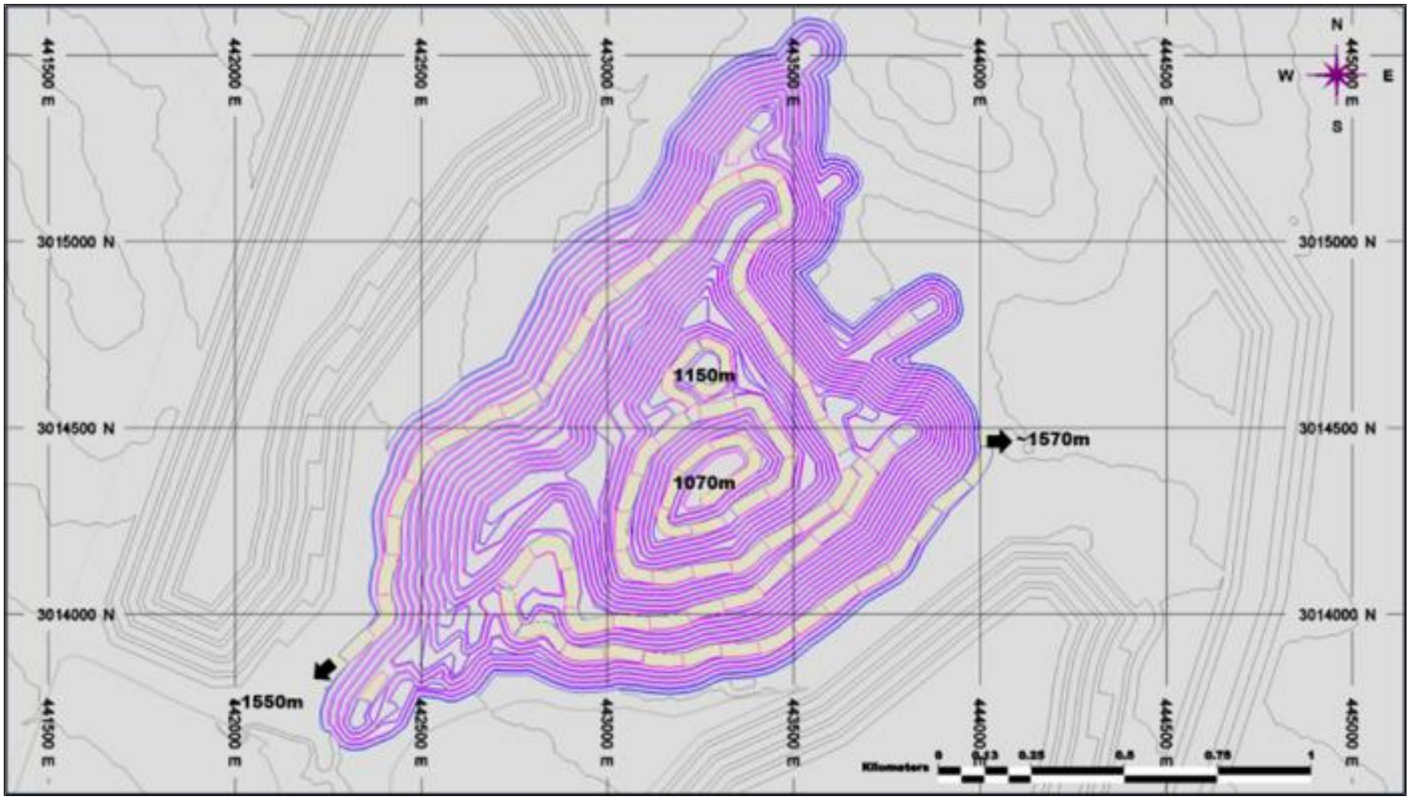
The surface area of the open pit is approximate 5 million square meters and has a maximum length of approximate 2.4 km.

Haul roads were designed to accommodate 190-tonne class haul trucks. A running width of 3.0 times the operating width of the haul truck was used for two-way traffic for a total of 33.2 m, which allows for a drainage ditch (2.5 m), and to allocate a berm (3/4 tire height, equivalent to 7.7 m base width). The assumed operating width of the haul trucks is 7.7 m. In pit road grades are set to 10% grade. For a single lane traffic, a road width of 25.5 m (2x operating width) is required also with ditch and berm widths.

Working benches were designed for 35 m minimum mining width on pushbacks.

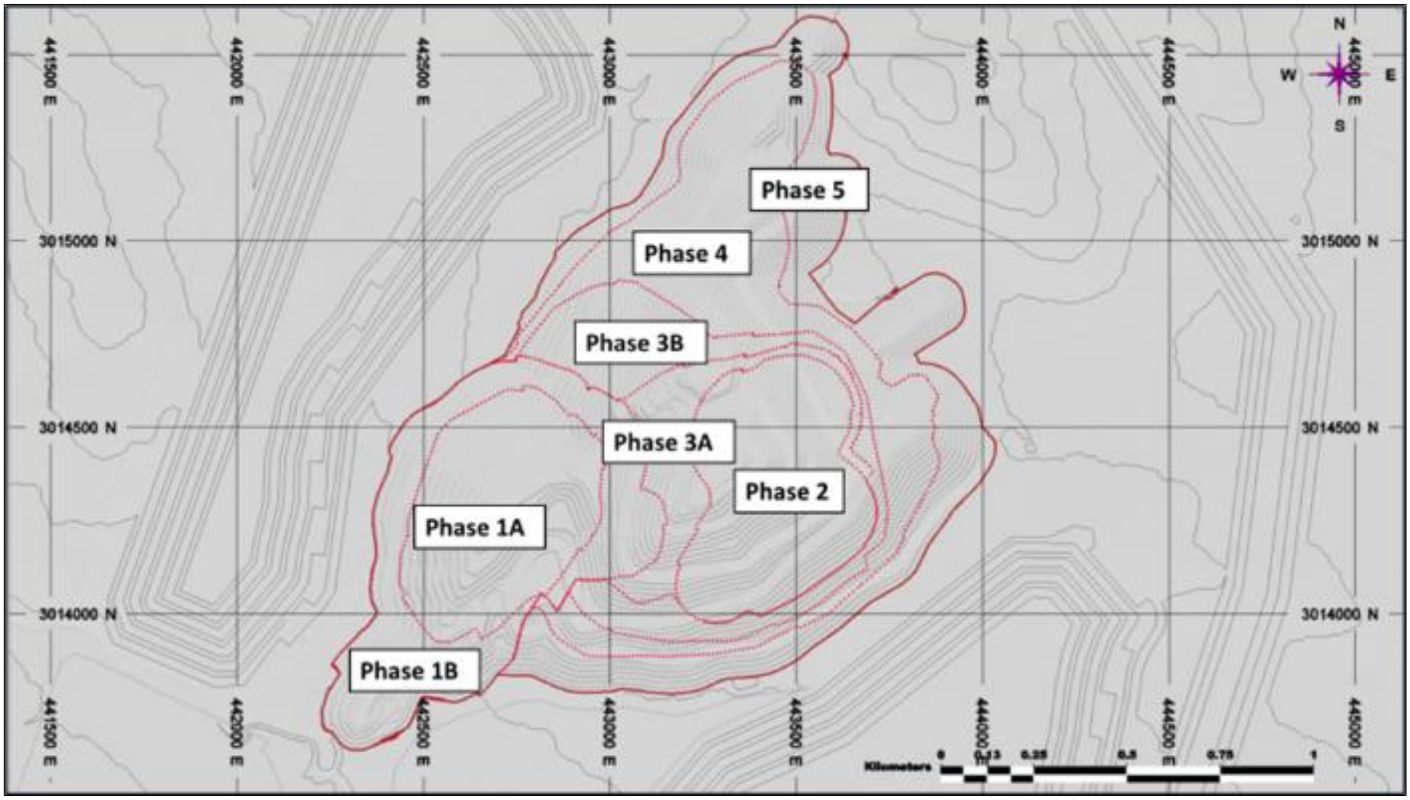
Tonnes and grade for the final pit designs are reported in Table 16-9 using the diluted tonnes and grades. The phase designs are described in further detail in the following subsections.

Figure 16-15: Cordero Ultimate Pit Design



Source: AGP Mining, 2022.

Figure 16-16: Intermediate Pit Phase Limits



Source: AGP Mining, 2022.

Table 16-9: Final Design – Phases, Tonnages, and Grades

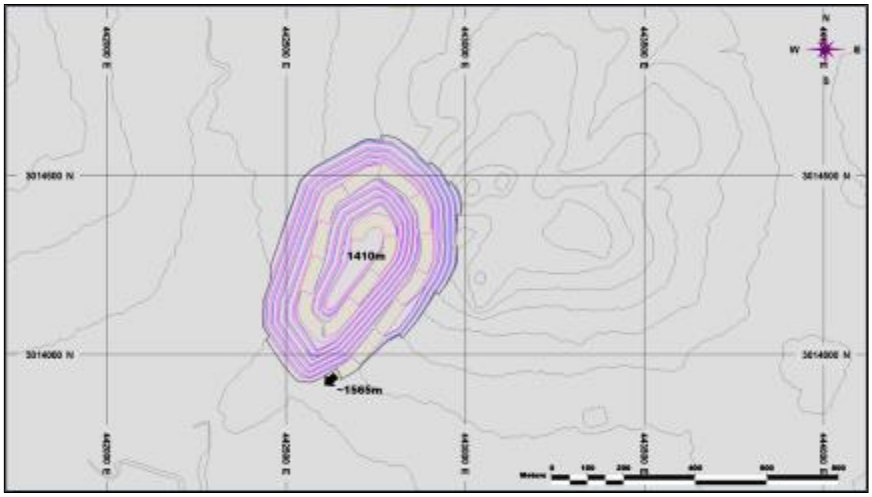
Pit Phase	Ore (Mt)	Zn	Pb	Ag	Au	NSR	Waste (Mt)	Total (Mt)	W:O Ratio
P1A	21.7	0.51	0.59	40.27	0.23	36.74	30.6	52.4	1.41
P1B	30.3	0.46	0.48	34.43	0.19	30.82	48.6	78.9	1.60
P2	25.4	0.67	0.34	35.01	0.07	28.48	28.9	54.3	1.14
P3A	36.0	0.56	0.30	25.51	0.07	23.83	45.9	81.9	1.27
P3B	54.5	0.68	0.40	26.54	0.06	28.17	85.2	139.7	1.56
P4	92.4	0.80	0.46	25.02	0.06	31.07	163.9	256.3	1.77
P5	72.2	0.66	0.39	22.70	0.05	26.04	209.0	281.2	2.90
Ultimate	332.5	0.66	0.42	27.44	0.08	28.87	612.1	944.6	1.84

Notes: Estimates based on diluted model at an elevated NSR cut-offs: US$7.50/t for oxide/transition, and US$10.00/t for sulphides. Source: AGP Mining, 2022.

16.7.1 Phase 1

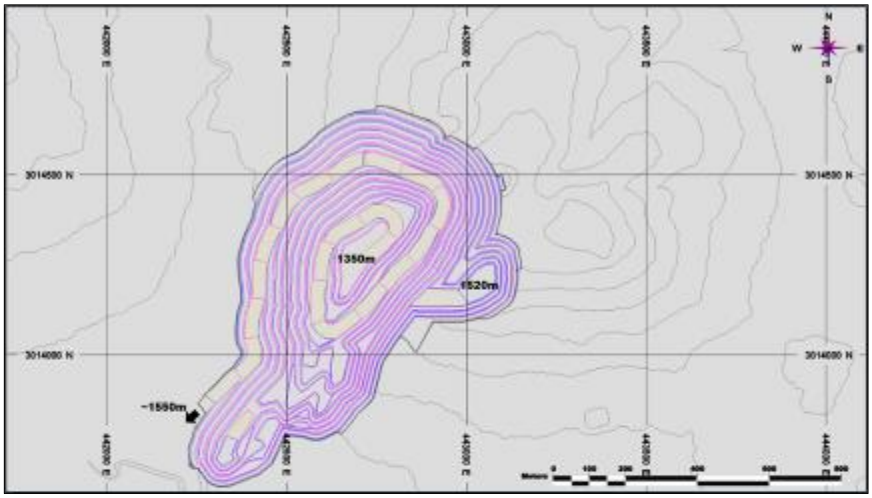
Phases 1 and 2 target the highest-grade areas of the deposit and are outlined based on the same pit shell but using a different access road. To allow a quicker access to ore, Phase 1 is divided in two nested pit phases, Phase 1A and Phase 1B. Phase 1A encompasses 21.7 Mt of mineral rock with a stripping ratio (SR) of 1.4:1 and its mining benches will range from 1630 masl to 1410 masl, while Phase 1B follows Phase 1A in the mining sequence, containing 30.3 Mt of ore with benches ranging from 1640 masl to 1350 masl. Spatially, Phase 1 is on the west end side of the Cordero pit. Phase 1A and Phase 1B designs are shown in Figures 16-17 and 16-18, respectively.

Figure 16-17: Phase 1A Layout



Source: AGP Mining, 2022.

Figure 16-18: Phase 1B Layout

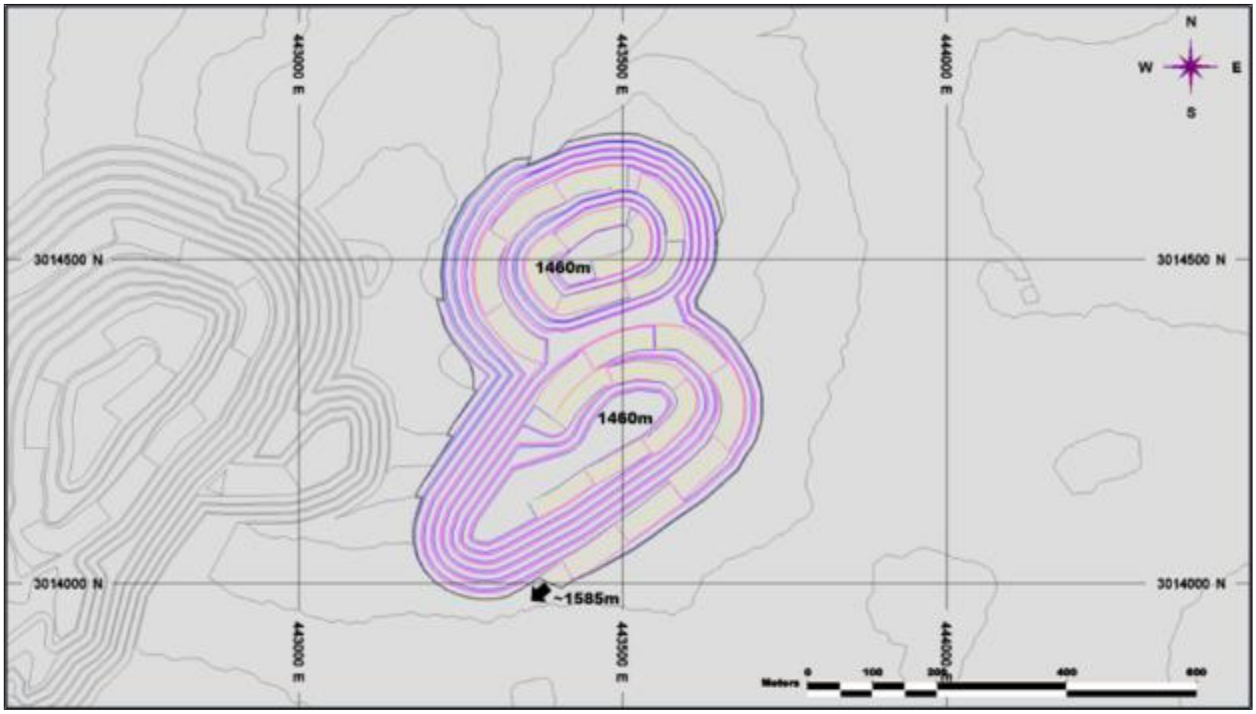


Source: AGP Mining, 2022.

16.7.2 Phase 2

Phase 2 targets high grade mineralized areas located at the east side of Phase 1 pit with road exits in the southeast of the pit. Phase 2 bench elevations will range from 1630 masl down to 1460 masl. The Phase 2 design is shown in Figure 16-19.

Figure 16-19: Phase 2 Layout



Source: AGP Mining, 2022.

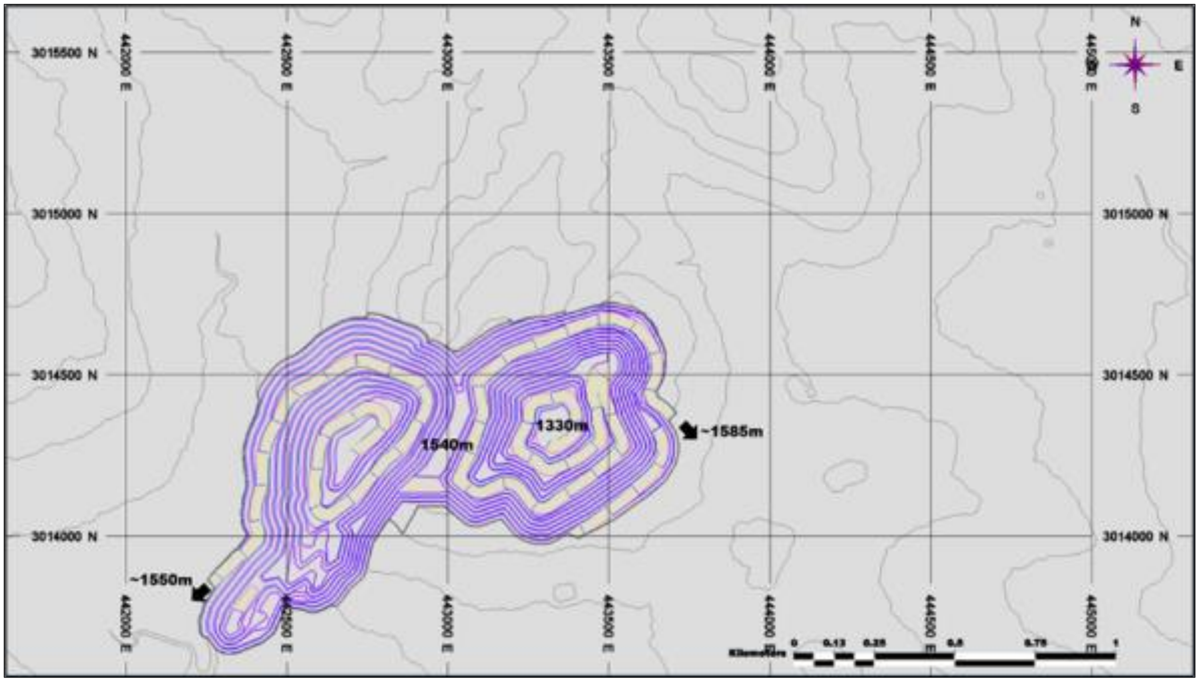
16.7.3 Phase 3

Phase 3 extends the mining area to the north while targeting deeper ore blocks between the Phase 1 and Phase 2 pits. Phase 3 is planned to be mined in two steps, Phase 3A and Phase 3B, with pit bottoms at 1330 masl and 1240 masl respectively. Phase 3A rock can exit using the previously established Phase 2 ramp system for shorter mill hauls for the upper benches, while developing a ramp to access deeper ore blocks that exits at the northeast ends of the mining area.

Phase 3B merges Phase 2 and Phase 1 mining areas using the established Phase 1 ramp system to exit towards the southwest end of the pit for shorter hauls to the mill.

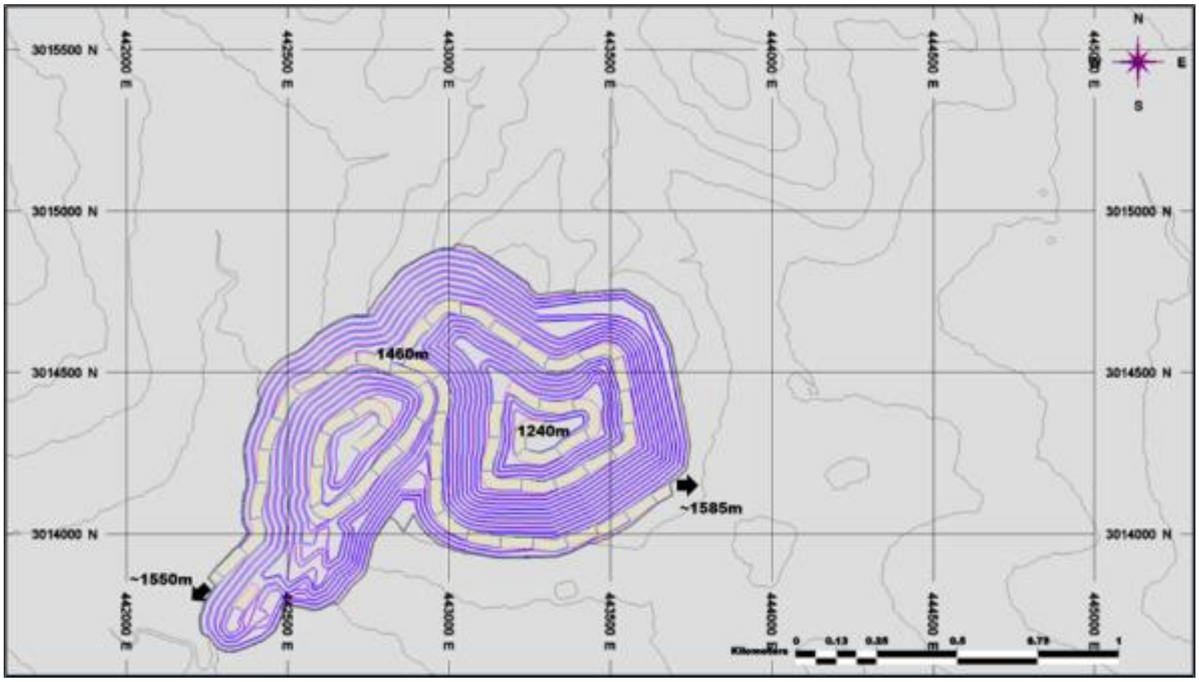
Mining bench elevations range from 1640 masl down to 1330 masl in Phase 3A, and from 1620 masl to 1240 masl in Phase 3B. The Phase 3A and 3B designs are shown in Figures 16-20 and 16-21, respectively.

Figure 16-20: Phase 3A Layout



Source: AGP Mining, 2022.

Figure 16-21: Phase 3B Layout

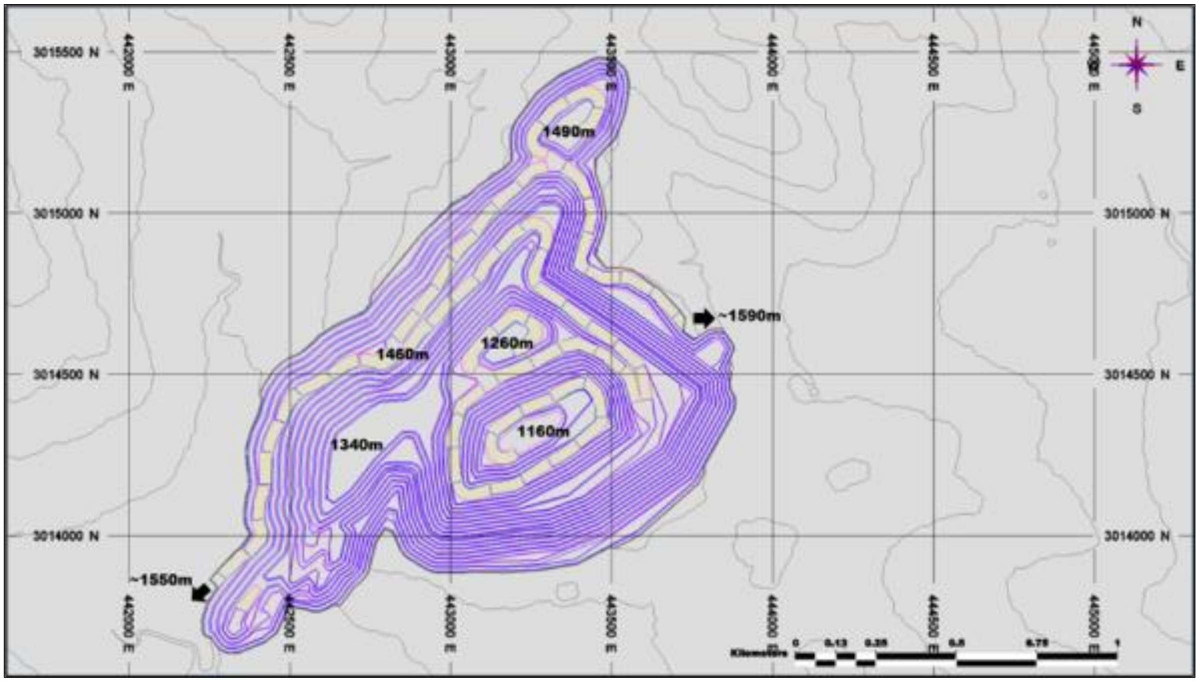


Source: AGP Mining, 2022.

16.7.4 Phase 4

Phase 4 extends the mining area towards the northeast while pushing the south wall targeting deeper ore blocks. The main exit will stay at the southwest end of the pit after a second ramp system is placed in the northeast wall to allow the development of the upper benches of the extension area. Phase 4 bench elevations will range from 1610 masl down to 1160 masl. The phase 4 design is shown in Figure 16-10.

Figure 16-22: Phase 4 Layout

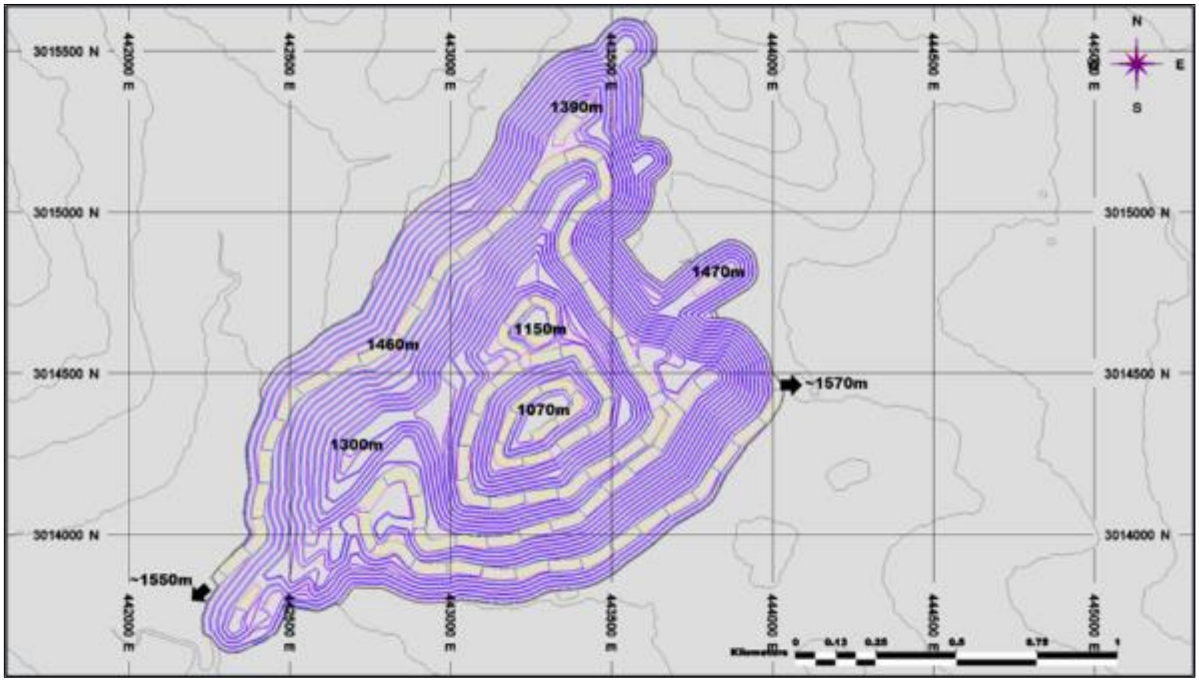


Source: AGP Mining, 2022.

16.7.5 Phase 5

Phase 5 takes the design to the ultimate pit limits. The pit at final limits has two pit exits, one at the southwest end at 1550 m elevation towards the mill facility, and a second pit exit located at the east of the pit limit for better access to the waste facility. Phase bench elevations will range from 1600 masl down to 1070 masl. The Phase 5 design is shown in Figure 16-23.

Figure 16-23: Phase 5 Layout



Source: AGP Mining, 2022.

16.8 Rock Storage Facilities

Waste rock facilities (WRF) were defined to take advantage of site topography to minimize the disturbed area, operating cost, effect on environment and safety considerations.

A 100 m minimum distance was established between waste dump toes and public roads and main facilities, such as the TSF embankment and plant site facilities.

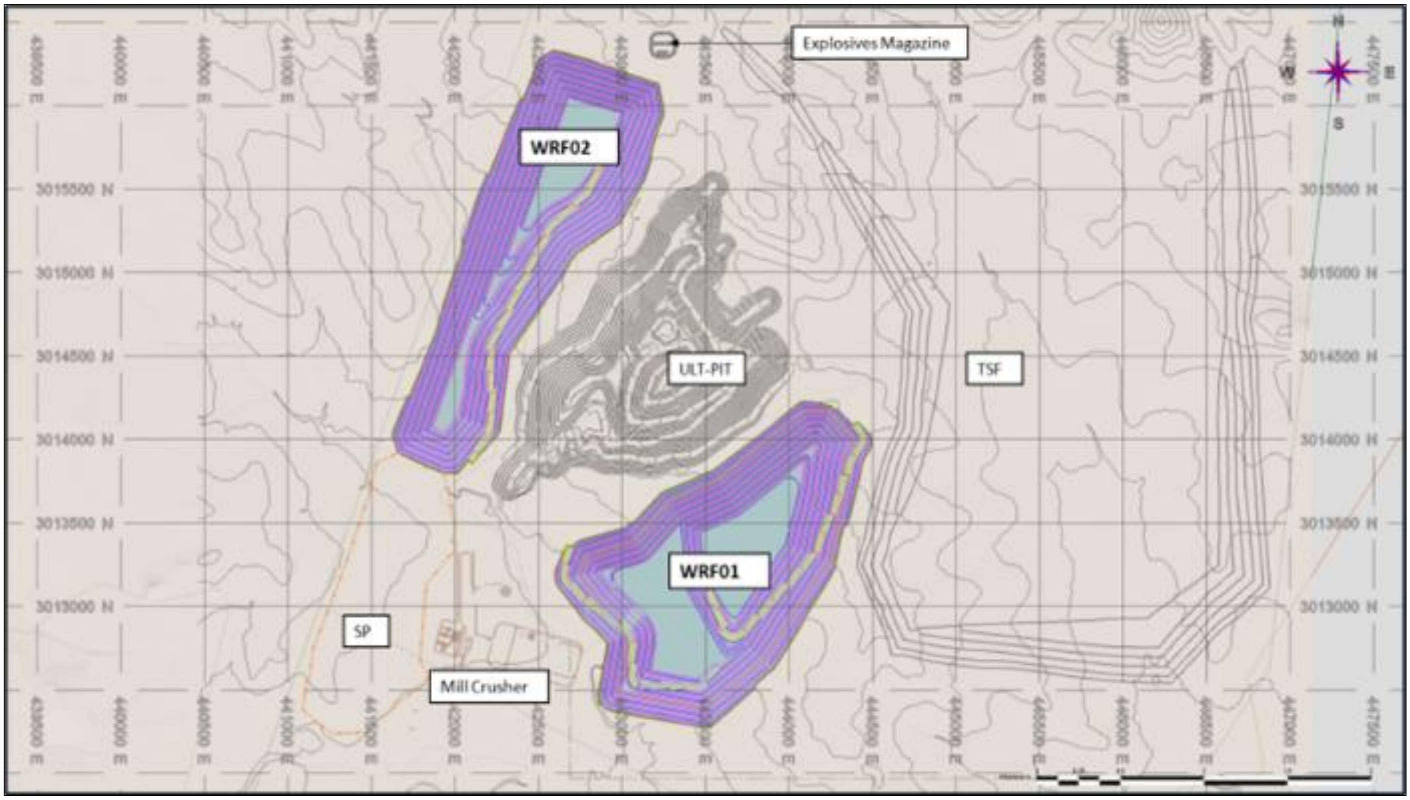
Haul roads in the WRFs are set at 33.2 m width and 8% grade. WRF slope configurations for construction and final reclamation are listed in Table 16-10.

Table 16-10: Rock Storage Facilities Design Parameters

Design Components	Units	Construction	Reclaim
Slope Angle	Degrees	26.5	18.4
Bench Height	m	20	20
Face Angle	Degrees	35.5	21.8
Bench Width	m	12	10.1

For the Cordero mine operations, two locations were selected for waste rock storage: one south of the ultimate pit limits (WRF01) and a second one on the northwest side of the pit (WRF02). Approximately 85 Mt of the waste rock will be routed to the construction of the tailings facility's embankment located at the east of the pit, as shown in Figure 16-24.

Figure 16-24: Cordero, Proposed WRF01 and WRF02



Source: AGP Mining, 2022.

For estimates of WRF lifting and required facilities capacity, an average swell density of 2.0 t/m^3 is assumed. Table 16-11 shows the distribution of waste rock material for the different destinations.

Table 16-11: Waste Rock by Destination

Storage Facility	Oxides (Mt)	Sulphides (Mt)	Total (Mt)
WRF01	55.1	324.8	379.9
WRF02	16.0	131.8	147.8
TSF	36.0	48.5	84.5
Total Waste Rock	107.1	505.0	612.2

Source: AGP Mining, 2022.

16.9 Mine Schedule

The mine schedule adheres to the following general criteria:

- minimize pre-production (Y-1)
- mill start in Year 1, with completed expansion at the end of Year 4
- no separate oxides leach process
- no stockpile restrictions
- mining capacity peak at 65 Mt/a
- sulphides and oxides to be processed in the mill; oxides up to maximum of 10% of total feed.

The mining rate was selected based on strategic planning scenarios which demonstrated that the targeted mill capacity would be achieved. The mining benches are 10 m in height.

The mill facility will produce both zinc and lead concentrates, with contained payables for silver, gold, lead and zinc. The mine plan assumes the plant will primarily process sulphide mineral but includes the processing of high-grade oxides up to 10% of feed, with a maximum capacity of 51 kt/h. As shown in Table 16-12, mill production starts in Year 1 at 7.45 Mt/a (40%) capacity, followed by a capacity of 9.3 Mt/a (50%) in Years 2 and 3. In Year 4 at 16.7 Mt/a (90%), reaching its full capacity in Year 5 at 18.6 Mt/a.

Table 16-12: Mill Ramp-up for Study Case

Period	Mill Feed (Mt/a)	Percentage of Full Rate
Year 1	7.45	40%
Year 2	9.30	50%
Year 3	9.30	50%
Year 4	16.74	90%
Year 5+	18.62	100%

Sulphide stockpiles were split into three bins, as follows:

- Low Grade (LG) = material between NSR of US$10/t and US$15/t
- Medium Grade (MG) = material between NSR of US$15/t and US$25/t
- High Grade (HG) = material above NSR of US$25/t.

A marginal sulphides stockpile at a NSR between US$6.11/t and US$10/t is set in the model to prevent potential ore material to be sent to the WRFs and facilitate rehandle in future. Within the current pit limits there is 93 Mt of material within this classification expected to be located in an accessible area in WRF1.

Overall, the material in the schedule is routed to the mill, ore stockpiles, waste rock facilities or to the TSF for construction, as shown in Table 16-13.

Table 16-13: Material Routing

Material Type	Mill	Sulphides Low	Sulphides Medium	Sulphides High	Oxides STK	Sulphides Marginal	Waste Dump	Con-struction
		LGSTK	MGSTK	HGSTK	OXSTK	WRF	WRF	TSF
High-Grade Sulphides	x			x				
Medium-Grade Sulphides	x		x					
Low-Grade Sulphides	x	x						
Marginal Sulphides (WRF)						x		
High-Grade Oxides	x				x			
Waste Oxides							x	x
Waste Sulphides							x	x

Two main stockpiles areas, primarily for low-grade sulphides and oxides, are to be available to provide flexibility for ore blending. In the present mine plan, a peak for the stockpile's capacity is to be reached between Years 10 to 12 with approximately 42 Mt in both areas.

Table 16-14 displays a summary of the mineral resource to the process feed.

Table 16-14: Summary of Scheduled Material to Mill

Resource Class	Process Feed	Grade				Contained Metal			
	(Mt)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (Moz)	Au (Moz)	Pb (Blb)	Zn (Blb)
Measured	164.0	28.92	0.10	0.45	0.67	152.51	0.51	1.62	2.43
Indicated	138.4	25.61	0.06	0.42	0.73	113.96	0.28	1.29	2.23
Total	**302.4**	**27.41**	**0.08**	**0.44**	**0.70**	**266.47**	**0.79**	**2.91**	**4.66**

Source: AGP Mining, 2022.

The current mining limits contain approximately 1% of additional tonnes in the Inferred resource category which could be converted to reserves with future drilling.

To provide sufficient level of detail to the process planners, the mine schedule was developed with quarterly periods for the first three years of operations, followed by annual periods for the remainder of the mine life. The mining capacity was set to a maximum of 65 Mt/a and restricted to a maximum sinking rate of 10 benches per year.

An oxide stockpile at a NSR of US$7.50/t is set in this plan to provide source to the mill feed blending as well to prevent potential ore source to be segregated in the WRFs and be available for rehandle for future treatment. A cut-off optimization study is to be required in the next study stage to determine the optimum size of the proposed marginal ore stockpiles.

Oxides were included when plant capacity was available for that material and would displace lower value sulphides up to a maximum of 10% of the mill feed on a period basis. At the end of the mine life, 6.2 % of the LOM ore tonnes will be high-grade oxides and 31 Mt of oxide will remain in stockpiles as was not scheduled.

The selected mine schedule plans to deliver 284 Mt of sulphide mill feed grading 27.2 g/t Ag, 0.08 g/t Au, 0.72% Zn and 0.45% Pb over a mine life of 18 years. Processed rock also included 19 Mt of oxides material grading 30.5 g/t Ag, 0.07 g/t Au, 0.33% Zn and 0.28% Pb. Waste tonnage totalling 640 Mt will be delivered to either the tailing storage facility or the rock storage facility. The overall strip ratio is 2.1:1.

The mine schedule in annual period is shown in Table 16-15. Ore from stockpiles is reclaimed based on average grades as shown in Table 16-16. The mine schedule is shown by phase in Table 16-17 and Figure 16-25. Figure 16-26 shows the variation of the proposed mill feed tonnes and silver grade over the processing periods. Thirty-one million tonnes of oxide material will remain in stockpile at the end of the mine life due to the constraint of a maximum of 10% oxides in the mill feed.

Pit dewatering will utilize between 6 and 8 perimeter wells initially to intercept flow into the pit area. As the mine advances and expands some of these well will be removed as they fall within the pit. A further three wells will be required in Year 8 and another three in Year 12 to maintain the pit in a depressurized state.

Table 16-15: Cordero Mine Schedule

Description		Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Total
Mining Summary	Mined Waste (Mt)	8.3	26.5	26.2	38.6	35.5	36.8	36.5	40.8	45.2	43.0	36.9	40.3	48.2	49.7	43.4	26.3	20.3	7.0	0.0	609.4
	Mill & Stock Feed (Mt)	2.8	13.9	26.4	23.0	26.0	24.8	25.1	24.0	19.6	21.8	27.9	21.3	16.6	10.3	15.3	16.9	10.9	6.4	0.0	333.0
	Ag (g/t)	32.24	33.96	38.13	33.17	31.46	27.7	23.15	26.33	24.46	24.27	24.27	29.02	26.05	20.89	21.87	23.81	22.1	26.24	0	27.46
	Au (g/t)	0.12	0.17	0.15	0.11	0.16	0.07	0.06	0.06	0.05	0.04	0.08	0.06	0.05	0.04	0.04	0.06	0.05	0.05	0	0.08
	Pb (%)	0.29	0.46	0.46	0.37	0.43	0.32	0.35	0.4	0.43	0.39	0.45	0.57	0.51	0.36	0.37	0.4	0.41	0.52	0	0.42
	Zn (%)	0.16	0.47	0.59	0.54	0.47	0.55	0.62	0.74	0.75	0.65	0.8	1	0.78	0.59	0.65	0.68	0.78	0.85	0	0.66
	NSR ($/t)	15.03	30.15	31.52	28.97	27.79	24.69	25.36	29.07	28.61	27.06	30.91	38.07	31.37	23.89	25.42	27.55	28.53	33.6	0	28.83
	Total Mined (Mt)	11.0	40.4	52.6	61.6	61.6	61.6	61.6	64.8	64.8	64.8	64.8	61.6	64.8	60.0	58.7	43.3	31.2	13.4	0.0	942.4
Processed Material	Mill Feed (Mt)	0.0	7.5	9.3	9.3	16.7	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	17.6	302.4
	Ag (g/t)	0	44.42	51.6	50.29	35.81	30.54	26.61	31.14	26.55	28.42	30.03	30.61	24.77	18.53	21.76	24.36	19.56	18.56	13.65	27.41
	Au (g/t)	0	0.22	0.27	0.12	0.2	0.09	0.06	0.07	0.08	0.05	0.09	0.07	0.05	0.05	0.04	0.06	0.05	0.05	0.05	0.08
	Pb (%)	0	0.63	0.82	0.58	0.56	0.37	0.41	0.48	0.45	0.43	0.55	0.63	0.48	0.29	0.34	0.38	0.32	0.31	0.19	0.44
	Zn (%)	0	0.63	1.03	0.88	0.6	0.64	0.72	0.84	0.79	0.7	0.97	1.12	0.74	0.47	0.59	0.65	0.59	0.5	0.32	0.7
	NSR ($/t)	0	42.38	56.51	47.6	36.11	29.19	29.63	34.65	31.99	30.08	38.55	42.57	29.76	18.99	23.4	26.47	22.13	19.97	12.61	30.21
	Oxides (Mt)	0.0	0.0	0.2	0.0	0.3	1.5	0.0	1.9	0.0	1.9	0.0	0.1	1.9	1.9	1.9	1.9	1.9	1.9	1.8	18.9
	Ag (g/t)	0	0	61.32	35.25	41.24	42.01	0	31.37	44.46	28.54	0	36.26	30.67	28.05	28.02	28.02	28.02	28.02	28.02	30.5
	Au (g/t)	0	0	0.07	0.09	0.06	0.05	0	0.07	0.03	0.08	0	0.08	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.07
	Pb (%)	0	0	0.76	1.29	0.36	0.3	0	0.29	0.69	0.24	0	0.49	0.41	0.25	0.25	0.25	0.25	0.25	0.25	0.28
	Zn (%)	0	0	1.07	1.29	0.27	0.25	0	0.29	0.35	0.29	0	0.46	0.54	0.3	0.3	0.3	0.3	0.3	0.3	0.33
	NSR ($/t)	0	0	39.9	37.83	19.46	19.14	0	16.29	23.52	15.24	0	21.41	20.18	15.23	15.2	15.2	15.2	15.2	15.2	16.55
	Sulphides (Mt)	0.0	7.5	9.1	9.3	16.4	17.1	18.6	16.8	18.6	16.8	18.6	18.5	16.8	16.8	16.8	16.8	16.8	16.8	15.9	283.5
	Ag (g/t)	0	44.42	51.35	50.29	35.7	29.53	26.61	31.12	26.54	28.41	30.03	30.57	24.12	17.47	21.06	23.95	18.62	17.51	12.06	27.2
	Au (g/t)	0	0.22	0.28	0.12	0.21	0.09	0.06	0.07	0.08	0.05	0.09	0.07	0.05	0.04	0.04	0.06	0.05	0.05	0.05	0.08
	Pb (%)	0	0.63	0.82	0.58	0.56	0.38	0.41	0.5	0.45	0.45	0.55	0.63	0.49	0.29	0.35	0.4	0.33	0.31	0.19	0.45
	Zn (%)	0	0.63	1.03	0.88	0.6	0.68	0.72	0.9	0.79	0.74	0.97	1.13	0.76	0.48	0.62	0.69	0.62	0.53	0.32	0.72
	NSR ($/t)	0	42.38	56.93	47.61	36.46	30.07	29.63	36.69	31.99	31.72	38.55	42.73	30.83	19.41	24.32	27.72	22.9	20.5	12.32	31.12

Source: AGP Mining, 2022.

Table 16-16: Mine Schedule (Stockpiles and Material Movement)

Description		Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Balance
Stockpile Reclaim	Total Reclaim (Mt)	-	0.0	0.9	0.4	1.1	2.6	-	2.4	7.9	2.3	-	3.2	2.2	8.4	3.4	1.9	7.7	12.2	17.6	74.2
	Ag (g/t)	0	38.53	45.98	39.34	23.94	19.74	0	21.98	20.95	17.7	0	16.01	12.68	13.68	13.68	2.8	13.66	13.65	13.65	15.94
	Au (g/t)	0	0.15	0.28	0.04	0.12	0.1	0	0.1	0.1	0.04	0	0.07	0.05	0.05	0.05	0.01	0.05	0.05	0.05	0.07
	Pb (%)	0	0.43	0.7	0.48	0.3	0.25	0	0.26	0.27	0.3	0	0.29	0.22	0.19	0.19	0.02	0.19	0.19	0.19	0.22
	Zn (%)	0	0.54	0.56	1.17	0.39	0.35	0	0.38	0.39	0.41	0	0.52	0.38	0.32	0.32	0.03	0.32	0.32	0.32	0.36
	NSR ($/t)	0	33.28	43.87	44.88	21.49	17.97	0	19.01	19.36	17.79	0	19.3	14.36	12.62	12.62	1.52	12.61	12.61	12.61	15.17
	Oxides (Mt)	-	-	-	-	-	-	-	0.8	-	1.9	-	-	-	1.9	1.9	1.9	1.9	1.9	1.8	13.7
	Ag (g/t)	0	0	0	0	0	0	0	31.18	0	28.54	0	0	0	28.02	28.02	28.02	28.02	28.02	28.02	28.28
	Au (g/t)	0	0	0	0	0	0	0	0.09	0	0.08	0	0	0	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	Pb (%)	0	0	0	0	0	0	0	0.25	0	0.24	0	0	0	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	NSR ($/t)	0	0	0	0	0	0	0	0.27	0	0.29	0	0	0	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Zn (%)	0	0	0	0	0	0	0	15.84	0	15.24	0	0	0	15.2	15.2	15.2	15.2	15.2	15.2	15.24
	Sulphides (Mt)	-	0.0	0.9	0.4	1.1	2.6	-	1.6	7.9	0.5	-	3.2	2.2	6.5	1.6	-	5.8	10.3	15.9	60.4
	Ag (g/t)	0	38.53	47.16	39.36	24.44	21.48	0	20.96	20.96	16.5	0	16.13	14.09	12.08	12.08	0	12.06	12.06	12.06	15.12
	Au (g/t)	0	0.15	0.29	0.04	0.12	0.11	0	0.1	0.1	0.04	0	0.07	0.06	0.05	0.05	0	0.05	0.05	0.05	0.07
	Pb (%)	0	0.43	0.72	0.48	0.3	0.27	0	0.27	0.27	0.31	0	0.29	0.24	0.19	0.19	0	0.19	0.19	0.19	0.22
	Zn (%)	0	0.54	0.57	1.17	0.4	0.38	0	0.39	0.39	0.42	0	0.53	0.43	0.32	0.32	0	0.32	0.32	0.32	0.36
	NSR ($/t)	0	33.28	44.99	44.9	21.94	19.55	0	19.36	19.36	18.08	0	19.44	15.95	12.33	12.33	0	12.32	12.32	12.32	15.17
Stockpiles Balance (Mt)		2.8	9.2	26.2	39.9	49.2	55.4	61.8	67.2	68.1	71.4	80.7	83.3	81.4	73.0	69.7	68.0	60.4	48.2	30.6	
	Oxides (Mt)	2.8	5.6	18.6	21.8	29.0	32.1	32.3	35.7	40.1	38.3	38.3	41.5	41.6	39.8	37.9	36.1	34.2	32.3	30.6	
	Sulphides (Mt)	-	3.5	7.6	18.1	20.2	23.2	29.5	31.5	28.0	33.1	42.4	41.9	39.7	33.2	31.8	32.0	26.2	15.9	-	
Total Material Movement (Mt)		11.0	40.4	53.5	61.9	62.6	64.1	61.6	67.2	72.7	67.1	64.8	64.8	67.0	68.4	62.1	45.1	38.9	25.6	17.6	1,016.6

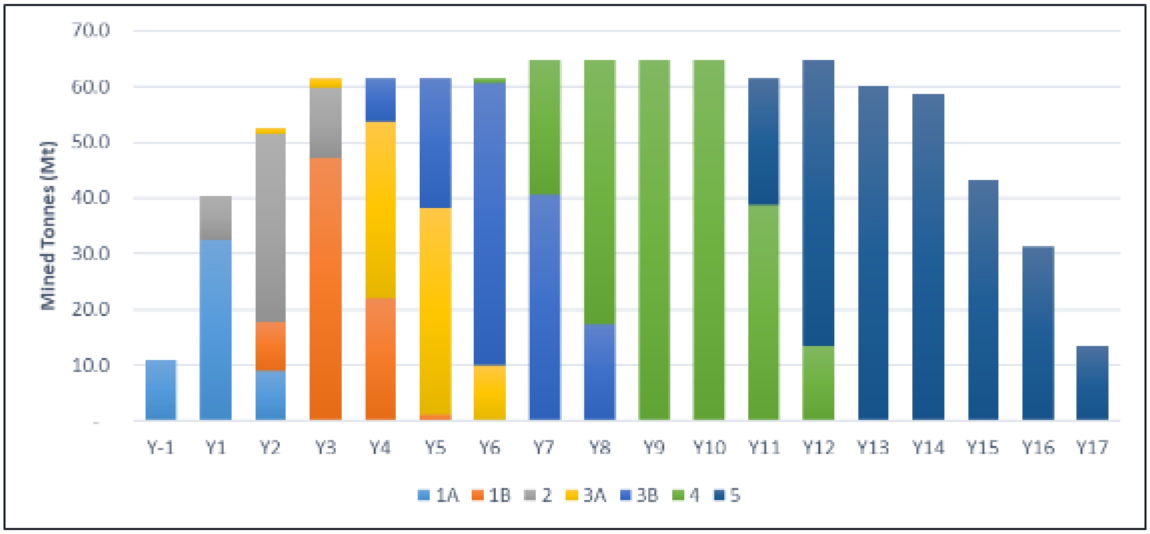
Source: AGP Mining, 2022.

Table 16-17: Annual Total Tonnages Mined by Phase

Pit	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Total (Mt)
Phase 1A	11.0	32.4	8.9																52.4
Phase 1B			8.8	47.2															78.9
Phase 2		8.0																	54.3
Phase 3A																			81.9
Phase 3B					7.8	23.4	50.6	40.7											139.7
Phase 4							0.9	24.1	47.6	64.8	64.8	38.8	13.5						254.6
Phase 5												22.7	51.3	60.0	58.7	43.3	31.2	13.4	280.6
Total	11.0	40.4	52.6	61.6	61.6	61.6	61.6	64.8	64.8	64.8	64.8	61.6	64.8	60.0	58.7	43.3	31.2	13.4	942.4

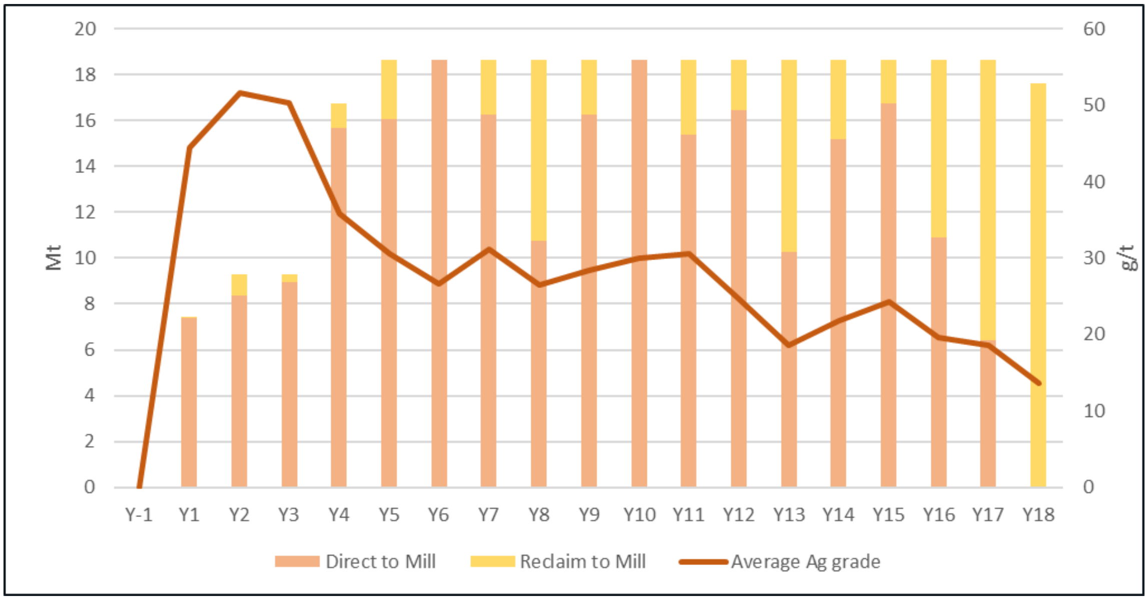
Source: AGP Mining, 2022.

Figure 16-25: Tonnage Mined by Phase



Source: AGP Mining, 2022.

Figure 16-26: Mill Tonnes and Silver Grade



Source: AGP Mining, 2022.

The vertical advance (sinking rate) by mining phases by bench per year is shown in Table 16-18.

Table 16-18: Sinking Rate by Pit Phase – Vertical Advance in Benches per Year

	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18
Phase 1A	5	9	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phase 1B	0	0	6	10	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Phase 2	0	5	11	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phase 3A	0	0	2	2	10	10	8	0	0	0	0	0	0	0	0	0	0	0	0
Phase 3B	0	0	0	0	4	6	10	10	10	0	0	0	0	0	0	0	0	0	0
Phase 4	0	0	0	0	0	0	1	4	7	10	10	10	8	0	0	0	0	0	0
Phase 5	0	0	0	0	0	0	0	0	0	0	0	5	6	8	9	9	9	9	0

16.10 Mine Plan Sequence

When mining starts, various infrastructure items will be under development and construction activities. Significant activities near the pit will include construction of the process plant, crushers, conveyors, TSF embankments, and establishing proper roads to the process and waste destinations. Ditching and drains will be established in roads and infrastructure facilities as part of the surface water control system in the operating area.

The mining of Cordero pit starts in Phase 1A, and its ore will be sent to the ore stockpiles while waste rock will be utilized for the construction of the TSF embankment.

During pre-production, Year-1, mining will take place on the upper benches of Phase 1A to 1,560 m elevation. In this period, a total of 8.3 Mt of waste material will be routed to the construction of the TSF embankment as required. Approximately 2.8 Mt of oxides will be stored at the mill feed storage facility while the process plant be in construction (see Figure 16-27).

Year 1 production assumes the mill will have an average capacity of 20 kt/d. Phases 1A and 2 will be active and will be advanced to 1,470 m and 1590 m elevation, respectively (see Figure 16-28).

Year 2 production the process plant will be operating at 25.5 kt/d on average. Phase 1A mining will be completed and Phase 3 mining will be initiated, while Phases 1B and 2 will advance to 1,570 m and 1,510 m elevations, respectively (see Figure 16-29).

Year 3 production assumes the process plant will continue operating at an average 25.5 kt/d. The mining of Phase 2 will be completed in this period while Phases 1B, 2 and 3A will be active and be advanced to 1,470 m, 1,460 m, and 1,600 m elevations, respectively. The mining of phase 1 will establish the pit exit in the west limit of the ultimate pit configuration at approximate 1,550 m elevation for shorter haul distances to the mill, ore stockpiles, and the initial stages of waste rock facilities (see Figure 16-30).

Year 4 production assumes the process plant will ramp up to approximate 46 kt/d on average. Phases 1 and 3 will be active and will be advanced to 1,370 m and 1,510 m elevations, respectively. Pit exits will remain available in the west of the pit for Phase 1 while Phase 3 mining will establish a temporary ramp to access ore at approximately 1,570 m elevation (see Figure 16-31).

Year 5 production assumes the process plant will reach its maximum capacity of 51 kt/d on average. Phase 1 mining is completed while Phases 3A and 3B will remain active and will be advanced to 1,410 m and 1,530 m elevations, respectively. Phase 3 mining will exit the pit near the south end of the pit at 1580 m elevation (see Figure 16-32).

The mining in Year 6 connects the mining of phase 3 and phase 4 with the main ramp system established for Phase 1 mining with the west exit at 1550 m elevation; this allows the material at depth to be routed through the nearest exit to ore and waste destinations. Phases 3A will be completed and 3B will be advanced to 1,440 m elevations.

Phase 4 mining will start in Year 7. Phase 3B will continue to 1,340 m elevation, while Phase 4 will advance down to 1,560 m elevation.

In Year 8, the mining of Phase 3B will be completed. The mining of Phase 4 will continue to 1,510 m elevation (see Figure 16-33).

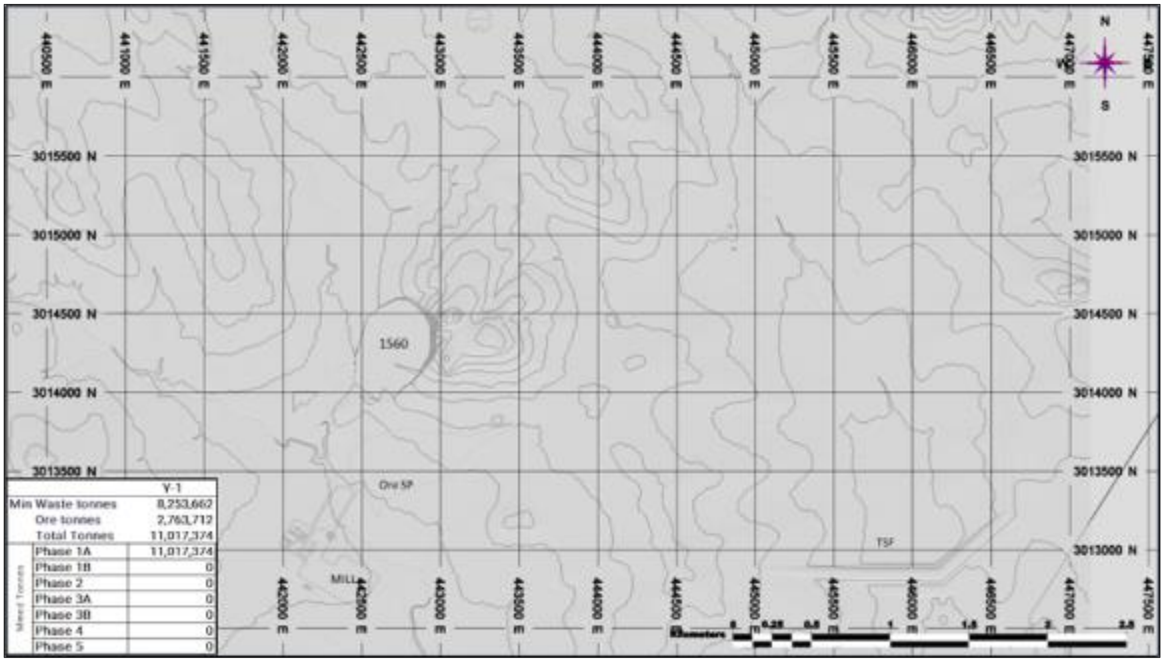
In Years 9 to 10, mining will only be active in Phase 4, which will advance to 1,330 m.

Phase 5 mining begins in Year 11. Phases 4 and 5 are active and will be advanced to 1,240 m and 1,550 m elevations, respectively.

In Year 12, the mining of Phase 4 will be completed. The mining of Phase 5 continues to 1,500 m elevation, establishing a final position for a second ramp system exiting southeast at 1570 m elevation (see Figure 16-34).

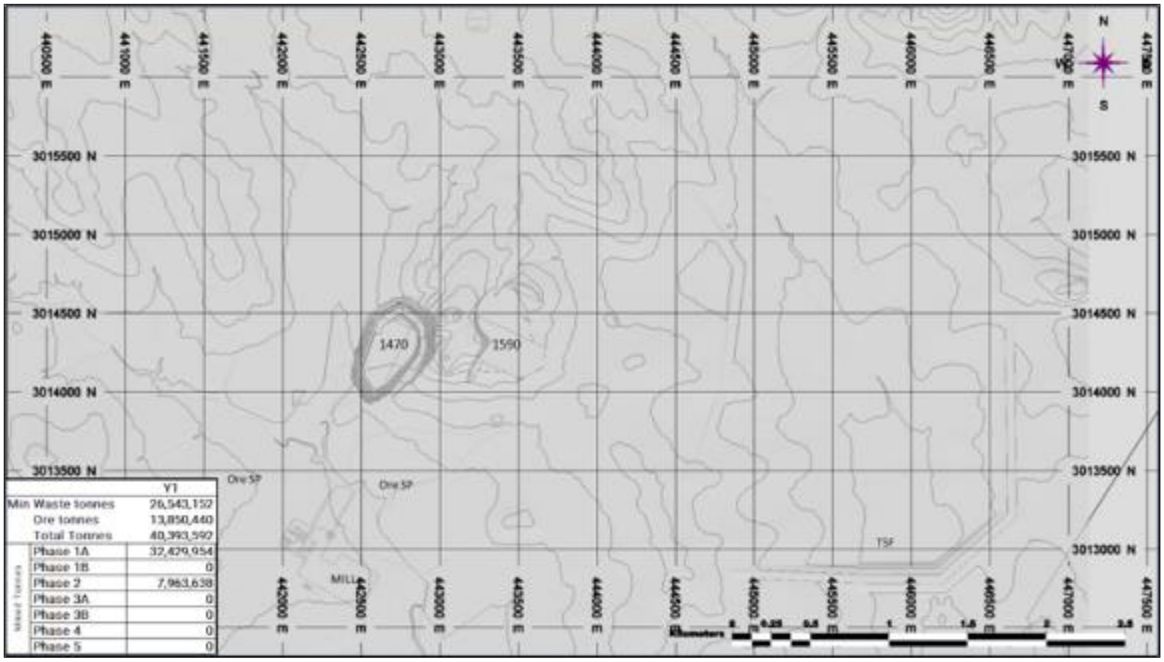
Phase 5 mining will continue until the end of mining life in Year 17 to a final elevation of 1,070 m (see Figure 16-35 for the final mining and rock facilities layouts).

Figure 16-27: End of Year -1 (Pre-Production)



Source: AGP Mining, 2022.

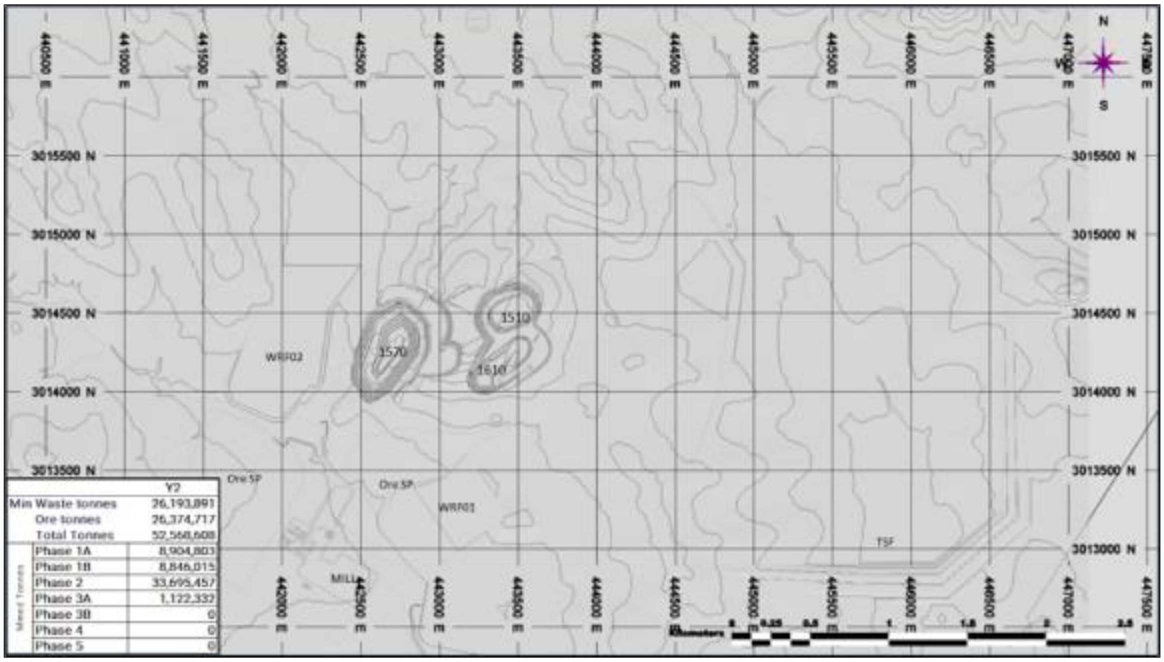
Figure 16-28: End of Year 1



		Y1
Min Waste tonnes		26,543,152
Ore tonnes		13,850,440
Total Tonnes		40,393,592
Mined Tonnes	Phase 1A	32,429,954
	Phase 1B	0
	Phase 2	7,963,638
	Phase 3A	0
	Phase 3B	0
	Phase 4	0
	Phase 5	0

Source: AGP Mining, 2022.

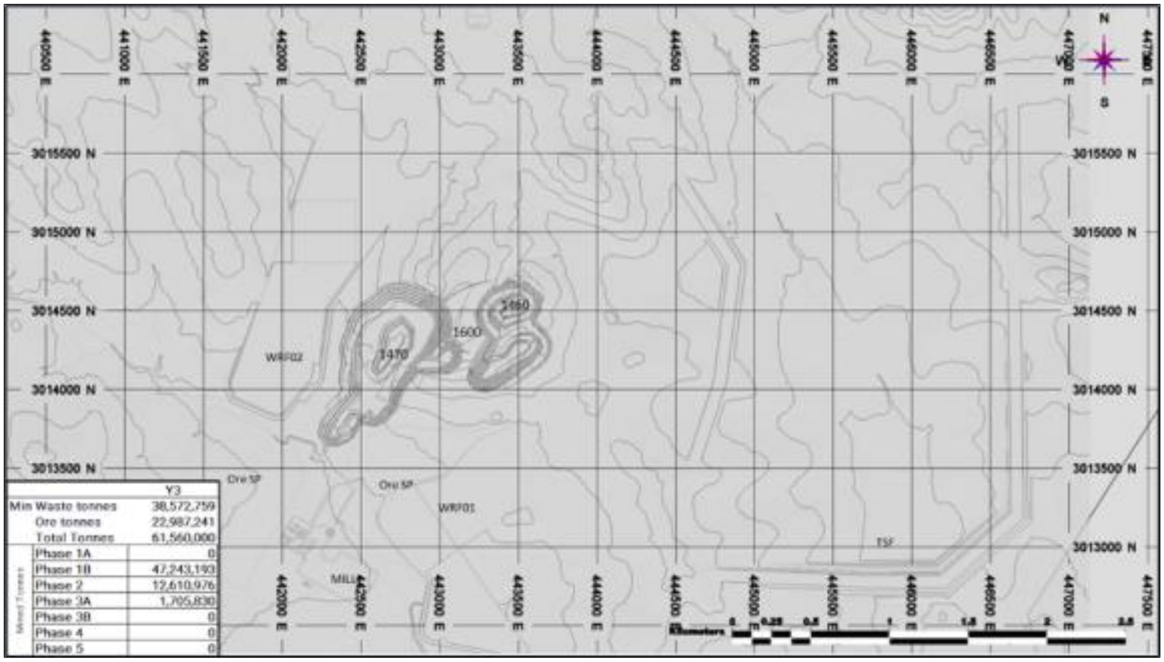
Figure 16-29: End of Year 2



		Y2
Min Waste tonnes		26,193,891
Ore tonnes		26,374,717
Total Tonnes		52,568,608
Mined Tonnes	Phase 1A	8,904,803
	Phase 1B	8,846,015
	Phase 2	33,695,457
	Phase 3A	1,122,332
	Phase 3B	0
	Phase 4	0
	Phase 5	0

Source: AGP Mining, 2022.

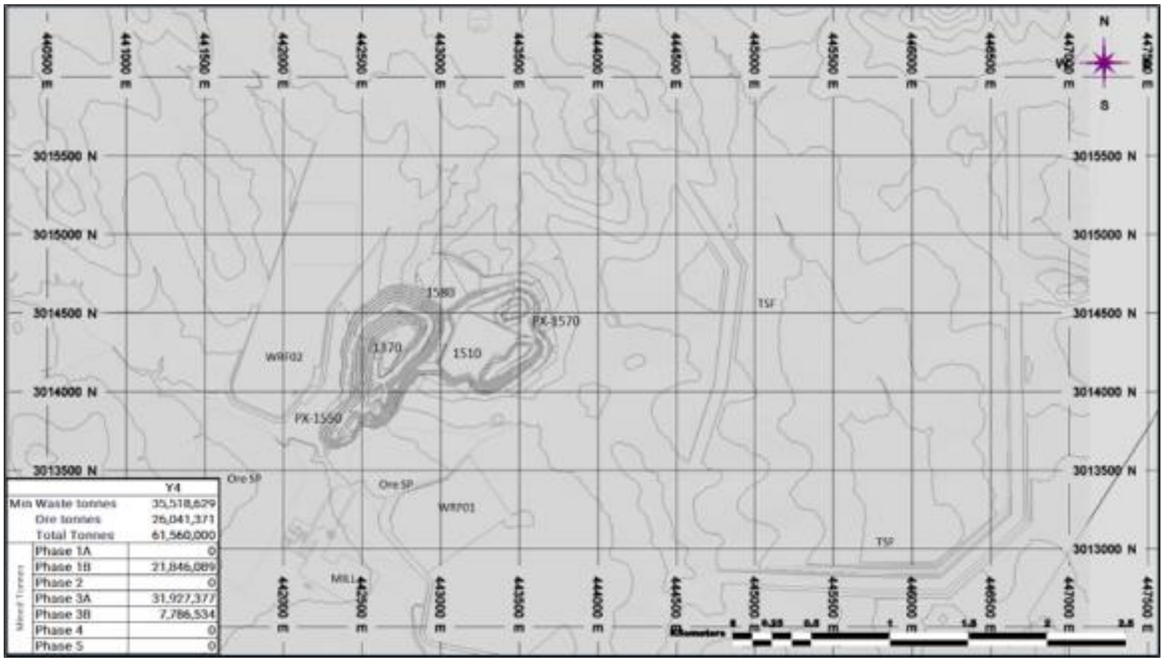
Figure 16-30: End of Year 3



		Y3
Min Waste tonnes		38,572,759
Ore tonnes		22,987,241
Total Tonnes		61,560,000
Mined Tonnes	Phase 1A	0
	Phase 1B	47,243,193
	Phase 2	12,610,976
	Phase 3A	1,705,830
	Phase 3B	0
	Phase 4	0
	Phase 5	0

Source: AGP Mining, 2022.

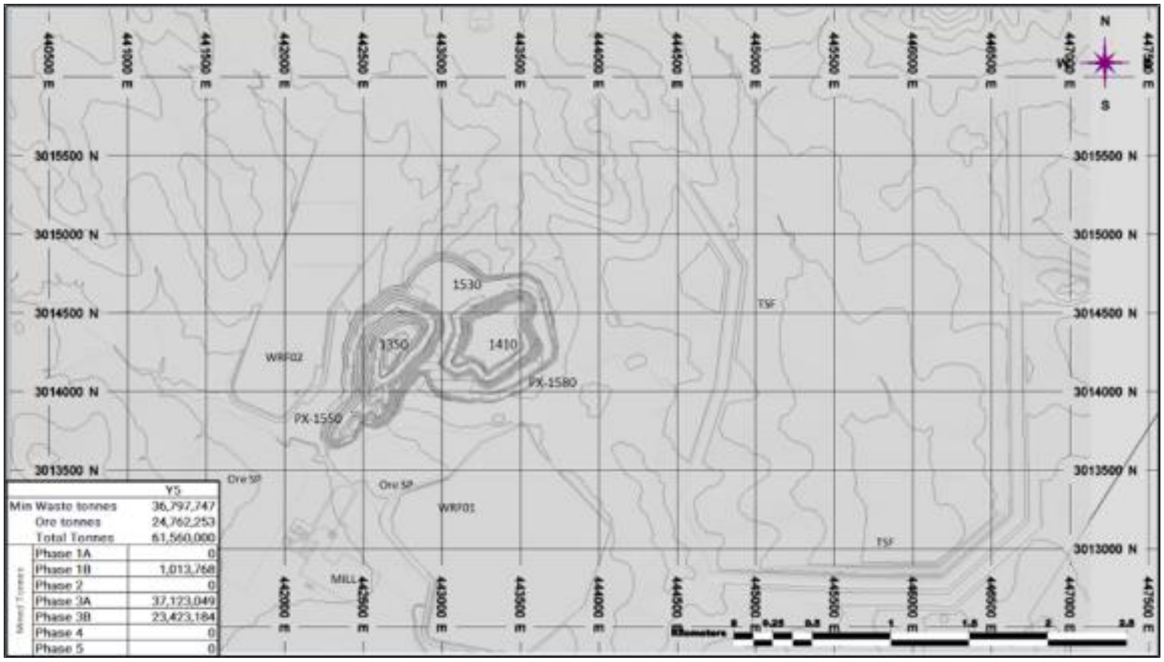
Figure 16-31: End of Year 4



		Y4
Min Waste tonnes		35,518,629
Ore tonnes		26,041,371
Total Tonnes		61,560,000
Mined Tonnes	Phase 1A	0
	Phase 1B	21,846,089
	Phase 2	0
	Phase 3A	31,927,377
	Phase 3B	7,786,534
	Phase 4	0
	Phase 5	0

Source: AGP Mining, 2022.

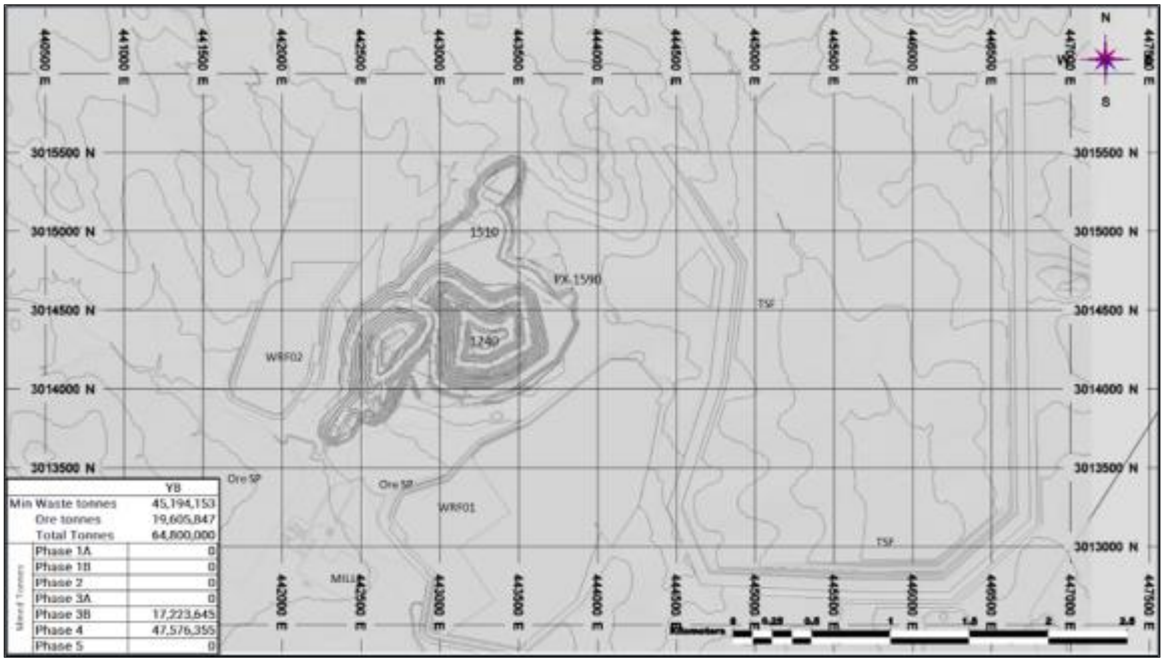
Figure 16-32: End of Year 5



		Y5
Min Waste tonnes		36,797,747
Ore tonnes		24,762,253
Total Tonnes		61,560,000
Mined Tonnes	Phase 1A	0
	Phase 1B	1,013,768
	Phase 2	0
	Phase 3A	37,123,049
	Phase 3B	23,423,184
	Phase 4	0
	Phase 5	0

Source: AGP Mining, 2022.

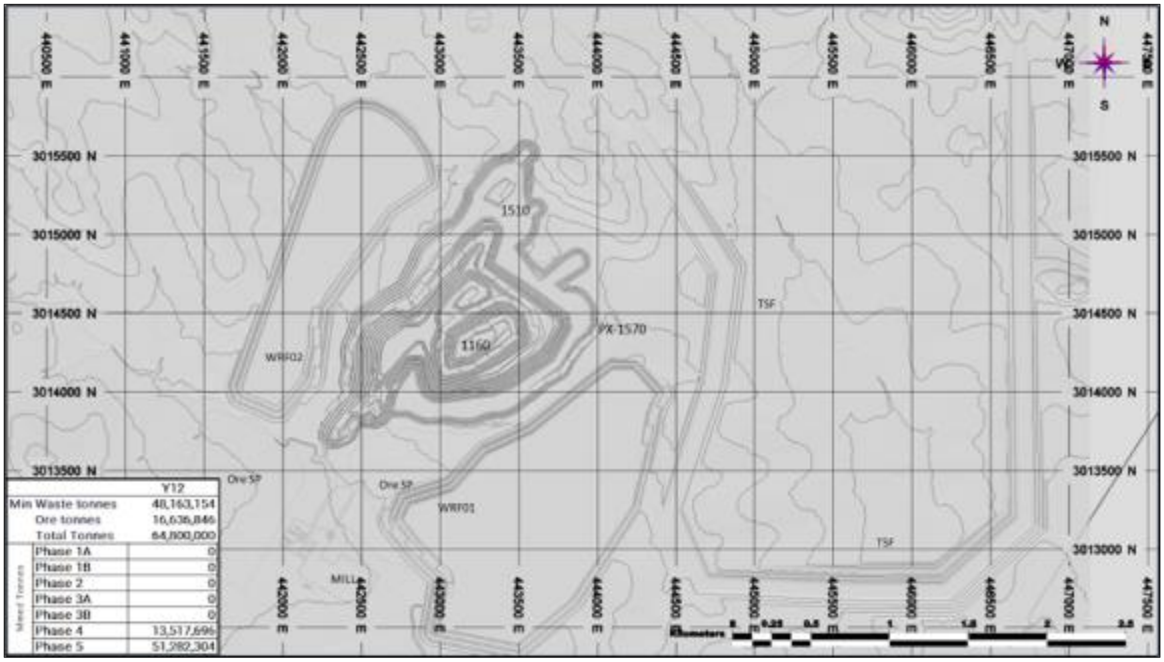
Figure 16-33: End of Year 8



		Y8
Min Waste tonnes		45,194,153
Ore tonnes		19,605,847
Total Tonnes		64,800,000
Mined Tonnes	Phase 1A	0
	Phase 1B	0
	Phase 2	0
	Phase 3A	0
	Phase 3B	17,223,645
	Phase 4	47,576,355
	Phase 5	0

Source: AGP Mining, 2022.

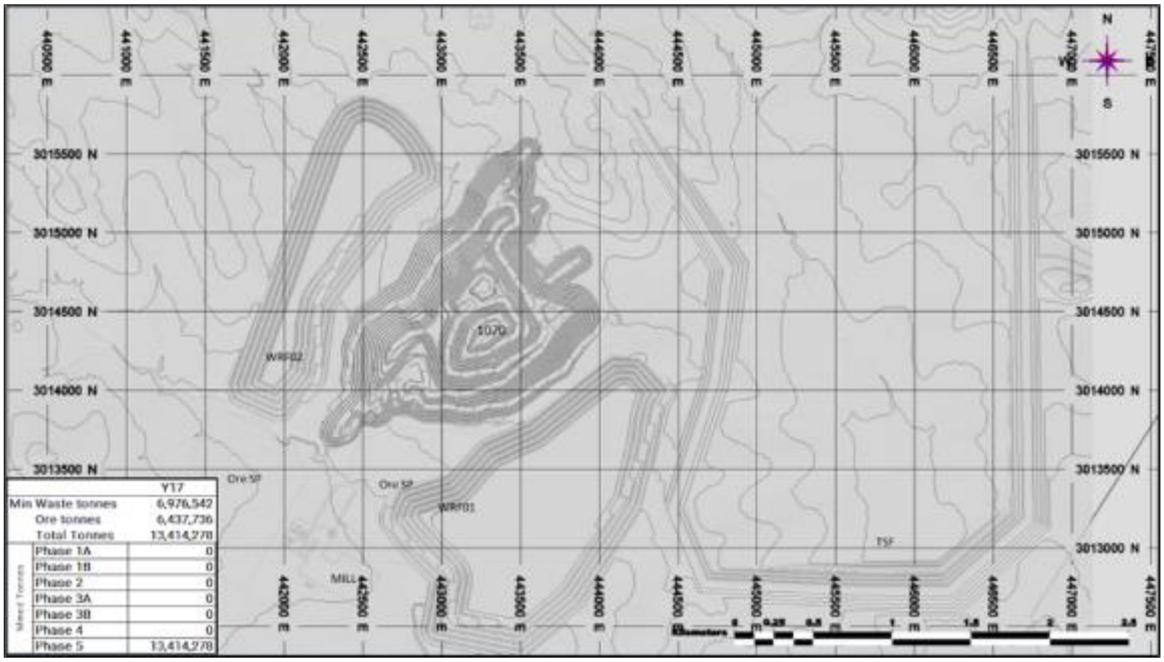
Figure 16-34: End of Year 12



		Y12
Min Waste tonnes		48,163,154
Ore tonnes		16,636,846
Total Tonnes		64,800,000
Mined Tonnes	Phase 1A	0
	Phase 1B	0
	Phase 2	0
	Phase 3A	0
	Phase 3B	0
	Phase 4	13,517,696
	Phase 5	51,282,304

Source: AGP Mining, 2022.

Figure 16-35: End of Year 17 (Mining Complete)



		Y17
Min Waste tonnes		6,976,542
Ore tonnes		6,437,736
Total Tonnes		13,414,278
Mined Tonnes	Phase 1A	0
	Phase 1B	0
	Phase 2	0
	Phase 3A	0
	Phase 3B	0
	Phase 4	0
	Phase 5	13,414,278

Source: AGP Mining, 2022.

16.11 Mine Equipment Selection

The mine equipment fleet has been sized to achieve an annual production rate of 65 Mt/a to provide sufficient mill feed once the process plant has completed its expansion at the end of Year 4. The mining fleet will be entirely diesel powered and consists of down-the-hole hammer drills, diesel hydraulic excavators, a production wheel loader, and a fleet of 186 Mt trucks. Normal support equipment is also part of the proposed fleet to maintain safe operating conditions.

The fleet is comprised of the equipment in Table 16-19 at the peak of mining expected in Year 10 of the current production schedule.

Table 16-19: Mine Equipment Fleet – Year 10

Major Mine Equipment	Unit	Capacity	Number of Units
Production Drill	mm	140	1
Production Drill	mm	200	8
Production Loader	m^3	23	1
Hydraulic Excavator	m^3	29	4
Haulage Truck	T	186	27
Crusher Loader	m^3	14.5	1
Track Dozer	kW	455	5
Grader	kW	163	2

The drilling fleet is primarily the larger 200 mm drills using a down-the-hole hammer drill for improved penetration. A smaller 140 mm drill will be used initially in pre-production mining and then be used as a supporting drill for production. One task of the smaller unit will be to drill horizontal drain-holes to help relieve pore pressure in the mine wall that the pit perimeter well system may not be able to fully relieve. The pattern size for production blasting will be 11 m holes on a 4.8 m x 5.3 m grid (burden x spacing). The bench height is 10 m and the subdrill is 1 m.

Ammonium nitrate and fuel oil (ANFO) is expected to be used 80% of the time with emulsion the remaining 20% when the blast holes are wet and unable to be dewatered. The powder factor for the production blasts is estimated at 0.32 kg/t (0.86 kg/m^3). Blasting activities will be completed by a contract blasting company. The service they provide includes loading and shooting of all mine blasts, and responsibility for product used and storage of accessories.

The quantity of ANFO required over the mine life is expected to average 12,700 tonnes per year with a peak in Year 10 at 15,200 tonnes. Emulsion will average 3,300 tonnes per year with the peak consumption in Year 10 at 3,800 tonnes.

Loading is completed by the hydraulic excavator fleet which provides greater flexibility for dilution control. They are responsible for 95% of all ore and waste mining with the large production loader covering the remaining 5%.

A separate loader is stationed at the primary crusher to assist with blending and stockpile management.

The haulage fleet is proven diesel electric trucks with a carrying capacity of 186 Mt. These are well known in the mining industry in Mexico and worldwide.

Major supporting equipment includes track dozers for pit floor maintenance, blast pattern clean-up, and waste dump development and reclamation. Graders will patrol the roads to keep them in peak operating shape to improve rolling resistance which in turn helps fuel economy on the trucks and reduces damage to haul truck tires.

Other support equipment includes a support backhoe in the pit for dilution control plus a smaller backhoe with a hammer attachment to reduce oversize material as required in the pit and at the crusher.

The road maintenance crew will have three water trucks to control fugitive dust from the mine haul roads. They will also have smaller 15 t dump trucks with a loader and excavator to maintain ditches, berms and settling ponds. The road crew will also operate a mobile crushing plant to prepare crushed rock for mine use (e.g., blasthole stemming and road surfacing).

Proposed equipment requirements for the life-of-mine plan are provided in Section 21.

16.12 Blasting and Explosives

Planning of blasting activities for the Cordero mine will ensure potential ground vibration and air overpressure effects of drilling and blasting are no greater than permitted by local government restrictions.

The explosives magazine will be supplied by the explosive vendor as part of the supply contract and will be located approximately 3.4 km to the northeast of the plant facility and 700 m north of the Cordero pit.

The location of the explosives magazine in relation to other mine facilities and structures is shown in Figure 16-1.

16.13 Grade Control

With the tight pattern spacing provided by the drills, it is assumed the blastholes will provide sufficient coverage on the deposit for proper grade control. This assumption will need to be assessed as the project advances to the next study phase.

The samples will be collected daily and sent to the assay laboratory for grade determination. The assays inform a short-range model that allows the mine engineering and operations team to guide mining activities to ensure the process plant achieves its targets for metal production.

17 RECOVERY METHODS

17.1 Overview

The process plant design incorporates a staged expansion approach allowing the throughput to be expanded and to accommodate increased feed grades over the life of mine. The selected flowsheet includes a single stage crushing circuit, with crushed product reporting to the crushed ore stockpile. Ore is reclaimed to a grinding circuit consisting of a SAG mill and a ball mill circuit (SAB) operating in closed circuit with a cyclone cluster.

Classified material reports to sequential stages of rougher flotation, where lead and zinc concentrates are separated from the gangue material. Lead and zinc rougher concentrates report to dedicated regrind mills for further size reduction prior to cleaner flotation.

In the cleaning circuits, the concentrate grades are upgraded to produce concentrates of requisite quality. The concentrates then report to dewatering circuits that include high-rate thickeners and vertical plate-and-frame filter presses. The resulting filter cakes are handled by a front-end loader for stockpiling and loadout activities. The tailings from the process are thickened in a high-rate thickener and pumped overland to the tailings management facility.

The staged expansion of the process plant over the mine life is presented below:

- Phase 1 (Years 1 to 3) – The process plant is operated at a throughput of 25.5 kt/d.
- Phase 2 (Years 4 to 6) – The plant is expanded to process material at a throughput of 51 kt/d.
- Phase 3 (Year 7+) – The zinc cleaning and concentrate dewatering circuits are expanded to process higher zinc grades in the feed material.

The unit operations and staged expansion approach were selected to accommodate the variable nature of the deposit in terms of lead and zinc feed grade, and to deploy capital efficiently throughout the life of mine. A summary of the expected process performance is as follows:

- primary crushing availability of 75%
- grinding and flotation availability of 91.3%
- concentrate filtration availability of 82.2%
- Phase 1 throughput of 25.5 kt/d (average basis)
- Phase 2 and 3 throughput of 51.0 kt/d (average basis).

17.2 Process Flowsheet

The process design considers the following unit operations and circuits:

- single stage crushing of run-of-mine (ROM) material
- crushed ore stockpile and reclaim apron feeders
- SAG mill followed by a ball mill in closed circuit with a cyclone cluster
- trash screening
- carbon pre-flotation
- lead-silver rougher flotation including a regrind circuit
- zinc rougher flotation including a regrind circuit
- lead-silver cleaner flotation
- zinc cleaner flotation
- lead-silver concentrate dewatering and loadout
- zinc concentrate dewatering and loadout
- tailings thickening
- reagent mixing and distribution
- air services, water services, and utilities.

The overall process flow diagram for Cordero is provided in Figure 17-1 and described in the sections below.

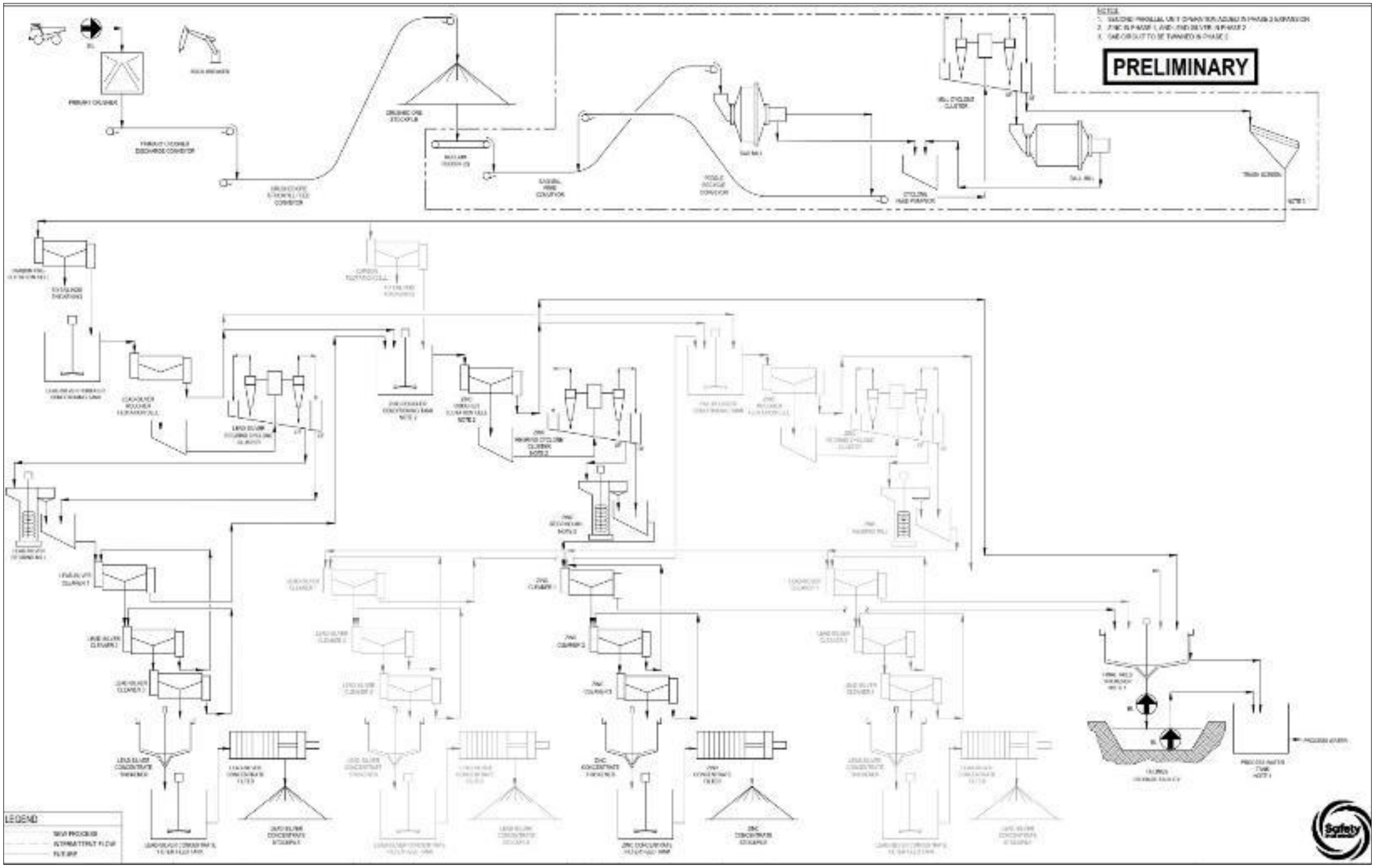
17.3 Plant Design

Key process design criteria are listed in Table 17-1.

17.3.1 Process Plant

The process plant layout, shown as a subsection of the overall plant site layout, is depicted in Figure 17-2. Equipment and infrastructure installed in Phase 1 are shown in a black weighted line. Phase 2 and 3 installations are shown in light grey and are indicated in the callout.

Figure 17-1: Process Flowsheet



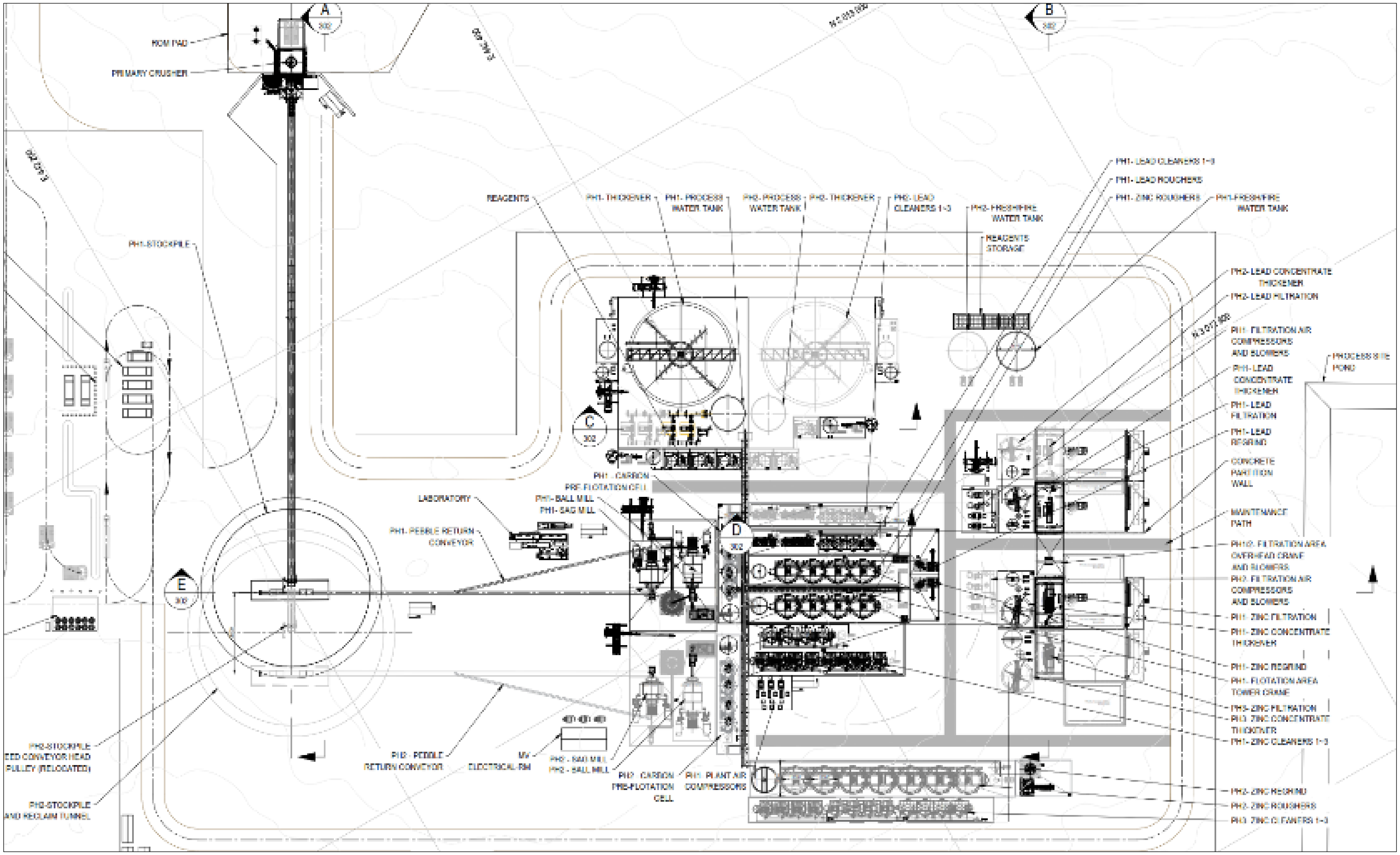
Source: Ausenco, 2022.

Table 17-1: Summary of Process Design Criteria

Criteria	Unit	Value		
Annual Throughput, Year 1-3	t/a	9,307,000		
Annual Throughput, Year 4+	t/a	18,615,000		
Operating Availability – Primary Crushing	h/a	6,570		
Operating Availability – Grinding and Flotation	h/a	7,998		
Operating Availability – Concentrate and Tailings Handling	h/a	7,198		
Crushing Feed Size, 100% Passing	mm	900		
Crushing Product Size, 80 % Passing	mm	85		
Grinding Product Size, 80% Passing	µm	200		
Ball Mill Circulating Load - Design	%	350		
Bond Ball Mill Work Index – Design	kWh/t	20.9		
Bond Abrasion Index – Design	g	0.447		
ROM Head Grade, Lead – Design, Year 1-3 / 4-6 / 7+	%	0.82	0.60	0.61
ROM Head Grade, Zinc – Design, Year 1-3 / 4-6 / 7+	%	1.03	0.72	1.09
ROM Head Grade, Gold – Design, Year 1-3 / 4-6 / 7+	g/t	0.27	0.22	0.08
ROM Head Grade, Silver – Design, Year 1-3 / 4-6 / 7+	g/t	51.6	37.4	30.1
Silver-Lead Rougher, Stage Mass Pull	%	4.2 – 4.7		
Silver-Lead Regrind Product Size, 80% Passing	µm	30		
Silver-Lead Cleaner, Total Mass Pull	%	0.7 – 1.3		
Zinc Rougher, Stage Mass Pull	%	8.8 – 14.4		
Zinc Regrind Product Size, 80% Passing	µm	45		
Zinc Cleaner, Total Mass Pull	%	1.2 – 2.4		
Silver-Lead Concentrate Thickener – Unit Area Settling Rate	$t/m^2/h$	0.25		
Silver-Lead Concentrate Thickener – Underflow Density	% solids (w/w)	65		
Zinc Concentrate Thickener – Unit Area Settling Rate	$t/m^2/h$	0.25		
Zinc Concentrate Thickener – Underflow Density	% solids (w/w)	65		
Tailings Thickener – Unit Area Settling Rate	$t/m^2/h$	0.8		
Tailings Thickener – Underflow Density	% solids (w/w)	63		
Silver-Lead Filter, Filtration Rate	$kg/m^2/h$	271		
Silver-Lead Concentrate Moisture Content	% water (w/w)	8		
Zinc Filter, Filtration Rate	$kg/m^2/h$	190		
Zinc Concentrate Moisture Content	% water (w/w)	9		
Silver Recovery to Silver-Lead Concentrate	%	65 – 75		
Lead Recovery to Silver-Lead Concentrate	%	84 – 89		
Silver-lead Concentrate Grade, Lead	% Pb	49 – 60		
Silver-lead Concentrate Grade, Silver	g/t	2,544 – 3941		
Zinc Recovery to Zinc Concentrate	%	85 – 90		
Silver Recovery to Zinc Concentrate	%	14 – 23		
Zinc Concentrate Grade, Zinc	% Zn	51 – 54		
Zinc Concentrate Grade, Silver	g/t	441 – 598		

Source: Ausenco, 2022.

Figure 17-2: Overall Process Plant Layout



Source: Ausenco, 2022.

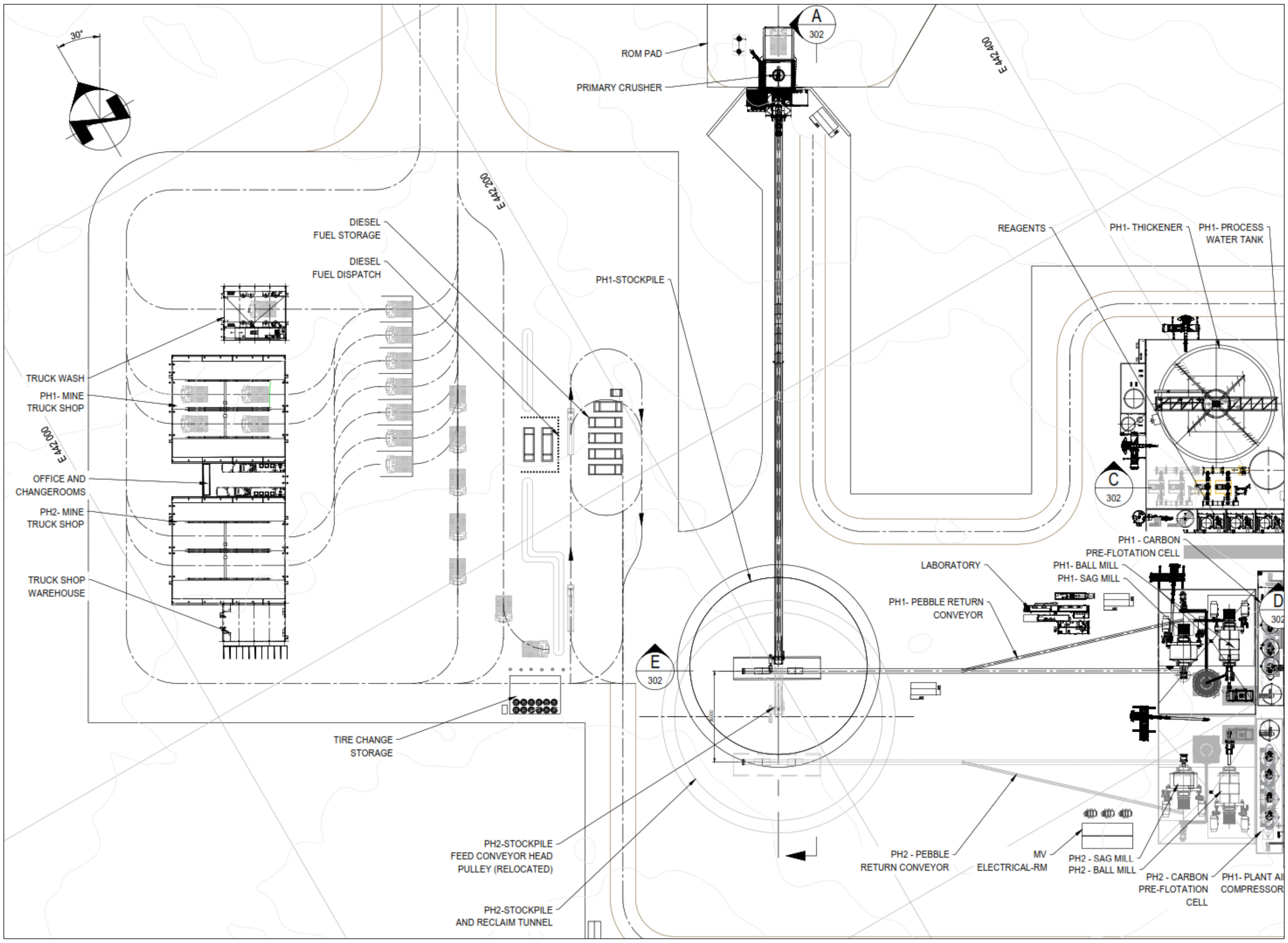
17.3.2 Phase 1 Design (Years 1 to 3)

Phase 1 of the process is designed for a throughput of 25.5 kt/d, although some circuits are sized to accommodate the future throughput expansion and concentrate grades encountered later in the mine life.

17.3.2.1 Crushing and Ore Stockpile

The crushing circuit is designed for an annual operating time of 6,570 h or 75% availability. The circuit is sized for a maximum throughput of 3,117 t/h (51 kt/d) from the outset of the project. The crushing and ore stockpile is depicted in Figure 17-3.

Figure 17-3: Crushing, Reclaim, and Grinding Area, Northwest Corner of the Plant Site



Source: Ausenco, 2022.

ROM material is directly tipped into the primary crusher dump pocket which has a capacity for 1.5 truckloads. The dump pocket is equipped with a hydraulic rock breaker to break any oversized rocks. The feed material flows by gravity into the primary crusher, which will be choke fed to the greatest extent possible.

The primary gyratory crusher is designed to reduce the ore from an 80% passing feed size (F_{80}) of 450 mm to an 80% passing product size (P_{80}) of 85 mm. The crushed material is discharged to a vault below the crusher where it flows by gravity to the primary crusher discharge conveyor, which deposits material on to the stockpile feed conveyor. The primary crusher discharge conveyor is considered a “sacrificial” conveyor, as it reduces maintenance requirements and provides protection for the longer stockpile feed conveyor.

The stockpile feed discharges on to the crushed ore stockpile. The conveyor is initially constructed with two potential head pulley locations to facilitate the expansion of the stockpile later in the mine life.

The area includes the following major equipment and facilities:

- ROM crusher dump pocket (1.5 truckloads, 348 t)
- primary gyratory crusher (600 kW)
- rock breaker
- primary crusher discharge conveyor (1800 mm belt width, 27 m long)
- crushed ore stockpile feed conveyor (1800 mm belt width, 233 m long, 37 m vertical lift)
- crushed ore stockpile (12 h live capacity, 27,930 t).

17.3.2.2 Grinding and Classification

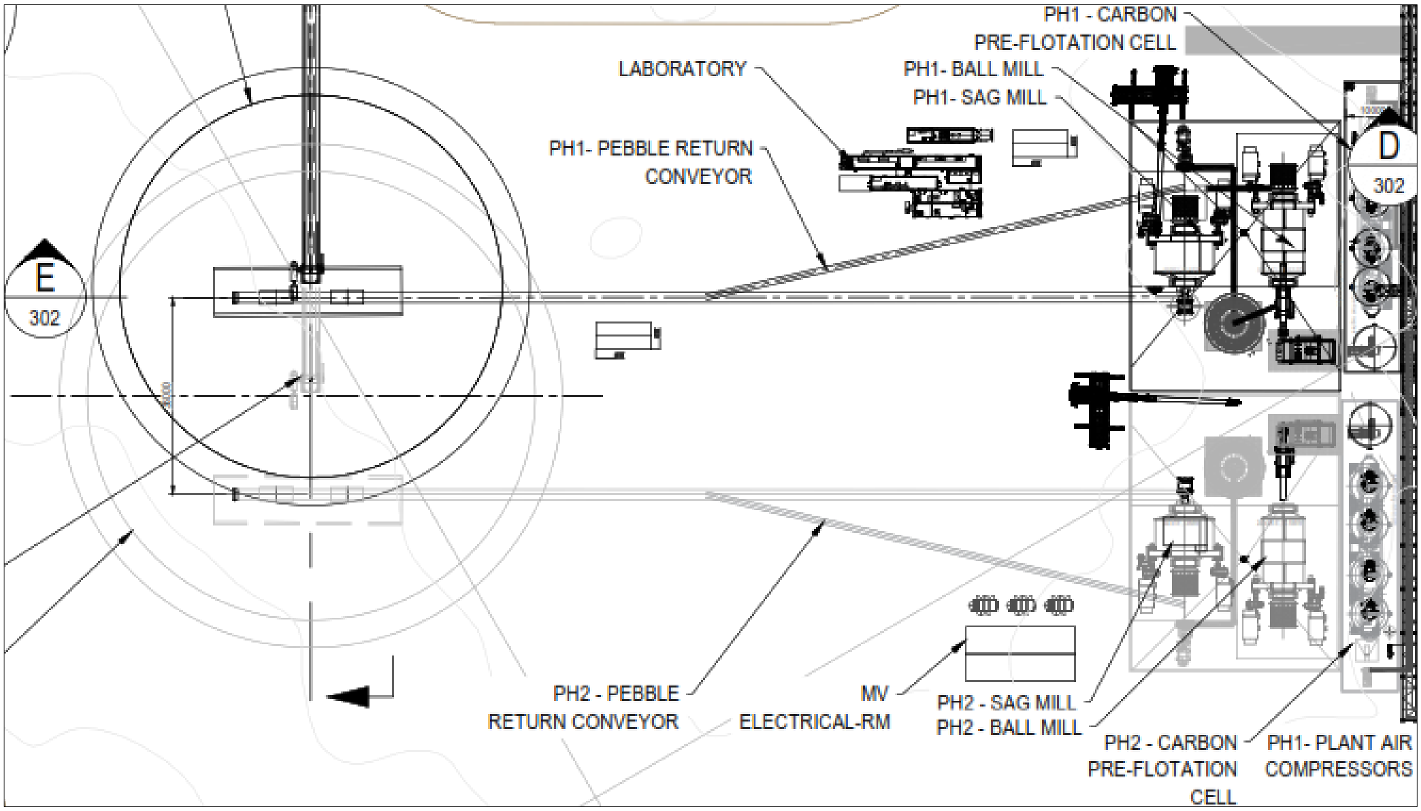
The grinding circuit is designed for an annual operating time of 7,998 h or 91.3% availability. The circuit is sized for a maximum throughput of 1,280 t/h, a nominal throughput of 1,164 t/h, and an average throughput of 25.5 kt/d. The stockpile, reclaim chamber, and grinding circuit are depicted in Figure 17-4.

Ore is reclaimed from the crushed ore stockpile by apron feeders operating in a duty/standby arrangement. Reclaimed material reports to the SAG mill feed conveyor, which transports the material to grinding circuit.

The grinding circuit consists of a dual-pinion SAG mill followed by a ball mill in closed circuit with hydro cyclones. The circuit is sized based on a grinding circuit feed size (F_{80}) of 85 mm and a circuit product size of 200 µm. Process water is fed to the SAG to maintain a slurry density of 70% w/w and the slurry is discharged through a trommel screen with oversize pebbles conveyed back to the SAG mill feed conveyor.

Trommel screen undersize material is discharged to the cyclone feed pumpbox, where it is pumped by a single duty pump to the cyclone cluster. The SAG mill is powered by a variable speed drive (VSD) to allow for changes in SAG mill motor speeds in the event of changes in ore hardness and utilizes 100 to 125 mm diameter grinding media.

Figure 17-4: Stockpile, Reclaim, and Grinding



Source: Ausenco, 2022.

The dual-pinion overflow ball mill is fed by the cyclone underflow. The ball mill discharges through a trommel screen where oversize is screened and discharged to a scats bunker, whereas the trommel undersize discharges into the cyclone feed pumpbox. Cyclone overflow at a nominal solids content of 35% w/w discharges to a trash screen prior to reporting to the flotation circuit. The ball mill utilizes 50 to 80 mm diameter grinding media.

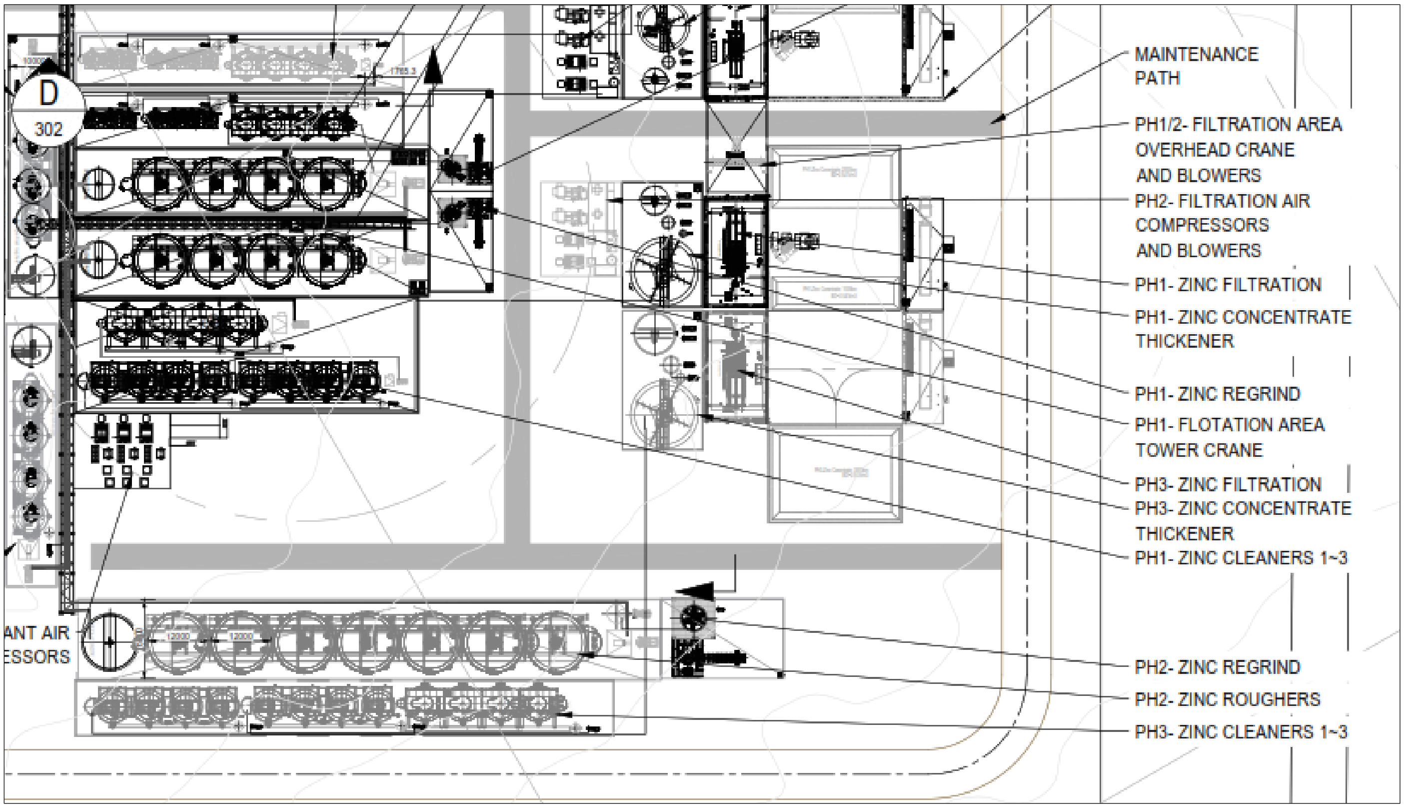
The area includes the following major equipment and facilities:

- SAG mill feed conveyor (1350 mm belt width, 160 m long)
- SAG mill (dual pinion, 13 MW, 10.4 m dia. X 7.32 m EGL)
- pebble conveyor (750 mm belt width, 95 m long)
- ball mill (dual pinion, 12.5 MW, 7.32 m dia. x 11.7 m ft EGL)
- cyclone cluster
- trash screen (32 m^2).

17.3.2.3 Flotation

The flotation area is depicted in Figure 17-5 and outlined in further detail in the following subsections.

Figure 17-5: Flotation Area Layout



Source: Ausenco, 2022.

17.3.2.3.1 Carbon Pre-Flotation

The sedimentary lithology in the orebody contains carbonaceous matter that impairs lead and zinc flotation performance, so a carbon pre-flotation stage is required. The circuit will not run continuously, as the mine plan has shown that high carbon contents can be diluted well below the required concentration in all but a few years of the mine life. The circuit can be operated in "bypass" mode to prevent material from reporting to tailings when carbonaceous material is not anticipated.

The circuit is fed from the trash screen undersize. Four conventional forced air tank cells are used for "reverse flotation" to remove carbon impurities from the desired final concentrate stream and direct the material to tailings. The cells are sized to provide a residence time of 7.5 min, and frother is added directly to the cells to facilitate flotation. Carbon pre-flotation tailings report to lead-silver rougher flotation.

The area includes the following major equipment and facilities:

- four carbon pre-flotation rougher cells (130 m^3).

17.3.2.3.2 Lead-Silver Flotation

Tailings from the carbon pre-flotation roughers reports to a conditioning tank where zinc sulphate, cyanide, collector, and frother are added. Conditioned slurry then flows by gravity to a bank of conventional forced air tank cells at a nominal density of 30% w/w. The rougher concentrate is collected and pumped to regrinding, while the tailings are pumped to the zinc flotation circuit.

The regrind circuit consists of a cyclone cluster and a regrind ball mill operating in open circuit. Slurry from the surge tank is pumped to the cyclones to increase the solids density of the feed to the regrind mill. The overflow targets a product size of 30 µm. The cyclone overflow reports to the lead-silver cleaner circuit, while the underflow flows by gravity to the regrind mill. The regrind mill uses 25 mm diameter steel media and the mill discharge is fed to the lead-silver cleaner circuit. Lime and zinc sulphate are also added to the regrind circuit ahead of cleaner flotation.

The lead-silver cleaner circuit consists of three sequential stages of cleaning utilizing banks of conventional forced air tank cells. The first stage is dosed with cyanide, collector, and frother to promote concentrate recovery. Collector is also dosed to the second and third flotation stages. The flotation concentrates flow from the first stage through to the third, and concentrate from the third stage reports to the silver-lead concentrate thickener. Flotation tailings flow counter-currently to the concentrate, and the first cleaner tailings are pumped to zinc rougher flotation.

The area includes the following major equipment and facilities:

- four lead-silver rougher cells (500 m^3)
- lead-silver regrind cyclone cluster
- lead-silver regrind mill (1.6 MW)
- four lead-silver cleaner 1 cells (70 m^3)
- four lead-silver cleaner 2 cells (23 m^3)
- three lead-silver cleaner 3 cells (23 m^3).

17.3.2.3.3 Zinc Flotation

Lead-silver rougher tailings and lead cleaner 1 tailings report to a conditioning tank where copper sulphate, lime, collector, and frother are added. Conditioned slurry then flows by gravity to a bank of conventional forced air tank cells at a nominal density of 30% w/w. The zinc rougher concentrate is collected and pumped to regrinding, while the tailings are pumped to tailings thickening.

The regrind circuit consists of a cyclone cluster and a regrind ball mill operating in open circuit. Slurry from the surge tank is pumped to the cyclones to increase the solids density of the feed to the regrind mill. The overflow targets a product size of 45 µm. The cyclone overflow reports to the zinc cleaner circuit, while the underflow flows by gravity to the regrind mill. The regrind mill uses 25 mm diameter steel media and the mill discharge is fed to the zinc cleaner circuit. Copper sulphate is also added to the regrind circuit ahead of cleaner flotation.

The zinc cleaner circuit consists of three sequential stages of cleaning utilizing banks of conventional forced air tank cells. The first stage is dosed with copper sulphate, lime, and collector to promote concentrate recovery. Collector and lime are also dosed to the second and third flotation stages. The flotation concentrates flow from the first stage through to the third, and concentrate from the third stage reports to the zinc concentrate thickener. Flotation tailings flow counter-currently to the concentrate, and the first cleaner tailings are pumped tailing thickening.

The area includes the following major equipment and facilities:

- four zinc rougher cells (500 m^3)
- zinc regrind cyclone cluster
- zinc regrind mill (2.0 MW)
- four zinc cleaner 1 cells (170 m^3)
- four zinc cleaner 2 cells (100 m^3)
- four zinc cleaner 3 cells (100 m^3).

17.3.2.4 Concentrate Dewatering and Loadout

The concentrate dewatering circuit consists of thickening and filtration equipment required to dewater the lead-silver and zinc concentrates prior to loadout and shipment. Each concentrate stream reports to a dedicated high-rate thickener, where flocculant is added to assist in the settling of the solids. The thickener overflows are pumped to the process water tank, while the underflows are fed to dedicated filter feed tanks with a residence time of 12 hours.

The lead-silver and zinc thickener underflows each report to a dedicated concentrate filter at a nominal pulp density of 65% w/w. The vertical membrane plate and frame filter presses discharge filter cakes at a target moisture content of 8% and 9% w/w for the lead-silver and zinc concentrates, respectively. The filters discharge to bunkers, where the concentrate is reclaimed by a front-end loader and stored in covered stockpiles. The lead-silver and zinc concentrate handling circuits are physically separated from one another to prevent cross-contamination.

The concentrates are reclaimed from the stockpiles by a front-end loader and loaded into bulk concentrate trucks.

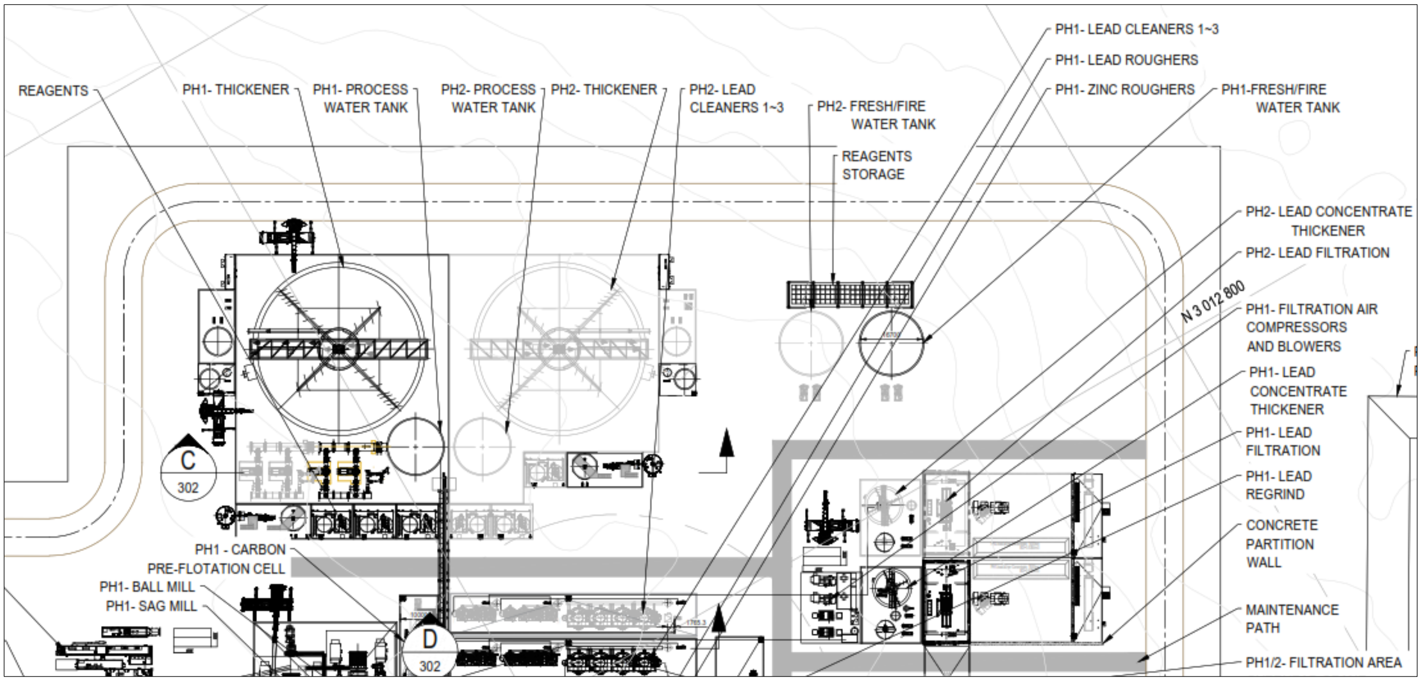
The area includes the following major equipment and facilities:

- lead-silver thickener (9 m dia.)
- lead-silver filter press (vertical plate and frame)
- zinc thickener (12 m dia.)
- zinc filter press (vertical plate and frame).

17.3.2.5 Tailings Thickening and Pumping

Tailings from the flotation circuits report to a tailings thickener, where flocculant is added to promote settling of the solids. The overflow reports by gravity to the process water tank, while the underflow is pumped to an intermediate tailings pumpbox. Four stages of centrifugal pumping are employed in a duty/standby arrangement to transport the tailings 6.4 km through an overland pipeline from the plant to the TSF at a density of 63% solids w/w.

Figure 17-6: Tailings Thickening, Reagents, and Water Services



Source: Ausenco, 2022.

The area includes the following major equipment and facilities:

- tailings thickener (44 m dia.)
- eight final tailings pumps (315 kW).

17.3.2.6 Reagent Handling and Storage

17.3.2.6.1 Lime

Quicklime is received on site as a coarse powder in bulk 38 t deliveries. The material will be stored in a silo and metered to a slaking mill as required. The mixed lime is placed in a storage tank with a 24-hour residence time and distributed to the process as required through distribution pumps operating on a ring main.

17.3.2.6.2 Depressants

Zinc sulphate monohydrate is received on site as a dry powder in 1,000 kg bulk bags. The bags are broken and mixed to a solution concentration of 15% w/w. The tanks have a combined residence time of 24 hours, and the reagent is pumped to the required locations by dosing pumps.

Sodium cyanide is received on site in briquettes contained in 1,000 kg bulk bags. The bags are broken into a mixing tank and mixed to a solution concentration of 30% w/w. The storage tank has a residence time of 12 hours, and the solution is pumped to the required locations by dosing pumps.

17.3.2.6.3 Activators

Copper sulphate pentahydrate is received on site as a dry powder in 1,000 kg bags. The bags are emptied into a mixing tank and mixed to produce a solution at 15% concentration w/w. The mixed reagent is then transferred to a storage tank providing a residence time of 24 hours. The reagent is then dosed to the circuit by pumps as required.

17.3.2.6.4 Collectors

Both Aero 5100 and X 5000 are delivered on site as a liquid in 1,000 kg intermediate bulk containers (IBCs). Dosing pumps deliver the reagents without dilution to the required locations within the flotation circuits.

17.3.2.6.5 Frother

Methyl isobutyl carbinol (MIBC) is received on site in liquid form in 1,000 kg IBCs. The solution is dosed to the process by pumps as required.

17.3.2.6.6 Flocculant

Flocculant is received on site as a dry powder in 750 kg bags. The powder is stored in a hopper with a five-day residence time and mixed to a strength of 0.5% w/v. The solution is stored in a tank with a 12-hour residence time and pumped to the process as required by dosing pumps.

17.3.2.6.7 Anti-scalant

Anti-scalant is used to prevent the build-up of scale in the process solution pipes. It is delivered on site in 1,000 kg IBCs.

17.3.2.7 Services and Utilities

17.3.2.7.1 Process Water

Overflow from the final tailings thickener and concentrate filters will report to the process water tank. Reclaim water from the TSF supernatant pond will be pumped via a pump barge and overland pipeline to the process water tank. The site water system is designed that additional make-up water from the environment or make-up water wells can be stored in the supernatant pond, accounting for the negative site water balance.

Horizontal centrifugal process water pumps in a duty/standby arrangement supply process water to the various consumers throughout the plant site, but predominantly to the grinding circuit. The process water tank is constructed from mild steel and has a one-hour residence time.

The area includes the following major equipment and facilities:

- two process water distribution pumps (1.2 MW)
- process water tank (3000 m^3 live volume).

17.3.2.7.2 Raw Water

Raw water is received at the raw water and fire water tank from well water pumps and an overland supply pipeline. The raw water tank is sized to provide an 8-hour residence time and includes capacity for the fire water reserve. Horizontal centrifugal pumps in a duty/standby arrangement supply raw water to the various consumers throughout the plant site.

The area includes the following major equipment and facilities:

- raw water tank (1,350 m^3 live volume).

17.3.2.7.3 Fire Water

Fire water for the process plant is sourced from the raw water tank. A dedicated pump skid consisting of an electrical pump, jockey pump, and diesel pump will supply water from the fire water reserve volume to a fire water reticulation system that services the concentrator. The raw water tank level will maintain a minimum level of water for use by the fire water system.

17.3.2.7.4 Potable Water

Potable water is sourced from the raw water tank, treated in a potable water system, and stored in a storage tank.

17.3.2.7.5 Gland Seal Water

Gland seal water is sourced from the raw water tank, passed through filters to remove particulate, and pumped to various users throughout the concentrator.

17.3.2.7.6 Air Services

Plant air compressors supply air at 750 kPa to various users throughout the concentrator, and an air dryer provides instrument air as required.

The concentrate and tailings filters have dedicated compressors to service the blowing, membrane squeezing, and drying requirements.

Flotation air blowers provide lower pressure air to the flotation cells at 45 kPa.

The area includes the following major equipment and facilities:

- two process plant flotation blowers (900 kW)
- two filtration air compressors (220 kW)
- three process plant air compressors (160 kW).

17.3.3 Phase 2 (Years 4-6)

Phase 2 involves expanding from a throughput of 25.5 kt/d to 51 kt/d. The additional equipment and circuits necessary to facilitate the expansion are shown in green in Figure 17-7.

17.3.3.1 Crushing and Stockpile

The primary crusher and associated materials handling equipment is sized for the expansion throughput in Phase 1. The stockpile feed conveyor head pulley location will be modified on the existing structure to locate the apex of the stockpile between the existing reclaim tunnel and the new parallel reclaim tunnel to accommodate the increase in throughput.

17.3.3.2 Grinding and Classification

A full parallel grinding and classification circuit will be added, identical to the circuit installed in Phase 1. The two systems will operate independently from one another.

The area includes the following new major equipment and facilities:

- SAG mill feed conveyor (1350 mm belt width, 160 m long)
- SAG mill (dual pinion, 13 MW, 10.4 m dia. X 7.32 m EGL)
- pebble conveyor (750 mm belt width, 95 m long)
- ball mill (dual pinion, 12.5 MW, 7.32 m dia. x 11.7 m ft EGL)
- cyclone cluster
- trash screen (32 m^2).

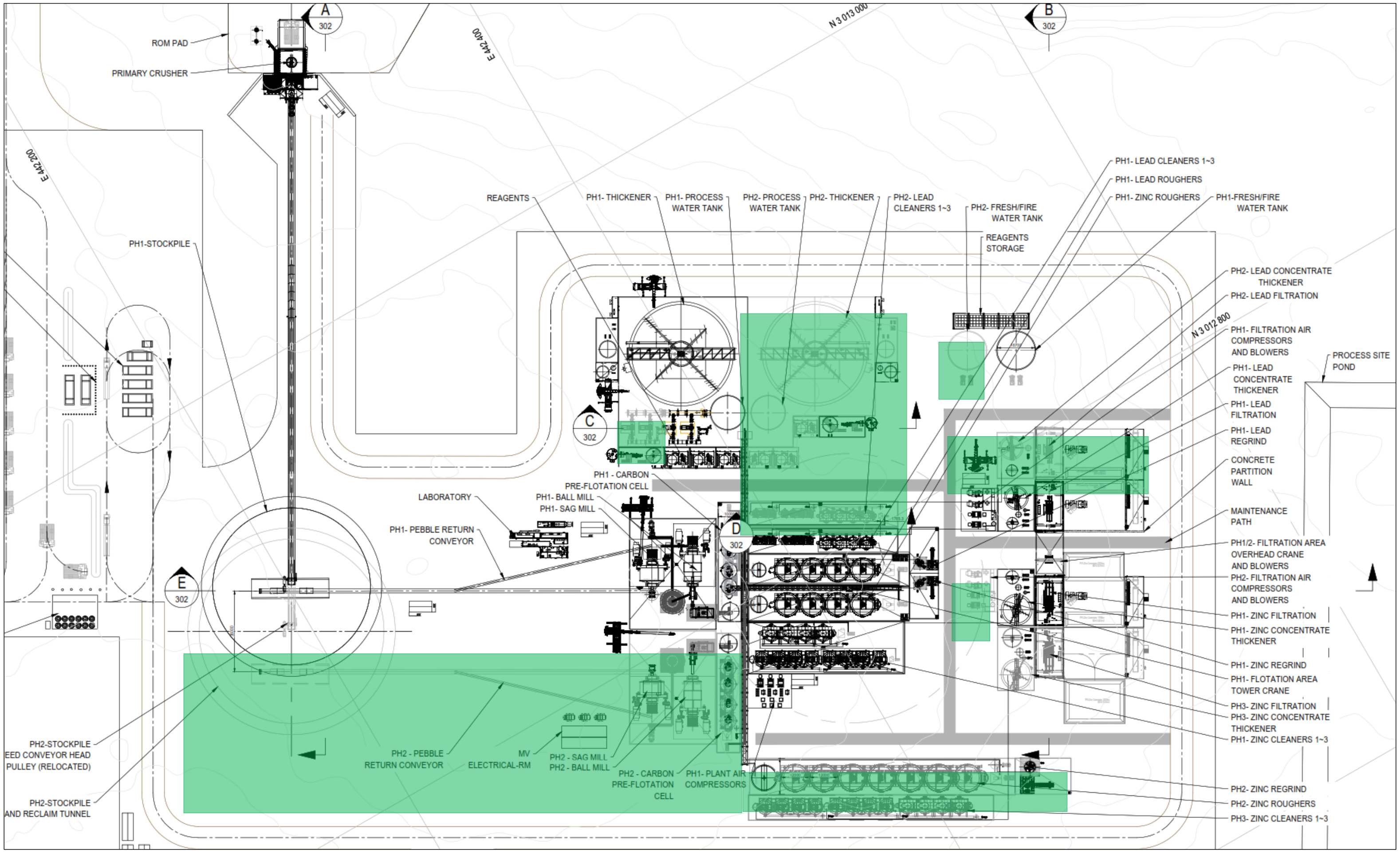
17.3.3.3 Carbon Pre-Flotation

An identical and parallel bank of rougher cells will be installed for the purpose of carbon pre-flotation of the trash screen discharge from the new grinding circuit.

The area includes the following new major equipment and facilities:

- four carbon pre-flotation rougher cells (130 m^3).

Figure 17-7: Plant Layout Depicting Phase 2 Process Plant Equipment



Source: Ausenco, 2022.

17.3.3.4 Lead-Silver Flotation

Rather than installing new lead-silver rougher flotation cells, the existing zinc rougher flotation cells will be re-purposed. The existing zinc rougher cells are identical to the Phase 1 lead-silver rougher flotation cells, creating a parallel train. Reagent dosing locations will be adjusted to reflect that the cells are now producing a lead-silver concentrate.

Concentrate will report to the existing zinc regrind mill, which has sufficient power to be re-purposed for the lead-silver application. The circuit will be adjusted to produce a product size of 30 µm rather than 45 µm. The regrind circuit discharge will be re-routed to a new lead-silver cleaner flotation circuit consisting of three individual banks of four, four and three cells each, totalling 464 m^3 in capacity and providing 35 minutes of flotation residence time.

The new lead-silver cleaner flotation circuit will be identical to the circuit installed in Phase 1. The size of both circuits combined is sufficient to accommodate the increase in head grade experienced in Phase 3, which peaks at 0.61%. Concentrate will report to a new lead-silver concentrate dewatering circuit, and tailings will report to a new zinc rougher flotation circuit.

The area includes the following new major equipment and facilities:

- four lead-silver cleaner 1 cells (70 m^3)
- four lead-silver cleaner 2 cells (23 m^3)
- three lead-silver cleaner 3 cells (23 m^3).

17.3.3.5 Zinc Flotation

In Phase 2, a single new bank of seven zinc roughers will be installed to accommodate the larger 51 kt/d throughput, which a total installed volume of 4,410 m^3 and a residence time of 19 min. The tailings streams from the twinned lead-silver rougher banks and the tailings streams from the twinned lead-silver cleaner stage 1 banks will report to a single conditioning tank ahead of the new zinc rougher cells. The conventional forced air tank cells will produce a concentrate reporting to a new zinc regrind circuit. The tailings will report to tailings thickening.

The regrind circuit consists of a cyclone cluster and a regrind ball mill operating in open circuit, sized to handle the Phase 2 production as well as the future Phase 3 zinc production. Slurry from the surge tank is pumped to the cyclones to increase the solids density of the feed to the regrind mill. The overflow targets a product size of 45 µm. The cyclone overflow reports to the existing zinc cleaner circuit, while the underflow flows by gravity to the regrind mill. The regrind mill uses 25 mm diameter steel media, and the mill discharge is fed to the zinc cleaner circuit.

Although the throughput of the mill increases in Phase 2, the head grade conversely decreases. The cleaner circuit in Phase 1 is sized to accommodate the maximum concentrate production expected in Phase 1 as well as Phase 2, and therefore no new cleaning capacity or concentrate dewatering equipment is required.

The area includes the following new major equipment and facilities:

- seven zinc rougher cells (630 m^3)
- zinc regrind cyclone cluster
- zinc regrind mill (4.7 MW).

17.3.3.6 Concentrate Dewatering and Loadout

To accommodate the increased lead production expected in Phase 2, a new parallel lead-silver dewatering circuit will be added. The circuit will operate in the same manner described in Phase 1.

The area includes the following new major equipment and facilities:

- lead-silver thickener (9 m dia.)
- lead-silver filter press (vertical plate and frame).

17.3.3.7 Tailings Thickening and Pumping

To handle the additional tailings throughput, a second parallel thickener will be added to receive tailings from the new zinc rougher cells and the existing zinc cleaning circuit. The flow to the thickeners will report to an intermediate feed box located above and between the two thickeners, and symmetrical piping will be utilized, allowing the slurry to flow evenly by gravity. The tailings thickener underflow will report to two tailings pump boxes. A new train of four centrifugal pumps will be added, pumping through a parallel overland pipeline. The existing standby pumping train from Phase 1 will be modified to pump through either of the two tailings pipelines.

The area includes the following new major equipment and facilities:

- tailings thickener (44 m dia.)
- four final tailings pumps (315 kW).

17.3.3.8 Reagent Handling and Storage

In the Phase 2 expansion, the quantity of reagents consumed will double for lead-silver rougher flotation, lead cleaner flotation, and zinc rougher flotation. All reagent areas will be expanded to double their initial capacity through the addition of parallel mixing, storage, and distribution circuits.

17.3.3.9 Services and Utilities

17.3.3.9.1 Process Water

Additional process water storage and pumping capacity will be added to facilitate Phase 2 operations. The new tank will be connected to the existing tank through an equalization line to double the storage capacity and maintain a 1-hour live residence time between the two tanks.

An additional process water distribution pump will be added to the existing pump suction line, considering the existing standby pump as a spare.

The area includes the following new major equipment and facilities:

- process water distribution pump (1.2 MW)
- process water tank (3000 m^3 live volume).

17.3.3.9.2 Raw Water

Additional raw water storage and pumping capacity will be added to facilitate Phase 2 operations. Like the process water system, the new tank will be connected to the existing tank via an equalization line for the operating volume only. The fire water reserve volume will be increased to accommodate the future equipment in Phase 3.

The area includes the following new major equipment and facilities:

- raw and fire water tank (1350 m^3 live volume).

17.3.3.9.3 Fire Water

A new fire water skid will be purchased to service the new areas of the plant, as well as the future Phase 3 expansion areas. The fire water system will draw water from the reserve stored in the new Phase 2 raw and fire water tank.

17.3.3.9.4 Gland Seal Water

Additional gland water pumps will be added to service the additional pumping capacity installed for the Phase 2 concentrator. The pumps will pump from the new Phase 2 raw and fire water tank.

17.3.3.9.5 Air Services

The air services capacity will be increased to accommodate the new process plant areas, flotation, and filtration equipment.

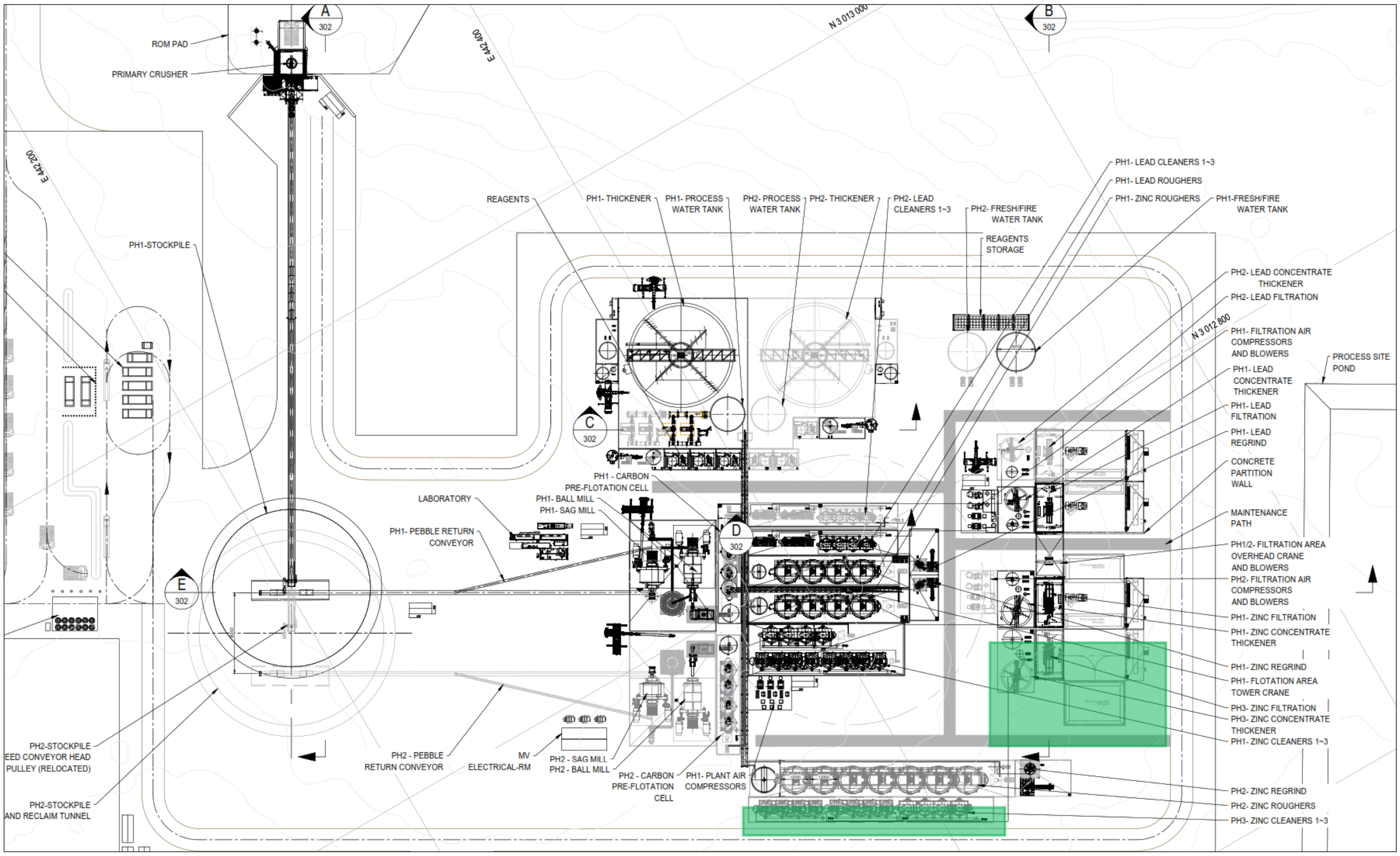
The area includes the following new major equipment and facilities:

- process plant flotation blower (900 kW)
- filtration air compressor (220 kW)
- three process plant air compressor (160 kW).

17.3.4 Phase 3 (Years 7+)

In Phase 3 the mine head grades increase and reach a peak in Year 9, doubling the production of zinc concentrate. The necessary equipment required to support the increased zinc production are outlined in green in Figure 17-8.

Figure 17-8: Process Plant Layout Depicting Phase 3 Equipment



Source: Ausenco, 2022.

17.3.4.1 Zinc Flotation

In order to accommodate the increased zinc concentrate production, the zinc cleaner circuit will be twinned. The regrind area is sized to handle the Phase 3 production, and a second pump will be added to the regrind circuit discharge pumpbox to split the flow between the two circuits: the new zinc cleaners and the existing zinc cleaners from Phase 2. Additional reagent pumps and addition points will be added as necessary to facilitate the expansion.

The area includes the following new major equipment and facilities:

- four zinc cleaner 1 cells (170 m^3)
- four zinc cleaner 2 cells (100 m^3)
- four zinc cleaner 3 cells (100 m^3).

17.3.4.2 Concentrate Dewatering and Loadout

To accommodate the increased zinc production expected in Phase 3, a new parallel zinc dewatering circuit will be added. The circuit will operate in the same manner described in Phase 1. The area includes the following new major equipment and facilities:

- zinc thickener (12 m dia.)
- zinc filter press (vertical plate and frame).

17.3.4.3 Services and Utilities

17.3.4.3.1 Air Services

The air services capacity will be increased to accommodate the new flotation and filtration equipment. The area includes the following major equipment and facilities:

- process plant flotation blower (500 kW)
- filtration air compressor (220 kW).

17.4 Energy, Water and Process Materials Requirements

Energy consumption is based on equipment power demand and operating hours. A summary of the estimated energy consumption rates is presented on an annual basis in Table 18-1.

Reagent consumptions are based on testwork results and standard industry practices. A summary of the nominal estimated reagent and consumable rates are presented on an annual basis in Table 17-2.

Table 17-2: Nominal Annual Consumption Rates

Item	Delivery Format	Consumption Unit	Consumption Rate, Phase 1	Consumption Rate, Phase 2	Consumption Rate, Phase 3
MIBC	1 m^3 tote	t/a	670	1,340	1,340
$ZnSO_4$	1 t bag	t/a	1,397	2,792	2,792
NaCN	1 t bag	t/a	466	931	931
Lime	Bulk Truck	t/a	14,216	28,425	28,425
$CuSO_4$	1 t bag	t/a	1,257	2,513	2,513
Aero 5100	1 m^3 tote	t/a	134	268	268
Flocculant	0.7 t bag	t/a	343	685	645
Anti-Scalant	1 m^3 tote	t/a	121	241	241
X5000	1 m^3 tote	t/a	140	279	279
SAG Mill Media	Bulk Truck	t/a	3,733	7,465	7,465
Ball Mill Media	Bulk Truck	t/a	5,865	11,727	11,727
Lead Re-grind Mill Media	Bulk Truck	t/a	181	412	412
Zinc Re-grind Mill Media	Bulk Truck	t/a	231	384	384
Fresh Water	Wells	m^3/a	415,890	743,803	791,790

Source: Ausenco, 2022.

18 PROJECT INFRASTRUCTURE

18.1 Introduction

The Cordero project is located near the town of Parral in the state of Chihuahua, Mexico. The site is accessible from Highway 24 via a 11 km unpaved access road. The site will include the following facilities:

- mining facilities including administration offices, truck shop, explosives storage, fuel storage and distribution, ore stockpiles, waste stockpiles, and truck wash
- process facilities including the process plant, crushing facilities, process plant workshop, assay laboratory, freshwater infrastructure, and tailings pipelines
- tailings storage facility (TSF)
- general facilities include a gatehouse, administration building, communications, switchyard, and weigh scale
- catchments, ponds, and other site water management infrastructure.

The location of site facilities was based on the following criteria:

- locate the facilities within the claim boundaries
- locate the rock storage facilities near the mine pits to reduce haul distance
- locate the primary crushing and run-of-mine pad between the open pit and the process plant to reduce hauling
- locate the process plant to take advantage of the natural topography and avoid and watercourses
- utilize the existing site access road to the greatest extent possible
- leverage the natural terrain to minimize TSF dam construction requirements
- proximity to the existing power line.

The site layout is shown in Figure 18-1.

Figure 18-1: Overall Site Layout

WBS	DESCRIPTION
1001	EXISTING PUBLIC ROAD
1002	EXISTING POWER LINE RIGHT OF WAY
1003	PROPERTY LINE
1004a	CONSTRUCTION LAY DOWN A
1004b	CONSTRUCTION LAY DOWN B
1101	NEW DIVERTED ACCESS ROAD
1102	EXPLOSIVE STORAGE ACCESS ROAD
1103	GUARDHOUSE
1104	NEW POWER LINE TO SITE
2001	PIT SHELL REVENUE FACTOR 0.60
2002	HAUL ROAD
2003	PIT LIMITS (500m OFFSET)
2004	ROCK STORAGE FACILITY
2005	ROCK STORAGE FACILITY NORTH
2006	FERTILE SOIL DEPOSIT
2007	OVERBURDEN STOCKPILE
2101	TRUCKSHOP
2102	WASH BAY
2103	MAINTENANCE SHOP
2104	FUEL STATION
3000	PROCESS PLANT
3100	PRIMARY CRUSHING
3700	TAILING MANAGEMENT FACILITY
3900	REAGENTS
4100	SWITCH YARD
4101	ADMIN OFFICE
4102	LABORATORY
4104a	ROCK STORAGE FACILITY NORTH - WEST DITCH
4104b	ROCK STORAGE FACILITY NORTH - EAST DITCH
4105a	ROCK STORAGE FACILITY SOUTH - HAUL ROAD DITCH
4105b	ROCK STORAGE FACILITY SOUTH - DAM DITCH
4105c	ROCK STORAGE FACILITY SOUTH - SOUTH DITCH
4106	ROCK STORAGE FACILITY SOUTH - RUNOFF COLLECTION DAM
4107	NATURAL CATCHMENT COLLECTION DAM
4108	NATURAL CATCHMENT DIVERSION DAM
4109	ROCK STORAGE FACILITY NORTH POND
4110	ROCK STORAGE FACILITY SOUTH POND
4111	PLANT SITE POND
4112	DRAINAGE DIVERSION CHANNEL
4113	LAYDOWN AREA AND STORAGE
4114	EXPLOSIVES STORAGE
4115	WAREHOUSE
4116	MILL FEED STOCKPILE
4117	OXIDE FEED STOCKPILE
4118	PIPELINE FROM TAILINGS THICKENER TO TAILINGS MANAGEMENT FACILITY
4119	PIPELINE FROM TAILINGS MANAGEMENT FACILITY TO PROCESS WATER TANK

NOTES:

1. COORDINATES ARE IN METERS.

Source: Ausenco, 2022.

18.2 Roads and Logistics

18.2.1 Site Preparation

Scrub brush clearing and topsoil removal are expected to be required to allow construction of the processing plant and other buildings and facilities. Site civil work includes design for the following infrastructure:

- light vehicle and heavy equipment roads
- access roads
- topsoil and overburden stockpile area
- mine facility platforms and process facility platforms
- water management ponds and ditches and channels
- tailings storage facility
- rock storage facilities.

18.2.1 Access to Site

The site can be accessed by a series of unpaved roads from federal Highway 24, approximately 11 km to the west-southwest. The existing access road will be upgraded including widening, installation of culverts as well as grading of corners to ensure suitability for daily operational traffic.

18.2.2 Plant Site Roads

The roads within the process plant area will be generally 6 m wide, integrated with process plant pad earthworks, and designed with adequate drainage. The roads will allow access between the administration building, warehouses, mill building, crushing buildings, stockpile, mining truck shop, and the top of the mill feed stockpile.

The typical method of clearing, topsoil removal, and excavation will be employed, incorporating drains, safety bunds and backfilling with granular material and aggregates for road structure. The entrance to the process and mine site will be via the gatehouse. Additionally, an existing secondary unpaved public road that follows the existing power transmission corridor crossing the southeast corner of the claim block can be used as an alternative access/exit road.

18.2.3 Airports

The nearest international airport is the Chihuahua International Airport (CUU) in the city of Chihuahua, 180 km north of the project site. The city of Torreón, which has an international airport, is five hours to the southeast in the state of Coahuila. A private 2,700 m airstrip suitable for jet traffic lies 25 km southeast of Cordero at Allende along the Parral-Jiménez Highway.

18.2.4 Security

The site will be accessible year-round via the main access road off Highway 24.

Access to the process plant and truck shop area is controlled by a security gatehouse and perimeter fencing. A site peripheral fence will be installed to prevent site access to unauthorized people and wildlife.

18.2.5 Shipping Logistics

Concentrate will leave site by truck, in either bulk transports or containers, destined for overseas markets. Zinc concentrate will be trucked to the Port of Guaymas in Sonora, Mexico, and lead concentrate will be trucked to the Manzanillo port in Colima, Mexico. The Mexican highway infrastructure is satisfactory to truck the concentrates to its intended destinations.

18.3 Electrical Power System

18.3.1 Electrical System Demand

The maximum demand for the process plant is estimated at 88.4 MW. The power demand for each phase is summarized in Table 18-1.

Table 18-1: Process Plant Electrical Demand

Phase	Maximum Demand (kW)	Average Demand (kW)	Additional Average Demand from Previous Phase
1	46,527	38,213	n/a
2	85,631	69,826	+31,614
3 – Ultimate	88,418	72,253	+2,426

The outdoor substation is phased into two stages based on power demand. In Phase 1, two 40/53.3 MVA, 230 kV / 13.8 kV oil-filled power transformers will be installed, each capable of supplying the plant's maximum demand. The transformers will be connected to a 13.8 kV switchgear with a normally open bus tie. When one transformer is out of service, the power system configuration will allow the other to support the total process load, thus enhancing system reliability.

The plant will be expanded in Phase 2 with the installation of two 37.5/50 MVA transformers and another 13.8 kV switchgear in a similar arrangement to supply the additional loads. The substation will also include four banks of power factor correction equipment, each rated at 4 MVAR.

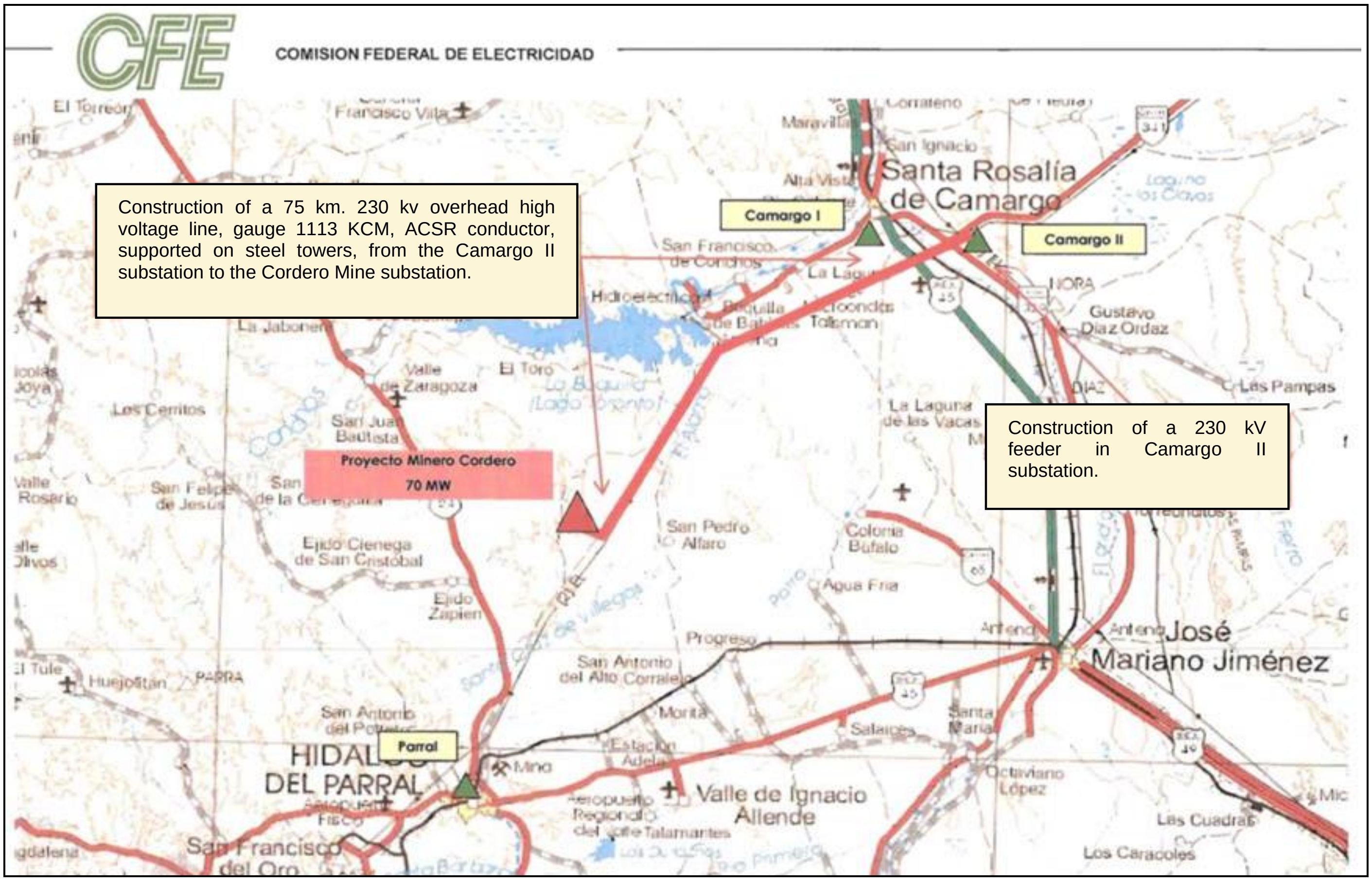
Emergency power for process plant critical loads will be provided by on-site diesel-powered generators. The emergency generators will be connected to the 13.8 kV switchgear housed within the primary electrical rooms at the substation.

18.3.2 Facility Power Supply

A major power transmission corridor crosses the southeast corner of the claim block approximately 1.5 km from the proposed pit. The existing transmission lines in this corridor do not have sufficient capacity to supply the planned operation according to CFE, the national power authority. However, additional lines can be built from the Camargo II substation near Santa Rosalia de Camargo, approximately 75 km to the northeast, utilizing the same corridor.

In 2011, CFE provided a study regarding the construction of a new 230 kV power transmission line to the Cordero mine site. The proposal included 75 km of new towers and a conductor, as well as a new 230 kV feeder at the Camargo II substation (see Figure 18-2).

Figure 18-2: Proposed CFE 230 kV Transmission Line from Camargo II to Cordero Mine Site



Construction of a 75 km. 230 kv overhead high voltage line, gauge 1113 KCM, ACSR conductor, supported on steel towers, from the Camargo II substation to the Cordero Mine substation.

Construction of a 230 kV feeder in Camargo II substation.

Source: Levon, 2018.

18.3.3 Site Power Reticulation

Power will be distributed across the site via 13.8 kV overhead lines originating from the plant's 13.8 kV switchgear housed within the primary electrical rooms at the outdoor substation.

Overhead distribution lines will be constructed using aluminum conductor steel-reinforced cable (ACSR) and supported by wooden poles.

The overhead powerlines will provide power from the 13.8 kW switchgear to the following facilities:

- truck shop
- mine dry
- fuel station and tire storage
- administration building
- gatehouse and security
- laboratory
- mill workshop and warehouse
- TSF reclaim pumps.

A low-voltage diesel generator will supply power to the explosives storage facility, due to the remoteness of its location.

18.3.4 Plant Power Distribution

The largest electrical loads at the process plant are the SAG and ball mills. The drive systems for the SAG and ball mills includes motors, variable frequency drives (VFDs), and bypass switchgear to minimize voltage disturbances throughout the power distribution system during start-up. The SAG mill drive systems will be supplied via cable circuits from the plant's primary 13.8 kV switchgear. All other process and non-Process Plant loads will be powered via 4160 V and 600 V motor control centers (MCCs) housed within electrical rooms strategically located throughout the plant area.

Power to the electrical rooms will be supplied by resistance-grounded, secondary substation-type, oil-filled distribution transformers located adjacent to the respective electrical room. All electrical rooms will be adequately rated for the environment and outfitted with lighting and small power transformers, distribution boards, uninterrupted power supply (UPS) systems, fire alarm and detection, and HVAC systems. To reduce installation time, the electrical rooms will be prefabricated modular buildings installed on structural framework above ground level for bottom entry of cables. Additionally, electrical rooms will be located as close as practical to the electrical loads to optimize conductor sizes and minimize cable lengths.

Grounded pad-mounted and pole-mounted transformers will be used to step down the voltages at the truck shop, mine dry, fuel station and tire storage, administration building, gatehouse and security, laboratory, mill workshop and warehouse areas. Power will terminate at the local 600 V distribution boards.

18.4 Support Buildings

As shown in the site layout in Figure 18-1, the main plant site area consists of several buildings. The process plant buildings are listed in Table 18-2.

Table 18-2: Description of On-Site Buildings

Building Name	Construction Type	Phase	L (m)	W (m)	H (m)	Area (m^2)
Truck Shop Building	Pre-Engineered	1	45.0	43.0	18.4	1,935
Truck Shop Building (additional)	Pre-Engineered	2	45.0	43.0	18.4	1,935
Truck Shop Warehouse	Pre-Engineered	1	25.0	15.0	18.4	375
Truck Shop Office	Concrete Masonry Building	1	33.0	13.0	2.7	429
Mine Dry & Mining Office	Concrete Masonry Building	1	19.0	15.0	2.7	285
Main Admin/Dining Hall	Concrete Masonry Building	1	55.4	19.0	2.7	1,053
Security Gatehouse	Concrete Masonry Building	1	6.0	4.0	2.7	24
Laboratory	Concrete Masonry Building	1	20.0	15.0	3.0	300
Plant Storage Warehouse	Pre-Engineered	1	26.3	24.1	18.4	634
Plant Maintenance Warehouse	Pre-Engineered	1	24.1	20.0	18.4	482
EMS (Emergency Medical Service)	Concrete Masonry Building	1	6.0	12.0	2.7	72
Reagent Storage	Pre-Engineered	1	33.0	6.5	18.0	215

Source: Ausenco, 2022.

18.5 Ore Stockpiles

The material from the pit will be diverted to four main destinations depending on the grade and material type. The barren stripping material will be sent to either the waste rock storage facilities or the TSF dam for construction, while the mineralized oxides and sulphides will be sent to either the mill or two main stockpiles areas, primarily for low-grade sulphides and oxides. Each stockpile will have a capacity of approximately 42 Mt. All mill feed is currently envisioned to be hauled from the pit rim by 190-tonne trucks.

18.6 Rock Storage Facilities

Waste rock storage facilities are planned for waste material from the open pit. Two locations were selected for waste rock storage: one south of the ultimate pit limits (WRF01) and one on the northwest side of the pit (WRF02). In general, design considerations assumed an overall reclaimed slope of 18.4 degrees and a swell density of 2.0 t/m^3. Total waste rock capacity is approximately 530 Mt.

All stockpiles and rock storage facilities are planned to avoid existing waterbodies and water courses. Refer to Section 16.7 for details on rock storage facilities.

18.7 Mining Infrastructure

18.7.1 Haul Roads

Haul roads will be connected to the process plant, rock storage facility, mill feed stockpile and TSF. The roads will be constructed to the following specifications:

- Haul roads were designed to accommodate 190-tonne class haul trucks (assumed operating width of the haul trucks is 7.7 m).
- A 33.2 m running width was allocated for two-way traffic (running width of 3.0 times the operating width of the haul trucks with allowance for a drainage ditch (2.5 m) and to allocate a berm (3/4 tire height, equivalent to 7.7 m base width).
- A 25.5 m running width was allocated for single-lane traffic (running width of 2.0 times the operating width with an allowance for a drainage ditch and berm).
- A 10% maximum grade was designed.
- Working benches were designed for 35 m minimum mining width on pushbacks.

18.7.2 Explosives Facilities

The explosives magazine will be supplied by the explosive vendor as part of the supply contract and will be located approximately 3.4 km to the northeast of the plant facility and 700 m north of the Cordero pit.

An access road provides access to the explosives storage facility from the main site access road. Explosives and accessories will be transported to the mine pits as needed.

18.7.3 Truck Shop/Truck Wash

The truck shop buildings will be built in a phased approach to match the process plant phases. The Phase 1 and Phase 2 truck shop buildings will be located near the crushing area and will be used to maintain haul trucks and for spare parts storage. Each building will be supported on conventional pad footings with gravel flooring and will be of pre-engineered design, 45 m x 43 m x 18 m tall.

The truck wash building at the site will be adjacent to the truck shop building on the truck pad. The building will be used for washing haul trucks and will be supported on a reinforced concrete raft foundation.

Figure 18-3 shows the truck shop, wash bay, mine warehouse, tire storage area, fuel station, and office.

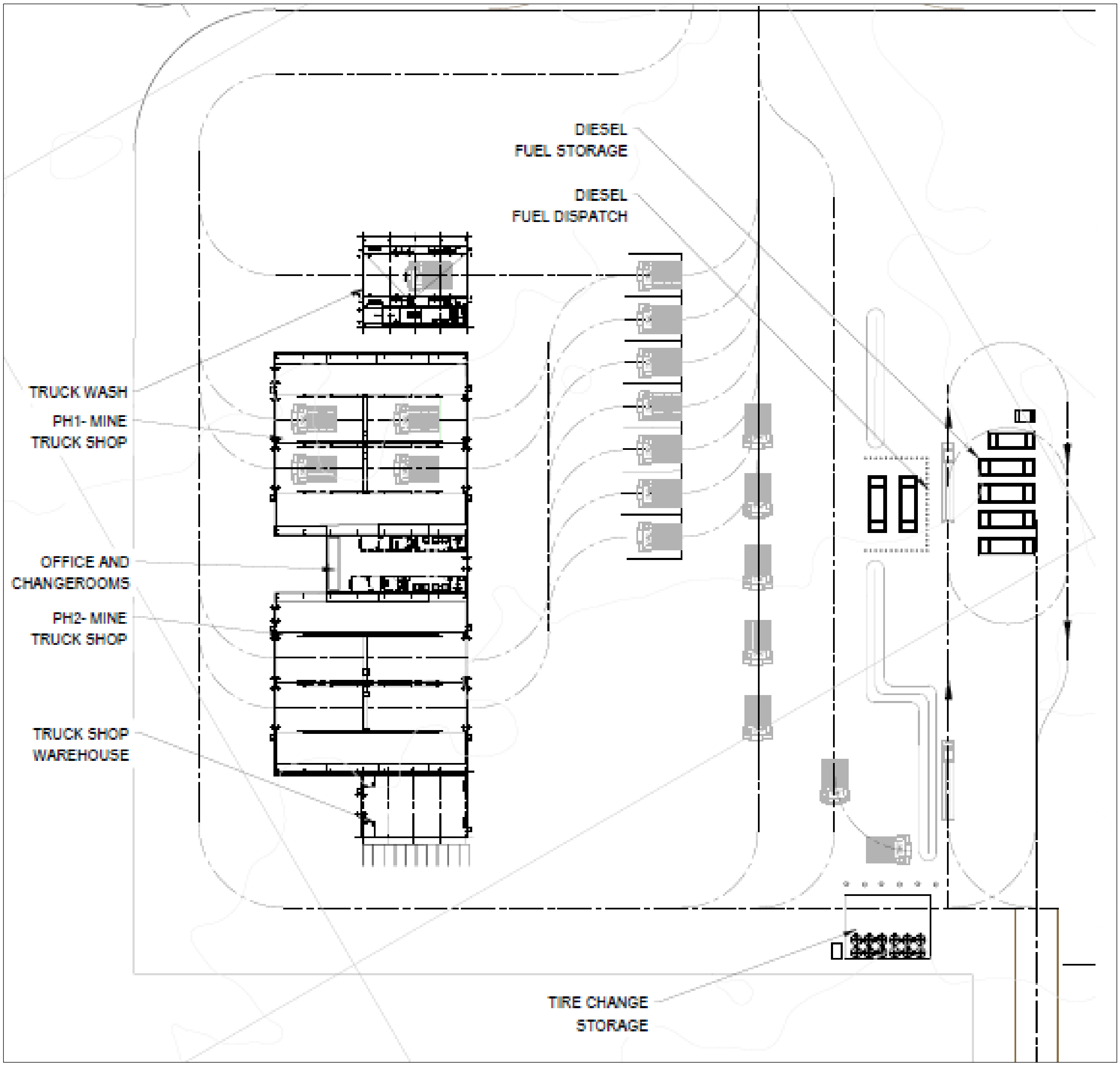
18.7.4 Mine Warehousing, Office & Workshops

The truck shop warehouse will be located to the south of the Phase 2 truck shop building and will be used to store parts and mine maintenance equipment. The foundation of the truck shop warehouse will be reinforced concrete slab on grade and the building will be of pre-engineered design, 25 m x 15 m x 18 m tall.

The truck shop office with lunchroom and washroom will be located between the two truck shops. The truck shop office will have a pre-cast concrete block foundation.

The tire change building will be used to store, maintain, and replace haul truck tires. The building will be supported by a reinforced concrete slab on grade.

Figure 18-3: Truck Shop, Wash Bay, Mine Warehouse, Tire Storage Area, Fuel Station, and Office



Source: Ausenco, 2022.

18.8 Tailings and Waste Disposal

18.8.1 Basis for Design

The principal objectives of the design and operation of the TSF are to provide secure permanent containment for all tailings solids and temporary containment for process water while protecting groundwater and surface waterbodies during operations and in the long term (i.e., post-closure), and to achieve effective reclamation at mine closure. The design of the TSF has considered the following requirements:

- permanent, secure and total confinement of all solid waste materials within an engineered disposal facility
- control and collection of free draining liquids from the surface of the TSF during operations
- inclusion of monitoring features for all aspects of the facility to ensure performance goals are achieved and design criteria and assumptions are met.

The proposed project has an active mine life of 18 years, followed by mine closure activities. Total mine production is approximately 300 Mt of ore, processed in two phases. Phase 1 considers a throughput of 25,500 t/d in Years 1 through 4, before throughput expansion for Phase 2 at 51,000 t/d for the balance of mine operations.

The current mine production schedule also produces approximately 610 Mt of waste through the life of mine. Geochemical testing and modelling of the Cordero waste and tailings materials is currently ongoing to estimate long-term acid generation behaviour of sulphide-bearing materials. Preliminary results of ongoing humidity cell testing (HCT) indicate that the tailings material has potential to produce leachate with elevated concentrations of aluminum, antimony, arsenic, and manganese. Management of the tailings and supernatant pond considering this potential has been considered in the PFS design of the TSF.

The PFS design of the TSF considered the Official Mexican Standard NOM-141-SEMARNAT-2003 which *"establishes the procedure for characterizing mine tailings, as well as the specifications and criteria for the characterization and preparation of the site, project, construction, operation and post operation of mine tailings containment areas."* These standards rely on the Topographical Classification of the mine location (mountainous land, sloping land, flat land), defined hydrology zones (cyclone, humid (rainy), dry), defined seismicity zones (seismic, peneseismic, aseismic) and construction method for the tailings dam (upstream, downstream, filtered tailings) to determine the design efforts required for the facility. This standard was considered, along with other international guidelines, throughout the PFS design.

The Cordero TSF has been classified as 'very high' according to the Global Industry Standards on Tailings Management (GISTM) and Canadian Dam Association (CDA) guidelines for the PFS. Permanent communities exist downstream of the proposed embankment location, and the open pit is located directly east of the TSF. It is recommended that a dam breach assessment with inundation mapping be carried out in addition to consultation with local communities and environmental groups to identify whether there are areas of significant cultural value located downstream of the TSF to understand the potential impacts of a dam breach and confirm the dam classification.

The following design flood and design earthquake were adopted for the TSF based on the 'very high' classification:

- Operations and active closure:
    - Inflow design flood (IDF) – 2/3 between the 1/1,000 and PMF events (CDA, 2013)

  - Design earthquake – 1/2 between 1/2,475 and 1/10,000 or MCE (CDA, 2013)
- Post-closure:
  - Inflow design flood – the PMF event (CDA, 2019)
  - Design earthquake – 1/10,000-year event or the maximum credible earthquake (MCE) (CDA, 2019)

The PMF is an extreme hydrologic event which does not have an applicable annual exceedance probability and exceeds the 1/10,000 event storm event values. The PMF is calculated as the maximum of three scenarios, as listed below (CDA, 2007):

1. The 72-hour spring probable maximum precipitation (PMP) + 100-year snowpack
2. The 72-hour annual PMP
3. The 72-hour Spring 100-year precipitation + maximum (10,000-year) snowpack

The project area does not experience snowpack, therefore the PMF is calculated from the 72-hour Annual PMP. The PFS TSF does not have an emergency spillway during operations so is sized to provide full containment of the IDF. The minimum event duration for a facility which contains the IDF is 72-hours (HRSC, 2016).

18.8.2 TSF Site Description

The selected TSF location is southeast of the open pit in an area of gently rolling hills at natural elevations between 1,500 and 1,600 meters above sea level (masl). Local geological information from government agencies, such as the Mexican Geological Service (SGM), the National Institute of Geography and Statistics (INEGI), the Mineral Resources Council (CRM), the Institute of Geography of the National Autonomous University of Mexico (UNAM) and other technical geology societies was reviewed in a desktop study of the TSF location and can be summarized as:

- Surficial bedrock is mainly in the polymictic conglomerate of Tertiary age.
- Towards the south (in the drainages), granular materials consisting of siltstones and sandstones of recent age are present.
- Aquifer zones would be expected to be found mainly in the sedimentary materials of the Upper Tertiary to the Quaternary age: conglomerates and alluvial deposits.
- According to the Mexican Geological Survey, no important structures are present.

The 2022 site investigation program completed at the TSF location generally confirms the local geology, with overburden of alluvial and residual origin typically 1 to 2 m thick, increasing to approximately 3 m thick in stream channels. The predominant overburden unit underlies the majority of the TSF embankment and is found everywhere except for the stream channels. It is classified according to the Unified Soil Classification System (USCS) as a clayey gravel with sand (GC), and is typically 35 to 45% gravel, 25 to 45% sand, 5 to 20% silt, and 5 to 15% clay. Liquid limits (LL) ranged from 26% to 36%, plasticity index (PI) ranged from 10% to 21%, and the natural moisture content ranged from 3% to 5%.

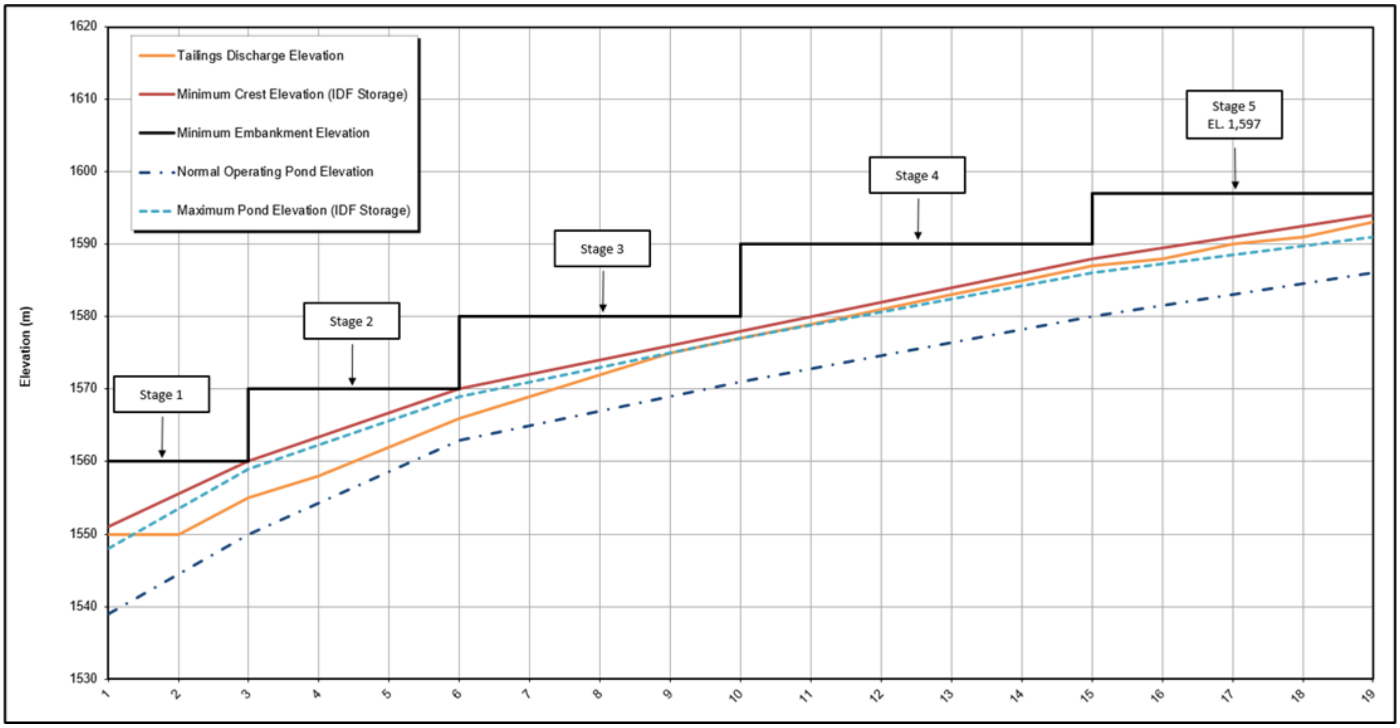
In the bottom of the stream channels, the overburden is classified as lean clay with sand (CL). It is 0% to 10% gravel, 10% to 30% sand, 30% to 40% silt, and 30 to 60% clay. The LL ranged from 36% to 53%, PI from 21% to 38%, and natural moisture content from 8% to 14%.

Three bedrock units were identified in the vicinity of the TSF. The primary unit that underlies the majority of the TSF embankment is the polymictic conglomerate. It extends over 145 m deep at the southern part of the facility and becomes thinner towards the north. It overlies the light brown Mezcalera Formation which is interpreted to subcrop approximately 500 m south from the northern extent of the TSF embankments. Underlying the light brown Mezcalera Formation is the gray Mezcalera Formation.

18.8.3 TSF Filling Schedule

The TSF was sized to store approximately 300 Mt of tailings along with the IDF and additional freeboard. The TSF embankment is designed to be constructed in five stages over the life of the mine. The TSF starter embankment (Stage 1) will store two years of mine waste and subsequent downstream expansions will be completed to support ongoing mining operations and maintain storage of the IDF. The embankment stages and tailings filling schedule are shown on Figure 18-4. The facility is filled by controlled tailings deposition as the embankment is raised and a beach is developed, which keeps the supernatant pond away from the embankment.

Figure 18-4: TSF Filling Schedule



Source: KP, 2023a.

The TSF has been sized considering reclaim water storage equivalent to approximately three months of total mill water requirements in each processing phase (~1 Mm^3 in Phase 1, ~2.5 Mm^3 in Phase 2) to provide flexibility for operating during low flow periods. The TSF sizing also considers additional storage of runoff from the IDF above the maximum operating pond volume. It is expected that a limited operating pond will develop on the tailings surface and water reclaim to the mill for use in processing will be via a floating pump system.

18.8.4 TSF Embankment Design

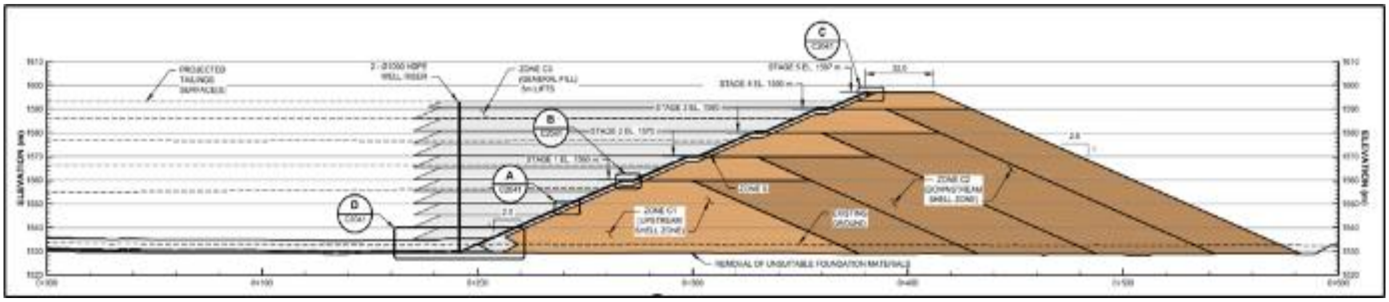
Foundation preparation for the embankment includes removing and stockpiling organic material and all unsuitable materials from the embankment footprint. Any organic materials stripped during foundation preparation will be stockpiled for use during TSF reclamation at closure.

The TSF embankment is a zoned, earthfill/rockfill embankment constructed primarily using waste rock from Open Pit. Suitable materials from basin stripping and shaping activities may also be used for embankment construction. Embankment materials are described in Section 18.9.5. Embankment construction will include placement of specified materials in horizontal lifts, with each lift dumped, spread, and compacted in its specified thickness, depending on the material type, to meet the specifications for compacted density.

The embankment is designed with 2.5H:1V slopes on both sides. The upstream slope includes a 5 m bench at each stage for tailings pipeline access. The ultimate crest of the TSF embankment is approximately EL. 597 m and the maximum height of the TSF embankment, as measured from the embankment crest to the lowest elevation of the downstream slope, is approximately 65 m. The TSF embankment crest width is three times the width of a CAT 789 plus berms (designed for two-way CAT 789 traffic) to be consistent with the planned mine fleet equipment that will be delivering the materials from the open pit. This equates to 32 m and applies to all stages.

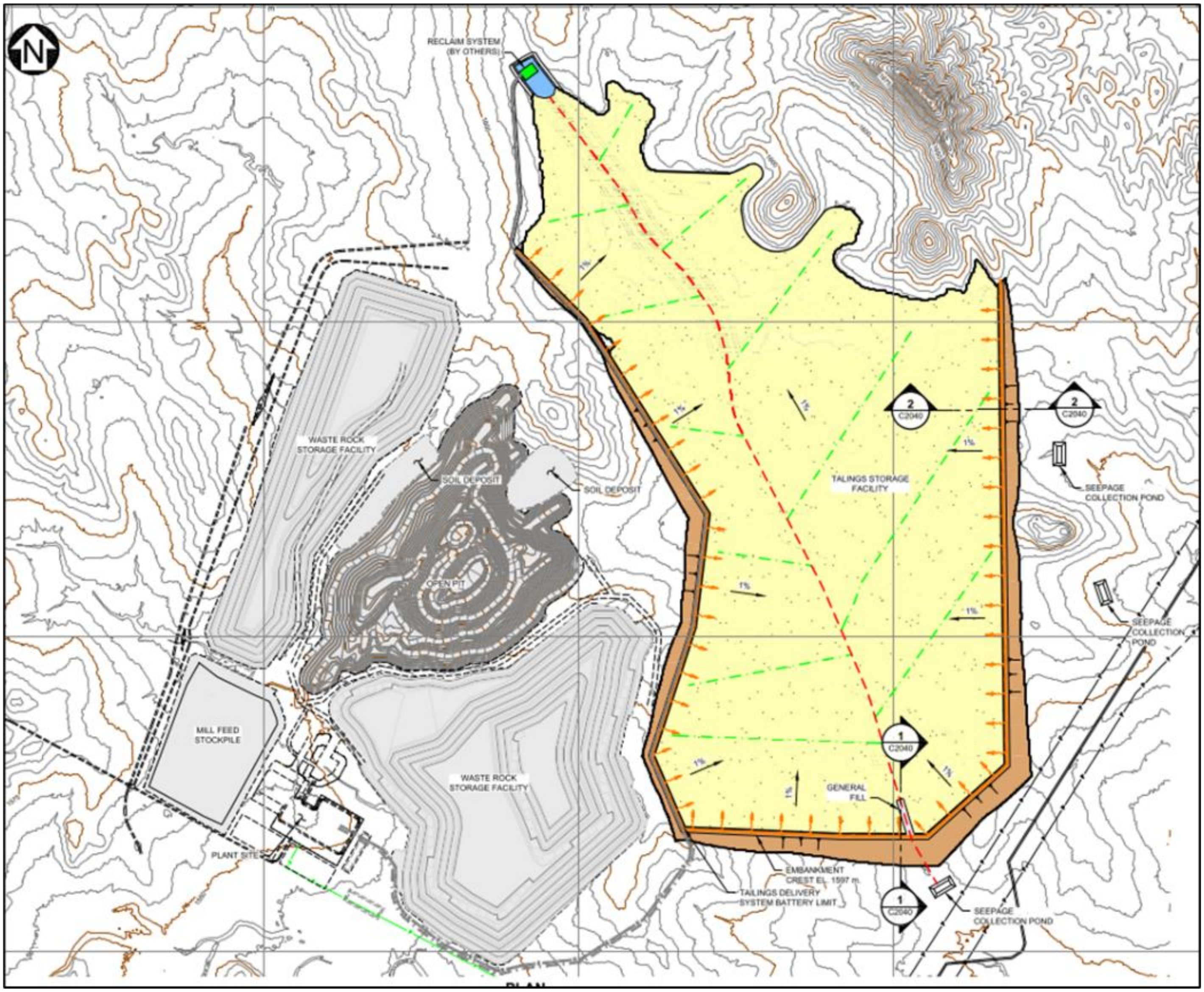
A cross-section of the TSF at full build-out is provided on Figure 18-5 and a general arrangement is shown on Figure 18-6.

Figure 18-5: Cross-Section of TSF



Source: KP, 2023a.

Figure 18-6: Stage 5 Tailings Storage Facility



Source: KP, 2023a.

18.8.5 TSF Seepage Controls and Drainage Systems

The TSF design includes a geomembrane liner on the upstream face of the embankment. The geomembrane liner extends into the lower area of the TSF basin where the supernatant pond will initially develop. The lined area will be extended up the center of the TSF basin, where the supernatant pond will be located. The geomembrane liner, along with foundation and basin drainage systems and low potential for seepage from the natural TSF basin, will reduce the potential for seepage from the TSF. Lined areas will require clearing, grubbing, and shaping to provide a suitable base for the geomembrane.

The TSF design includes a foundation drain below the geomembrane liner that extends along the low point of the full basin. The foundation drain, which consists of drain gravel, two perforated pipes, and a geotextile wrap, collects and conveys seepage and groundwater flows below the liner and beneath the TSF embankment. The foundation drain discharges into a seepage collection pond located downstream of the final embankment.

A basin drainage network above the geomembrane liner is included to collect infiltration from the tailings mass and assist in the long-term consolidation of the tailings. The primary basin drain consists of drain gravel with two perforated pipes, and a geotextile wrap. Secondary basin drains will extend from the primary basin drain in a herringbone pattern within the basin. The basin drainage network will connect to a rockfill sump at the upstream toe of the starter embankment with a reclaim pump system to return collected water to the mill for processing.

18.8.6 TSF Embankment and Drainage System Materials

The proposed TSF embankment and drainage system materials are summarized in Table 18.3.

Table 18-3: Embankment Material Descriptions

Zone	Location	Material	Material Requirements	Placement and Compaction
S	Low Permeability Zone	Clayey Gravel with Sand	Overburden (fine material) from borrow areas or excavations within the TSF basin, open pit stripping, or other suitable source. May require screening.	Haul, place, spread, compact in 300 mm lifts (max).
B	Liner Bedding	Sand	Selected or processed sand from the open pit, TSF basin, or other suitable source. May require crushing, screening.	Haul, place, spread, with nominal compaction in 300 mm lifts (max).
C1	Shell Zone	Waste Rock	Select rockfill from the open pit. May require screening	Haul, place, spread, compaction with a smooth drum roller in 1000 mm.
C2	Downstream Shell Zone	Waste Rock	Select rockfill from the open pit	Haul, place, spread in 5000 mm, compacted by dozer and truck traffic.
C3	General Fill	Waste Rock	Select rockfill from the open pit	Haul, place, spread in 5000 mm, compacted by dozer and truck traffic.
D	Drainage Feature	Drain Rock	Select or processed coarse gravel from the open pit or other suitable source. May require crushing, screening.	Haul, place, spread with nominal compaction in 500 mm lifts (max).
P	Drainage Feature	Drain Protective Cap	Select rockfill from the open pit. May require screening.	Haul, place, spread with nominal compaction in 500 mm lifts (max).

18.8.7 TSF Construction and Operation

TSF embankment construction is to be completed under the direct supervision of a qualified engineer who reports to the Engineer of Record (EOR). This will ensure the construction is completed as per the design drawings, and that the construction meets the requirements of the technical specifications and the construction quality assurance / quality control program.

A detailed Operation, Maintenance, and Surveillance (OMS) Manual will be developed to serve as a guiding document for the safe operation of the TSF. It will include the most essential information pertaining to the TSF and ancillary facilities. The OMS Manual will:

- identify key personnel and their roles and responsibilities
- provide a general description of the mine, the TSF and ancillary facilities, the design approach and classification, and other important and relevant information
- outline the quantifiable performance objectives (QPOs) for the TSF based on installed instrumentation
- outline the operation, maintenance, and surveillance procedures for the TSF and ancillary facilities.

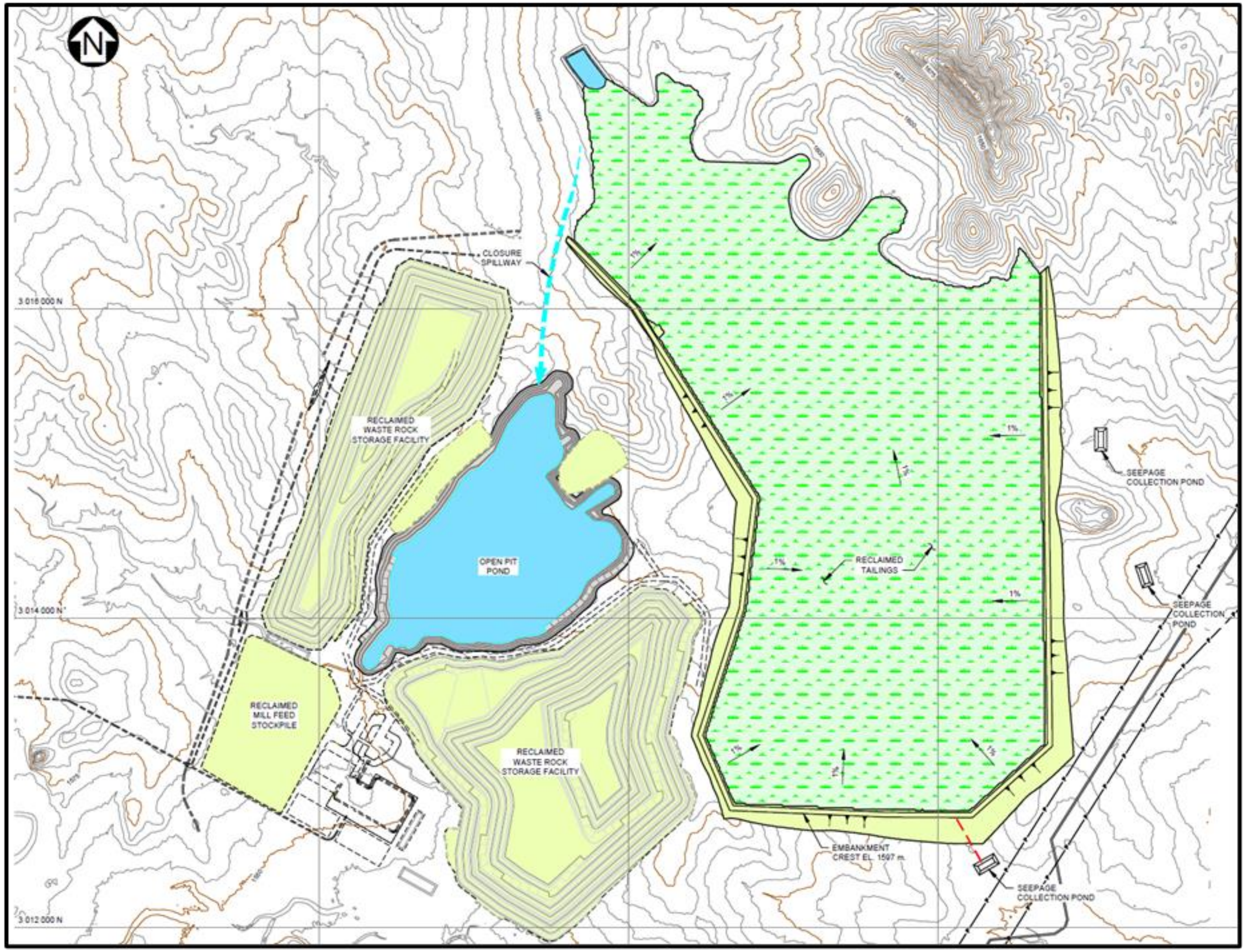
18.8.8 TSF Closure

The TSF design has considered the long-term physical and chemical stability of the tailings mass and embankment after mine operations have stopped and into closure. The hydrometeorology data for the mine site indicate that the facility will operate in an annual deficit throughout closure. High rainfall events may result in the temporary development of a pond on the TSF surface, which is expected to evaporate or infiltrate into the tailings mass or be conveyed from the TSF via the closure spillway. The main closure activities will include:

- constructing a closure spillway for the TSF
- re-grading the tailings surface to promote natural drainage to the closure spillway; selective discharge of tailings will occur in the latter years of operations to grade the TSF surface to the maximum practicable extent
- constructing a closure cover and revegetating the regraded tailings surface
- reclaiming and revegetating the TSF embankments
- managing the foundation and basin drainage system flows
- progressively reclaiming and decommissioning non-essential facilities, access roads, ditching, and other structures when no longer needed.

A schematic showing the closure configuration for the TSF is provided on Figure 18-7.

Figure 18-7: TSF Closure



Source: KP, 2023a.

18.9 Site-Wide Water Management

This section discusses the site-wide management of water; the design of water management structures; hydrology; and the water balance. Major drainage paths within the study area were delineated through GIS analysis of LiDAR elevation data with a 2 to10 m contour resolution.

18.9.1 Hydrometeorology

The volume of hydrometeorological data collected at the project site is limited, so data from two potentially representative regional climate stations in vicinity of the project area were used to characterize the climate. The location details of the regional climate stations and their vicinity to the project area are summarized in Table 18-4.

Table 18-4: Project Area and Regional Climate Stations Locations

Station		Distance to Site	[1] Elevation	Elevation Difference from Site	Latitude	Longitude
Name	ID	(km)	(masl)	(m)		
Project Area	-	-	1,550	-	027.277°	-105.604°
La Boquilla	8085	36.2	1,323	-227	027.544°	-105.412°
Valle de Zaragoza	VZRCH	32.7	1,350	-200	027.455°	-105.807°

Note(s): 1. The Process Plant is located at an elevation of approximately 1,550 masl.

Precipitation, evaporation, and temperature data were collected at the La Boquilla (Station ID: 8085) and Valle de Zaragoza (Station ID: VZRCH) regional climate stations for several years between 1950 and 2021. Local streamflow data for the project are not available. Table 18-5 summarizes the total and usable years of data collection and associated mean collected and estimated data for the two climate stations. The data indicate a dry climate with significantly more evaporation than precipitation.

Table 18-5: Regional Climate Data Summary

Mean Annual Data	Units	Regional Climate Station Name (ID)			
		La Boquilla (8085)		Valle de Zaragoza (VZRCH)	
		Total Years	Value	Total Years	Value
Precipitation	mm	52	303	51	420
Evaporation	mm	53	2,561	41	2,019
Max. Daily Temperature	°C	48	29	42	29
Min. Daily Temperature	°C	48	11	42	10

18.9.2 Water Management Structures

This section summarizes the proposed surface water management structures for the Cordero site. The major structures include a natural catchment diversion channel, collection ditches, and collection ponds / dams. These are discussed below.

A diversion along the west segment of the site is required to capture and divert non-contact water around the north rock storage facility, the pit and explosive storage area. Due to the large catchment that reports to this diversion (~70 km^2), which could result in a large inflow to the pit area, the channel was sized for a 1:100-year, 24-hour storm event. As the proposed channel cuts through several ridges and valleys, a water diversion dam is proposed mid channel to reduce the excavation required for the channel.

It is envisioned that this dam will accumulate non-contact water from the upstream channel and will either be used for make-up water as part of the mill process or left to evaporate and/or infiltrate. As a contingency, temporary pumping could be used to draw down the accumulated water to either the TSF (for future use) or over the ridge to the downstream segment of the diversion channel. As the expected frequency of drawing down the dam is low, pumping equipment and costs have not been provided as part of this study. A second dam at the southern extent of the north rock storage facility is proposed to store water from the upstream natural catchment that can be used as make-up water as part of the mill process. The exact configuration of the dam has not yet been determined.

Collection ditches collect contact runoff from the rock storage facilities and direct it to various collection locations for process use, treatment (if required), or release to the environment. The collection ditches are sized to convey the peak runoff produced from a 1:100-year, 24-hour storm event. As shown in the general arrangement, there are two proposed collection ditches for the north rock storage facility and the rock storage facility. It is envisioned that these collection ditches will also reduce surface water inflow into the pit.

Collection ponds are proposed to store contact runoff from the collection ditches. There are three proposed collection ponds and one proposed collection dam, each sized to accommodate a 1:100-year, 24-hour flood with a minimum freeboard of 0.5 m. Runoff from the north rock storage facility will report to a single pond along the southern edge of the facility. Runoff from rock storage facility will accumulate in two collection areas. The southern segment will report to a pond along the southern end of the facility.

To reduce the excavation required to construct a channel along the eastern extent of the facility, a water collection dam is proposed. The runoff from approximately a third of the rock storage facility will report to the dam with the remaining runoff being captured in the southern pond. Runoff from the plant site will report to a third pond adjacent to the site. At this stage, it is envisioned that the site will be graded toward the pond area and a collection ditch will not be required. The stored contact water will be treated (if required) and released to the environment or reused for process purposes.

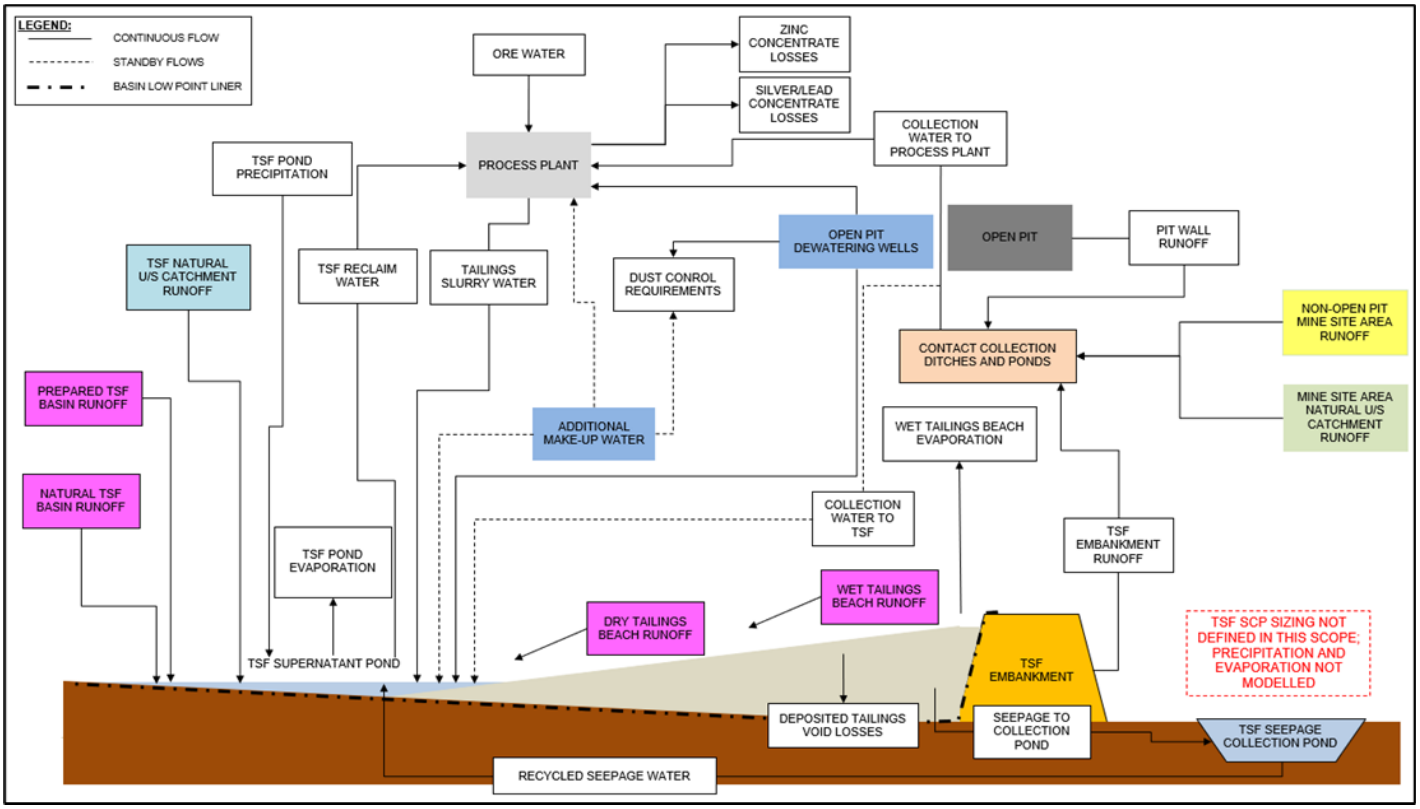
18.9.3 Site-Wide Water Balance

A site-wide water balance model was completed to assess the conditions required to maintain sufficient process water supply to support mine operations and to inform the design of water management facilities. The water balance model results indicate the project will operate in an annual deficit and will require make-up water to meet process water demands while not deviating excessively from the target 3-month process water supply in the TSF. The estimated make-up water requirements are as follows:

- Initial (Phase 1): 100 L/s to 260 L/s
- Ultimate (Phase 2): 480 L/s to 620 L/s

The range in total make-up water supply requirements illustrates the sensitivity of the water balance to climate and consolidation input parameters, which are to be refined in future studies. A schematic of the site-wide water balance is presented in Figure 18-8.

Figure 18-8: Site-Wide Water Balance Schematic



Source: KP, 2023b.

The annual deficit is primarily due to slurry water retained in the tailings voids and secondarily due to evaporation significantly exceeding precipitation at the site. The TSF basin design includes a partial geomembrane liner and basin drainage network to promote consolidation to improve water recovery from the tailings voids. The process water supply volume will form a small pond on the tailings surface and water in the pond will be returned to the mill for use in processing via a floating pump reclaim system. Results from a benchmarking analysis suggest that the make-up water requirement values modelled for the project are within the expected range based on observations from other operating mines in the region with similar design and climate characteristics.

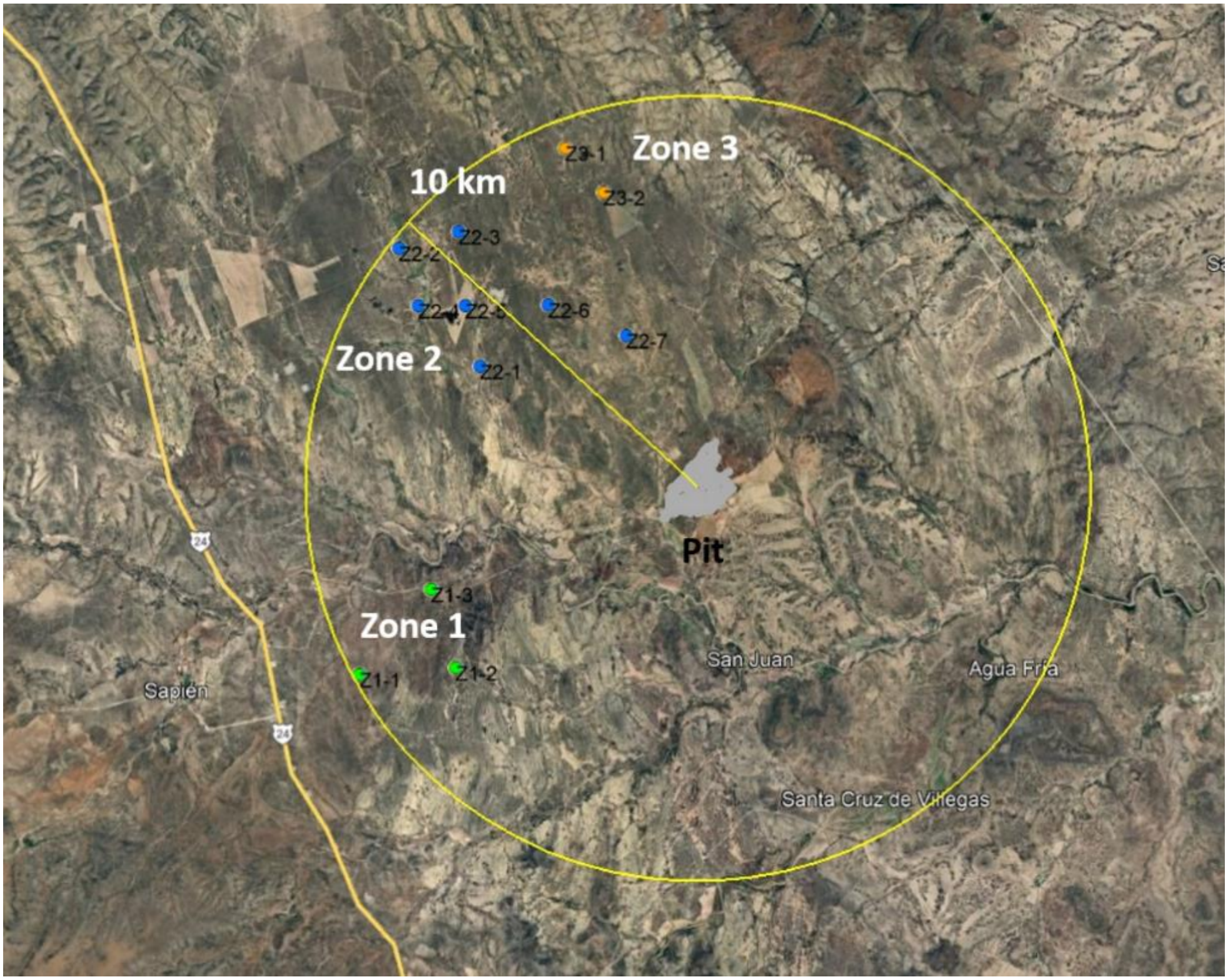
18.9.4 Hydrogeology Infrastructure

The design of the hydrogeology infrastructure (for the mine water supply) is based on the results from the water balance analyses presented in the Section 18.9.3 and the preliminary groundwater studies for the open pit inflow estimation presented in Section 16.3. The water balance results indicate that make-up water will be required to support the operations of the process plant and the TSF during the pre-production and operations phases.

The analytical solutions for the open pit inflow indicate that the open pit dewatering system could provide approximately 60 L/s from groundwater pumping wells, as discussed in Section 16.3.5.2. Therefore, the open pit dewatering system is expected to meet the partial demand of the project make-up water throughout the mine life. Open pit inflow water would be stored at the process plant, in surface water ponds and in the tailings storage facility.

The additional source(s) of make-up water are expected to be from groundwater in the nearby wellfield(s) that have been explored in the surrounding areas of the project (Figure 18-9, provided in email from IDEAS on November 24, 2022). It is estimated that approximately 32 wells would be required to be installed in the nearby wellfield(s) for supply of the additional make-up water. Depending on the actual yield from each well, assuming a possible yield of up to 20 L/s per well (which is the highest flow rate measured from the air-lifting tests of the installed RC22 monitoring wells), these 32 wells could potentially produce over 600 L/s which would satisfy the make-up water demand throughout the mine life.

Figure 18-9: Groundwater Exploration Zones



Source: from IDEAS' email on Nov. 24, 2022.

The groundwater wells would pump to appropriately placed and sized collection/regulation tanks and thereafter transfer pump water directly to the mine site. No other storage facility has been considered in the design at this time; therefore, the wellfield(s) are sized capable of supplying the anticipated peak demand (anticipated to occur mainly in the months from February to July, based on the climate data).

For mechanical equipment and piping network sizing purposes, it was therefore assumed that 32 additional groundwater supply wells are required to meet the additional make-up demand in the mine life. Groundwater exploration to find source water for additional make-up requirements has been initiated in three zones within 10 km of the mine site (Figure 18-9). A surface geophysical survey campaign (TEM) was conducted in 2022 and identified several targets for follow-up drilling investigation and testing.

The first groundwater drilling campaign is expected to commence in early 2023. Preliminary well and wellfield yields, as well as wellfield layouts, will be developed based on the drilling and testing program, together with a forward work plan for ongoing water resource development.

It is likely that development of groundwater resources as a water supply source to the project will be a multiple phase program involving investigation drilling, water well construction and testing in several areas. Collected and interpreted information will allow for development of conceptual hydrogeologic models which will form the basis of numerical groundwater flow simulations to represent groundwater conditions, wellfield design and operation, and sustainable groundwater development through the mine life.

Optimization of wellfield size and configuration will continue as the project develops, based on the results of groundwater exploration activities and additional engineering studies. As the project develops, engineering design alternatives may consider the incorporation of one or more storage facilities to lessen the requirement for peak wellfield demand and the number of production water wells required.

19 MARKET STUDIES AND CONTRACTS

The Cordero project will produce silver, gold, lead, and zinc in the forms of two types of concentrates: the lead-silver concentrate (with minor contents of gold and zinc), and a zinc concentrate (with minor contents of gold and lead) from the flotation concentrator plant. The concentrates will be shipped to and most likely smelted at the refineries and smelters in Asia (China, Korea, Japan) and Europe. The metals will be sold on the spot market.

19.1 Market Studies

Discovery Silver retained an external consultant for a review of the treatment costs (TC), refining costs (RC) and transport costs and metal payables (including penalty scales). The market terms for this study are based on the terms proposed by the consultant as well as recently published terms from other similar studies. The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analyses to support this report.

19.2 Commodities Price

For this technical report, the metal prices presented in Table 19-1 were used for financial modelling, based on three-year trailing averages of spot prices, then nominating the conservative end of the range. The spot prices below are also the same used in the PEA.

Table 19-1: Metal Prices for Economic Analysis

Metal	Price
Silver	$22.00/oz
Gold	$1,600/oz
Lead	$1.00/lb
Zinc	$1.20/lb

Source: Discovery Silver, 2023.

19.3 Contracts

There are no existing refining agreements, smelting, transportation, handling or sales contracts in place for the project. An update to the marketing study conducted during the PEA was produced by Discovery Silver's consultant and was used as the basis for the marketing terms in this study.

The metal payables in Table 19-2 were used in this study. A summary of the treatment and refining costs is provided in Table 19-3.

Table 19-2: Metal Payables

Metal	Unit	Zn Concentrate	Pb Concentrate
Zinc	%	85	-
less Deductible	units	8.0	-
Lead	%	-	95
less Deductible	units	-	3.0
Silver	%	70	95
less Deductible	g/dmt	93.3	50.0
Gold	%	70	95
less Deductible	g/dmt	1.0	1.0

Source: Discovery Silver, 2023.

Analyses of zinc and lead concentrate treatment charges was completed in support of this study. Benchmark zinc concentrate treatment charges over the five-year period from 2018 through 2022 have seen considerable volatility, averaging around $215/dmt within a range of $147.00 to $299.75 per dmt. Extending this out to the 10-year period from 2013 through 2022, headline benchmark treatment charges have shown a similar pattern, averaging around $213/dmt within the same high/low range. Spot charges have seen even greater volatility over this period, ranging from highs above $300/dmt to lows close to $0. For the purposes of this study, the long-term benchmark zinc treatment charge and escalators are projected as $210.00/dmt.

Over the 10-year period from 2013 to 2022, headline benchmark lead concentrate treatment charges have averaged around $157/dmt within a range of $98 to $230 per dmt. More recently however, benchmark treatment charges have averaged around $130/dmt over the five-year period from 2018 to 2022, within a narrower but still wide range of $98 to $183 per dmt. For the purposes of this study, the long-term benchmark lead treatment charge, refining charges and escalators are projected to be $130/dmt with refining charges of $1.20/oz for silver and $10/oz for gold.

Table 19-3: Summary of Treatment Charges and Refining Costs

Metal	Concentrate Grade	Treatment Charges (US$/wmt)	Refining Charges (US$/payable lb or oz)	Concentrate Loading Port		Ocean Shipment Mode	
				Zn Concentrate	Pb Concentrate	Zn Concentrate	Pb Concentrate
Zinc	51%	$210.0	$0.00	Guaymas		Bulk	
Lead	52%	$130.0	$0.00		Manzanillo		Container/Bulk
Silver			$1.20				
Gold			$10.00				

Source: Discovery Silver, 2023.

Concentrate logistics fees are summarized in Table 19-4.

Table 19-4: Concentrate Logistics Fees

Metal	Logistics (US$/wmt)			
	Port	Inland Truck	Ocean Freight (CIF Disport, incl. insurance & I-T losses)	Total
Zinc	Guaymas	$60.0	$65.0	$125.0
Lead	Manzanillo	$60.0	$65.0	$125.0

Source: Discovery Silver, 2023.

19.4 Zinc Concentrate Analysis

The Cordero mine is projected to produce on average approximately 135,000 dmt of zinc concentrates annually basis a throughput rate of 25,500 tonnes per day during Phase 1.

With the planned Phase 2 expansion in Year 5 close to doubling the throughput rate, average zinc concentrates production will increase to approximately 215,000 dmt per annum over the balance of the mine life.

Based on the expected zine concentrate grades from testing, the zinc concentrates will be suitable for most buyers. The expected cadmium content will exceed the current Chinese import restrictions which limit levels for specific deleterious elements in zinc concentrates. In addition, arsenic and mercury concentrations may exceed import restrictions at times. Zinc concentrate penalties are summarized in Table 19-5.

Table 19-5: Zinc Concentrate Grades and Penalties

Metal	Grade	Charge ($/dmt)	Per Step ('X')	If Content > ('Y')
As	0.31%	$1.50	0.10%	0.30%
Fe	8.14%	$2.00	1.00%	8.00%
Cd	0.46%	$2.00	0.10%	0.30%
SiO_2	3.60%	$1.50	1.00%	4.00%
Hg	11.0 g/t	$3.00	100 g/t	200 g/t
F+Cl	405 g/t	$1.50	100 g/t	500 g/t
Mn	1.02%	$1.50	0.10%	0.50%

Source: Blue Coast and Ausenco, 2023.

19.5 Lead Concentrate Analysis

Lead concentrate production will average approximately 105,000 dmt/a over the first four years of operation, based on a throughput rate of 25,500 tonnes per day during Phase 1.

Under the planned Stage 2 expansion in Year 5 when throughput will increase to 51,000 t/d, annual lead concentrates production will increase marginally to average 125,000 dmt with the higher throughput offset by lower projected ore grades.

Although the typical grade of the lead concentrates is expected to be above 50% Pb, the indicated range is relatively wide. While lower grade concentrates are generally less appealing to buyers, the relatively high silver levels should nonetheless make the Cordero concentrates attractive to many buyers.

Lead concentrate grades and penalties are summarized in Table 19-6.

Table 19-6: Lead Concentrate Grades and Penalties

Metal	Grade	Charge per $/dmt	Per Step ('X')	If Content > ('Y')
As	0.26%	$2.50	0.10%	0.70%
Sb	1.04%	$2.50	0.10%	1.50%
Se	402 g/t	$1.50	100 g/t	500 g/t
F+Cl	216 g/t	$2.00	100 g/t	300 g/t
Hg	10.0 g/t	$2.00	10 g/t	100 g/t

Source: Blue Coast and Ausenco, 2023.

Based on the typical/expected specifications as set out above, the Cordero lead concentrates can be considered relatively clean. However, at the high end of the indicated ranges for certain elements—notably arsenic, antimony and selenium—penalties will likely be incurred. Furthermore, at the high-end of the range for arsenic, these concentrates could not be delivered directly to China as they are outside the prevailing 0.70% import regulatory limit; however, they would be suitable for smelters outside of China, both in Asia and in Europe.

19.6 Comments on Market Studies and Contracts

The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analysis to support the 2023 Pre-feasibility Study.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Introduction

This section describes the environmental setting of the Cordero project, the environmental studies that provide a basis for mine permitting, and social- and community-related considerations. This section also outlines water and waste management strategies, and considerations for closure and reclamation planning.

20.2 Environmental Considerations

An environmental baseline study was carried out in 2021 by Consultores Interdisciplinarios en Medio Ambiente SC (CIMA). The information from this study was used to request environmental permits and to describe the project's environmental and socioeconomic setting.

20.2.1 Physical Environment

The project site is 34,900 hectares in the physiographic provinces of Sierra Madre Occidental and the eastern Mexican Basin and Range, as shown in Figure 20-1. The physiography is varied with steep hills and gentle plains. Soil cover is predominately calcisols covering approximately 86% of the surface, followed by 10% for leptosols and vertisols with 4%.

The project site is part of the Hydrological Region 24 (RH24), Bravo-Conchos, as shown in Figure 20-2. According to Comision Nacional del Agua (CONAGUA) official limits, the project belongs to the "Seis Tributarios" Hydrological Region in the Rio Conchos 1 basin which spans from the Llanitos hydrometric monitoring station to La Boquilla dam. La Boquilla dam is located 17 km to the northeast and is the closest waterbody to the project site. The Valle de Zaragoza aquifer feeds the project site. Two unnamed streams are tributaries to El Cacahuatal stream located in the east side of the mine pit (IDEAS, 2022a).

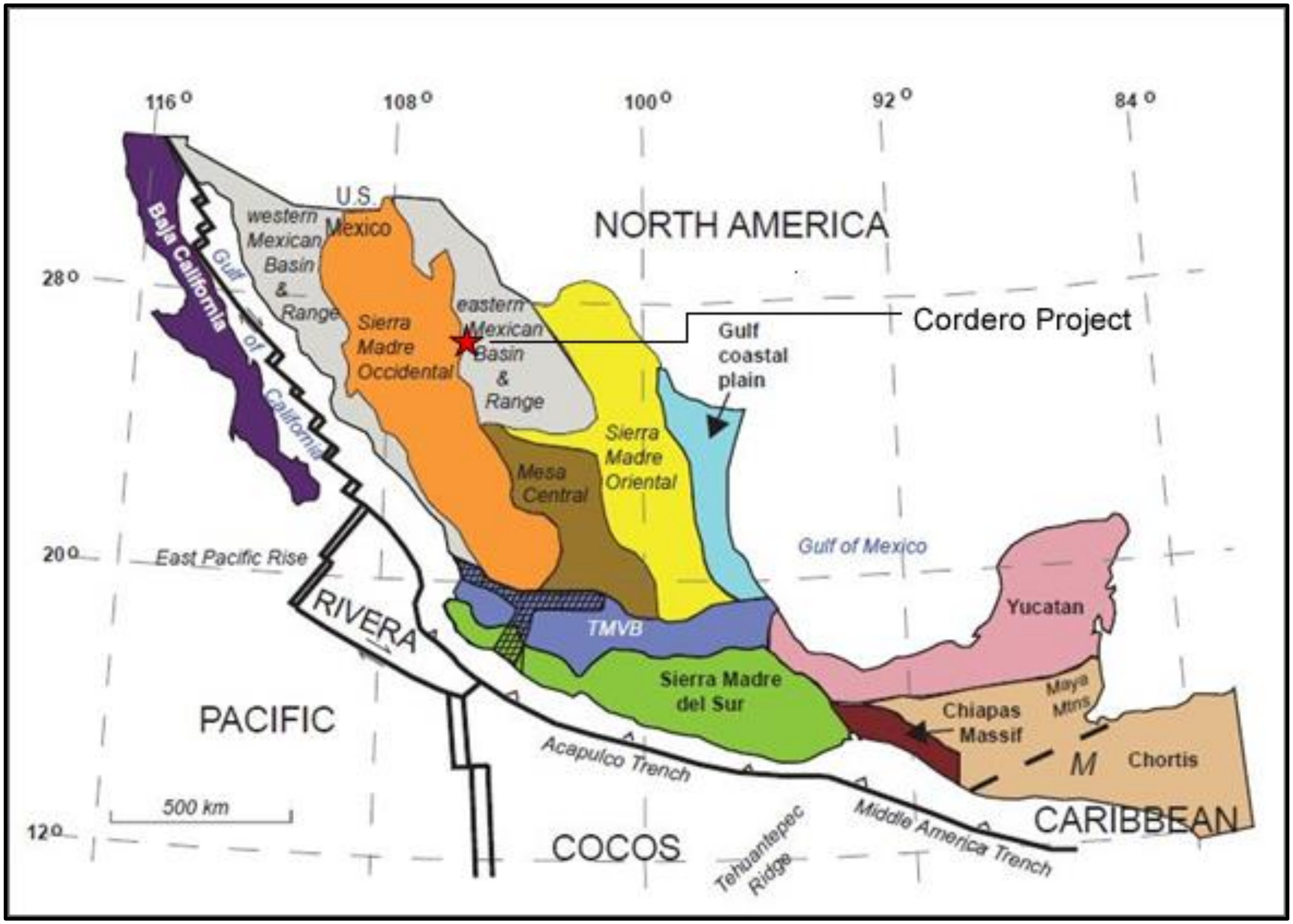
20.2.1.1 Hydrogeological Baseline and Supporting Studies

The hydrogeological baseline and supporting studies conducted and the data collected up to October 2022 are described in Section 16.3.

The topography in the pit area is generally flat with slope gradients ranging mostly between 1% and 3%. The ground surface elevations within the pit extent are approximately 1,560 to 1,600 meters above sea level (masl) with an outcrop of bedrock at 1,640 masl near the center of the pit. The average annual precipitation (as rainfall) is 428.8 mm, of which only 2% to 3% may infiltrate as recharge into groundwater (IDEAS, 2022a). Due to the relatively dry climate, under average conditions surface runoff is expected to be small and seasonal.

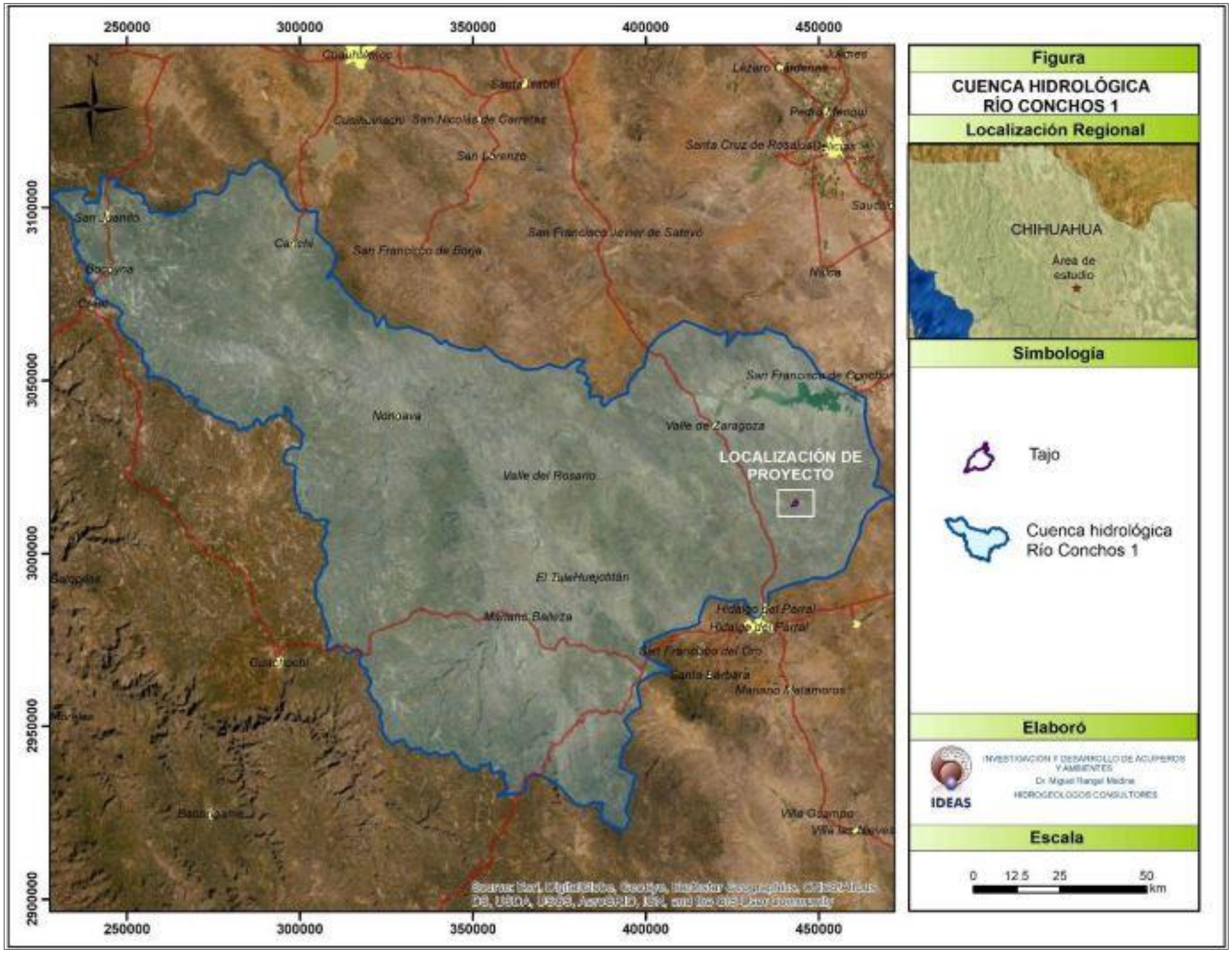
The pre-mining static groundwater level in the proposed open pit area is approximately 1,497 masl., or 76 mbgs on average. Small seasonal variations in groundwater levels have been observed (IDEAS 2022a, KP 2022a and 2022b). Groundwater flow patterns are broadly interpreted to be in the direction from the northwest towards the southeast.

Figure 20-1: Physiographic Provinces of Mexico



Source: Adapted from Campa, M.F.; Coney, P.J., 1983. Hammarstrom, J.; Robinson, G.; Ludington, S.; Gray, F.; Drenth, B.; Cendejas-Cruz, F.; Espinosa, E.; Pérez-Segura, E.; Valencia-Moreno, M.; Rodríguez-Castañeda, J.L.; Vásquez-Mendoza, R.; Zurcher, L., 2010.

Figure 20-2: Hydrological Basin Rio Conchos 1



Source: IDEAS, 2022a

Some variation in groundwater flow patterns with depth has been noted. Shallow groundwater is influenced by topography and surface runoff and recharge processes, and deeper groundwater is influenced by more district-scale geological characteristics, as discussed below:

- Near surface groundwater – The shallow groundwater system, groundwater flow is interpreted to be from northwest to southeast across the project area, generally following topography (see Figure 20-3).

- Shallow bedrock zone (1,497 to 1,413 masl) – Water levels for the wells extending to depths between 1,413 and 1,497 masl were grouped and are shown in Figure 20-4. Groundwater levels range from around 1,520 masl to the north (RC22-002) to around 1,476 masl to the southeast (RC22-004), groundwater flow is generally NNW-NW to SE, following topographic gradients and is likely recharged from direct precipitation and shallow alluvium drainage.

- Middle bedrock zone (1,260 to 1,222 masl) – Water levels for the wells extending to depths between 1,260 and 1,222 masl were grouped and are shown in Figure 20-5. Water levels are relatively flat at around 1,497 masl, with an elevated level of 1,509 masl to the SW (RC22-001) and a low elevation of 1,490 masl recorded to the north (RC22-002). The low elevation to the north could reflect the topography which looks to drain to the NE and therefore there is potentially a groundwater divide interpreted between the well RC22-002 and the deposit, possibly due to intersection of NW-SE trending faults dividing compartments.

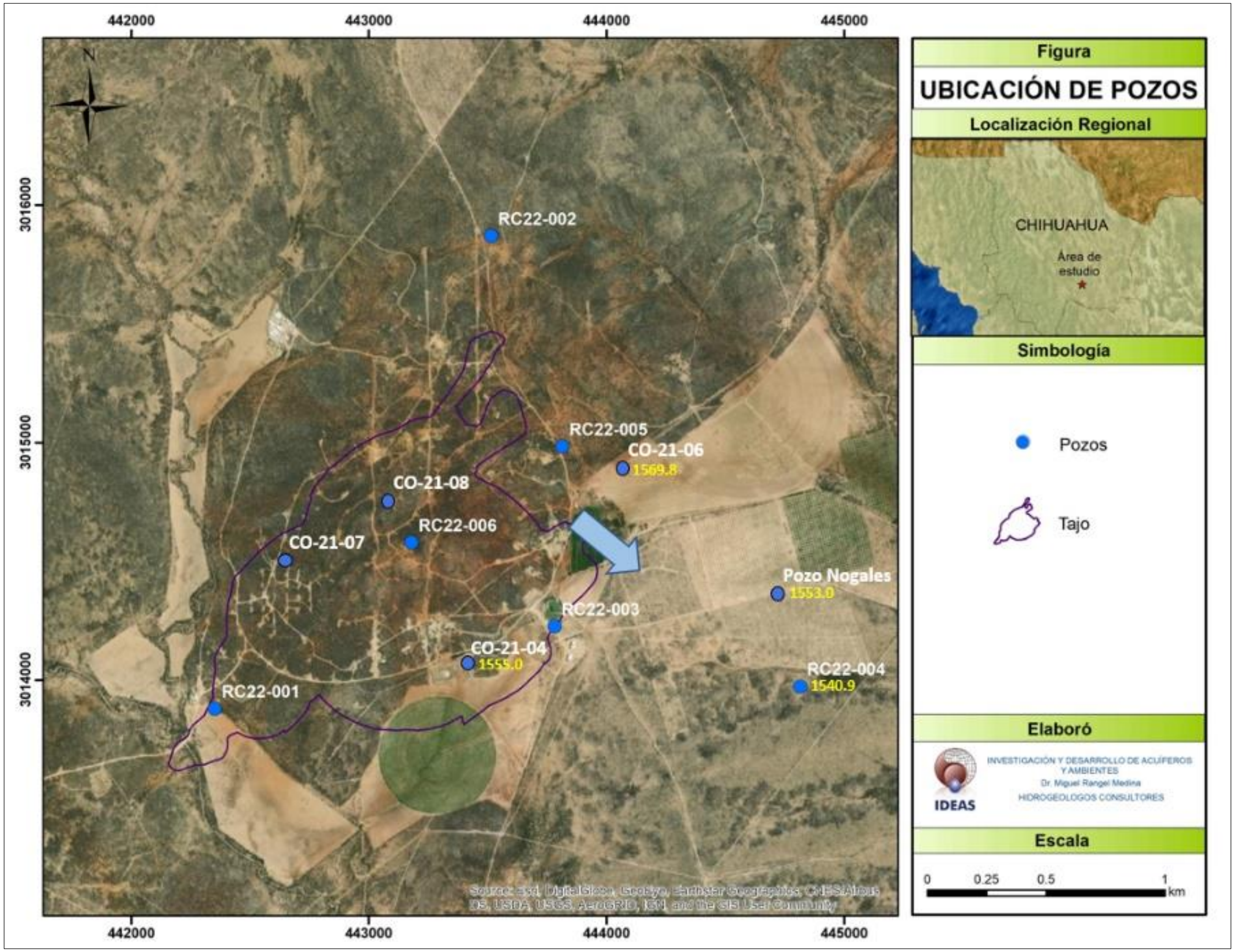
- Deeper bedrock zone (1,191 to 1,143 masl) – Water levels for the wells extending to depths between 1,191 and 1,143 masl were grouped and are shown in Figure 20-6. The water level in this deeper zone, in the central pit area is around 1,495 masl. An elevated level of 1,502 masl was recorded to the east (RC22-005) probably reflecting intersection with deposit-bounding fault features.

The hydrostratigraphic units in the pit area are interpreted to include shallow alluvium, conglomerate, and bedrock. The bedrock formations consist of volcanics (predominated by rhyodacite) and sedimentary rocks (predominated by siltstone), intersected by faults (IDEAS 2022a, KP 2022c, RockRidge 2022). The surficial sediments are mostly above the static groundwater level in the pre-mining conditions.

Groundwater quality data collected from five agricultural water supply wells in the surrounding areas of the pit (IDEAS, 2022a) indicates that fecal coliforms, total coliforms, turbidity, arsenic and iron exceed the maximum permissible limits of the Mexican regulatory guidelines of NOM-127-SSA1-1994 (NOM-127). Herbicides and pesticides, as well as total trihalomethanes and BTEX, were present in all samples but with concentrations below the permitted limit. The groundwater types are characterized to include bicarbonated-calcium (HCO_3-Ca) and bicarbonated-sodium-calcium (HCO_3-Na-Ca).

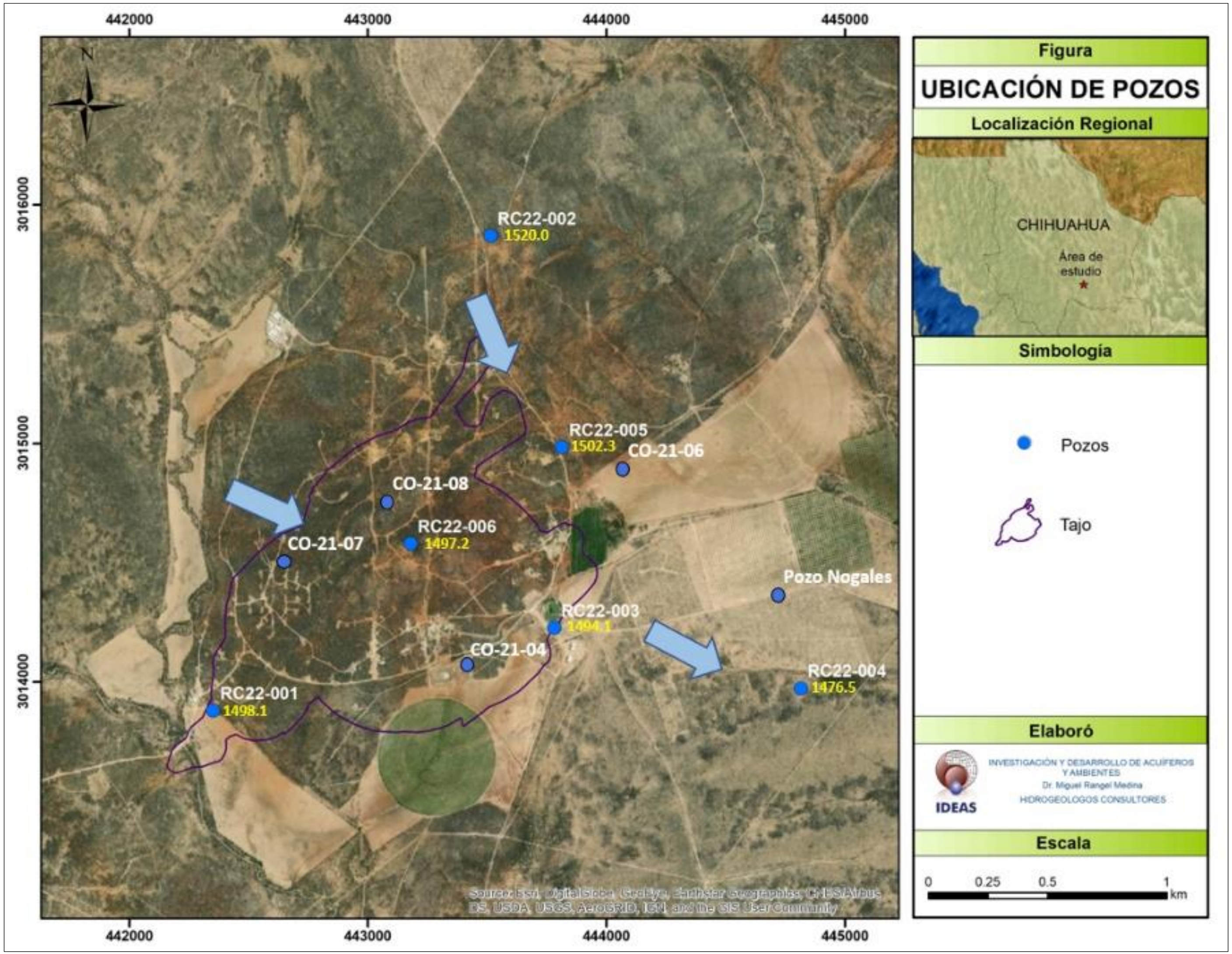
Groundwater quality sampling within the pit limited will be conducted from the monitoring wells (RC22 series) installed. Once available, the data will be used to evaluate the suitability of the groundwater for the mine water supply and for environmental effects assessment.

Figure 20-3: Phreatic Groundwater Levels in Surficial Sediments



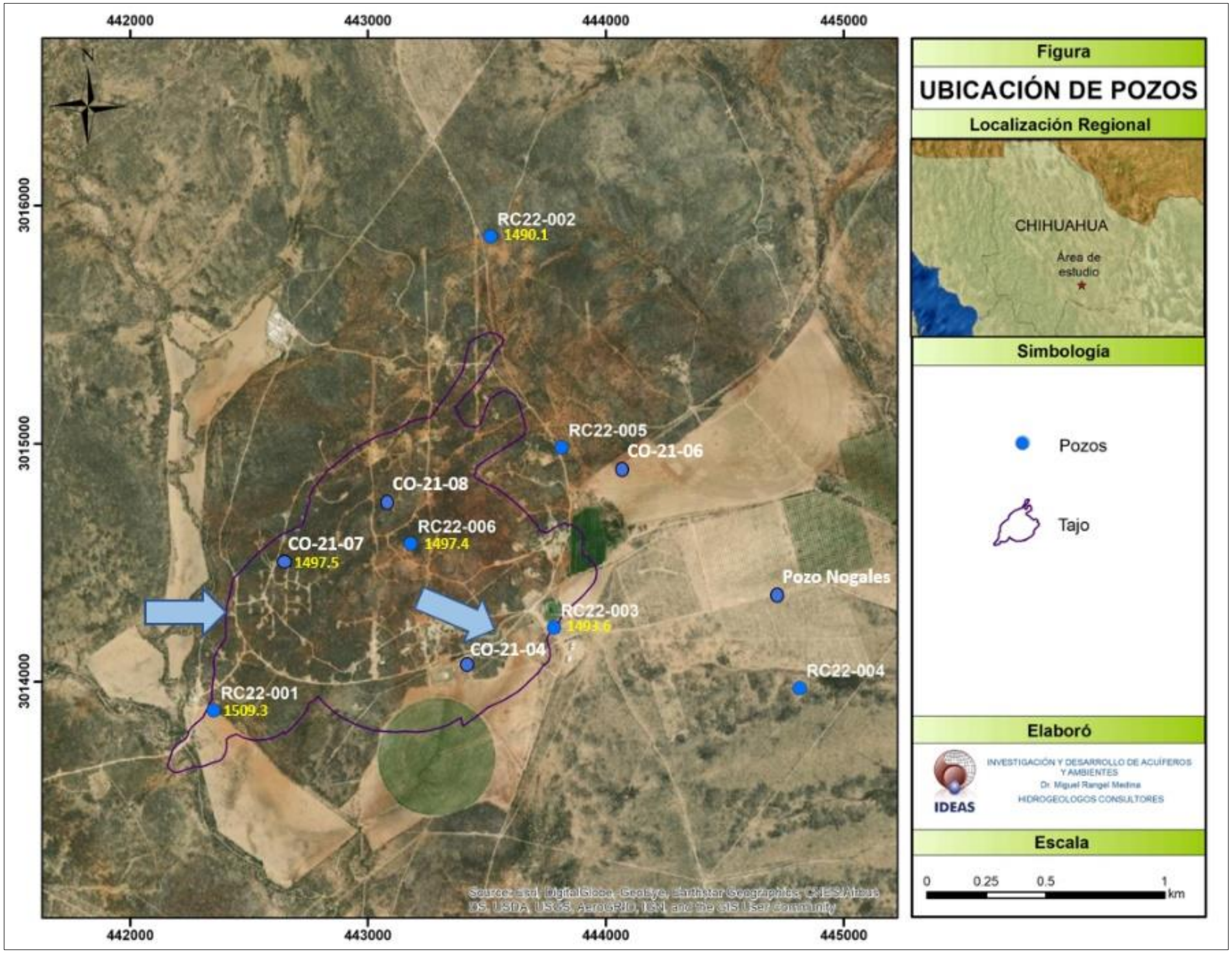
Sources: Ausenco 2022a; IDEAS 2022a

Figure 20-4: Shallow Bedrock Zone Groundwater Levels (1,497 to 1,413 masl)



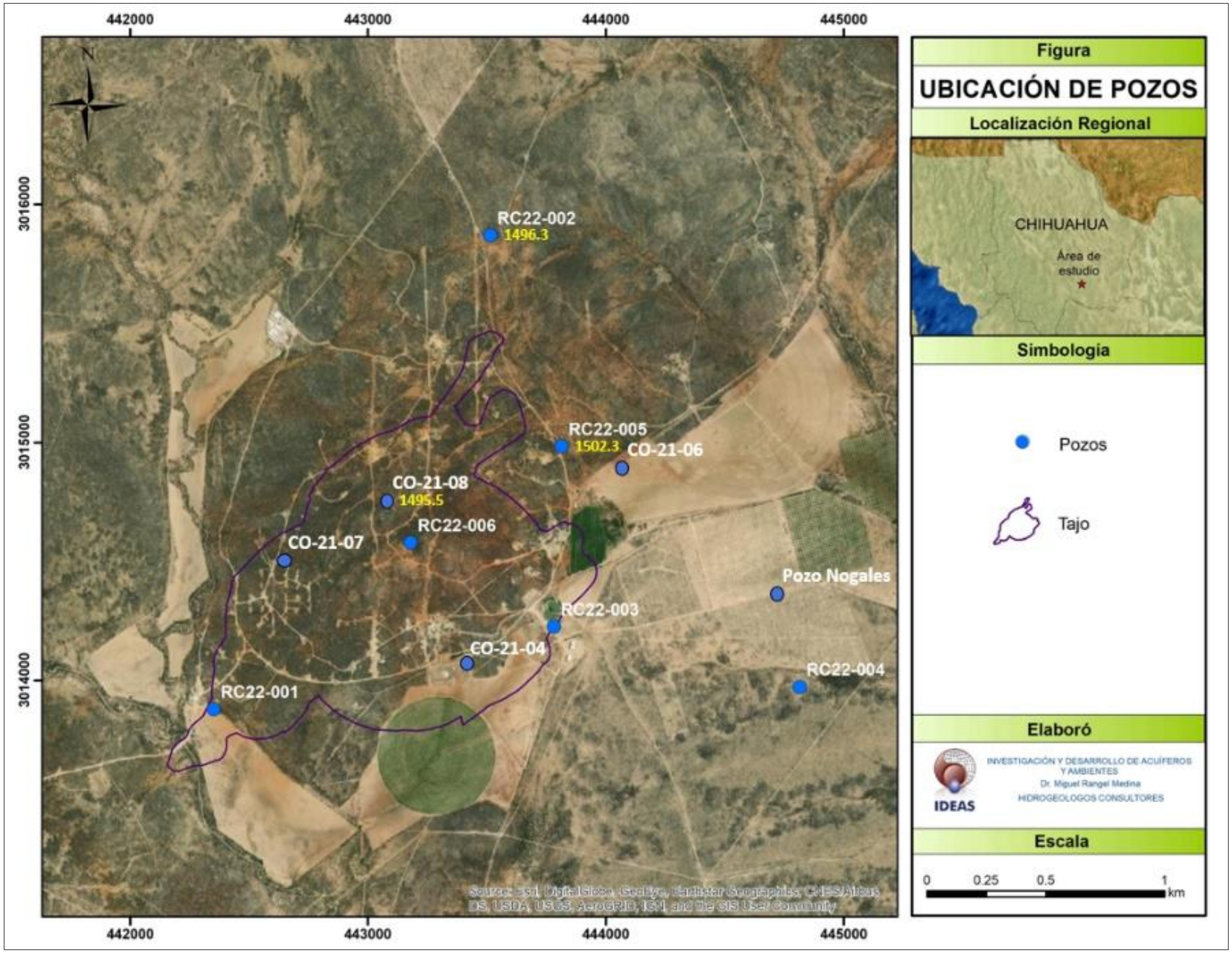
Sources: Ausenco 2022a; IDEAS 2022a

Figure 20-5: Intermediate Bedrock Zone Groundwater Levels (1,260 to 1,222 masl)



Sources: Ausenco 2022a; IDEAS 2022a

Figure 20-6: Deeper Bedrock Zone Groundwater Levels (1,191 to 1,143 masl)



Sources: Ausenco 2022a; IDEAS 2022a

20.2.1.2 Hydrology

The following sections briefly describe the available, hydrometric data, climate data, water management structures, and catchment delineations for the project site.

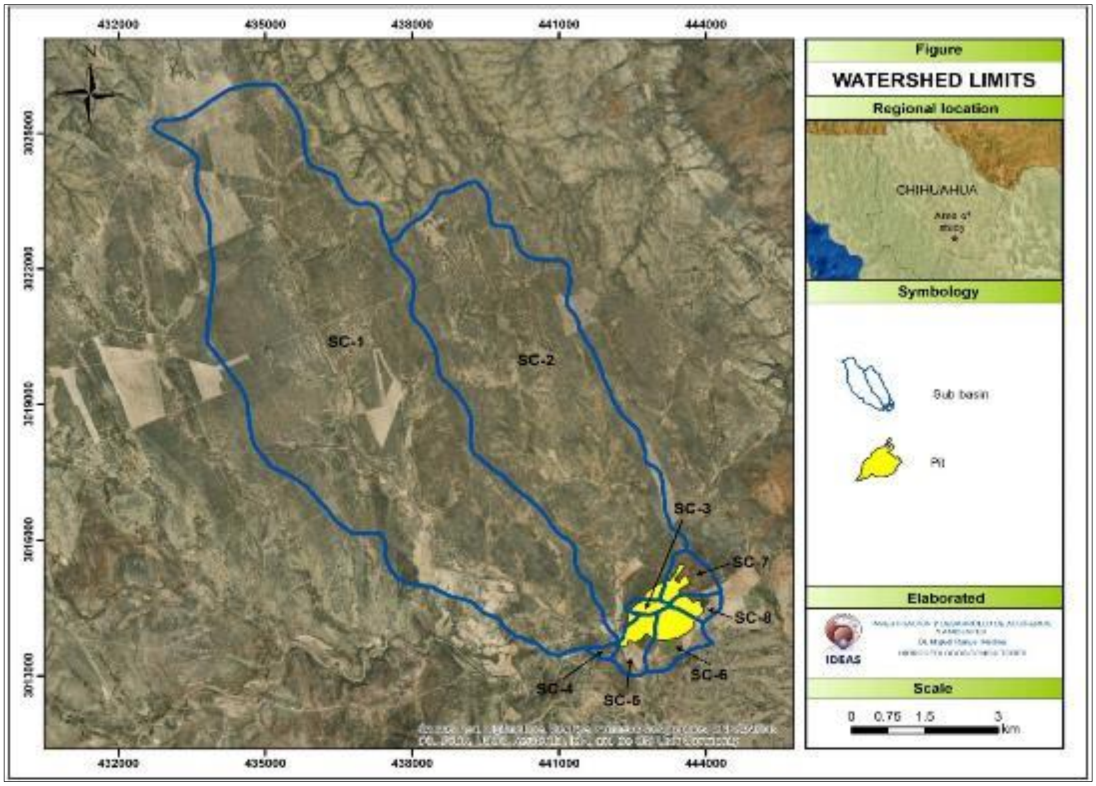
20.2.1.3 Surface Water

The Cordero project belongs to hydrological region 24 (HR 24), Bravo-Conchos, in the Rio Conchos 1 basin (CONAGUA). Hydrological region 24, Bravo-Conchos is in the north of México and encompasses parts of the states of Chihuahua, Coahuila, Durango, Nuevo León y Tamaulipas, totalling 226,275 km^2.

The Cordero project is in the hydrological sub-region "Seis Tributarios" in the Río Conchos 1 hydrological region (Diario Oficial de la Federacion or "DOF"). This region is delimited by the Río San Pedro hydrological basin to the north, Rio Balleza the hydrological basin to the south, the Rio Conchos 2 and Río Parral basins to the east, and hydrological region 10 in Sinaloa State to the west.

The hydrological study considered the location of the mine pit and the regional basins close to the Cordero project to identify the surface water that may be impacted by the project. Figure 20-7 shows the regional basins considered in the study and Table 20-1 summarizes the characteristics of the most significant streams surrounding the pit area.

Figure 20-7: Basin Subdivision in the Area Close to the Pit



Source: IDEAS, 2022a

Table 20-1: Summary of the Most Important Streams Around the Pit Area

Basin	Description	Elevation at the Headwater (m)	Discharge Points	Basin Area (km^2)	Basin Gradient (%)	Flow Direction	Notes
Sub-basin SC-1	Valerio stream	1698	The left bank of the Valerio stream receives the waters of El Mezquite stream.	44.58	0.8	North to south	The length of Valerio stream to the point of confluency is 17.15 km.
Sub-basin SC-2	Corresponds to El Mezquite stream	1659	El Mezquite stream flows into Valerio stream.	25.41	0.76	North to South	To the confluency point, El Mezquite stream has a length of 13 km.
Sub-basin SC-3	Corresponds to an unnamed stream	1618b	The unnamed stream basin flows into the left bank of El Mezquite.	0.223	6.88	East to West	To the confluency point, the unnamed stream has a length of 13 km.
Sub-basin SC-4	Corresponds to an unnamed stream	1,562	The unnamed stream basin flows into the right bank of Valerio.	0.134	2.75	West to East	To the confluency point, the unnamed stream has a length of 0.35 km.
Sub-basin SC-5	Corresponds to Valerio stream to its confluence with the unnamed stream in sub-basin SC-6.	1,698	The runoff of El Mezquite basin flows into the left bank of the Valerio stream and, the unnamed stream from the Sub-basin SC-4 flows into the right flank of the Valerio River and follows its course until the end of the sub-basin where it flows into the sub-basin SC-6 stream.	70.90	0.78	North-South	The length of Valerio River to the confluency point is 18.20 km
Sub-basin SC-6	Corresponds to an unnamed stream.	1,579	The unnamed stream basin flows into the left bank of Valerio.	0.134	2.75	West-East	To the confluency point, the unnamed stream has a length of 0.35 km
Sub-basin SC-7	Corresponds to an unnamed stream.	1,600	The unnamed stream flows into the unnamed stream in sub basin SC8 The unnamed stream is a tributary to El Cacahuatal stream located in the East side of the mine pit.	0.850	2.60	Northeast-Southeast	To the confluency point, the unnamed stream has a length of 1.24 km..
Sub-basin SC-8	Corresponds to an unnamed stream basin that flows into the unnamed stream in the sub-basin SC-7.	1,590	The unnamed stream basin flows into the unnamed stream in the sub-basin SC-7. This stream is a tributary to El Cacahuatal stream located in the East side of the mine pit.	0.443	2.76	Southwest-Northeast	To the confluency point, the unnamed stream has a length of 0.78 km.

Source: IDEAS, 2022a.

According to CIMA (2021a), there are no waterbodies (pond, lake or reservoir) present in the project area. The closest dam, La Boquilla, is approximately 17 km northeast of the Cordero site. There are only seasonal streams in the area (CIMA, 2021b).

20.2.1.4 Climate and Meteorology

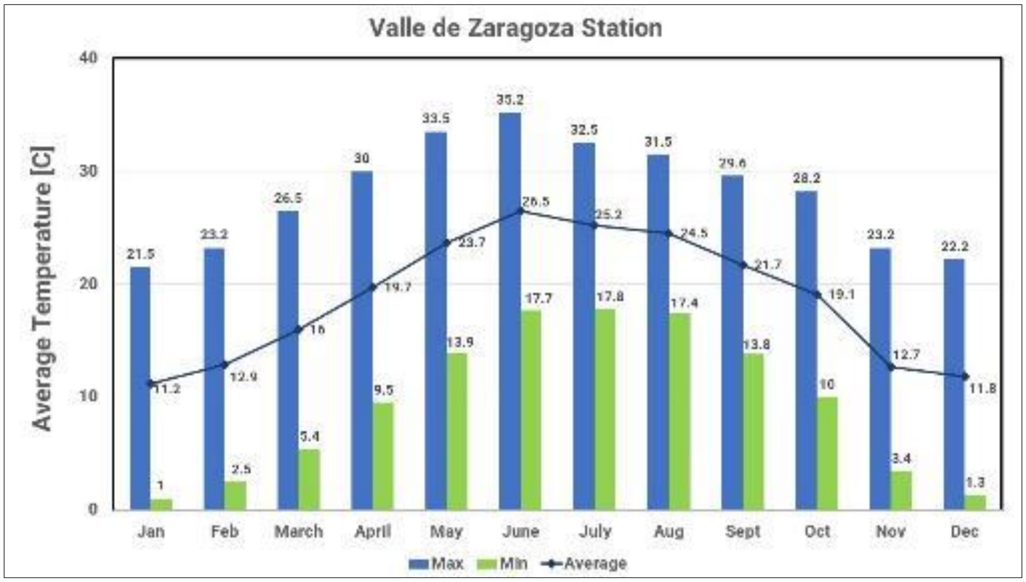
Two climate types are present in the Cordero project area. In general, both climate types represent semiarid weather. BS1kw (x') climate is semiarid and temperate with hot summers. The average annual temperature ranges between 12°C and 18°C. In the coldest month the temperature oscillates between -3°C and 18°C. The temperature during the warmest month is generally higher than 18°C. Rains during summer season, while more than 10.2 % of the annual rain occurs during the winter season. BS1hw (w) represents semiarid and temperate weather with an average annual temperature higher than 18°C; 15% of the coldest month with a temperature lower than 18°C and higher than 22°C during the hottest month, 5% to 10.2% of the annual rain occurs during the summer season (CIMA, 2021a).

The climate monitoring stations closest to the project site with sufficient minimum data history (30 years) are Presa Parral, La Boquilla and Valle de Zaragoza (see Figure 20-8). Climate normal data (1981-2010) for the Valle de Zaragoza and La Boquilla stations are summarized in Figures 20-9 and 20-10, respectively. Data from the Presa Parral Station was not included since the monitoring station has been shut down. Average annual temperatures were obtained from the monitoring stations belonging to Servicio Metereológico Nacional (SMN).

Figure 20-8: Project Location and Nearby Climate Stations

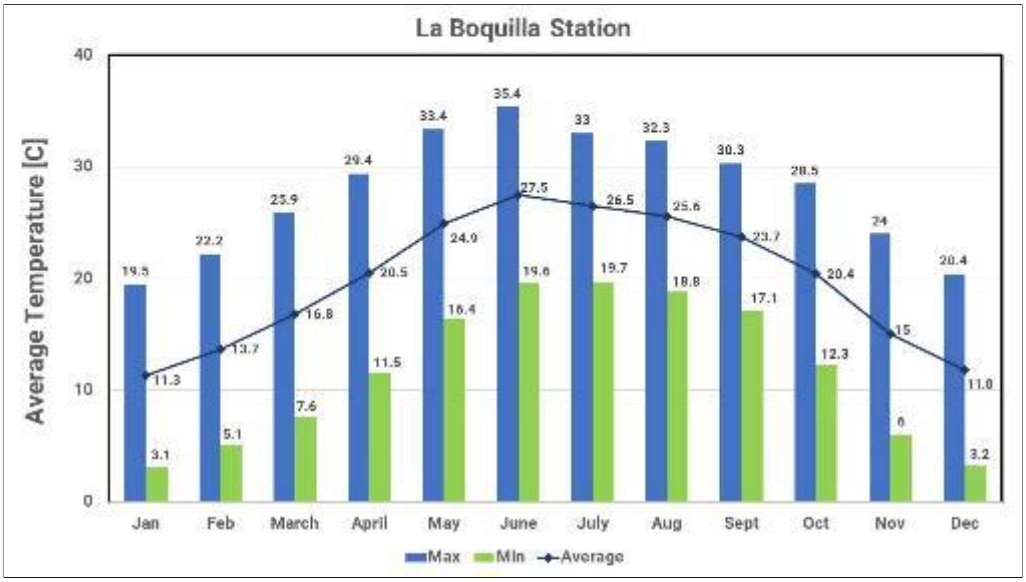
Source: Ausenco, 2023.

Figure 20-9: Normal Average Temperatures in the Valle de Zaragoza Monitoring Station (1981-2010)



Source: SMN (Last accessed: January 22, 2023).

Figure 20-10: Normal Average Temperatures in La Boquilla Monitoring Station (1981-2010)



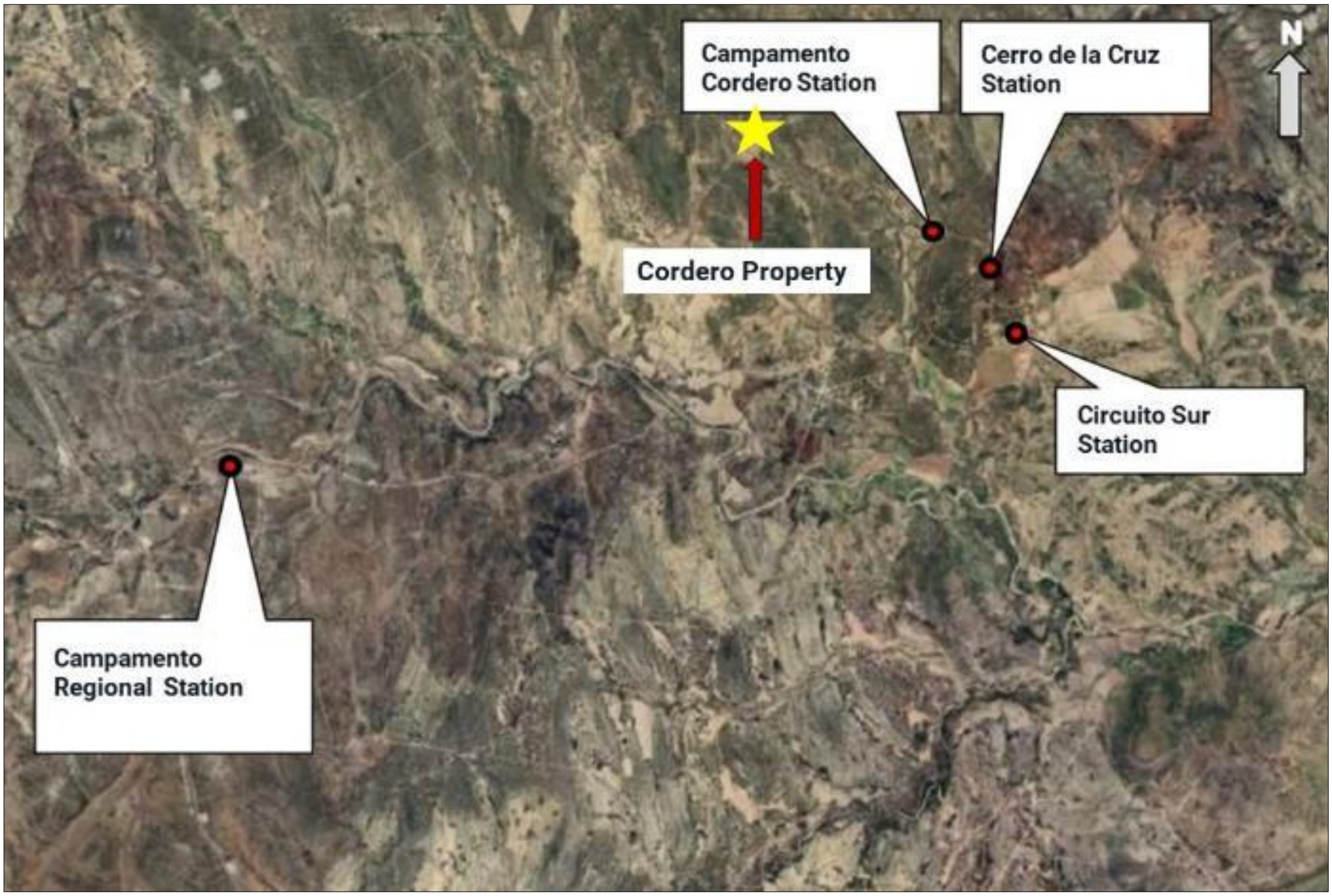
Source: SMN (Last accessed: January 22, 2023).

The Zaragoza Valley station was considered to be representative of the site conditions, with precipitation and evaporation data from 1968 to 2021 available. Temperatures higher than 35°C have been recorded during the hottest months of the year. The average annual temperature of the area is close to 18.8°C and the minimal oscillates around 9.5°C; however, during the coldest months, temperatures as low as 1.0°C have been reported by the SNM (CIMA, 2021a; SMN (Last accessed: 23 Jan 2023).

20.2.1.5 Air Quality

Gamatek S.A de C.V, a third-party company, was hired to study the air quality of the Cordero project area. Figure 20-11 shows the four monitoring stations used in Gamatek's study, including Campamento Cordero Station, Circuito Sur Station, Campamento Regional Station and Cerro de la Cruz Station. The study determined the total suspended particulate (TSP), lead concentration, particulate matter smaller than 2.5 microns ($PM_{2,5}$), and particulate matter smaller than 10 microns (PM_{10}). The measured concentrations were compared against the Maximum Air Quality Criteria Standards specified in NOM-025-SSA1-2021 (evaluation criteria for ambient air quality for suspended particulate matter $PM_{2,5}$ and PM_{10} for human health protection), and in NOM-026-SSA1-1993 (evaluation criteria for ambient air quality for lead (Pb) for human health protection). After amending NOM-025-SSA1-2021, there are no criteria for TSP.

Figure 20-11: Location of the Air Quality Monitoring Stations



Source: Gamatek S.A. de C.V, 2022.

Table 20-2 summarizes the maximum emission values at the time of sampling and all the values were below the maximum permissible limits. Once operations start, monitoring of the maximum permissible levels of emissions of pollutants such as smoke (%), particulate matter (ppm), carbon monoxide (CO), sulphur dioxide (SO_2) and nitrogen oxides (NO_X) will be required.

Table 20-2: Summary of the Results of the Air Quality Emissions Survey for the Study Conducted in 2022

Parameter	NOM-025-SSA1-2021	NOM-026-SSa-1993	Maximum Concentration	Actual Conditions	Station
Total Suspended Particles mg/m^3-ca	The previous criteria were 210 mg/m^3-ca (included as an informative guideline)		66.4	T= 27°C P= 83592 Pa	Circuito Sur
Lead (Pb) mg/m^3-ca		1.5 mg/m^3-ca (3-month average)	<0.0369		Circuito Sur and Cerro de la Cruz
$PM_{2,5}$ mg/m^3-ca	41 mg/m^3-ca (24 h average)		20	T= 26 ° C P= 84660 Pa	Circuito Sur
PM_{10} mg/m^3-ca	70 mg/m^3-ca (24 h average)		65		Campamento Cordero

Note: mg/m^3-ca [=] Microgram per cubic meter at actual conditions. Source: Gamatek S.A de C.V.

20.2.1.6 Noise

Surveys were conducted in 2021 and 2022 to detect critical zones (ZC) in the Cordero property (Gamatek, 2022). According to SEMARNAT, a ZC corresponds the surrounding area to the exterior land where the fix (noise) source is located and, where the highest noise emission is measured. One critical zone was found in the project site corresponding to an area close to a generator. Fixed-source noise data was collected to determine baseline compliance against NOM-081-SEMARNAT-1994 (in critical zone 1) Table 20-3 summarizes the results obtained in the critical zone 1 in the 2022 survey. Until mine development is completed, noise level measurements must be taken annually and reported to SEMARNAT.

Table 20-3: Summary of the Results of the Noise Emissions Survey for the Study Conducted in 2022 in ZC1

Zone	Day Value	6 to 22 hours LMP*	Night Value	22 to 6 hours LMP*
Critical Zone 1 (dBh)	66.2	68	65.1	65

Note: *LMP = Maximum permissible emission limit according to NOM-081-SEMARNAT-1994.

20.2.1.7 Archaeological Resources

The Cordero project site does not retain any registered cultural heritage site by INAH (Instituto Nacional de Antropologia e Historia, National Institute of Anthropology and History (CIMA, 2021b).

20.2.2 Biological Environment

20.2.2.1 Flora

The local biodiversity includes a wide variety of plants and animals that sustain the different ecosystem equilibrium (CIMA, 2021b).

The vegetation in the Cordero project includes secondary succession of natural grassland shrub representing 70% of the site's surface, followed by natural grassland covering 9% of the land. Annual rainfed agriculture, microphyllus desert scrub, secondary succession of microphyllous desert scrub, secondary succession of rosetophyllous desert scrub, and secondary succession of herbaceous natural grassland cover the remaining 21% of the project area. A brief description of the most important types of vegetation found in the Cordero area and the main species belonging to each category are described below.

- Microphyllus desert scrub. The complex structure of this type of vegetation is composed, in some cases, of thorny thickets from the genus Acacia, Opuntia, Celtis and Prosopis. In some other cases, thornless plants are included in this category, i.e., the genus *Larrea, Flourensia* and *Parthenium*. However, this type of vegetation is also composed of a mixture of thornless and thorny thicket plants (INEGI, 2003).

- Secondary succession of natural grassland shrub. This vegetation includes herbaceous plants and shrubs that have grown due to the elimination of the original natural grassland, under these conditions, other species starting the succession process include members of the family *Fabaceae* and *Asteraceae*. In the first succession stages, some plants like Catclaw mimosa, Mesquite, and other groups of leguminous plants.

- Natural grassland. These areas include medium to large size grass combined with a large number of herbaceous plants and bushes. Shrub vegetation is found in small land areas with individuals of medium size, although in some cases, large individuals including Desert hackberries, Mesquite and Little-leaf sumac are found. The vegetation in this area reaches between 30 cm to 3 m height.

- Annual rainfed agriculture. Before being farmed, microphyllus desert scrub and natural grassland used to cover these lands. Local people use traditional tillage systems to grow their crops. This agricultural style is present in small scale in the Cordero site and a large diversity of crops have been harvested in the area.

Only one of the species identified in the Cordero area is included in Category A of the NOM-059-SEMARNAT-2010 (Environmental Protection of Mexico's native wild flora and fauna species- Risk categories and specifications for their inclusion, exclusion, or change - list of species at risk). The category includes those species that are at risk if the factors/activities that negatively impact their viability are not modified, as a result, deterioration or modification of their natural habitats may occur, and the population size might be directly impacted.

Twelve species are also included in Appendix II (APII) of the CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), which includes the species that are not currently classified as in danger of extinction status; however, impact on these species should be avoided to prevent any activity compromising their survival.

Table 20-4 shows the species identified as Category A NOM-059-SEMARNAT-2010 and the species in APII of CITES.

Table 20-4: Flora Species Identified as Category A in NOM-059-SEMARNAT-2010 and in APII of CITES

No	Species	Common name	NOM059- SEMARNAT2010 Status	CITES
1	*Coryphantha cornifera* (De Candolle) Lemaire Cactéè	Prickly Beehive Cactus		AP II
2	*Coryphantha poselgeriana* (Dietr.) Britt. & Rose	Needle Mulee	A endemic	AP II
3	*Coryphanta robustispina* (Schott exEngelmann) Britt. & Rose	Devil's pincushion		AP II
4	*Cylindropuntia imbricata* (Haw.) F.M. Knuth	Cane Cholla		AP II
5	*Cylindropuntia kleiniae* (DC.) F.M. Kunth	Klein's Pencil Cactus		AP II
6	*Echinocactus horizonthalonius* Lemaire	Blue Barrel Cactus		AP II
7	*Echinocerus dasyacanthus* Engelmann	Texas Rainbow Cactus		AP II
8	*Echinocereus pectinatus* (Scheidw.) Engelm	Rainbow Cactus		AP II
9	*Opuntia engelmannii* Salm-Dyck ex Engelmann	Cowtongue Cactus		AP II
10	*Opuntia macrocentra* Engelmann	Purple Prickley Pear		AP II
11	*Opuntia phaeacantha* Engelm.	Desert Prickley Pear		AP II
12	*Opuntia robusta* H.L. Wendl. ex Pfeiff.	Wheel Cactus		AP II

Source: CIMA, 2021a.

20.2.2.2 Fauna

Animal species present in the Cordero area were identified using direct observation techniques, sightings, and through indirect methods and by verified and validated information provided by the local people. The species and individuals observed in the area were then compared to those found in a literature review of the animals that are commonly found in that region.

Line transects survey techniques were performed between October of 2020 through August of 2021. This period covered the four seasons of the year; hence, it was possible to observe species that might be present during dry, wet, and humid seasons in the Cordero area. The technique was mainly used to detect mammals, reptiles, and birds.

Automatic camaras were also located in specific sites including tree logs, pods, sleeping areas and trails to locate medium-large size mammals. In this study it was also possible to observe nocturnal and stealth species.

After analyzing all the gathered information, 69 species of fauna were found in 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*).

Table 20-5 indicates the fauna species under Categories A and Pr in NOM-059-SEMARNAT-2010. One of the species identified in the Cordero area is included in Category A, two are category Pr of the NOM-059-SEMARNAT-2010 (Environmental Protection of Mexico's native wild flora and fauna species- Risk categories and specifications for their inclusion, exclusion, or change - List of species at risk) and five species are classified as APII of the CITES, which includes the species that are not currently classified as in danger of extinction status; however, their impact should be avoided to prevent any activity compromising their survival.

Table 20-5: Fauna Species Under Categories A, Pr in NOM-059-SEMARNAT-2010 and APII of CITES

No	Class	Family	Species	Common Name	Status NOM-059-SEMARNAT-2010	CITES
1	Mammals	Mustelidae	*Taxidea taxus berlandieri* (Baird)	Badge	A	
2	Mammals	Felidae	*Lynx rufus* (Schreber)	Bobcat		AP II
3	Mammals	Felidae	*Puma concolor* (Linnaeus)	Cougar		AP II
4	Birds	Accipitridae	*Buteo jamaicensis* (J.F. Gmelin)	Red-tailed hawk		AP II
5	Birds	Falconidae	*Falco sparverius sparverius* Linnaeus	Sparrow hawk		AP II
6	Birds	Strigidae	*Asio flammeus* (Pontoppidan)	Short-eared owl		AP II
7	Reptiles	Viperidae	*Crotalus atrox* (Baird y Girard)	Western Diamondback Rattlesnake	Pr (special protection)	
8	Reptiles	Viperidae	*Crotalus molossus* (Baird y Girard)	Black-Tailed Rattlesnake	Pr (special protection)	

Source: CIMA, 2021a.

20.2.2.3 Threatened Fauna Species

During exploration activities, permanent species relocation procedures will be carried out when necessary (PEA, 2021).

20.2.2.4 Areas of Ecological Interest and Fragility

The project site is not within an area that requires special environmental protection or is subject to regulation or urban development (PEA, 2021)

20.3 Waste Management and Water Management

20.3.1 Waste

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. 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.

20.4 Closure and Reclamation Planning

Mexico requires the preparation of a conceptual closure plan as part of the MIA, no financial surety (bonding) is required of mining companies. 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 LGEEPA defines the cases that can cause serious damage to ecosystems. For example, when dealing with activities considered highly risky or carried out in protected natural areas (article 51 of the Regulation). Insurance or guarantees may be established for each stage of the project that, in execution, and the amounts must be updated annually (art 52 and 53 of the Regulation).

There is no specific regulatory framework. A regulation (NOM) applicable to the closure of mine projects during exploration is NOM-120-SEMARNAT-2020 that stablish that when the exploration project is completed and it is determined that will make the abandonment, the person in charge of the project must carry out the restoration program (Section 4.1.18). There are other regulations that establish some criteria for closure during operation.

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.

No formal Closure and Reclamation Plan has been prepared for the Cordero project to date. One will be developed as the project advances through subsequent project stages of feasibility-level design. A pre-feasibility level closure cost estimate has been included in Section 21.2.5.2.2.

20.5 Permitting Considerations

Environmental permitting for the mining industry in Mexico is primarily administered by the federal government through SEMARNAT, the federal regulatory agency that establishes minimum standards for environmental compliance. 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). Article 28 of the

LGEEPA specifies that SEMARNAT must issue prior approval to parties that wish to extract minerals reserved for the federation. An Environmental Impact Assessment (Manifestación de Impacto Ambiental-MIA) must be submitted to SEMARNAT for evaluation and, if applicable, subsequent approval by SEMARNAT through the issuance of an Impact Authorization. This document specifies the conditions of approval where the works or activities have the potential to cause an ecological imbalance or have adverse effects on the environment.

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 withdrawal concessions and specifies certain requirements that applicants must meet.

Another important piece of Environmental Legislation is the General Law on Sustainable Forestry Development (Ley General de Desarrollo Forestal Sustentable - LGDFS). Article 117 of the LGDFS indicates that authorizations must be granted by SEMARNAT for changes of use of land for industrial purposes. A request for a Change of Use of Forest Land (Cambio de Uso de Suelo en Terrenos Forestales-CUSTF) must be accompanied by a technical study that supports the Technical Justification Study (Estudio Técnico-Justificativo - ETJ). In cases requiring a CUSTF, an Environmental Impact Assessment (Manifestacion de Impacto Ambiental-MIA) is also required for the change of use of forest land. Mining projects must also include a Risk Study (Estudio de Riesgos - ER) and an Accident Prevention Plan (Plan de Prevención de Accidentes - PPA) from SEMARNAT.

The environmental permitting requirements and status for the Cordero project is summarized in Table 20-6.

The General Law for the Prevention and Integral Management of Waste (Ley General para la Prevención y Gestión Integral de los Residuos- LGPGIR) also regulates the generation and handling of hazardous waste by the mining industry.

Responding to a request for a federal permit is regulated by the Federal Law of Administrative Procedure; for the Cordero project, the response time should not exceed 120 business days, excluding the time needed to prepare the studies. Other permits related to the land use licenses and emergencies must be obtained at the offices of the state government of Chihuahua and in the municipality of Hidalgo del Parral.

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; among which the most important are as follows:

- NOM-001-SEMARNAT-2021. Sets the environmental concentration levels of pollutants in wastewater discharges in national water bodies.
- NOM-083-SEMARNAT-2003. Specifies the selection of the site, construction design, monitoring, closure, and complimentary works for an urban solid and special handling wastes final disposal site.
- NOM-127-SSA1-2021. Water for human use and consumption; water quality concentration levels.
- NOM-138- SEMARNAT/SSA1-2012. Maximum concentration limits for hydrocarbons in soils and, guidelines for the sampling process and for their characterization and specification for remediation.

- NOM-141-SEMARNAT-2003. Procedures for site characterization, preparation, project development, construction, operation and post-operation of the tailings site. The potential toxicity of tailings, caused mainly by its composition, oxidation state and handling, tailings can pose a threat to the ecological equilibrium, the environment and human health. Therefore, it is important to set the proper guidelines for their correct disposal. This NOM dictates the specifications for tailings characterization, site characterization, as well as the guidelines for minimizing the environmental impact from the vegetation removal step required for the change of land use. At the same time, the NOM dictates environmental specifications and guidelines for all the tailings life cycle, including site preparation, project development, construction, operation, post operation and monitoring. measures be taken to ensure that tailings impoundments do not release particulates to the atmosphere; that discharges from the tailings do not impact surface water or groundwater; and that the impoundments do not fail.
- NOM-147-SEMARNAT/SSA1-2004. Specifies the concentrations for remediation of arsenic, barium, beryllium, cadmium, hexavalent chromium, mercury, nickel, silver, lead, selenium, thallium and/or vanadium contaminated soils.
- NOM-157-SEMARNAT-2009. Requirements and procedures to develop plans to handle mining residues.

Table 20-6: Environmental Permitting Status as Reported in December 2022

Permit	Agency	Status
Environmental Impact Assessment or Preventive Environmental Impact Notification	SEMARNAT	In progress
Technical Justification Study for Land Use Change in Forest Land	SEMARNAT	Not started
Environmental Risk Study	SEMARNAT	Not started
NOM 120 SEMARNAT 2020	SEMARNAT	Obtained
Notice of Start of Operations	ECONOMIA	Not started
Use of Federal Waterways	CONAGUA	Not started
Title of Concession or Assignment of National Water Use (Surface and Groundwater)	CONAGUA	Not started
Wastewater Discharge Concessions	CONAGUA	Not started
Registration of Hazardous Waste Management	SEMARNAT	Presented
Authorization for the Operation of Steam Generators, Pressure Vessels and Boilers	STPS	Not started
Electric Power Feasibility (Electric Power Contract)	CENACE - CFE	Not started
Authorization for Fuel Substations	ASEA	Not started
Single Environmental License	SEMARNAT	Not started
Waste Management Plans (Hazardous and Mining)	SEMARNAT	In process
Community Protection Plan	MUNICIPALITY	Obtained
Annual Operating Statement	SEMARNAT	Not started
Permitting of Accesses and other Facilities on Free Federal Highways	SCT	Not started
Explosives Use Permit	SEDENA	Not started
Permit to Construct Hydraulic Works	CONAGUA	Not started
Accident Prevention Program	SEMARNAT	Not started
Registration of the Joint Commission on Training and Education	STPS	Not started
Company Registration in Social Security (IMSS)	IMSS	Obtained
Application for the Sanitary License	COESPRIS	Not Started
Registration of the List of Certificates of Labour Skills of Training and Coaching	STPS	Not Started
Registration of Training Plans and Programs	STPS	Not Started
Registration in the Mexican Business Information System (SIEM)	SE	Not started
Title of Concession for Extraction of Materials	CONAGUA	No started

Source: PEA, 2021.

20.6 Social Considerations

The information in this section has been sourced from a social baseline study prepared by a third-party consultant, VINFIDEM as well as from the Instituto Nacional de Estadística y Geografía (INEGI).

The area of socioeconomic influence (where workforce would be sourced) of the project is 95% concentrated in the municipality of Hidalgo del Parral, the rest is in the municipality of Valle de Zaragoza. The exploration and access activities for the Cordero project are in the municipality of Hidalgo del Parral, which would be the main source of demand for employment.

The Cordero project is in a socioeconomic region known as the Parral Region, which includes four municipalities: Hidalgo del Parral, with a population of 116,662 inhabitants; Santa Bárbara, with 11,582 inhabitants; Valle de Zaragoza, with 4,775 inhabitants; and San Francisco del Oro, with 5,004 inhabitants.

Close to project is the Ejido Cordero, which is a collective property made up of 32 people, but only five live in the community. These people support mining activities in general, as they believe based on previous experience that mining improves local economic conditions and raises the quality of life of the population (PEA, 2021).

The main activity in the region is agricultural field work (PEA, 2021). Approximately 76.5% of the population are dedicated to this activity. The second most common activity (13.5%) is the sale of products, which is carried out as seasonal employment. In the community, the sale of agricultural products, such as watermelon, cheese, milk sweets, pecans, and meat, is frequent. Approximately 3.5% of the population is dedicated to tourism activities, and the balance (6.5%) are involved to a lesser degree in commercial handcrafts production and mining.

Clinics and hospitals are in Hidalgo de Parral, but it is necessary to be employed by a company or the government to access official medical care. Due to the nature of employment activities in the area of influence, more than half of the inhabitants do not have access to official healthcare. In this way, a new mining project will not only provide employment, but access to health services as well.

More than 80% of inhabitants own a house; the rest live in rental accommodations or in a house owned by relatives.

More than 51% of the population do not have access to clean drinking water; there is not enough infrastructure to provide this utility. Street lighting and drainage services are also inadequate in the area.

More than 90% of the population have a cell phone and 20% have a landline. Approximately 92% have access to television. Approximately 43% of the population enjoy outdoor recreational activities or visits to nearby lakes or rivers.

20.6.1 Property Rights

The project site is comprised of both ejido and private properties. An "ejido" is a legal entity with legal personality and its own patrimony, which is made up of lands for productive use (parcels), lands for common or collective use and lands for human settlement, these types of lands as a whole are called ejidal property. Cordero project infrastructure would be located within four properties: three private ranches and one Ejido Cordero, which is the property closest to the project, located 4 km to the southeast. Like all ejidos in Mexico, it is an organized area of land plots, human settlements, and an area for collective land use. The Ejido Cordero has 32 people called *ejitadarios*. The area of Ejido Cordero is 3,700 hectares. Regarding private property, there are seven owners in the area of direct influence; these private lands have different dimensions.

For current exploration activities, private landowners are actively involved in providing some goods and services and land use permits remain in force with good land use agreements. Generally, for the use of land owned by ejidos, agreements are entered into with all the holders of rights in order to establish fair land use agreements for the period required for operations. A stakeholder management program is in place and communication is open for current and future purposes.

20.6.2 Potential Social Impacts and/or Special Project Considerations

There are six areas of importance for local stakeholders, as summarized in Table 20-7.

Table 20-7: Areas of Importance for Local Stakeholders

Area	Priority	Description
Employment and economy	Very high	Quality of life, migration, equity
Health	Very high	Available services, quality of service
Education	Very high	Available service and infrastructure, scholarships
Environment (water and pollution)	Moderate	Level of environmental impact
Quality of life	High	Focused on basic needs
Services	High	Access to drinking water and sewage

Source: VINFIDEM Consultoria, 2021.

Details for each area are provided in the Social Baseline Study (CIMA, 2021). In order to address the concerns and interests of stakeholders, a communication and social engagement plan has been prepared with the purpose of including local groups in the solution and mitigation of social aspects of interest. The objective of this is to maintain a social license for the operation of the Cordero project.

In order to effectively address these relevant issues in the management and social investment plan, nine action plans were prepared to be implemented. These plans are outlined below.

1. Communication and engagement program with community and identified stakeholders
2. Work Program with vulnerable groups
3. Training Program for employment, self-employment and entrepreneurship
4. Active community participation program with a gender perspective
5. Educational outreach program
6. Program for improvement of health and prevention of diseases and medical care (for external stakeholders)
7. Safety and health plan (for employees)
8. Continuous evaluation plan of social impacts
9. Social closure program.

21 CAPITAL AND OPERATING COSTS

21.1 Introduction

The capital and operating cost estimates presented in this PFS provide substantiated costs that can be used to assess the economics of the Cordero project. The estimates are based on an open pit mining operation; the construction of a phased process plant; associated tailings storage and management facility, and infrastructure; as well as Owner's costs and provisions.

21.2 Capital Costs

The capital cost estimate conforms to Class 4 guidelines for a PFS-level estimate with a ±25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q4 2022 US dollars based on budgetary quotations for equipment and construction contracts, as well as Ausenco's in-house database of projects and studies including experience from similar operations.

The estimate includes mining, processing, on-site infrastructure, tailings and waste rock facilities, offsite infrastructure, project indirect costs, project delivery, owners' costs, and contingency The capital cost summary is presented in Table 21-1. The total initial capital cost for the Cordero project is US$455 million; the Year 3 expansion capital cost is US$289 million; the Year 9 expansion capital cost is US$31 million; and LOM sustaining costs are US$228 million. Closure costs are estimated at US$73 million, with salvage credits of $US49 million. Of the initial capital costs, approximately 68% of the project costs were derived from first budgetary quotes.

The following parameters and qualifications were considered:

- No allowance has been made for exchange rate fluctuations.
- There is no escalation added to the estimate.
- A growth allowance was included.
- Data for the estimates have been obtained from numerous sources, including:
  - mine schedules
  - PFS-level engineering design by Ausenco, AGP and by Knight Piésold
  - topographical information obtained from the site survey
  - geotechnical investigations
  - budgetary equipment quotes from North American (USA, Canada, and Mexico) and internationally based suppliers

- budgetary unit costs from several local contractors for civil, concrete, steel, electrical, piping, and mechanical works
- data from similar recently completed studies and projects.

Major cost categories (permanent equipment, material purchase, installation, subcontracts, indirect costs, and Owner's costs) were identified and examined. Percentage of contingency was allocated to each of these categories on a line-item basis based on the accuracy of the data. An overall contingency amount was derived in this fashion.

Table 21-1: Summary of Capital Costs

WBS Description	WBS	Initial Capital Cost (US$M)	Expansion Capital Cost (US$M)		Sustaining Capital Cost (US$M)	Total Cost (US$M)
		Y0	Y3	Y9	LOM	
Mining	1000	69.9	2.7	--	66.5	139.1
On-Site Infrastructure	2000	30.8	11.9	--	8.9	51.6
Crushing	3000	25.5	6.4	--	--	31.9
Process Plant	4000	130.9	108.0	14.5	--	253.4
Tailings Management	5000	45.4	39.6	--	106.0	190.9
Off-Site Infrastructure	6000	20.2	35.4	--	13.5	69.1
Total Directs		322.6	204.0	14.5	194.9	736.0
Project Indirects	7000	59.0	39.3	10.8	--	109.1
Owner's Costs	8000	12.6	2.0	1.0	23.6*	39.3
Provisions	9000	60.7	43.2	4.4	9.7	118.1
Total Indirects		132.3	84.6	16.3	33.3	266.5
Project Total		454.9	288.6	30.8	228.2	1002.5

Note: *The LOM sustaining Owner's cost is the net difference between reclamation costs and salvage value. Values shown in the press release are rounded to zero decimal places. Source: Ausenco, 2022.

21.2.1 Basis of Capital Cost Estimate

Vendors and contractors were requested to price in native currency. The estimate is prepared in the base currency of United States dollar (USD). Pricing has been converted to USD using the exchange rates in Table 21-2.

Table 21-2: Estimate Exchange Rates

Currency Abbreviation	Symbol	Currency	Exchange Rate
AUD	AU$	Australian Dollar	0.6700
EUR	€	Euro	1.0300
USD	US$	United States Dollar	1.0000
CAD	C$	Canadian Dollar	0.7400
MXN	MX$	Mexican Peso	0.0510

21.2.2 Area 1000 – Direct Costs, Mining

The mining capital cost estimate is grouped into the following four main categories:

- Pre-production Stripping Costs – WBS 1100
- Mine Equipment Capital – WBS 1200
- Miscellaneous Mine Capital – WBS 1800
- Mine Infrastructure Capital – WBS 1300, 1500, 1600, 1700 and 1900.

The cost breakdown is shown in Table 21-3.

Table 21-3: Mine Capital Cost Estimate (US$M)

Mining Capital Category	WBS	Initial Cost (US$/M)			Sustaining Cost (US$/M)	Total Capital Cost (US$/M)
		Y-2	Y-1	Y1	LOM	
Pre-Production Stripping	1100	-	36.3	-	-	36.3
Mine Equipment Capital	1200	-	13.5	13.9	45.2	72.7
Misc. Mine Capital	1800	-	0.6	0.6		1.2
Mine Infrastructure	1300, 1500, to 1700, 1900	-	3.9	0.5	6.3	10.8
Total			54.4	15.0	51.5	120.9

Source: AGP Mining, 2022.

21.2.2.1 Pre-Production Stripping

Mining activity commences in advance of the sulphide process plant achieving commercial production and includes the placement of material on the stockpile.

Production mining includes the movement of 8.3 Mt of waste material and the placement of 2.8 Mt of oxide in the stockpile. The sulphide material is left in the pit until the plant starts commissioning. The mining costs associated with this period are included in the capital cost estimate and expected to cost $36.3 million. This cost covers all associated management, dewatering, drilling, blasting, loading, hauling, support, engineering and geology labour, grade control costs, and mobilization costs. It also includes any finance costs that have been added to the operating cost for that period.

21.2.2.2 Mine Equipment Capital

The mine fleet will be financed to reduce initial capital requirements. The terms are based on standard terms of a 20% down payment with the remainder applied to operating costs with a provided interest rate of 6%.

The base costs provided by the vendors are included in a calculation for each unit cost calculation to which options are added. The cost of spare truck boxes, loader buckets and shovel clams are included in the capital cost for the major equipment cost estimate.

The distribution of capital costs is completed using the number of units required within a period. If new or replacement units are needed, the number of units by the unit cost (20% of that for major equipment) is applied to the capital cost in that period. There is no allowance for escalation in these costs.

The balancing of equipment units based on operating hours is completed for each major piece of mine equipment. The smaller equipment was based on the number of units required for various locations around the mine. This includes such things as pickup trucks (dependent on the field crews), lighting plants, and mechanics trucks.

The most significant piece of major mine equipment is the haulage trucks. At the peak of mining, 27 to 181 t units are necessary to maintain mine production. This happens from Year 10 onwards. The maximum hours per truck per year are set at 6,000. There are periods where the maximum hours per unit are below the maximum possible. In those situations, increasing the maximum on the number of trucks still leaves residual hours required to complete the material movement, so the number of total trucks is unchanged. The hours required are instead distributed evenly across the number of trucks on site and available. The other major mine equipment is determined in the same manner.

Support equipment is usually replaced based on the number of years of usage. For example, pickup trucks are replaced every two years, with the older units possibly being passed down to other departments on the mine site. However, for the purpose of the capital cost estimate, new units are considered for mine operations, engineering, and geology.

The number of pieces of major equipment required by year are shown in Table 21-4.

There will be one full-time crusher loader at the primary crusher when the plant commences operation. Its role is to tram material from stockpile and manage the blending of various mill feed types.

The support excavator is a larger unit meant to assist in cleaning the contacts and crests of the highwall.

The expected equipment lives are:

- Production drill: 25,000 hours (140 mm)
- Production drill: 45,000 hours (200 mm)
- Production loader: 50,000 hours (23 m^3)
- Hydraulic shovel: 70,000 hours
- Crusher loader: 35,000 hours (14.5 m^3)
- Haul trucks: 60,000 hours (181 t)
- Track dozer: 35,000 hours
- Grader: 25,000 hours
- Support excavator: 7 years.

Table 21-4: Major Mine Equipment – Mine Equipment on Site

Equipment	Year																	
	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Production Drill (140 mm)	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	
Production Drill (200 mm)	2	6	7	8	8	8	8	9	9	9	9	9	9	9	9	9	8	8	
Production Loader (23 m^3)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hydraulic Shovel (29 m^3)	-	3	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	2	2
Crusher Loader (14.5 m^3)	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haulage Truck (181 t)	6	10	13	18	18	22	23	26	27	27	26	26	26	23	12	12	12	12	12
Track Dozer	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Grader	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Support Excavator	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Source: AGP Mining, 2022.

Other support equipment is normally determined in number of years and varies by its duty in the mine. Light plants for example are replaced each four years. The integrated tool carrier for site support is purchased once at the start of the and is not replaced over the mine life.

21.2.2.3 Miscellaneous Mine Capital

The miscellaneous mine capital cost is the cost associated with the engineering office. This includes such items as desktop workstations, mining and geology software, survey equipment (drones and total stations), and associated peripherals. The cost is estimated at $1.2 million, most of which is related to mining/geology software.

21.2.2.4 Mine Infrastructure Capital

Mine infrastructure capital covers the mine dewatering system within the pit. The dewatering well system is covered separately under infrastructure costs, as it provides water to the process facility. The preparation of the waste dump and pit areas, construction of the initial access road to the plant from the pit, and construction of the explosives pad are included, as are the dispatch system for material allocation and tracking. The costs associated with these items are listed in Table 21-5.

Table 21-5: Mine Infrastructure Capital (US$M)

Description	WBS	Initial Capital Cost (US$/M)		Sustaining Capital Cost (US$/M)	Total Capital Cost (US$/M)
		Y-2	Y-1	LOM	
Waste Dump Preparation	1300	-	0.7	-	0.7
Haul Road Construction	1500	-	1.2	-	1.2
Dewatering System – Pumps/Pipe	1600	-	1.0	6.4	7.4
Dispatch and Communications	1700	-	0.8	0.4	1.2
Explosives Pad	1900	-	0.3	-	0.3
Total			3.9	6.8	10.8

Source: AGP Mining, 2022.

21.2.3 Area 2000 to 5000 – Direct Costs, Process Plant, Tailings Management and On-Site Infrastructure

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 sent for budgetary pricing to equipment suppliers. For mechanical equipment costs, 86% of the value was sourced from budgetary quotes; the remainder was sourced by benchmarking against other recent Mexican and South American flotation concentrator mining projects and studies.

Similarly, the major electrical equipment was sized based on the project's equipment list. Scopes of work were developed to receive budgetary pricing from equipment suppliers. For the electrical equipment, 58% of the value was sourced from budgetary quotations. The remainder was sourced by benchmarking against other recent Mexican and South American flotation concentrator mining projects and studies.

In support of the major installation construction contracts, engineering for the process plant and infrastructure was completed to a PFS level of definition. After the derivation of all the bulk material quantities (earthworks, concrete, steel, piping, cables, etc.), for the process plant, tailings management facility and surface infrastructure areas, major construction contracts were formed, and sent to the market for supply and installation rates. For installation construction contracts, 100% of the value was sourced from installation hourly rates obtained from the construction contracts.

Specific to the tailings management facility, the design and material take-off outlined in Section 18 was applied against the contractor installation rates quotes for typical activities such as clearing, topsoil removal, excavation, backfilling with granular material and mine waste. The costs associated with this estimate also liner placement, drains, ground improvement, and associated supervision, monitoring and indirect costs.

21.2.4 Area 6000 – Direct Costs, Off-Site Infrastructure

21.2.4.1 Water Supply Wells

The initial costs of the fresh water supply wells are based on an independent buildup of drilling, pumping, pipeline and technical costs. Fresh water supply costs are only required in Phase 2 and 3 and begin with a ramp-up period in Year 3. The system consists of drilled wells, well pumps, tanks, transfer pumps, and pipelines which serve to provide the mine site with an average of 320 L/s of water.

21.2.4.2 Power Supply

The high-voltage powerline cost is based on the study completed and estimate prepared by CFE. The high voltage power line includes 75 km of new towers and a conductor, as well as a new 230 kV feeder at the Camargo II substation.

21.2.4.3 Site Access Road

The estimate allows for diversions and upgrades to the existing unpaved site access road. The existing access road will be upgraded including widening, installation of culverts as well as grading of corners to ensure suitability for daily operational traffic. A material take-off was completed based on a Civil3D model design of the upgraded road, and was applied against the contractor installation rates quotes for typical activities such as clearing, topsoil removal, excavation, and backfilling with granular material.

21.2.5 Area 7000 to 9000 – Indirect Costs

The indirect costs include: (1) project indirect costs, (2) Owner's costs, and (3) provision costs, as outlined below.

Project indirect costs include the following:

- temporary construction facilities and services
- commissioning representatives and assistance
- spares
- first fills and initial charges

- project delivery.

Owner's costs include the following:

- Owner's costs
- closure.

Provision costs include the following:

- contingency

Indirect costs are summarized in Table 21-6 and are described in the following sections.

Table 21-6: Indirect Costs

Description	WBS	Initial Capital Cost (US$/M)		Expansion Capital Cost (US$M)		Sustaining Capital Cost (US$/M)	Total Capital Cost (US$/M)
		Y0	Y1	Y3	Y9	Life of Mine	
Project Indirects	7000	59.0	--	39.3	10.8	--	109.1
Owner's Cost	8000	12.6	--	2.0	1.0	23.6*	39.3
Provisions	9000	60.7	0.7	43.2	4.4	9.0	118.1
Total Indirect Capital Cost		132.3	0.7	84.6	16.3	32.6	266.5

Note: *The LOM sustaining Owner's cost is the net difference between reclamation costs and salvage value. Initial capital Y0 costs are the sum of Initial capital costs Year -2 & Year -1 shown in the press release. Source: Ausenco, 2022.

21.2.5.1 Project Indirects

21.2.5.1.1 Temporary Construction Facilities and Services

Contractor indirect costs are related to the contractor's direct costs, and include the following:

- mobilization and demobilization
- site offices and utilities
- construction equipment including mobile equipment, scaffolding, safety supplies, etc.
- head office costs/contribution
- financing charges
- insurances
- profit.

Contractors provided indirect costs as part of their pricing schedules.

21.2.5.1.2 Commissioning Representatives and Assistance

Vendor representative costs during commissioning and construction include vendor representative support during the installation of the purchased equipment.

Vendor representative costs have been estimated based on previously completed South American flotation concentrator mining projects.

21.2.5.1.3 Spares

Commissioning spares quantities were recommended and priced by equipment suppliers. Where equipment pricing was not solicited from vendors, factors were applied based on standard estimating practices.

Capital spares prices for mechanical equipment are based on the prices provided by equipment vendors during the enquiry process. If vendors did not provide a cost for capital spares, a factored allowance was included based on the supply price and benchmarked against Ausenco's in-house database of projects. Allowance factors were based on a six-month period of capital spares. The capital spares cost was estimated to be US $2.5 million.

21.2.5.1.4 First Fills and Initial Charges

Process first fill quantities (e.g., mill media and reagents) and first fill lubricants (e.g., greases, oils, and hydraulic fluids) were calculated based on the engineering design and priced using quotes that were provided by reagent and media suppliers. The first fills cost for phase 1 was calculated to be US$3.4 million. First fills for subsequent phases are assumed to come from the existing stock, and as such have no capital costs.

21.2.5.1.5 Project Delivery

Engineering, procurement, and construction management costs for the process plant have been factored based on a percentage of the total direct costs for the process plant. The factor was estimated by benchmarking against other recent South American mining projects and studies.

21.2.5.2 Owner's Costs

21.2.5.2.1 Owner's Costs

Owner's costs of US$15.7 million have been provided by Discovery Silver and include the following:

- Owner's project team and expenses
- pre-production labour
- pre-production fuel (for process plant, TSF, and on-site infrastructure construction)
- administration, finance, insurance, and legal fees
- environmental consultation and management

- human resources, recruiting and training
- community relations
- site security
- mobile equipment and vehicle leases.

21.2.5.2.2 Closure Costs

Ausenco estimated the closure requirements inclusive of all necessary demolition, rehabilitation, revegetation, earth grading/contouring, scrap metal disposal/tipping fees, as well as post-closure monitoring. The total closure cost was calculated to be US$73 million., with salvage credits of $US49 million, for a net closure cost of US$23.6 million.

21.2.5.2.3 Process Plant

Site closure for the process plant area captures the cost associated with the demolition of equipment, process plant, and mining building infrastructure and remediation works of the site.

21.2.5.2.4 Tailings Management Facility

Site closure costs for the non-process plant footprint include works to soil cover, revegetate/hydroseed the stockpiles and TSF, and construct a closure spillway.

21.2.5.3 Contingency

Contingency accounts for the difference in costs between 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 (in terms of the level of engineering definition, basis of the estimate, schedule development, etc.), it is essential that the estimate include a provision to cover the risk from these uncertainties.

The contingency cost is from total installed costs based on the level of uncertainty for each area, using a deterministic approach. A contingency rate of 15% to 20% has been used based on a Class 4 AACE estimate and the level of definition of the project scope. Ausenco calculated a contingency of US$118.1 million for following the percentage allotments by commodity according to Table 21-7.

Table 21-7: Contingency Applied

Discipline Code	Discipline Name	Contingency
A	Architectural	15%
B	Earthworks	20%
C	Concrete	20%
D	Mining	5%
E	Electrical	15%
F	Platework and Mechanical Bulks	20%
I	Instrumentation	20%
M	Mechanical	15%
P	Pipework	20%
Q	Electrical Bulks	20%
S	Structural Steelwork	20%
U	Field Indirects	20%
V	Third-Party Packages / Other	15%
W	EPCM, EPC & EP	15%
Y	Owner's Costs	15%

21.2.6 Salvage

Salvaging costs have been factored by assuming that a fraction of the fixed process plant and infrastructure equipment will be recoverable at the end of the mine life. Total salvaging value was estimated at US$49.2 million, based on a total installed fixed equipment value of almost US$350 million.

21.2.7 Growth Allowance

A growth allowance has then been allocated to each line item in the capital cost estimate to reflect the level of definition of design and pricing strategy, of which is a provision for additional costs that will be recognized in future project phases as engineering is advanced.

Estimate growth is:

- intended to account for items that cannot be quantified based on current engineering status but empirically known to appear;
- accuracy of quantity take-offs and engineering lists based on the level of engineering and design undertaken at Feasibility Study level; and
- pricing growth for the likely increase in cost due to development and refinement of specifications as well as re-pricing after initial budget quotations and after finalization of commercial terms and conditions to be used on the project.

Growth has been calculated on a line-item level by evaluating the status of the engineering scope definition and maturity and the ratio of the various pricing sources for equipment and materials used to compile the estimate. The growth rate applied was based on guidance aligning to a Class 4 AACE estimate, and the level of definition of the project scope. The capital cost growth allowance is presented in Table 21-8.

Table 21-8: Growth Allowance

Discipline Code	Discipline Name	Growth
A	Architectural	8%
B	Earthworks	8%
C	Concrete	8%
D	Mining	0%
E	Electrical	8%
F	Platework and Mechanical Bulks	8%
I	Instrumentation	8%
M	Mechanical	8%
P	Pipework	8%
Q	Electrical Bulks	8%
S	Structural Steelwork	8%
U	Field Indirects	0%
V	Third-Party Packages / Other	0%
W	EPCM, EPC & EP	0%
Y	Owner's Costs	0%

21.2.8 Exclusions

The following costs and scope will be 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
- financing charges and interest during the construction period
- any costs for demolition or decontamination for the current site

- third-party costs
- further testwork and drilling programs
- environmental approvals
- this study or any future project studies, including environmental impact studies
- operating costs
- operational readiness costs
- working capital
- any facilities/structures not mentioned in the project summary description.

21.2.9 Expansion Capital Costs

The PFS design is based on a phased expansion approach to treat the variable grades in the mineralized material while also considering a future increase in mill throughput. An expansion to the comminution and flotation capabilities in Year 4 is planned when the material throughput is doubled. An expansion to the zinc cleaning and concentrate dewatering circuits capabilities is planned in Year 7 to process higher zinc grades in the feed material. Process design criteria are described in Section 17.

The infrastructure and process expansion capital costs for both expansion phases account for the following:

- on-site power supply and distribution
- site-wide water management structures
- comminution circuit
- flotation circuit
- de-watering circuit

21.2.10 Sustaining Capital Costs

The total LOM sustaining costs for the Cordero project are US$263 million, as presented in Table 21-9.

Table 21-9: Total Sustaining Costs (US$M)

WBS	WBS Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Closure	LOM
1200	Mine Equipment Capital	0.0	3.1	6.7	0.3	3.5	1.5	3.7	0.3	2.8	4.8	6.1	3.1	3.6	5.8	0.0	0.0	0.0	0.0	0.0	45
1600	Dewatering	0.1	0.1	0.4	0.9	0.1	0.2	0.3	0.9	0.2	0.1	0.3	1.0	0.1	0.1	0.4	0.7	0.1	0.1	0.0	6
1900	Comms/Mining Infrastructure	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
2800	Water Management	2.0	0.1	0.2	0.2	0.2	0.2	0.2	1.2	0.8	0.8	0.8	0.8	0.9	0.1	0.1	0.1	0.1	0.1	0.0	9
5100	Site Preparation	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	3
5200	Earthworks	0.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0	0.0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	74
5300	Pumping	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	1.2	0.1	0.1	0.1	0.1	0.0	3
5400	Liners	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	18
5500	Key Trench	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
5600	TSF Closure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.3	38
5700	QA-QC	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.4	8
6200	Water Supply	0.0	0.0	0.0	1.9	0.3	1.1	0.9	1.0	1.1	2.7	0.8	1.2	1.0	0.3	0.5	0.2	0.2	0.2	0.0	13
8700	Process + Waste Stockpile Closure	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6	31
9100	Contingency	0.2	1.6	0.4	0.2	0.2	0.1	0.3	0.2	2.2	0.4	0.4	0.3	0.3	2.2	0.1	0.1	0.0	0.0	3.5	13
	Total	3	34	8	3	4	3	5	3	45	9	8	6	6	47	1	1	1	1	73	263

Note: Total sustaining costs include all sustaining and closure costs, and do not include the salvage credit outlined in section 21.2.5.2.2. Additionally, $14M of mining equipment down payment capital is included in Year 1 initial capital, as shown in table 21-1, which accounts for the differences shown in the press release.

21.2.10.1 Mining

Down payments and monthly lease payments for the mine equipment fleet purchased throughout the life of mine are capitalized through the sustaining periods of the project. The sustaining costs for mining also include the cost of pit dewatering throughout the life of mine. A LOM total of US$53 million was estimated for mine equipment lease charges and pit dewatering.

21.2.10.2 Infrastructure and TSF

The sustaining costs for infrastructure include the costs of the ex-pit dewatering systems and the fresh water supply systems throughout the life of the mine.

21.2.10.3 TSF

The tailings storage facility sustaining costs account for all materials, labour, and indirect costs required to satisfy the tailing storage facility dam lift schedule outlined in Section 18.

21.3 Operating Costs

Operating costs include the ongoing cost of operations related to mining, processing, tailings disposal and general administration activities. Table 21-10 provides a summary of the tonnage weighted average operating costs for each phase over the life of mine, on a dollars-per-tonne-milled basis.

Table 21-10: Operating Cost Summary

Year	LOM	1-3	4-10, 12+	11	LOM	1-3	4-10, 12+	11
Operating Costs	US$M	US$M/a	US$M/a	US$M/a	US$/t	US$/t	US$/t	US$/t
Mining	2,286	124	118	153	7.6	13.9	6.4	8.2
Processing	1,929	59	112	115	6.4	6.6	6.1	6.2
Site G&A	188	10	11	11	0.6	1.1	0.6	0.6
Total	4,402	192	241	279	14.6	21.6	13.1	15.0

21.3.1 Basis of Estimate

Common to all operating cost estimates are the following assumptions:

- Cost estimates are based on Q4 2022 pricing without allowances for inflation.
- Costs are expressed in United States dollars (USD or US$).
- For material sourced in Canadian dollars, an exchange rate of 1.35 Canadian dollar per US dollar was assumed.

- For material sourced in Mexican pesos, an exchange rate of 19.61 pesos per US dollar was assumed.
- Most of the labour requirement is assumed to come from neighbouring municipalities.
- Processing unit operations were benchmarked against similar or comparable processing plants.
- Equipment and materials will be purchased as new.
- Grinding media consumption rates have been estimated based on the feed material characteristics.
- Reagent consumption rates have been estimated based on metallurgical testwork and standard operating practices.
- The process mobile equipment costs include fuel, maintenance, and the lease price for the equipment.

21.3.2 Mine Operating Costs

Mine operating costs have been estimated from base principals using quotations from local mine equipment vendors plus local supply consumables.

The mine fleet will be diesel powered as will the dewatering pumps. The fuel price used was MX$22.00 per liter or US$1.10 per liter delivered to site and provided by a local vendor.

21.3.2.1 Labour

Labour costs for the various job classifications were obtained from review of other operations and discussion with their personnel. A burden rate of 30% was applied to the various rates. Labour was estimated for both staff and hourly on a 12-hour shift basis. Mine positions and salaries are shown in Table 21-11.

The mine staff labour remains constant from Year 1 until Year 16, when positions are removed as the mine winds down.

Hourly employee labour force levels in mine operations and maintenance fluctuate with production requirements. The hourly labour requirements for Year 5 are shown in Table 21-12. Labour costs are based on Owner-operated mining with Discovery Silver responsible for the equipment with its own employees.

Overseeing all the mine operations, maintenance, engineering, and geology functions will be a technical superintendent. This person would have the mine general foreman and maintenance superintendent reporting to them, as well as the chief engineer and chief geologist. The mine general foreman will have the shift foremen report directly to them.

The mine will have four mine operations crews. Over the mine life, there will also be a road crew/services foreman responsible for roads, drainage, and pumping around the mine. This person would also be a backup mine shift foreman. There are two trainers until Year 5, when it drops to one trainer. The training foreman roles are only required on site until the end of Year 5, at which time the positions are eliminated. The mine operations department will have its own clerk/secretary.

Table 21-11: Mine Staffing Requirements and Annual Employee Salaries (Year 5)

Position	Employees	Annual Salary (US$/a)
Mine Maintenance		
Maintenance Superintendent	1	86,900
Maintenance General Foreman	1	73,200
Maintenance Shift Foremen	4	48,800
Maintenance Planner/Contract Administration	2	48,800
Clerk	1	18,100
Subtotal	9	
Mine Operations		
Mine Operations/Technical Superintendent	1	136,700
Mine General Foreman	1	86,900
Mine Shift Foreman	8	48,800
Drill and Blast Foreman	1	35,200
Training Foreman	1	35,200
Road Crew/Services Foreman	1	35,200
Clerk	1	18,100
Subtotal	14	
Mine Engineering		
Chief Engineer	1	73,200
Senior Engineer	1	48,800
Open Pit Planning Engineer	2	42,300
Geotechnical Engineer	1	42,300
Blasting Engineer	1	42,300
Blasting/Geotechnical Technician	2	26,900
Dispatch Technician	2	26,900
Surveyor/Mining Technician	2	26,900
Surveyor/Mining Technician Helper	2	22,400
Clerk	1	18,100
Subtotal	15	
Geology		
Chief Geologist	1	73,200
Senior Geologist	1	48,800
Grade Control Geologist/Modeller	4	26,900
Sampling/Geology Technician	6	21,800
Clerk	1	18,100
Subtotal	13	
Total	51	

Source: AGP Mining, 2022.

Table 21-12: Hourly Labour Requirements and Annual Salaries (Year 5)

Position	Employees	Annual Salary (US$/a)
Mine General		
General Equipment Operator	16	15,700
Road/Pump Crew	8	17,200
General Mine Labourer	8	17,200
Trainee	4	13,500
Tire Man	4	19,200
Light Duty Mechanic	4	19,200
Lube Truck Driver	4	19,200
Subtotal	48	
Mine Operations		
Driller	40	15,700
Blaster	-	Service by explosives vendor
Blast Helper	-	Service by explosives vendor
Loader Operator	4	19,200
Hydraulic Shovel Operator	16	19,200
Haul Truck Driver	84	19,200
Dozer Operator	12	19,200
Grader Operator	6	19,200
Crusher Loader Operator	4	19,200
Water Truck	8	19,200
Subtotal	174	
Mine Maintenance		
Heavy/Light Duty Mechanics	43	19,200
Welder	28	19,200
Electrician	2	19,200
Apprentice	8	15,000
Subtotal	86	
Total Hourly	303	

Source: AGP Mining, 2022

The chief engineer will have one senior engineer and two open pit engineers reporting to them. The blasting engineer would be included in the short-range planning group and would double as drill-and-blast foreman as required. the geotechnical engineer would cover all aspects of the wall slopes and WRSFs, together with shared technicians in blasting.

The short-range planning group in engineering will have two surveyor/mine technicians and two surveyors/mine helpers. These employees will assist in the field with staking, surveying, and sample collection with the geology group; they will have a clerk/secretary to assist the team.

In the geology department, there will be one senior geologist reporting to the chief geologist. There will also be four grade control geologists/modellers; two will be in short range and grade control drilling, and the others will be in long range/reserves. There will also be six grade control/sampling technicians and one clerk/secretary.

Four mine maintenance shift foremen will report to the maintenance general foreman who in turn will report to the maintenance superintendent. There will be two maintenance planners/contract administrators and a clerk.

The hourly labour force includes positions for the light duty mechanic, tire technician, and lube truck drivers. These positions will all report to maintenance. There will generally be one of each position per crew. Other general labour includes general mine labourers (two per crew) and trainees (one per crew until Year 5) plus two road/pump crew personnel per crew for water management/snow removal.

The drilling labour force is based on one operator per drill, per crew while operating. This peaks at 48 drillers in Year 8 and then drops slowly to 32 in Year 14 and then drops down over time as the drilling hours are diminished.

Shovel and loader operators peak at 20 in Year 3 and hold at that level until Year 14 where the number starts to decline. Haulage truck drivers peak at 112 in Year 10 and then tapers off to the end of the mine life.

Maintenance factors are used to determine the number of heavy-duty mechanics, welders and electricians are required and are based on the number of equipment operators. Heavy duty mechanic requirements work out to 0.25 mechanics required for each drill operator for example. Welders are 0.25 per operator and electricians are 0.05 per operator.

The number of loader, truck and support equipment operators is estimated using the projected equipment operating hours. The maximum number of employees is four per unit, to match the mine crews.

21.3.2.2 Equipment Operating Costs

Vendors provided repair and maintenance (R&M) costs for each piece of equipment selected for the Cordero project. Fuel consumption rates were estimated from the supplied information and knowledge of the working conditions. The costs for the R&M are expressed in US dollars per hour.

Tire costs were also collected from various vendors for the sizes expected to be used. Estimates of tire life are based on AGP's experience. The operating cost of the tires is also expressed in US dollars per hour. The life of the haulage truck tires is estimated at 5,000 hours per tire for the 181 t trucks with proper rotation from front to back. Each truck tire for the 181-tonne truck costs $32,000 so the cost per hour for tires is $38.40 per hour for the truck using six tires in the calculation.

The cost for ground-engaging tools (GET) is estimated from other projects and is an area that will be fine-tuned when the project is operational.

Drill consumables are estimated as a complete drill string using the parts list and component lives provided by the vendor. Drill productivity is estimated at 26 m/h for the smaller drill and 27 m/h for the larger drill for both mill feed and waste. The equipment costs used in the estimate are shown in Table 21-13.

Table 21-13: Major Equipment Operating Costs – No Labour (US$/h)

Equipment	Fuel/ Power	Lube/ Oil	Tires/ Undercarriage	Repair & Maintenance	GET/ Consumables	Total
Production Drill – 140 mm	48.40	4.84	3.00	115.00	98.13	269.37
Production Drill – 200 mm	104.50	10.45	6.00	137.00	160.31	418.26
Production/Crusher Loader - 23 m^3	214.50	21.45	97.60	165.05	10.00	508.60
Hydraulic Shovel – 29 m^3	377.30	37.73	113.87	323.56	20.00	872.46
Production/Crusher Loader - 14.5 m^3	94.60	9.46	15.25	72.89	8.00	200.19
Haulage Truck – 181 t	167.20	16.72	38.40	90.37	5.00	317.69
Track Dozer	64.90	6.49	25.14	62.49	5.00	164.02
Grader	16.50	1.65	3.32	23.31	5.00	49.78
Support Excavator – 6.7 m^3	74.80	14.96	26.30	49.13	8.00	173.19

Source: AGP Mining, 2022.

21.3.2.3 Drilling

Drilling in the open pit will use down-the-hole hammer drill rigs. The initial drill platforms will be developed by the smaller drill with the main production by the 200 mm drill. The pattern size varies between the drills but is the same for mill feed and waste for each drill. The material will be smaller and finer to improve productivity and reduce maintenance costs as well as improve plant performance. The drilling pattern parameters are shown in Table 21-14.

Table 21-14: Drill Pattern Specifications

		Drill 140 mm		Drill 200 mm	
Specification	Unit	Mill Feed	Waste	Mill Feed	Waste
Bench Height	m	10	10	10	10
Sub-drill	m	0.8	0.8	1.0	1.0
Blasthole Diameter	mm	140	140	200	200
Pattern Spacing – Staggered	m	4.2	4.2	5.3	5.3
Pattern Burden – Staggered	m	3.8	3.8	4.8	4.8
Hole Depth	m	10.8	10.8	11.0	11.0

Source: AGP Mining, 2022.

The sub-drill is included to allow for caving of the holes in weaker zones, reducing re-drill requirements or short holes that would affect bench floor conditions.

The parameters used to estimate drill productivity are shown in Table 21-15.

Table 21-15: Drill Productivity Criteria

Drill Activity	Unit	Drill 140 mm		Drill 200 mm	
		Mill Feed	Waste	Mill Feed	Waste
Pure Penetration Rate	m/min	0.55	0.55	0.55	0.55
Hole Depth	m	10.8	10.8	11.0	11.0
Drill Time	min	19.64	19.64	20.00	20.00
Move, Spot and Collar Hole	min	3.00	3.00	3.00	3.00
Level Drill	min	0.50	0.50	0.50	0.50
Add Steel	min	0.50	0.50	0.00	0.00
Pull Drill Rods	min	1.50	1.50	1.00	1.00
Total Setup/Breakdown Time	min	5.50	5.50	4.50	4.50
Total Drill Time per Hole	min	25.1	25.1	24.5	24.5
Drill Productivity	m/h	25.8	25.8	26.9	26.9

Source: AGP Mining, 2022.

21.3.2.4 Blasting

Quotations from local explosive vendors were obtained which included delivery to the blasthole. The explosives cost includes monthly fees from the explosive vendor for magazine rental and all costs associated with delivering the product to the open pit and down the hole.

Powder factors that result from the proposed equipment are shown in Table 21-16. The cost for blasting is approximately $0.46 per tonne mined over the life of mine. This is $28.0 million per year on average for the first 12 years, decreasing thereafter as material movement requirements drop.

Table 21-16: Design Powder Factors

Description	Unit	Mill Feed	Waste
Powder Factor	kg/m^3	0.86	0.86
Powder Factor	kg/t	0.32	0.32

Source: AGP Mining, 2022.

21.3.2.5 Loading

Loading costs for both mill feed and waste are based on the use of hydraulic shovels and a front-end loader. The shovels will be the primary diggers with the front-end loader as backup/support unit. The average percentage of each material type that the various loading units are responsible for is shown in Table 21-17. This highlights the focus of the shovels over the loaders.

“Trucks present at the loading unit” refers to the percentage of time a truck is available to be loaded. To maximize truck productivity and reduce operating costs, it is more efficient to slightly under-truck the loading unit. One of the largest operating cost items is haulage and minimizing this cost by maximizing the truck productivity is crucial to lower operating costs. The value of 80% comes from the standby time shovels typically encounter due to a lack of trucks.

Table 21-17: Loading Parameters – Year 5

Description	Unit	Hydraulic Shovel	Front End Loader
Bucket Capacity	m^3	29	23
Truck Capacity Loaded	t	181	181
Waste Tonnage Loaded	%	95	5
Mill Feed Tonnage Loaded	%	95	5
Bucket Fill Factor	%	90	91
Cycle Time	sec	38	40
Trucks Present at Loading Unit	%	80	80
Loading Time	min	2.60	3.37

Source: AGP Mining, 2022

21.3.2.6 Hauling

Haulage profiles were determined for each pit phase for the primary crusher, waste rock facility or PAG storage at the tailings facility. Cycle times were generated for the appropriate period tonnage by destination and phase to estimate the haulage costs. Maximum speed on the trucks is limited to 50 km/h for tire life and safety reasons, although few locations in the mine plan offer the truck the opportunity to accelerate to that velocity. Calculation speeds for various segments are shown in Table 21-18.

Table 21-18: Haulage Cycle Speeds

Flat (0%) On Surface	Flat (0%) In-pit, Crusher, Dump	Slope Up (5%)	Slope Up (10%)	Slope Down (5%)	Slope Down (10%)	Flat (0%) On Surface
Loaded (km/h)	50	40	28	12	30	14
Empty (km/h)	50	40	50	35	50	41

Source: AGP Mining, 2022

21.3.2.7 Support Equipment

Support equipment hours and costs are determined on factors applied to various major pieces of equipment. For the PFS, some of the factors used are shown in Table 21-19.

These factors resulted in the need for five track dozers, two graders, and one support backhoe. Their tasks will include clean-up of the loader faces, roads, WRSFs, and blast patterns. The graders will maintain the crusher and waste haul routes. In addition, water trucks will have the responsibility for patrolling the haul roads controlling fugitive dust for safety and environmental reasons. The small backhoe and road crew dump trucks will be responsible for cleaning out sedimentation ponds and water ditch repairs.

The hours generated in this manner were applied to the individual operating costs for each piece of equipment. Many of these units will be support equipment, so no direct labour is allocated to them due to their variable function. The operators will come from the General Equipment operator pool.

Table 21-19: Support Equipment Operating Factors

Mine Equipment	Factor	Factor Units
Track Dozer	30%	Of haulage hours to maximum of 5 dozers
Grader	15%	Of haulage hours to maximum of 2 graders
Crusher Loader	25%	Of loading hours to maximum of 1 loader
Water Truck	12%	Of haulage hours to maximum of 3 trucks
Pit Support Backhoe	35%	Of loading hours to maximum of 1 backhoe
Road Crew Backhoe	5	hours/day/unit
Road Crew Dump Truck	5	hours/day/unit
Road Crew Loader	5	hours/day/unit
Lube/Fuel Truck	8	hours/day/unit
Mechanics Truck	14	hours/day/unit
Integrated Tool Carrier	4	hours/day/unit
Light Plants	12	hours/day/unit
Pickup Trucks	8	hours/day/unit

Source: AGP Mining, 2022.

21.3.2.8 Grade Control

The grade control program will be completed with blast hole cuttings. Known mill feed samples will be collected in addition to 25% of the waste samples to identify new mineralized zones. Samples will be sent to the assay laboratory with the results applied to the short-range mining model.

If additional grade control is required, a reverse-circulation drilling program can be incorporated but is not considered at this time.

Annual samples are expected to total up to 47,000 per year. The total grade control program is estimated to cost approximately $500,000 annually or about $0.01 per tonne mined.

21.3.2.9 Leasing

Leasing of the mine fleet is considered a viable option to reduce initial capital. Various vendors offer this as an option to help select their equipment. Both Caterpillar and Komatsu have the ability, and desire, to allow leasing of their product lines.

Indicative terms for leasing provided by the vendors are as follows:

- Down payment = 20% of equipment cost
- Term length = 3 to 5 years (depending on equipment)
- Interest rate = London Inter Bank Offered Rate (LIBOR) plus a percentage
- Residual = $0.

The proposed interest rate is used to calculate a multiplier on the amount being leased. The multiplier is 1.16 to equate to the rate. It does not consider a declining balance on the interest, but rather the full amount of interest paid over the term, equally distributed over those years. The calculation is as follows:

Annual Lease Cost = {[(Initial Capital Cost) x 80%] x 1.16} / term in years

The support equipment fleet is calculated in the same manner as the major mining equipment.

All the major mine equipment, and most of the support equipment where it was considered reasonable, was assumed to be leased. If the equipment had a life greater than the lease term length, then the years after the lease did not have a lease payment applied. In the case of the mine trucks, with an approximate 10-year working life, the lease would be complete, and the trucks would simply incur operating costs after that time. For this reason, the operating cost would vary annually depending on the equipment replacement schedule and timing of the leases.

Using the leasing option adds $0.31/t to the mine operating cost over the life of the mine or $0.95/t of mill feed.

21.3.2.10 Dewatering

The dewatering quantity is currently estimated at 268,000 m^3/a. Two in-pit diesel pumps will remove this water from the pit and another diesel pump will direct it horizontally to the settling pond. Normal pumping rates are estimated at 730 m^3/d with peak rates of 1,600 m^3/d during the wetter part of the year. Additional dewatering in the form of horizontal drain holes is included in the dewatering cost. These holes will be campaigned and included in sustaining capital. The dewatering operating cost is expected to be approximately $221,000 per year.

21.3.2.11 Total Mine Costs

The total life-of-mine operating costs per tonne of material mined (in situ and rehandling) is $2.45/t. The cost per tonne milled is estimated at $7.56/t. The costs for the PFS are shown in Table 21-20 and Table 21-21.

Table 21-20: Open Pit Operating Costs – with Leasing (US$/t Mined)

Open Pit Category	Unit	Year 1	Year 3	Year 5	LOM Average
General Mine and Engineering	$/t mined	0.11	0.07	0.07	0.08
Drilling	$/t mined	0.31	0.31	0.31	0.31
Blasting	$/t mined	0.47	0.46	0.47	0.46
Loading	$/t mined	0.31	0.32	0.33	0.35
Hauling	$/t mined	0.48	0.49	0.70	0.75
Support	$/t mined	0.23	0.16	0.16	0.17
Grade control	$/t mined	0.01	0.01	0.01	0.01
Leasing costs	$/t mined	0.51	0.47	0.35	0.31
Dewatering	$/t mined	0.00	0.00	0.01	0.01
Total	$/t mined	2.44	2.31	2.42	2.45

Source: AGP Mining, 2022.

Table 21-21: Open Pit Operating Costs – with Leasing (US$/t Milled)

Open Pit Category	Unit	Year 1	Year 3	Year 5	LOM Average
General Mine and Engineering	$/t mill feed	0.58	0.47	0.24	0.24
Drilling	$/t mill feed	1.70	2.07	1.04	0.97
Blasting	$/t mill feed	2.57	3.07	1.54	1.43
Loading	$/t mill feed	1.69	2.13	1.10	1.08
Hauling	$/t mill feed	2.60	3.23	2.32	2.32
Support	$/t mill feed	1.24	1.08	0.54	0.53
Grade control	$/t mill feed	0.05	0.06	0.03	0.03
Leasing costs	$/t mill feed	2.75	3.12	1.16	0.95
Dewatering	$/t mill feed	0.03	0.03	0.02	0.02
Total	**$/t mill feed**	**13.21**	**15.26**	**7.99**	**7.56**

Source: AGP Mining, 2022.

21.3.3 Process Plant Operating Costs

Unless stated otherwise, all costs presented in this chapter are in US dollars (USD, US$). The estimate aligns with the principles of a Class 4 pre-feasibility study level estimate with a ±25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The average yearly processing operating costs (including G&A costs) differ as the project undergoes three distinct expansions and operating phases.

The three distinct phases of the sulphide plant include:

1. Phase 1 (Years 1 to 3): The process plant is operated at a throughput of 25.5 kt/d.
2. Phase 2 (Years 4 to 6): The facility is expanded to process material at a throughput of 51 kt/d.
3. Phase 3 (Year 7+): The zinc cleaning and concentrate dewatering circuits are expanded to process higher zinc feed grades with a corresponding increase in concentrate production.

Table 21-22 summarizes the operating costs for the process plant over different operating periods.

Table 21-22: Overall Operating Costs for Process Plant

Description	Phase 1	Phase 1	Phase 2	Phase 2	Phase 3	Phase 3
	M$/a	$/t	M$/a	$/t	M$/a	$/t
Power	21.4	2.30	38.9	2.09	40.4	2.17
Reagents	14.0	1.51	28.0	1.51	27.9	1.50
Consumables	17.9	1.92	35.1	1.88	35.6	1.91
Maintenance	2.6	0.28	4.5	0.24	4.7	0.25
Labor	1.9	0.21	2.1	0.11	2.2	0.12
Mobile Equipment	1.4	0.15	1.4	0.08	1.4	0.08
Laboratory Services	0.5	0.06	0.5	0.03	0.6	0.03
Fresh Water Supply	0.2	0.02	1.8	0.10	1.8	0.10
Total	60.0	6.44	112.4	6.04	114.6	6.16

Source: Ausenco, 2022.

21.3.3.1 Basis of Estimate

The following was used to determine the project's LOM process operating costs in agreement with the cost definition and estimate methodologies:

- Concentrate transportation, treatment, refining, and other related costs are not included in this estimate
- Processing unit operations were developed from first principles and benchmarked against similar or comparable processing plants to ensure their relative accuracy.
- Equipment and materials will be purchased as new.
- Grinding media consumption rates have been estimated based on the average feed material characteristics and regrind mill media consumption rates were estimated from benchmark data.
- Reagent consumption rates have been estimated based on metallurgical testwork and standard operating practices on a nominal basis.
- Process mobile equipment costs include fuel, maintenance, and the lease price for the equipment.

21.3.3.2 Labour

Staffing was estimated by benchmarking the Cordero project against similar projects. The labour costs incorporate requirements for plant operation, such as management, metallurgy, operations, maintenance, site services, and assay laboratory operation. The total operational labour averages 118, 155, and 167 employees for Phases 1, 2, and 3, respectively. Labour rates were estimated from recent Mexican projects, and a burden of 40% for benefits and bonuses was applied as advised by Discovery Silver.

The labour buildup assumes that workers will be sourced locally, as a camp is not considered in the design. The labour buildup also considers six expatriates functioning in senior site management roles. Organizational staffing plans outlining the labour requirement for process plant is shown in Table 21-23. Labour costs amount to US$1.93 million for Phase 1, US$2.09 million for Phase 2, and US$2.17 million for Phase 3.

Table 21-23: Process Plant Labour Summary

Role	Phase 1	Phase 2	Phase 3
Processing Manager	1	1	1
Processing Administrator	1	1	1
Processing Superintendent	1	1	1
Plant Supervisor	4	4	4
Control Room Operator	4	4	4
Field Operator – Crushing Plant	4	4	4
Field Operator – Grinding	4	8	8
Field Operator – Flotation	8	8	12
Field Operator – Concentrate Thickening	8	12	16
Field Operator – Reagents	8	12	12
Day Services Technician	2	4	4
Process Warehouse Coordinator	1	1	1
Process Warehouse Clerk	1	2	2
Process Warehouse Worker	4	6	6
Concentrate Handling Supervisor	2	2	2
Field Operator – Concentrate Handling	4	6	8
Chief Assayer	1	1	1
Laboratory Technician	6	6	6
Sample Preparation	4	4	4
Assistant	4	4	4
Chief Metallurgist	1	1	1
Senior Plant Metallurgist	2	2	2
Plant Metallurgist	6	6	6
Process Control Metallurgist	1	1	1
Metallurgical Field Technician	2	2	2
Mechanical Supervisor	2	2	2
Crane Operator	1	1	1
Millwright / Welder / Mechanic	14	18	20
Mechanical Apprentice	6	10	10
Maintenance Supervisor – Electrical	2	2	2
Electrician	12	16	16
Electrical Apprentice	2	4	4
Instrumentation & Control Technician	6	8	8
Total	129	164	176

Source: Ausenco, 2022.

21.3.3.3 Electrical Power

The power costs of the process plant and ancillary facilities were calculated from the average power utilization in the electrical load list for the equipment used in each phase. Power will be supplied to the site from the local utility via the nearby power line. A power cost of US$0.068/kWh was used, which was based on long-term projections by CENACE for the life of mine. A summary of the costs is provided in Table 21-24 for each phase of operation.

The power costs per tonne of mill feed are US$2.30/t, US$2.09/t, and US$2.17/t for Phases 1, 2 and 3, respectively.

Table 21-24: Summary of Power Costs

WBS	Area	Consumption (MWh/a)	Phase 1 Cost (US$M/a)	Consumption (MWh/a)	Phase 2 Cost (US$M/a)	Consumption (MWh/a)	Phase 3 Cost (US$M/a)
1900	Mining Infrastructure	4,787	0.33	4,787	0.33	4,787	0.33
2400	General Buildings	4,393	0.30	4,393	0.30	4,393	0.30
2500	Plant Buildings	845	0.06	845	0.06	845	0.06
2700	Waste Management Systems	208	0.01	208	0.01	208	0.01
3100	Primary Crushing	7,750	0.53	7,750	0.53	7,750	0.53
3200	Reclaim	1,541	0.10	2,745	0.19	2,745	0.19
4100	Grinding	17,3229	11.78	346,457	23.56	346,457	23.56
4300	Flotation	87,032	5.92	142,306	9.68	155,710	10.59
4400	Concentrate Thickening & Filtration	3,248	0.22	4,795	0.33	7,145	0.49
4500	Reagents	1,758	0.12	2,307	0.16	3,513	0.24
4600	Plant Utilities	20,557	1.40	36,244	2.46	40,978	2.79
4700	Tailings Thickening	8,228	0.56	16,455	1.12	16,455	1.12
5800	Decant and Discharge Pipeline	1,268	0.09	2,536	0.17	2,536	0.17
	Total	314,842	21.41	571,827	38.88	593,522	40.36

Source: Ausenco, 2022.

21.3.3.4 Reagents, Wear Items, and Grinding Media

The reagent and consumables consumption rates are summarized in Tables 21-25 and 21-26, respectively. Reagent consumption rates are derived from testwork outlined in Chapter 13 and vary depending on the average lead and zinc feed grade to the plant for the operating phase. Reagent pricing was derived from recent vendor quotations from international and local suppliers, with freight included for delivery to the project site.

Mill media consumption is based on the abrasion properties of the mill feed, as well as the mill throughput for each phase. Maintenance consumables such as liners are based on benchmarks for replacement rates for each mill type. Maintenance consumable unit pricing was obtained from vendor quotations and Ausenco's internal database of benchmark costs.

Table 21-25: Summary of Reagent Consumption

Item	Unit Rate ($/t)	Phase 1		Phase 2		Phase 3	
		Consumption (t/y)	Total Cost ($/a)	Consumption (t/y)	Total Cost ($/a)	Consumption (t/y)	Total Cost ($/a)
MIBC	3,230	670	2,165,134	1,340	4,329,104	1,340	4,329,104
$ZnSO_4$	1,325	1,397	1,850,363	2,792	3,699,731	2,792	3,699,731
NaCN	2,503	466	1,165,333	931	2,330,040	931	2,330,040
Lime	145	14,216	2,061,374	28,425	4,121,640	28,425	4,121,640
$CuSO_4$	2,475	1,257	3,110,704	2,513	6,219,737	2,513	6,219,737
Aero 5100	6,150	134	824,494	268	1,648,544	268	1,648,544
Flocculant	3,230	343	1,106,327	685	2,212,653	645	2,082,497
Anti-Scalant	3,750	121	452,650	241	905,300	241	905,300
X5000	9,150	140	1,277,798	279	2,554,909	279	2,554,909
Total			14,014,174		28,021,659		27,891,503

Source: Ausenco, 2022.

Table 21-26: Summary of Annual Consumable Use

Item			Phase 1		Phase 2		Phase 3	
	Unit Rate	Unit	Consumption	Total Cost ($/a)	Consumption	Total Cost ($/a)	Consumption	Total Cost ($/a)
SAG Mill Media	1,451	US$/t	3,733	5,417,033	7,465	10,831,156	7,465	10,831,156
Ball Mill Media	1,233	US$/t	5,865	7,233,968	11,727	14,464,050	11,727	14,464,050
Lead Re-grind Mill Media (25 mm)	1,850	US$/t	181	334,273	412	761,347	412	761,347
Zinc Re-grind Mill Media (25 mm)	1,850	US$/t	231	427,074	384	710,212	384	710,212
Filtration Cloth FFP	170	ea.	1,506	256,020	3,013	512,210	6,026	1,024,420
Gyratory Crusher Kit	424,000	set	2.0	848,000	2.0	848,000	2.0	848,000
SAG Mill Liners	1,800,000	set	1.5	2,700,000	3.0	5,400,000	3.0	5,400,000
Ball Mill Liners	700,000	set	0.8	560,000	1.6	1,120,000	1.6	1,120,000
Lead Regrind Mill Liners	120,075	set	0.5	60,038	1.0	280,875	1.0	280,875
Zinc Regrind Mill Liners	160,800	set	0.5	80,400	0.5	135,025	0.5	135,025
Total				17,916,805		35,062,876		35,575,086

Source: Ausenco, 2022.

21.3.3.5 Maintenance Parts and Supplies

The process plant annual maintenance cost was derived from the total installed mechanical equipment cost for each phase based on the mechanical equipment list using an average factor of 3.8%, which varies depending on the process area. The factors were determined from benchmark maintenance costs derived from several recent warm weather concentrators. Table 21-27 shows a summary of the maintenance costs.

Table 21-27: Maintenance Costs for Each Phase

Phase	Mechanical Supply Cost (US$)	Total Cost (US$)	Unit Cost (US$/t)
Phase 1	67,169,224	2,574,025	0.28
Phase 2	116,650,355	4,492,992	0.48
Phase 3	123,703,307	4,745,681	0.51

Source: Ausenco, 2022.

21.3.3.6 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, and equipment leasing costs. The maintenance strategy for the site includes the use of a 250-tonne mobile crane for mill maintenance and other heavy lifts, in addition to a tower crane and overhead cranes. Mobile equipment requirements for plant operations and maintenance result in an annual cost of US$1.41 million during Phase 1 and US$1.44 million during Phases 2 and 3.

21.3.3.7 On-Site Laboratory Services

The operating cost estimate for laboratory activity was developed from an estimate of the number of sample requirements and unit costs for the assays required for the sample types. The laboratory will handle grade control samples, mill solids samples, water testing, concentrate quality assays, and other miscellaneous tests, as required. Unit costs for each sample type were developed from recent service provider quotations. The estimated assay cost for each phase of operation is US$0.5 million. Labour costs for laboratory operation are captured in the labour cost estimate.

21.3.3.8 Make-up Water Supply

The cost of water supply is based on an independent build-up of pumping, maintenance, and labour costs. Make-up water supply costs are only required in Phases 2 and 3 and begin with a ramp-up period in Year 3. The system consists of well pumps, tanks, transfer pumps, and pipelines which serve to provide the mine site with an average of 320 L/s of water. The annual average cost of water supply is US$1.8 million.

21.3.4 General and Administrative Operating Costs

General and administrative (G&A) costs are expenses not directly related to the production of the desired products and include expenses not included in mining, processing, external refining, and transportation costs. These costs were developed using Ausenco's in-house data on existing operations, and specific inputs from Discovery Silver. The G&A costs are divided into the following areas:

- G&A maintenance, including access road maintenance
- G&A personnel
- human resources, including training, recruiting, and community relations

- infrastructure power, including power requirements for HVAC and administrative buildings
- site administration, maintenance, and security, including subscriptions, memberships, advertisement, office supplies and garbage disposal
- health and safety, including personal protective equipment, hospital service cost, and first aid
- environmental, including water sampling and tailings management facility monitoring costs
- IT & telecommunications, including hardware and support services
- contract services, including insurance, sanitation and cleaning, licence fees, and legal fees.

G&A personnel will consist of a select few expatriate employees, with most of the labour force sourced locally. The workers are assumed to be housed locally in the nearby town, and provisions have been made for bus transportation to and from site.

G&A costs for the various process plant phases are detailed in Table 21-28.

Table 21-28: G&A Cost Summary

Department	Phase 1	Phase 2	Phase 3
	US$/a	US$/a	US$/a
G&A Maintenance	350,000	350,000	350,000
Personnel	2,326,122	2,389,719	2,389,719
Human Resources	1,759,212	1,790,772	1,797,972
Site Administration, Maintenance	84,000	84,000	84,000
Vehicle Operation	769,485	834,136	834,136
Health & Safety	303,308	345,308	357,308
Environmental	560,000	560,000	560,000
IT & Telecommunications	340,000	340,000	340,000
Contract Services, Insurance, Legal	3,042,000	3,542,000	3,542,000
Administrative Costs	324,000	324,000	324,000
Total US$/a	9,858,127	10,559,935	10,579,135
Total US$/t	1.06	0.57	0.57

Source: Ausenco, 2022.

The roles associated with the G&A labour costs are outlined below in Table 21-29. G&A staffing was benchmarked against similar projects with comparable unit processes.

Table 21-29: G&A Labour Roles

Role	Phase 1	Phase 2	Phase 3
General Manager	1	1	1
Technical/Executive Director	1	1	1
Executive Assistant	1	1	1
Maintenance Manager	1	1	1
Maintenance Administrator	1	1	1
Maintenance Planner	2	2	2
Site Maintenance Operator	2	2	2
Site Maintenance Mechanical Hand	2	2	2
G&B Maintenance Coordinator	1	1	1
Security Supervisor	4	4	4
Security	14	14	14
Janitor	2	2	2
Cleaner	4	4	4
Bus Driver	14	18	18
Environment Manager	1	1	1
Environmental Coordinator Mine	1	1	1
Environmental Coordinator Processing	1	1	1
Environmental Scientist	1	1	1
Environmental Technician	2	2	2
Environmental Field Assistants	4	4	4
OH&S Manager	1	1	1
OH&S Administrator	1	1	1
HR Manager	1	1	1
HR Administration Officer	1	1	1
Recruitment Officer	2	2	2
Trainer Coordinator	1	1	1
Mechanical Trainer	1	2	2
Local Business Development Manager	1	1	1
Manager for Social Management	1	1	1
Associate for Social Management	1	1	1
Associate in Information Center	1	1	1
Manager for Commercial Services	1	1	1
Professional Associate for Procurement	1	1	1
Associate for Procurement	2	2	2
Logistic Coordinator	1	1	1
Logistic Associate	1	2	2
Manager for Administration	1	1	1
Information and Communication Technology Associate	1	1	1
Accountant	1	1	1
Administrative Assistant	1	2	2
Total	82	89	89

Source: Ausenco, 2022.

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 herein. Information that is forward-looking includes the following:

- mineral resource and reserve estimates
- assumptions about commodity prices and exchange rates
- proposed mine production plan
- projected mining and process recovery rates
- assumptions about mining dilution and the 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 the following:

- changes to costs of production from what is assumed
- unrecognized environmental risks
- unanticipated reclamation expenses
- unexpected variations in quantity of ore, ore grades, or recovery rates
- accidents, labour disputes, and other risks of the mining industry
- geotechnical or hydrogeological conditions 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 the assumed availability of electrical power, and the power rates used in the operating cost estimates and financial analysis
- ability to maintain the social licence to operate
- 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 metals price, discount rate, head grade, total operating cost, and total capital costs. The capital and operating cost estimates developed specifically for this project are presented in Section 21 of this report in Q4 2022 U.S. dollars. The economic analysis has been run on a constant dollar basis with no inflation.

22.3 Financial Model Parameters

22.3.1 Assumptions

The economic analysis was performed assuming the base case silver price of US$22/oz, gold price of US$1,600/oz, lead price of $1.00/lb and zinc price of US$1.20/lb. These metal prices were based on consensus analyst estimates and recently published economic studies. 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:

- The construction period will be two years.
- The mine life is 18 years.
- Cost estimates are in constant Q4 2022 US dollars with no inflation or escalation factors considered.
- Results are based on 100% ownership with a 0.5% NSR on revenue from gold and silver sales.
- Capital costs are funded with 100% equity (no financing assumed).
- All cash flows are discounted to the start of the construction period using a mid-period discounting convention.

- All concentrates will be sold in the same year they are produced.
- Project revenue will be derived from the sale of lead-silver and zinc concentrates.
- Currently, there are no contractual concentrate offtake arrangements.

22.3.2 Taxes

The project has been evaluated on a post-tax basis to provide an approximate value of potential economics. The tax model was compiled by Discovery Silver and reviewed by tax experts. The calculations are based on the tax regime as of the date of the PFS technical report. At the effective date of this report, the project was assumed to be subject to the following tax regime:

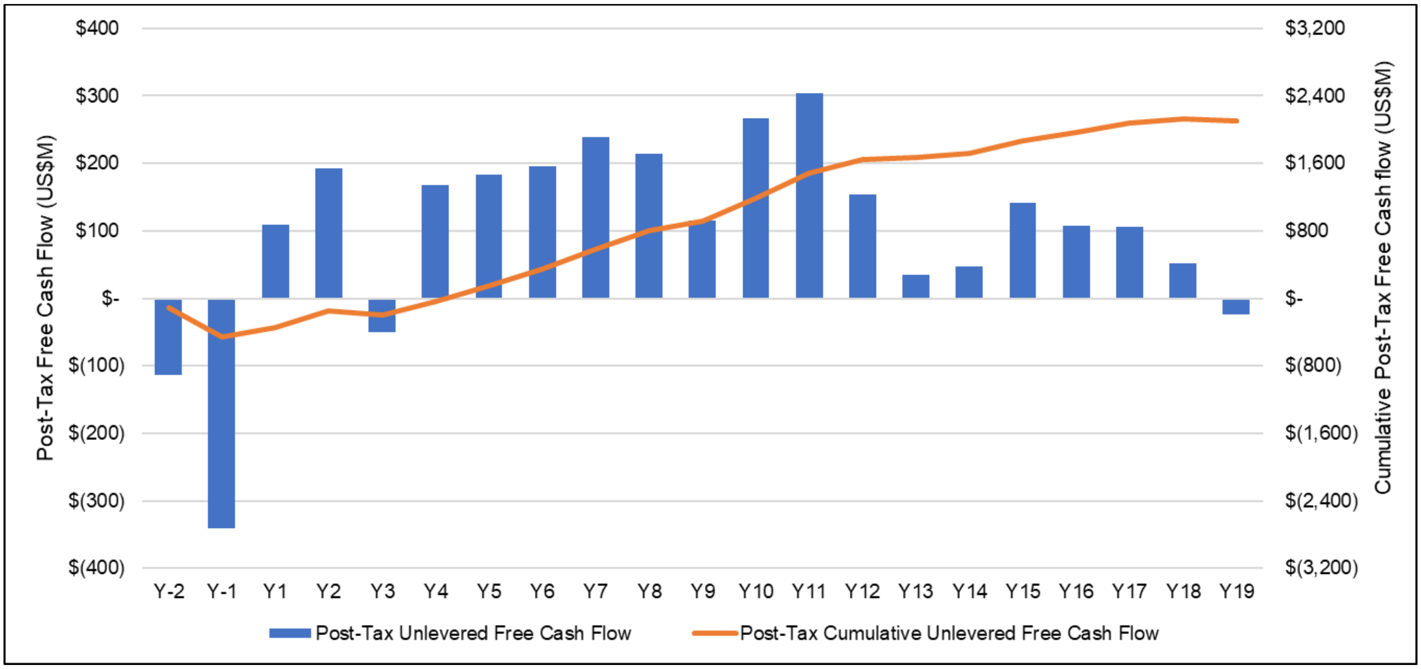
1. The Mexican federal corporate income tax rate of 30%.
2. Mexican mining royalty tax rate of 7.5% on earnings before interest, income taxes, depreciation, and amortization (ie: EBITDA).
3. Mexican royalty tax of 0.5% on net revenue (NSR) applicable to silver and gold production.

At the assumed metal prices, total income tax and royalty payments are estimated to be $1,223 million over the life of mine.

22.4 Economic Analysis

The economic analysis was performed assuming a 5% discount rate. The pre-tax NPV discounted at 5% is $1,902 million; the IRR is 38.9%, and payback period is 3.1 years. On a post-tax basis, the NPV discounted at 5% is $1,153 million, the IRR is 28.0%, and the payback period is 4.2 years. A summary of project economics is shown graphically in Figure 22-1 and listed in Table 22-1. The analysis was done on an annual cashflow basis; the cashflow output is shown Table 22-2.

Figure 22-1: Post-Tax Project Economics



Source: Ausenco, 2023.

Table 22-1: Economic Analysis Summary

Description	Unit	Life-of-Mine Total / Average
General Assumptions		
Silver Price	US$/oz	$22
Gold Price	US$/oz	$1,600
Lead Price	US$/lb	$1.00
Zinc Price	US$/lb	$1.20
Discount Rate	%	5.0%
Production		
Total Payable Silver	koz	199,418
Total Payable Gold	koz	54
Total Payable Lead	Mlb	2,368
Total Payable Zinc	Mlb	3,360
Total Payable Silver Equivalent	koz	494,253
Operating Costs		
Mining Cost (incl. Rehandling)	US$/t mined	$2.45
Mining Cost (incl. Rehandling)	US$/t milled	$7.56
Processing Cost (Phase 1)	US$/t milled	$6.46
Processing Cost (Phase 2)	US$/t milled	$6.36
Site G&A Costs	US$/t milled	$0.62
Cash Costs and All-in Sustaining Costs (Co-Product Basis)		
Operating Cash Costs[1]	US$/oz AgEq	$8.91
Total Cash Costs[2]	US$/oz AgEq	$13.23
All-in Sustaining Cost [3]	US$/oz AgEq	$13.62
Capital Expenditures		
Initial Capital	US$M	$455
Expansion Capital	US$M	$319
Sustaining Capital (incl. Net Closure)	US$M	$228
Economics		
Pre-tax NPV @ 5%	US$M	$1,902
Pre-tax IRR	%	38.9%
Pre-tax Payback	years	3.1
Post-tax NPV @ 5%	US$M	$1,153
Post-tax IRR	%	28.0%
Post-tax Payback	years	4.2

Notes: 1. Operating cash cost consist of mining costs, processing costs, and site-level G&A. 2. Total cash costs consist of operating cash costs plus transportation cost, royalties, treatment and refining charges. 3. AISC consist of total cash costs plus sustaining capital. Source: Ausenco, 2023.

Table 22-2: Project Cash Flow

Macro Assumptions	Units	Total / Avg	Y-2	Y-1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19
Silver Price	US$/oz	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22	$22
Gold Price	US$/oz	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600	$1,600
Lead Price	US$/lb	$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	$1.00
Zinc Price	US$/lb	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
Free Cash Flow Valuation																							
Revenue	**US$M**	**$9,572**	--	--	**$339**	**$551**	**$471**	**$641**	**$567**	**$581**	**$669**	**$620**	**$590**	**$751**	**$833**	**$575**	**$367**	**$457**	**$510**	**$424**	**$386**	**$242**	--
Operating Expenses	US$M	($4,402)	--	--	($157)	($191)	($212)	($264)	($278)	($270)	($280)	($275)	($270)	($281)	($284)	($279)	($275)	($279)	($252)	($224)	($189)	($140)	--
Concentrate Transportation Cost	US$M	($816)	--	--	($22)	($39)	($31)	($45)	($46)	($50)	($57)	($55)	($50)	($66)	($75)	($54)	($35)	($42)	($46)	($41)	($37)	($24)	--
Royalties	US$M	($21)	--	--	($1)	($1)	($1)	($2)	($1)	($1)	($1)	($1)	($1)	($1)	($2)	($1)	($1)	($1)	($1)	($1)	($1)	($1)	--
EBITDA	**US$M**	**$4,333**	--	--	**$159**	**$320**	**$226**	**$329**	**$242**	**$259**	**$330**	**$288**	**$268**	**$402**	**$473**	**$241**	**$56**	**$134**	**$211**	**$158**	**$159**	**$77**	--
Initial/Expansion Capital Cost	US$M	($774)	($114)	($341)	--	--	($216)	($72)	--	--	--	--	($31)	--	--	--	--	--	--	--	--	--	--
Sustaining Capital Cost	US$M	($205)	--	--	($3)	($34)	($8)	($3)	($4)	($3)	($5)	($3)	($45)	($9)	($8)	($6)	($6)	($47)	($1)	($1)	($1)	($1)	--
Closure Capital Cost	US$M	($73)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	($73)
Salvage Value	US$M	$49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$49
Pre-Tax Unlevered Free Cash Flow	**US$M**	**$3,331**	**($114)**	**($341)**	**$141**	**$286**	**$2**	**$254**	**$238**	**$256**	**$324**	**$285**	**$192**	**$393**	**$464**	**$235**	**$51**	**$87**	**$210**	**$157**	**$159**	**$76**	**($24)**
Pre-Tax Cumulative Unlevered Free Cash Flow	US$M		($114)	($455)	($314)	($28)	($26)	$228	$465	$721	$1,046	$1,331	$1,523	$1,916	$2,380	$2,615	$2,665	$2,753	$2,962	$3,120	$3,278	$3,354	$3,331
Mining tax	US$M	($325)	--	--	($12)	($24)	($17)	($25)	($18)	($19)	($25)	($22)	($20)	($30)	($35)	($18)	($4)	($10)	($16)	($12)	($12)	($6)	--
Income Tax Payable	US$M	($898)	--	--	($19)	($69)	($35)	($61)	($36)	($41)	($60)	($49)	($57)	($95)	($124)	($63)	($11)	($31)	($52)	($37)	($41)	($18)	--
Post-Tax Unlevered Free Cash Flow	**US$M**	**$2,108**	**($114)**	**($341)**	**$110**	**$193**	**($50)**	**$169**	**$183**	**$196**	**$239**	**$215**	**$115**	**$267**	**$305**	**$154**	**$35**	**$47**	**$142**	**$108**	**$106**	**$52**	**($24)**
Post-Tax Cumulative Unlevered Free Cash Flow	US$M		($114)	($455)	($345)	($152)	($202)	($34)	$150	$346	$585	$800	$915	$1,182	$1,487	$1,641	$1,676	$1,723	$1,865	$1,973	$2,079	$2,131	$2,108
Mining																							
Mineralized Material Mined[1]	Mt	333	--	3	14	26	23	26	25	25	24	20	22	28	21	17	10	15	17	11	6	--	--
Waste	Mt	609	--	8	27	26	39	36	37	37	41	45	43	37	40	48	50	43	26	20	7	--	--
Total Material Mined	Mt	942	--	11	40	53	62	62	62	62	65	65	65	65	62	65	60	59	43	31	13	--	--
Mining Rate	kt/d	143	--	30	111	144	169	169	169	169	178	178	178	178	169	178	164	161	119	86	37	--	--
Strip Ratio[2]	w:o	2.1	--	3.0	1.9	1.0	1.7	1.4	1.5	1.5	1.7	2.3	2.0	1.3	1.9	2.9	4.8	2.8	1.6	1.9	1	--	--
Processing																							
Oxides - Mill Feed																							
Oxides Ore Tonnes	Mt	19	--	--	--	0	0	0	2	--	2	0	2	--	0	2	2	2	2	2	2	2	--
Oxides Ore Grade																							
Ag	g/t	30.50	--	--	--	61.32	35.25	41.24	42.01	--	31.37	44.46	28.54	--	36.26	30.67	28.05	28.02	28.02	28.02	28.02	28.02	--
Au	g/t	0.07	--	--	--	0.07	0.09	0.06	0.05	--	0.07	0.03	0.08	--	0.08	0.06	0.08	0.08	0.08	0.08	0.08	0.08	--
Pb	%	0.28%	--	--	--	0.76%	1.29%	0.36%	0.30%	--	0.29%	0.69%	0.24%	--	0.49%	0.41%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	--
Zn	%	0.33%	--	--	--	1.07%	1.29%	0.27%	0.25%	--	0.29%	0.35%	0.29%	--	0.46%	0.54%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	--
AgEq	g/t	57	--	--	--	130	130	67	65	--	56	81	53	--	74	67	53	53	53	53	53	53	--
Sulphides - Mill Feed																							
Mill Head Grade	Mt	284	--	--	7	9	9	16	17	19	17	19	17	19	18	17	17	17	17	17	17	16	--
Mill Head Grade																							
Ag	g/t	27.20	--	--	44	51.35	50.29	35.70	29.53	26.61	31.12	26.54	28.41	30.03	30.57	24.12	17.47	21.06	23.95	18.62	17.51	12.06	--
Au	g/t	0.08	--	--	0	0.28	0.12	0.21	0.09	0.06	0.07	0.08	0.05	0.09	0.07	0.05	0.04	0.04	0.06	0.05	0.05	0.05	--
Pb	%	0.45%	--	--	0.63%	0.82%	0.58%	0.56%	0.38%	0.41%	0.50%	0.45%	0.45%	0.55%	0.63%	0.49%	0.29%	0.35%	0.40%	0.33%	0.31%	0.19%	--
Zn	%	0.72%	--	--	0.63%	1.03%	0.88%	0.60%	0.68%	0.72%	0.90%	0.79%	0.74%	0.97%	1.13%	0.76%	0.48%	0.62%	0.69%	0.62%	0.53%	0.32%	--
AgEq	g/t	74	--	--	104	136	110	91	73	71	85	76	74	90	97	71	48	58	66	56	51	33	--
Sulphides + Oxides - Total Mill Feed																							
Mill Head Grade	Mt	302	--	--	7	9	9	17	19	19	19	19	19	19	19	19	19	19	19	19	19	18	--
Mill Head Grade																							
Ag	g/t	27.41	--	--	44	51.60	50.29	35.81	30.54	26.61	31.14	26.55	28.42	30.03	30.61	24.77	18.53	21.76	24.36	19.56	18.56	13.65	--

Au	g/t	0.08	--	--	0.22	0.27	0.12	0.20	0.09	0.06	0.07	0.08	0.05	0.09	0.07	0.05	0.05	0.04	0.06	0.05	0.05	0.05	--
Pb	%	0.44%	--	--	0.63%	0.82%	0.58%	0.56%	0.37%	0.41%	0.48%	0.45%	0.43%	0.55%	0.63%	0.48%	0.29%	0.34%	0.38%	0.32%	0.31%	0.19%	--
Zn	%	0.70%	--	--	0.63%	1.03%	0.88%	0.60%	0.64%	0.72%	0.84%	0.79%	0.70%	0.97%	1.12%	0.74%	0.47%	0.59%	0.65%	0.59%	0.50%	0.32%	--
AgEq	g/t	73	--	--	104	136	110	90	73	71	83	76	72	90	97	71	48	57	65	56	51	35	--
Metallurgical Recoveries																						
Lead Concentrate																						
Ag	%	70.6%	--	--	78.1%	77.4%	77.1%	75.1%	65.0%	73.9%	67.8%	74.7%	67.4%	76.8%	77.1%	65.2%	60.6%	63.6%	65.4%	62.6%	61.7%	53.8%	--
Au	%	12.6%	--	--	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	--
Pb	%	86.2%	--	--	89.6%	89.7%	89.1%	88.4%	83.9%	87.5%	85.4%	87.9%	85.2%	88.9%	89.2%	84.2%	81.7%	83.3%	84.2%	82.8%	82.4%	77.9%	--
Zinc Concentrate																						
Ag	%	16.5%	--	--	12.2%	12.4%	12.7%	13.7%	18.4%	14.3%	17.1%	13.9%	17.2%	12.8%	12.6%	17.9%	20.2%	18.9%	18.1%	19.4%	19.7%	22.9%	--
Au	%	9.5%	--	--	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%	--
Zn	%	85.2%	--	--	83.6%	87.5%	86.3%	83.3%	84.4%	84.6%	86.5%	85.4%	85.1%	87.0%	88.2%	85.5%	82.1%	83.8%	84.6%	83.8%	82.7%	79.5%	--
Production Profile																						
Metal Produced																						
Ag - Ag/Pb Concentrate	Moz	186	--	--	8	12	12	14	12	12	13	12	11	14	14	10	7	8	10	7	7	4	--
Au - Ag/Pb Concentrate	koz	100	--	--	7	10	5	14	7	5	5	6	4	6	5	4	4	3	4	4	4	4	--
Pb - Ag/Pb Concentrate	Mlb	2,513	--	--	93	151	105	183	129	147	167	163	151	203	229	167	96	118	133	110	104	64	--
Zn - Ag/Pb Concentrate	Mlb	328	--	--	5	12	12	11	19	22	25	24	20	30	35	20	13	18	19	18	15	9	--
AgEq - Ag/Pb Concentrate	Moz	326	--	--	13	20	17	24	19	20	22	21	20	25	27	19	12	15	17	14	13	8	--
Ag - Zn Concentrate	Moz	43	--	--	1	2	2	3	3	2	3	2	3	2	2	3	2	2	3	2	2	2	--
Au - Zn Concentrate	koz	75	--	--	5	8	3	10	5	4	4	5	3	5	4	3	3	2	3	3	3	3	--
Pb - Zn Concentrate	Mlb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zn - Zn Concentrate	Mlb	3,986	--	--	87	185	156	185	223	249	297	277	244	348	405	260	161	203	225	203	174	105	--
AgEq - Zn Concentrate	Moz	265	--	--	6	13	11	13	16	16	20	18	16	22	25	17	11	14	15	14	12	8	--
Ag - Total	Moz	229	--	--	10	14	13	17	15	14	16	14	14	16	16	12	9	11	12	10	9	6	--
Au - Total	koz	175	--	--	12	18	8	24	12	8	9	11	7	11	9	6	6	5	8	7	7	6	--
Pb - Total	Mlb	2,513	--	--	93	151	105	183	129	147	167	163	151	203	229	167	96	118	133	110	104	64	--
Zn - Total	Mlb	4,314	--	--	92	197	168	196	242	271	322	301	264	377	440	280	175	221	244	221	188	114	--
AgEq - Total Metal Payable	Moz	591	--	--	20	33	28	38	35	36	42	39	36	47	52	36	23	29	32	27	25	16	--
Metal Payable																						
Ag - Ag/Pb Concentrate	Moz	177	--	--	8	11	11	14	11	11	12	11	11	13	13	9	6	8	9	7	7	4	--
Au - Ag/Pb Concentrate	koz	47	--	--	4	7	2	9	3	1	1	2	4	1	5	3	0	3	0	1	1	1	--
Pb - Ag/Pb Concentrate	Mlb	2,368	--	--	89	143	100	173	121	138	158	154	143	192	217	157	90	110	125	103	97	59	--
AgEq - Ag/Pb Concentrate	Moz	288	--	--	12	18	16	22	17	18	19	18	18	22	24	17	10	13	15	12	11	7	--
Ag - Zn Concentrate	Moz	22	--	--	1	1	1	1	2	1	2	1	2	1	1	1	1	1	1	1	1	1	--
Au - Zn Concentrate	koz	7	--	--	2	2	--	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pb - Zn Concentrate	Mlb	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zn - Zn Concentrate	Mlb	3,360	--	--	73	157	132	155	187	210	251	233	205	294	344	219	135	171	189	170	146	88	--
AgEq - Zn Concentrate	Moz	206	--	--	5	10	8	10	12	13	15	14	13	17	20	13	9	11	12	10	9	6	--
Ag - Total	Moz	199	--	--	9	12	12	15	13	12	14	12	12	14	14	11	8	9	10	8	8	5	--
Au - Total	koz	54	--	--	6	8	2	13	3	1	1	2	4	1	5	3	0	3	0	1	1	1	--
Pb - Total	Mlb	2,368	--	--	89	143	100	173	121	138	158	154	143	192	217	157	90	110	125	103	97	59	--
Zn - Total	Mlb	3,360	--	--	73	157	132	155	187	210	251	233	205	294	344	219	135	171	189	170	146	88	--
AgEq - Total Metal Payable	Moz	494	--	--	17	28	24	32	29	30	35	32	30	39	43	30	19	24	26	22	20	13	--
Revenues																						
Sulphide + Oxides Revenues																						

Ag Revenue	US$M	$4,387	--	--	$190	$272	$265	$335	$291	$271	$301	$271	$275	$310	$315	$232	$168	$202	$231	$180	$170	$110	--
Au Revenue	US$M	$87	--	--	$10	$14	$3	$20	$4	$1	$1	$2	$6	$2	$8	$6	$1	$5	$1	$1	$1	$2	--
Pb Revenue	US$M	$2,368	--	--	$89	$143	$100	$173	$121	$138	$158	$154	$143	$192	$217	$157	$90	$110	$125	$103	$97	$59	--
Zn Revenue	US$M	$4,032	--	--	$88	$188	$158	$186	$225	$252	$301	$280	$246	$353	$412	$263	$163	$205	$227	$204	$175	$106	--
Gross Revenue - Sulphides + Oxides	US$M	$10,874	--	--	$376	$617	$526	$715	$641	$662	$761	$707	$669	$857	$952	$658	$421	$522	$583	$488	$443	$277	--
Treatment & Refining Charges	US$M	$1,243	--	--	$36	$62	$53	$71	$71	$77	$88	$83	$76	$101	$113	$79	$51	$63	$69	$61	$54	$34	--
Total Penalties	US$M	$58	--	--	$2	$3	$2	$3	$3	$3	$4	$4	$3	$5	$6	$4	$2	$3	$3	$3	$2	$1	--
Net Revenue - Total	US$M	$9,572	--	--	$339	$551	$471	$641	$567	$581	$669	$620	$590	$751	$833	$575	$367	$457	$510	$424	$386	$242	--
Operating Costs																							
Unit Costs																							
Mine	US$/t Mined	$2.45	--	--	$2.44	$2.31	$2.31	$2.39	$2.42	$2.30	$2.34	$2.26	$2.18	$2.35	$2.48	$2.32	$2.44	$2.56	$2.84	$3.04	$4.45	--	--
Mine	US$/t Processed	$7.56	--	--	$13.21	$13.05	$15.26	$8.78	$7.99	$7.60	$8.13	$7.86	$7.59	$8.19	$8.22	$8.08	$7.86	$8.07	$6.61	$5.09	$3.20	$1.00	--
Processing (incl. Water Costs)	US$/t Processed	$6.38	--	--	$6.56	$6.46	$6.46	$6.38	$6.36	$6.36	$6.36	$6.36	$6.36	$6.36	$6.48	$6.36	$6.36	$6.36	$6.36	$6.36	$6.36	$6.37	--
Site G&A Costs	US$/t Processed	$0.62	--	--	$1.32	$1.06	$1.06	$0.63	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	$0.60	--
Total Operating Costs	US$/t Processed	$14.56	--	--	$21.09	$20.57	$22.78	$15.79	$14.91	$14.52	$15.06	$14.79	$14.51	$15.11	$15.26	$15.01	$14.79	$15.00	$13.54	$12.02	$10.13	$7.96	--
Operating Cost Summary																							
Mine	US$M	$2,286	--	--	$98	$121	$142	$147	$149	$141	$151	$146	$141	$152	$153	$150	$146	$150	$123	$95	$60	$18	--
Processing (incl. Water Costs)	US$M	$1,929	--	--	$49	$60	$60	$107	$118	$118	$118	$118	$118	$118	$121	$118	$118	$118	$118	$118	$118	$112	--
Site G&A Costs	US$M	$188	--	--	$10	$10	$10	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	$11	--
Total Site Operating Costs	US$M	$4,402	--	--	$157	$191	$212	$264	$278	$270	$280	$275	$270	$281	$284	$279	$275	$279	$252	$224	$189	$140	--
NSR - Government	US$M	$21	--	--	$1	$1	$1	$2	$1	$1	$1	$1	$1	$1	$2	$1	$1	$1	$1	$1	$1	$1	--
Concentrate Transportation	US$M	$816	--	--	$22	$39	$31	$45	$46	$50	$57	$55	$50	$66	$75	$54	$35	$42	$46	$41	$37	$24	--
Total Operating Costs	US$M	$5,239	--	--	$180	$232	$245	$311	$325	$322	$339	$331	$321	$349	$360	$334	$311	$322	$299	$266	$227	$165	--
Cash Costs																							
Co-Product																							
Operating Cash Costs[3]	US$/oz AgEq	$8.91	--	--	$9.20	$6.83	$8.86	$8.14	$9.53	$8.99	$8.10	$8.57	$8.88	$7.22	$6.56	$9.34	$14.39	$11.76	$9.51	$10.08	$9.37	$11.13	--
Total Cash Costs[4]	US$/oz AgEq	$13.23	--	--	$12.70	$10.60	$12.55	$11.86	$13.70	$13.38	$12.48	$13.02	$13.19	$11.68	$11.08	$13.93	$19.05	$16.34	$14.03	$14.86	$14.08	$15.90	--
All-in Sustaining Cost[5]	US$/oz AgEq	$13.62	--	--	$12.89	$11.80	$12.86	$11.97	$13.84	$13.48	$12.63	$13.13	$14.67	$11.91	$11.27	$14.15	$19.36	$18.32	$14.08	$14.92	$14.11	$15.96	--
Capital Expenditures																							
Mining	US$M	$86	$17	$52	--	--	$2	$1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
On-Site Infrastructure	US$M	$43	$8	$23	--	--	$9	$3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Crushing	US$M	$32	$6	$19	--	--	$5	$2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Process Plant	US$M	$253	$33	$98	--	--	$81	$27	--	--	--	--	$15	--	--	--	--	--	--	--	--	--	--
Tailings Management	US$M	$85	$11	$34	--	--	$30	$10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Off-Site Infrastructure	US$M	$56	$5	$15	--	--	$27	$9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Indirects	US$M	$109	$15	$44	--	--	$29	$10	--	--	--	--	$11	--	--	--	--	--	--	--	--	--	--
Owner's Costs	US$M	$16	$3	$9	--	--	$2	$1	--	--	--	--	$1	--	--	--	--	--	--	--	--	--	--
Provisions	US$M	$109	$15	$46	--	--	$32	$11	--	--	--	--	$4	--	--	--	--	--	--	--	--	--	--
Total Initial and Expansion Capital	US$M	$774	$114	$341	--	--	$216	$72	--	--	--	--	$31	--	--	--	--	--	--	--	--	--	--
Mining	US$M	$53	--	--	$16	$3	$7	$1	$4	$2	$4	$1	$3	$5	$6	$4	$4	$6	$0	$1	$0	$0	--
On-Site Infrastructure	US$M	$22	--	--	$2	$0	$0	$2	$0	$1	$1	$2	$2	$3	$2	$2	$2	$0	$1	$0	$0	$0	--
Tailings Management	US$M	$106	--	--	--	$29	--	--	--	--	--	--	$38	--	--	--	--	$38	$0	$0	$0	$0	--
Provisions	US$M	$9	--	--	$0	$2	$0	$0	$0	$0	$0	$0	$2	$0	$0	$0	$0	$2	$0	$0	$0	$0	--
Total Sustaining Capital (incl.Net Closure)	US$M	$228	--	--	$18	$34	$8	$3	$4	$3	$5	$3	$45	$9	$8	$6	$6	$47	$1	$1	$1	$1	$24
Total Capital Expenditures Including Salvage Value	US$M	$1,003	$114	$341	$18	$34	$224	$76	$4	$3	$5	$3	$76	$9	$8	$6	$6	$47	$1	$1	$1	$1	$24

Notes: [1]Mineralized material mined includes 30 Mt of above cut-off oxides that are not processed. [2]Strip ratio is that of processed mineralized material (i.e.: ore in reserves) and excludes the unprocessed 30 Mt of above cut-off grade oxides left on stockpiles at the end of production. [3]Operating cash costs consist of mining costs, processing costs, site-level G&A. [4]Total cash costs consist of operating cash costs plus transportation cost, royalties, treatment and refining charges. [5]AISC consist of total cash costs plus sustaining capital. Source: Ausenco, 2023.

22.5 Sensitivity Analysis

A sensitivity analysis was conducted on the base case post-tax NPV and IRR of the project using the following variables: discount rate, head grade, total operating cost, total capital cost, silver, gold, zinc, and lead prices, which were encompassed in a single variable, metal prices.

Tables 22-3 and 22-4 show the post-tax sensitivity analysis results.

As shown in Figure 22-2, the sensitivity analysis revealed that the project is most sensitive to changes in head grade and metal prices, particularly the silver price, as it is the project's primary metal. The project is less sensitive to discount rate, total operating cost, and total capital cost.

Table 22-3: Post-Tax Sensitivity Summary

Metal Prices	Post-Tax NPV (5%)	Total Capital Cost		Total Operating Cost		Head Grade	
	Base Case	(-10%)	(+10%)	(-10%)	(+10%)	(-10%)	(+10%)
-20.0%	$293	$355	$231	$465	$119	-$3	$586
-10.0%	$723	$785	$661	$895	$552	$389	$1,062
--	$1,153	$1,215	$1,091	$1,324	$981	$773	$1,538
10.0%	$1,582	$1,644	$1,520	$1,754	$1,411	$1,157	$2,013
20.0%	$2,012	$2,074	$1,950	$2,183	$1,840	$1,541	$2,489
Metal Prices	Post-Tax IRR	Total Capital Cost		Total Operating Cost		Head Grade	
	Base Case	(-10%)	(+10%)	(-10%)	(+10%)	(-10%)	(+10%)
-20.0%	12.5%	14.8%	10.5%	16.0%	8.4%	4.9%	18.4%
-10.0%	20.9%	23.6%	18.5%	23.7%	17.8%	14.5%	26.6%
--	28.0%	31.2%	25.2%	30.5%	25.3%	21.7%	33.9%
10.0%	34.4%	38.2%	31.3%	36.8%	32.0%	28.0%	40.6%
20.0%	40.5%	44.8%	37.0%	42.8%	38.3%	33.8%	47.0%

Source: Ausenco, 2023.

Table 22-4: Post-Tax Sensitivity Analysis

Post-Tax NPV Sensitivity to Discount Rate

Discount Rate	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	1.0%	$599	$1,232	$1,864	$2,497	$3,130
	3.0%	$427	$946	$1,464	$1,982	$2,500
	5.0%	$293	$723	$1,153	$1,582	$2,012
	8.0%	$145	$476	$807	$1,137	$1,468
	10.0%	$71	$353	$634	$916	$1,197

Post-Tax IRR Sensitivity to Discount Rate

Discount Rate	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	1.0%	12.5%	20.9%	28.0%	34.4%	40.5%
	3.0%	12.5%	20.9%	28.0%	34.4%	40.5%
	5.0%	12.5%	20.9%	28.0%	34.4%	40.5%
	8.0%	12.5%	20.9%	28.0%	34.4%	40.5%
	10.0%	12.5%	20.9%	28.0%	34.4%	40.5%

Post-Tax NPV Sensitivity to Head Grade

Head Grade	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	-$345	$58	$400	$738	$1,077
	-10.0%	-$3	$389	$773	$1,157	$1,541
	--	$293	$723	$1,153	$1,582	$2,012
	10.0%	$586	$1,062	$1,538	$2,013	$2,489
	20.0%	$882	$1,404	$1,927	$2,450	$2,972

Post-Tax IRR Sensitivity to Head Grade

Head Grade	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	--%	6.7%	14.6%	21.0%	26.6%
	-10.0%	4.9%	14.5%	21.7%	28.0%	33.8%
	--	12.5%	20.9%	28.0%	34.5%	40.5%
	10.0%	18.4%	26.6%	33.9%	40.6%	47.0%
	20.0%	23.7%	32.0%	39.5%	46.6%	53.4%

Post-Tax NPV Sensitivity to Total Operating Cost

Total Operating Cost	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	$636	$1,066	$1,495	$1,925	$2,354
	-10.0%	$465	$895	$1,324	$1,754	$2,183
	--	$293	$723	$1,153	$1,582	$2,012
	10.0%	$119	$552	$981	$1,411	$1,840
	20.0%	-$71	$380	$810	$1,240	$1,669

Post-Tax IRR Sensitivity to Total Operating Cost

Total Operating Cost	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	19.1%	26.4%	33.0%	39.1%	45.0%
	-10.0%	16.0%	23.7%	30.5%	36.8%	42.8%
	--	12.5%	20.9%	28.0%	34.4%	40.5%
	10.0%	8.4%	17.8%	25.3%	32.0%	38.3%
	20.0%	2.5%	14.5%	22.6%	29.5%	35.9%

Post-Tax NPV Sensitivity to Total Capital Cost

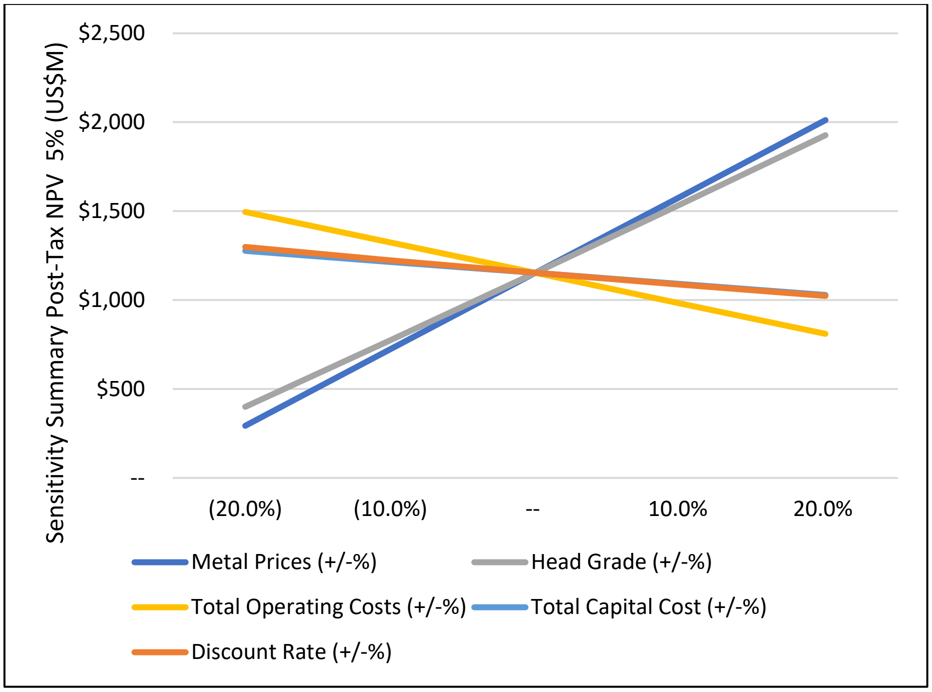
Total Capital Cost	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	$417	$847	$1,277	$1,706	$2,136
	-10.0%	$355	$785	$1,215	$1,644	$2,074
	--	$293	$723	$1,153	$1,582	$2,012
	10.0%	$231	$661	$1,091	$1,520	$1,950
	20.0%	$168	$599	$1,029	$1,458	$1,888

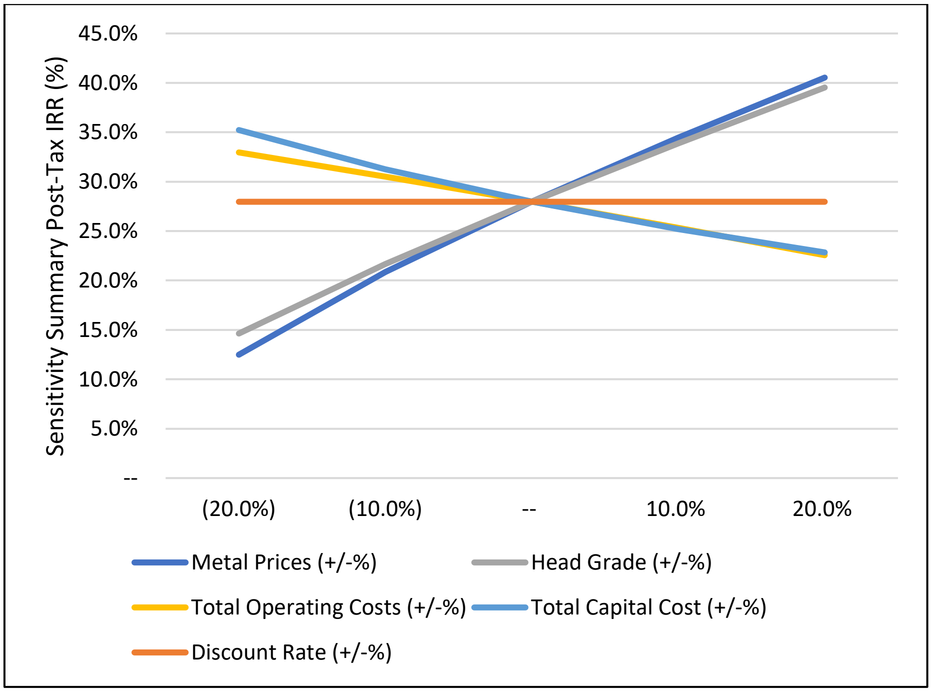
Post-Tax IRR Sensitivity to Total Capital Cost

Total Capital Cost	Metal Prices:	-20.0%	-10.0%	--	10.0%	20.0%
	-20.0%	17.6%	27.0%	35.2%	42.8%	49.9%
	-10.0%	14.8%	23.6%	31.2%	38.2%	44.8%
	--	12.5%	20.9%	28.0%	34.4%	40.5%
	10.0%	10.5%	18.5%	25.2%	31.3%	37.0%
	20.0%	8.8%	16.5%	22.8%	28.6%	33.9%

Source: Ausenco, 2023.

Figure 22-2: Post-Tax NPV and IRR Sensitivity Results





Source: Ausenco, 2023.

23 ADJACENT PROPERTIES

Mr. Schwering, the QP, has reviewed the claim status on adjacent properties and can find no active mineral concessions adjacent to the Cordero property. As noted in Section 6, a review of adjacent mineral concessions conducted by Levon in 2009 led to reclaiming mineral concessions that had been dropped earlier by Valley High Ventures Ltd. In 2013, Levon acquired the last remaining inlying mineral concession.

The Cordero project lies in a region that has been a major producer of silver for centuries and continues to host several producing mines (see Figure 23-1). The region is also a hub for exploration on new mineral deposits including an early-stage exploration project belonging to Discovery Silver: in Puerto Rico,

Figure 23-1: Operating Mines/Exploration Projects Near Cordero and Discovery Silver's Early-Stage Exploration Projects

Source: Discovery Silver, 2022.

There are several exploration projects and producing mines to the south near Parral (see Figure 5-3), but none is immediately adjacent to the Cordero property. Although the mineral deposits at these other projects all have characteristics that make them unique, many of them share similarities with Cordero, such as age, deposit type, vein geometries, alteration, structural controls, and geochemistry.

24 OTHER RELEVANT DATA AND INFORMATION

24.1 Project Execution Plan

The Project Execution Plan (PEP) will address the overall project (objectives, scope, strategies and roles and responsibilities) and provide a comprehensive plan for its development and implementation. The PEP covers the plan for engineering, procurement, construction, start-up, and commissioning of the project. The implementation strategy assumes an engineering, procurement, construction management (EPCM) implementation with construction packages and several smaller EPC (engineer, procure, construct) packages where either local contractor or specialist technology suppliers have demonstrated cost benefits to the project.

The execution strategy is to complete the project construction and commissioning within 24 months of receiving the environmental permits and corporate approval to proceed. A detailed EPCM schedule will be produced during the next project study.

24.2 Project Organization and Alignment Strategy

It is assumed at a pre-feasibility study level of certainty that the project organization is based on an integrated team approach with active attention to minimizing the duplication of roles and activities between the EPCM company and Discovery Silver. The project will be established based on the EPCM company's project delivery systems and processes. The government liaison activities, external affairs, and environmental services, and overall site security will be provided by Discovery Silver.

The Discovery Silver Alignment Strategy aims to create shared understanding of the project vision and strategy to enable the EPCM company, Cordero and other internal/external stakeholders achieve the project objectives. The overall project delivery team operates as one team with defined responsibilities, accountabilities, and authorities. The team are established and supported to deliver "best for project" outcomes in line with Discovery Silver's expectations and critical success factors.

Facilitated alignment sessions will be held to establish working relationships within the project delivery team and determine acceptable outcomes. The alignment effort will be concentrated at the start of the project, although ongoing activities will be carried out throughout project execution to increase overall effectiveness and commitment, and to ensure the project team functions cohesively.

24.3 Health, Safety Environment and Community Management Plan

The Health, Safety, Environment, Community (HSEC) Management Plan details the strategy, systems, process, procedures, and standards that are used for recording, analyzing, and reporting performance. HSEC standards, systems and safe operating procedures developed by Discovery Silver will be supplemented by the EPCM company's procedures and forms. Project "on-boarding" requirements are substantial and will be upheld in accordance with established Discovery Silver programs. The EPCM company will support and assist Discovery Silver in developing safe operating procedures for Cordero.

The project manager is accountable for overall delivery of the project and for ensuring that management structures and systems are embedded within the project. The construction manager will be supported by a site-based HSEC team who will monitor and advise on HSEC performance to ensure alignment between project team members and Discovery Silver's requirements.

24.4 Engineering Management Plan

The engineering team will deliver basic and detailed designs for the scope of facilities on the Cordero project and provide deliverables and technical support to ensure the effective procurement, construction, commissioning, and operation of the facilities. An Engineering Management Plan will be developed to detail the strategy, processes, and standards for delivering the engineering requirements of the project.

The Engineering Management Plan will outline the overall design and revision processes for project activities. It will set out specification and flow diagram standards, and will reference all engineering procedures, systems, and forms to be used. When required, the engineering team will provide technical advice to the procurement, construction management, commissioning, and quality departments throughout the project. Resources for ongoing field support during construction and commissioning phases will be drawn from the engineering teams.

24.5 Procurement and Contracts Strategy and Management Plan

The Procurement Strategy and Management Plan details the strategy that will be developed for procuring equipment and materials for the project and the processes and systems that will be used for procuring, expediting, shipping, receiving, storing, and issuing the equipment and materials.

The procurement and contracting team will invite tenders and award purchase orders and contracts according to packages defined by the contract and packaging plan supported by engineering and by Discovery Silver's approved bidders list.

The Contracting Strategy and Management Plan details the strategy that has been developed for identifying and engaging construction contractors for the project and the processes and systems that will be used to deliver the project.

The Contracting Strategy and Management 'Sub-Plan' explains the management basis of the contracts formation and contracts administration procedure that will be applied along with an explanation of tools, operational controls and earned value performance monitoring techniques.

The Contracts and Procurement Contracting Summary will identify all proposed work packages and highlight the packages where the management responsibility will be retained by Discovery Silver versus the packages where the management responsibility will rest with the EPCM company.

24.6 Contractor Temporary Facilities

Laydown yards will be identified and nominated ahead of contractor mobilization to site, as illustrated on the construction layout drawing. Laydown yards will be sheeted in compacted mine waste and lightly crowned so that precipitation runoff is collected on the perimeter.

Contractors will be required to establish their own temporary facilities. Contractors will establish their own offices for the duration of their contract only; these facilities will be removed within one month of completion of the contractor's works. Upon completion of their specific construction activities, each contractor will demobilize all temporary buildings and facilities, and clean up the area allocated to them.

24.7 Commissioning Management Plan

Commissioning involves the formal handover and acceptance of process equipment and commissioning modules between the various commissioning stages, from the completion of installation by contractors and suppliers through verification of plant and equipment dry or pre-commissioning by field engineers and design engineers, to final commissioning by the commissioning team. The Commissioning Management Plan details the methodology and processes that will be used to plan, prepare and commission the works, including the involvement of the construction and operations (Owner's) teams.

The Commissioning Management Plan will also detail the start-up/ramp-up period. The Owner's operational team will drive the successful start-up with ore and ramp-up period of nine months to bring project to the Phase 1 nameplate. The EPCM contractor will act in a supporting role during this period.

25 INTERPRETATION AND CONCLUSIONS

25.1 Introduction

The QPs have provided the following interpretations and conclusions in their respective areas of expertise based on the review of data available for this report.

25.2 Mineral Tenure, Surface Rights, Water Rights, Royalties

Information from legal and Discovery Silver's in-country experts support that the tenure held is valid and sufficient to support a declaration of the current mineral resource estimate.

The project consists of 26 titled mining concessions totalling 34,909 continuous hectares owned by Minera Titán S.A. de C.V. Mexico (Titán), a wholly owned Mexican subsidiary of Discovery Silver. The mining concessions that host the current mineral resource estimate are in good standing. As of the effective date of the report, all required mining duties were paid.

Surface exploration rights for the Cordero mineral concessions are maintained by three separate signed and transferrable agreements between Titán: two with private ranches (Rico and Rascón agreements) and one with Ejido Rancho Cordero(Ejido agreement). The two agreements with the private ranchers cover the central portion of the mineral concessions. The Ejido agreement covers the area within 2 km southwest and west of the current resource pit. The Rascón agreements cover the site of the Titán exploration camp, including sleeping quarters, the field office, and several drill core storage buildings.

Discovery Silver has sufficient surface rights to support continued exploration, drilling and access road construction as needed bound by a series of surface access agreements and agreed-upon payment schedules.

For the San Pedro concession, the "Cordilleras contract" requires Titán to pay Cordilleras a 2% NSR royalty. Titán can assign the obligation of payment of the royalty to a third party by written notice sent to Cordilleras. In the event that Cordilleras decides to sell its right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that Cordilleras offered to a third party.

For the Josefina, Berta, La Unidad II, and La Unidad mineral concessions, the Eloy contract requires Titán to pay two concessionaires (Mr. Eloy Herrera Martínez and Cleotilde de la Rosa Ríos) a 1% NSR royalty. In the event that the concessionaires decide to sell their right to receive the royalty, Titán will have the right of first refusal on the same terms and conditions that the concessionaires offered to a third party.

25.3 Geology and Mineralization

Cordero has overlapping characteristics of deposit types including an extensional intermediate sulphidation epithermal system on the shoulder of a porphyry molybdenum system and the diverse group of carbonate-hosted Pb-Zn (Ag, Cu, Au) deposits.

The current understanding of the mineralizing system, lithologies, and mineralization, as well as the geological, structural, and alteration controls on the mineralization, is sufficient to support an estimation of mineral resources.

There is exploration potential both contiguous to the current resource pit as well as along the 15 km long Cordero magmatic-hydrothermal belt based on regional exploration results. Surface geological mapping has identified several hydrothermal centers with similar styles of argentiferous galena and base metal mineralization that occurs in the current resource area.

25.4 Exploration, Drilling, and Analytical Data Collection in Support of Resource Estimation

The exploration programs completed to date are appropriate for epithermal-style and porphyry-related mineralization as well as the diverse carbonate-hosted Pb-Zn (Ag, Cu, Au) deposits.

Sampling methods are acceptable and well-monitored to support mineral resource estimation. Sample preparation, analysis, and security were performed in accordance with exploration best practices and industry standards at the time the information was collected.

The quality and quantity of the geological data, collar, and downhole survey data collected in the exploration and infill drill programs are sufficient to support mineral resource estimation.

No material factors were identified with the data collection from the drill programs that could significantly affect mineral resource estimation.

Sample preparation, and analyses were performed by independent accredited laboratories. The sample preparation, analysis, and security practices are acceptable, meet industry-standard practices at the time they were undertaken, and are sufficient to support mineral resource estimation.

The data verification programs concluded that the data collected from the project adequately support the geological interpretations and that the database is of sufficient quality to support the use of the data in mineral resource estimation.

25.5 Metallurgical Testwork

Extensive metallurgical testwork has been undertaken on the Cordero project by Discovery Silver and previously by Levon Resources dating back to 2011.

QEMSCAN analysis of multiple composites and variability samples confirmed that the predominant sulphide mineral contained across the volcanic, sedimentary, and breccia samples was pyrite. To a lesser extent, sphalerite and galena were present in the volcanic, sedimentary, and breccia samples. The oxide composites did not contain significant amounts of sulphide minerals.

The gangue mineralogy was dominated by quartz, plagioclase, K-feldspar, Si/Al clays, and calcite. The sedimentary samples contained the largest concentration of calcite, while the oxide samples contained the smallest. The oxide samples contained the most Si/Al clays compared to the other lithologies.

At a primary grind size of 80% passing 200 µm averaged across the 30 variability composites, galena averaged approximately 65% liberation, and sphalerite averaged approximately 78% liberation. Where unliberated, the galena and sphalerite were in binary association with pyrite or ternary association with non-sulphide gangue.

The various phases of testwork have culminated in the selection of a robust, differential, lead-zinc flotation flowsheet after relatively coarse (80% passing or k_{80} = 200 µm) primary grinding via a combination of conventional SAG and ball milling. This flowsheet has been proven to be effective across upwards of 50 variability, master and blended (oxide and sulphide) composites with average locked cycle test performance from the 2022 PFS program returning the following results:

- lead/silver concentrate grading 56% Pb and 3,217 g/t Ag at lead and silver recoveries of 87% and 75%, respectively
- zinc concentrate grading 52% Zn and 346 g/t Ag at zinc and silver recoveries of 85% and 10%, respectively
- global silver recovery (to lead and zinc concentrates) of 85%.

Due to the relatively coarse primary grind and moderate concentrate regrinds, the concentrates and tails generated via the flotation circuit dewater readily. The majority of final tails products from locked cycle testing has been shown to be non-acid-generating, with a relatively minor number of samples being classified as potentially acid-generating.

Concentrate quality scans were conducted on the PEA and PFS locked cycle test. The main deleterious elements were as follows:

- Mercury (Hg) content of the lead and zinc concentrates averaged 13, g/t and 11 g/t, respectively.
- Organic carbon content of all concentrates was below 1.6% C_{ORG}.
- Arsenic (As) content of the lead and zinc concentrates averaged 0.31% and 0.31%, respectively.
- Cadmium (Cd) content of the lead and zinc concentrates averaged 0.05% and 0.45%, respectively.
- Chlorine (Cl) content was consistently low (0.07% Cl) and often below detection limit.

Comminution testwork conducted on variability samples and composite blends indicate that Cordero ore is hard to very hard, with an average Bond ball work index of approximately 19 kWh/t and an average SMC A x b value of 54.

Heap leaching of the oxide zone was considered for additional silver recovery, but column leach and bottle roll testwork was suspended in 2022 in favour of blending the oxide material in with the sulphides at low blend ratios via the flotation circuit.

Testwork has shown that the oxides can be blended with the sulphide ore and processed via the flotation circuit at blend proportions up to 10% with little to no negative impact on sulphide ore recovery.

Robust metallurgical projection models have been derived for the sulphides from locked cycle and batch cleaner variability testwork and are appropriate for this level of study. The contribution to overall recovery from the oxides at the 10% oxide blend is minimal and oxide flotation testwork data is limited, but suitable for this level of study.

25.6 Mineral Resource Estimate

The QP believes that the mineral resource estimates for the Cordero deposit have been generated using industry-standard methods that follow procedures recommended by the CIM in the “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” (CIM, 2019). As such, the resource block model and its global resource inventory are suitable for public disclosure and for further use in the preliminary feasibility of the technical and economic viability of the project.

25.7 Environmental, Permitting and Social Considerations

Table 25-1: Relevant Results and Information

Description	Results / Information
Hydrogeology	Groundwater quantity and quality may be impacted by the Cordero project. Fecal coliforms, total coliforms, turbidity, arsenic and iron presently exceed the maximum permissible limits of the Mexican regulatory guidelines in groundwater. Herbicides and pesticides, total trihalomethanes and BTEX present in low concentrations. The groundwater includes bicarbonated-calcium and bicarbonated-sodium-calcium types (IDEAS, 2022a).
Noise	One critical zone was found in the project site corresponding to an area close to a motogenerator.
Fauna	Sixty-nine species of fauna were found in the site. One is included in Category A, two are category Pr of the NOM-059-SEMARNAT-2010, and five are classified as APII of the CITES.
Flora	One of the species identified in the Cordero area is included in Category A of the NOM-059-SEMARNAT-2010. Twelve species are also included in Appendix II (APII) of the CITES.
Closure and Reclamations	No formal closure and reclamation plan has been prepared to date. One will be developed during subsequent stages of feasibility-level design.
Permitting considerations	Three permits have been obtained: NOM 120 SEMARNAT 2020, Company Registration in Social Security (IMSS) and Community Protection. Registration of Hazardous Waste Management has been presented and Waste Management Plans (Hazardous and Mining) are in process.

25.8 Mining

25.8.1 Geotechnical Considerations

The geotechnical and hydrogeological data collected from the 2021 and 2022 site investigation programs is considered sufficient for a PFS-level open pit slope design.

The Cordero open pit slopes are expected to be a relatively homogeneous rock mass primarily consisting of folded cretaceous shale-siltstone and volcanic rhyodacite. The overall rock mass quality of the shale-siltstone (siltstone) unit is good, with a strong cross-bedding intact rock strength and lower along bedding strength due to anisotropy. The rhyodacite unit is a good quality rock mass with a high intact rock strength.

Faulting is prevalent in the Cordero deposit area, with evidence of earlier faulting parallel to stratigraphy. Later faulting transcurrent (crosscutting) stratigraphy is also observed along the northeast-trending igneous belts. The bedding of the sedimentary package is generally dipping southeast with moderate to shallow angles. Rock mass fabric (fractures) within the sedimentary and volcanic packages are either parallel or orthogonal to the bedding, or in line with the northeast-trending faulting/veining systems.

The groundwater table is relatively deep at the Cordero main deposit site. Measured static groundwater levels within and surrounding the deposit area vary between 50 to 150 mbgs, and range in elevations between 1,485 to 1,505 masl.

Interramp pit slope angles range from 42° at the southwest side of the ultimate pit to 58° at the northeast side of the ultimate pit. These trends are in response to the dominant lithologies in these sections of the pit. Bench face angles range from 65° to 80°. Bench widths range from 9 to 13 m for a 20 m bench configuration and have been designed to adequately retain rockfall.

25.8.2 Mine Plan

The Cordero project will use open pit mining methods with truck and shovel equipment that has been proven in similar operations. Major production unit operations will include drilling, blasting, loading, hauling, and dumping. These activities are planned to be completed with an owner/operator fleet. There is currently no plan to extend the mine operation using underground mining methods.

The mine plan determines the final proven and probable mineral reserves estimate. The mill facility will produce both zinc and lead concentrates, with contained payables for silver, gold, lead and zinc. The plant will primarily process sulphide ore but includes the processing of high-grade oxides up to a maximum of 10% of the feed.

The current mining limits contain approximately 1% additional tonnes in the inferred resource category that could be converted to reserves with future drilling.

Dilution was applied on a block-by-block basis taking into consideration the diluting material grade. This resulted in an increase in mill feed tonnage by 2.4% and 3.5% lower silver grade than the in-situ feed summary.

Seven pit phases were developed for the single open pit. Mining will occur on 10 m lifts with safety benches every 20 m using the provided geotechnical parameters by sector. Haul roads are designed at 33.2 m wide to accommodate 190-tonne class haul trucks.

Mill production starts in Year 1 at a capacity of 7.45 Mt/a (40% of ultimate capacity), followed by a capacity of 9.3 Mt/a (50% of ultimate capacity) in Years 2 and 3, 16.7 Mt/a (90% of ultimate capacity) in Year 4, and reaching its full capacity in Year 5 at 18.6 Mt/a. Two main stockpiles areas, primarily for low-grade sulphides and oxides, are needed to provide flexibility for ore blending. In the present mine plan, the peak stockpile capacity is reached between Years 10 and 12 with approximately 42 Mt in each area.

The mine schedule plans to deliver 284 Mt of sulphide mill feed grading 27.2 g/t Ag, 0.08 g/t Au, 0.72% Zn and 0.45% Pb over a mine life of 18 years. Processed rock also included 19 Mt of oxides material grading 30.5 g/t Ag, 0.07 g/t Au, 0.33% Zn and 0.28% Pb. Waste tonnage totalling 640 Mt will be delivered to either the TSF located east of the pit or the rock storage facilities adjacent to the pit. The overall strip ratio is 2.1:1 delivered.

Oxides were included in the mill feed when they could displace lower value sulphides up to a maximum of 10% of the mill feed on a period basis. Within the life-of-mine feed ore tonnes, 6.2% was high-grade oxide, and 31 Mt of oxide material remained in stockpiles at the end of processing due to the 10% blending limit.

25.9 Recovery Methods

The recovery methods align with conventional base metal practices in the industry. Ore comminution, flotation recovery of payable metals and handling of tailings are achieved through typical processes that are commonly used in the industry for similar projects. Previous studies, coupled with new testwork results, were used to develop the resulting flowsheet suitable for each stage over the life of mine.

The recovery methods utilize a stage-wise expansion approach to appropriately manage varying lead and zinc grades throughout the life of mine without incurring excessive capital costs early in the project. The expansions utilize twinned or parallel equipment wherever possible, as well as de-risked brownfield expansion activities and simplified engineering.

25.10 Capital Cost Estimate

The capital cost estimate conforms to Class 4 guidelines for a prefeasibility-level estimate with a ±25% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q4 2022 dollars based on budgetary quotations for equipment and construction contracts, as well as Ausenco's in-house database of projects and studies as well as experience from similar operations.

25.11 Operating Cost Estimate

The operating cost estimate was developed in Q4 2022 dollars from budgetary quotations and Ausenco's in-house database of projects and studies as well as experience from similar operations. Mine operating costs have been estimated from base principals using quotations from local mine equipment vendors plus local supply consumables. The accuracy of the operating cost estimate is ±25%. The estimate includes mining, processing, and general and administration (G&A) costs. For more details, refer to Section 21.3

25.12 Economic Analysis

An engineering economic model was developed to estimate the project's annual pre-tax and post-tax flows and sensitivities based on an 5% discount rate.

The pre-tax NPV discounted at 5% is $1,902 million; the IRR is 38.9%, and the payback period is 3.1 years. On a post-tax basis, the NPV discounted at 5% is $1,153 million, the IRR is 28.0%, and the payback period is 4.2 years.

A sensitivity analysis was conducted on the base case post-tax NPV and IRR of the project using the following variables: discount rate, head grade, total operating cost, total capital cost, silver, gold, zinc, and lead prices, which were encompassed in a single variable, metal prices. The sensitivity analysis revealed that the project is most sensitive to changes in head grade and metal prices, particularly the silver price, as it is the project's primary metal. The project is less sensitive to discount rate, total operating cost, and total capital cost.

The pre-feasibility study supports a decision to carry out additional detailed studies.

25.13 Risks & Opportunities

The following discussion of risks and opportunities involves forward-looking statements that are based on reasonable expectations and informed by the recent past. Readers are cautioned that such forward-looking statements involve uncertainties and unknowns that may cause actual outcomes to differ from those implied by these forward-looking statements.

25.13.1 Risks

25.13.1.1 Operations

The operational risks for the exploration program at Cordero are the same as those experienced by any exploration program: permitting, access, mineral title, and personal security. During more than 12 years of active exploration on the Cordero property, Discovery Silver and the previous owners have been able to maintain good relationships with surface owners and the local Ejidos, which has resulted in ongoing, uninterrupted access agreements. As long as Discovery Silver continues to meet the obligations of its surface access agreements, applicable regulations, and existing exploration permits, no operational difficulties are anticipated.

Violence related to the drug trade, which affects most Mexican communities, is usually directed towards other members of criminal organizations. Since the beginning of the modern exploration programs in 2009, Cordero's operations have not been affected by issues related to the drug trade.

25.13.1.2 Commodity Prices

The ability of mining companies to fund the advancement of their projects through exploration and development is always influenced by commodity prices. The World Bank Commodities Price Forecast for October 2021 (World Bank, 2021) projects stable prices for each of Cordero's anticipated revenue-producing metals; the metal with the most volatile price forecast is gold, which accounts for less than 10% of Cordero's in-situ value. Since the World Bank's forecasts of silver, gold, lead and zinc prices from 2021 to 2035 are above the prices that Discovery Silver assumes for the Cordero project, the company anticipates that commodity price fluctuations are not likely to create difficulties for funding the advancement of Cordero.

25.13.1.3 COVID-19 and Evolving Variants

The major risk to continued exploration and drilling is disruption due to COVID-19 or to evolving variants on site or in the local communities. To reduce the likelihood of this risk occurring, the workforce will continue to be accommodated at the project site and isolated from the local communities. Testing is required prior to authorization to access the site and quarantine periods are enforced if applicable.

25.13.1.4 Environmental Studies, Permitting and Social or Community Impact

Discovery Silver is advancing the preparation of an EIA to be finalized and submitted to SEMARNAT mid 2023.

Mexico requires the preparation of a reclamation and closure plan, as well as a commitment on the part of the operator to implement the plan. No financial surety (bonding) has yet been required of mining companies. Environmental damages, if not remediated by the owner/operator, can give rise to civil, administrative and criminal liability, depending on the action or omission carried out. PROFEPA is responsible for the enforcement and recovery for those damages. Recent reforms introduced class action lawsuits as a means to demand environmental responsibility for damage to natural resources.

25.13.1.5 Tailings Storage Facility

Risks related to the tailings storage facility include the following:

- Limited geotechnical and hydrogeological information has been collected at the TSF area. This may impact the assumptions considered for foundation preparations, facility design and configuration, and seepage control systems.

- A detailed construction schedule and identification and testing of suitable construction materials have not been completed. Availability of construction materials (from the open pit or local borrow zones) may impact the design and construction of the TSF.

- Geochemical testing is underway to define the characteristics of the tailings and waste material. A more detailed understanding of the geochemical characteristics may result in increased lining of the TSF basin or a revised waste management plan.

- Minimal site-specific climate information exists to inform water balance modelling and water management system designs.

- The tailings characteristics and densities assumed for TSF water recovery were based on a laboratory testing program, and detailed consolidation modelling has not been completed. The results of consolidation modelling may impact the TSF design and available water recovery used in the site-wide water balance.

- The site-specific source terms and the water quality modelling have not been completed. This may impact water quality and the assumptions related to managing site water.

25.13.1.6 Hydrogeology

No test pumping wells have been installed in the pit area, so no pumping tests have been performed to allow more reliable estimations of the hydraulic properties and parameters of the groundwater system (e.g., transmissivity, storativity, hydraulic conductivity, anisotropy, and sustainable well yield).

The current understanding and conceptualization of the hydrogeological system is based on limited data. There are uncertainties regarding the location and nature of geological structures (e.g., faults) and the potential compartmentalization of groundwater flow such that the occurrence and nature of groundwater flow requires further investigation to support quantitative estimations. Planned site investigations will provide the necessary data to improve understanding and may result in a revised understanding of the site hydrogeology as well as changes to pit inflow estimations and the proposed pit dewatering well system.

The pit inflow and dewatering well system were assessed and proposed for the project pre-feasibility study, based on a Jacob-Cooper approximation to the Theis equation. To meet the industry standard practice and the regulatory requirements, a 3D groundwater model will be required for future estimations. Such a model would also be required to support the environmental impact assessment (EIA) and permit applications for the project.

Similarly, a hydrogeological investigation is required for the proposed wellfields to evaluate the occurrence and sustainability of groundwater as a water supply source to the project. To date, only surface geophysics have been conducted. Whilst potential groundwater targets have been identified in the area, hydrogeological drilling and testing is required to assess and quantify the potential water resources available.

25.13.1.7 Mining

Pit walls failures are always a risk in open pit mines. Conservative pit slope designs have been developed for the pre-feasibility study; however, there is always the potential for zones of unstable and weak rock formations. This risk is somewhat mitigated by mining in multiple areas and utilizing flexible haul road accesses.

25.13.1.8 Metallurgical Testwork

The metallurgical flowsheet and testwork is currently at a level that meets or exceeds what is required for a pre-feasibility study. The samples tested to date are representative, and extensive variability testwork has been conducted with regard to flotation and comminution circuit design. Metallurgical recoveries have been consistently high, despite low lead, zinc and silver head grades, owing to the especially clean and coarse nature of the sulphide mineralogy at Cordero.

Deleterious element levels in the final concentrates are low and concentrate grade quality has been consistently excellent. Overall, the Cordero project has been substantially "derisked" from a metallurgical standpoint since Discovery Silver acquired the project and all testwork has been completed at reputable North American testwork laboratories under the direction of professionals with extensive experience in base metals flotation projects.

The following metallurgical risks have been identified:

- The mine plan has been updated since the selection of the PEA and PFS metallurgical testwork samples. The samples tested should be checked against the current mine plan for validity, and appropriate sample selections made for the feasibility study, to build representative life-of-mine or procession period composites.

- No lead and zinc rougher concentrate regrind energy consumption testwork has been completed. This should be addressed during the next phase of testwork.

- Only static settling tests have been completed on lead and zinc concentrates. Due to the relatively low mass recoveries to final concentrates, generating sufficient sample quantities for dynamic settling tests is challenging. Discovery Silver should consider running either a small flotation pilot plant or carrying out larger scale flotation tests to generate sufficient quantities of final concentrate to address this issue.

- Cordero ores are reasonably hard and competent. No full JK dropweight tests have been conducted to date and it is recommended that PQ core from the sulphide zones be obtained to undertake dropweight tests and add to the current ore hardness dataset.

- No crusher work index testing was conducted due to the sample topsize requirements (PQ core required). This should be addressed during the next study phase.

- A suitable number of variability samples for a pre-feasibility study have been tested for flotation and comminution, but further variability testing should be completed during the next study phase.

- More testwork is required on oxide material, or blends of oxides and sulphides, to update the recovery models and increase confidence in the lead, zinc and silver recovery numbers for the oxides.

25.13.2 Opportunities

25.13.2.1 Exploration

There is significant upside in the potential discovery of additional mineralization that may support mineral resource estimation. A number of high-quality geophysical targets are present with the same signature as those coincident with the mineralization in the Cordero main area where mineral resources have currently been estimated.

Regional surface geological mapping and sampling along the 15 km long Cordero magmatic-hydrothermal trend has identified several high-priority targets in areas of outcrop with silver-base metals, large alteration haloes, and similar magmatic rocks to those at the resource area.

Considering that Cordero has approximately 20% outcrop outside of the resource area, geophysical targeting is critical. Additionally, there are two other magmatic-hydrothermal belts: Porfido Norte, where gold in soils and rock cover a 1 x 1 km area at the Valle gold target, and the La Perla belt in the south, where similar styles of base metal mineralization have been discovered.

Ongoing Leapfrog 3D modelling of TerraSpec^{TM} hyperspectral, petrographic, and whole rock and trace element geochemistry data continues to provide vectors to aid in drill targeting.

25.13.2.2 Tailings Storage Facility

The following opportunities relating to development of the tailings storage facility have been identified:

- The TSF could be expanded by additional downstream construction raises for additional tailings storage should the resource estimate increase.

- The TSF embankment arrangement may be optimized to reduce the overall fill material quantities by reducing the required crest width for construction traffic in the later years of operations.

- Local or nearby fine-grained materials for embankment construction could be identified which would reduce requirements for crushing and screening of quarried rock to produce embankment fill material.

- The site-wide water balance and water management systems may be optimized based on improved characterization of the climatic conditions of the project.

- The annual water deficit could be reduced through optimized management of non-contact and contact water and an understanding of tailings deposition, consolidation, and bleed water recovery.

25.13.2.3 Metallurgy and Processing

The following opportunities have been identified:

- Removal of cyanide from the current zinc depressant scheme may have a positive impact on environmental permitting and project optics. Alternatives to cyanide do exist and this can be explored during the feasibility study.

- Elimination of conventional tailings ponds is becoming widely adopted in the industry and can have a positive impact on the environmental footprint of the project. Due to the relatively coarse size distribution of the final tails, filtered tailings could be a viable option for the Cordero project and reduce the freshwater makeup demand.
- Initial metallurgical testwork on a life-of-mine composite has shown that soda ash can be removed from the lead circuit. Further testwork is required to determine whether this can be applied to the entire deposit. Eliminating soda ash altogether would significantly reduce reagent operating cost.
- MIBC dosages in the PEA and PFS testwork were high and could be reduced via frother optimization testwork during the feasibility study, thereby also reducing reagent operating costs.
- As further granularity is developed in the block model and mine plan, optimization of the overall grinding circuit power could be achieved to stage major milling equipment as the power demand increases over time.
- Further testwork on the sulphide / oxide blend strategy could result in the benefit of increasing the amount of oxide in the mill feed to a higher proportion than 10%, reducing the need for stockpiling.

25.13.2.4 Mining

Higher commodity prices have the potential to extend the mine life and/or increase production levels.

The proposed waste rock facilities could be further modified to mesh with the construction of the TSF embankment, resulting in improved stability for both facilities and reducing the overall footprint of the operation.

There may be opportunities to optimize the proposed haul road system and oxide/sulphide blend to the mill with further knowledge of the deposit and processing characteristics are gained. The opportunity to reduce haul cycles by including backfill in the mine plan is limited due to the spatial distribution of the ore but should be explored in further study phases.

25.13.2.5 Hydrogeology

The future opportunities for hydrogeology are related to drilling and installing new pumping wells, installing additional monitoring wells and piezometers, and conducting pumping tests to optimize the number and design of future installations. The data to be collected in future investigations will include lithological features and geological structures, aquifer transmissivities, storativities, hydraulic conductivities, anisotropic ratios, sustainable well yields, water levels, and groundwater quality data. The new data will improve the understanding of the hydrogeological system in the project area, which in turn will allow more accurate estimations of groundwater flow, including pit inflow and water supply wellfields yields.

A 3D groundwater model will be required, together with the existing and new data, to understand and estimate the groundwater system response more accurately. This in turn will support permit applications and the project's environmental impact assessment.

26 RECOMMENDATIONS

26.1 Overall

The results presented in this technical report demonstrate that the Cordero project is technically and economically viable. It is recommended to continue developing the project through additional studies. Table 26-1 summarizes the proposed budget to advance the project through the feasibility study stage.

Table 26-1: Proposed Budget Summary

Description	Cost (US$M)
Exploration and Drilling	9.19
Metallurgical Characterization	0.70
Mineral Resources	5.50
Geotechnical Studies	0.50
Mine Engineering	0.25
Tailings Storage Facility Studies	2.90
Site Wide Water Balance	0.60
Environmental Studies, Permitting and Social or Community Impact	0.50
Hydrogeology	1.00
Total	$21.09

Source: Ausenco, 2023.

26.2 Exploration

26.2.1 Drilling Programs

To support ongoing studies in 2023, drilling is recommended as follows:

- Drilling in Q1 to Q2 2023 relates to condemnation drilling targeting proposed infrastructure locations for evidence of mineralization in an estimated 20 holes totalling 5,700 m. The condemnation drilling is estimated to cost C$1,388.343 (US$1,067,956).

- Drilling in Q1 to Q3 2023 relates to hydrogeology drilling targeting viable water sources in an estimated 18 holes totalling 8,000 m. The hydrogeology drilling is estimated to cost US$3,974,757.

- Drilling in Q1 and Q3 2023 relates to pump-test well drilling to test water levels and conductivity near the PFS pit boundary in an estimated three holes for 1,350 m. The pump-test well drilling is estimated to cost US$2,017,683.

- Drilling in Q1 and Q3 2023 relates to geotechnical drilling testing in an estimated seven holes totalling 2,460 m to support ongoing feasibility studies. The geotechnical drilling is estimated to cost US$460,908.
- Drilling in Q3 and Q4 2023 relates to regional drilling in an ongoing property wide regional target assessment in an estimated 8900 m in a series of holes. The regional target generation drilling is estimated to cost US$1,667,511.

The cost for the first four drill programs totalling approximately 17,510 m is estimated at US$7,521,304 This estimate does not include assay costs but includes a 15% contingency. Note: an exchange rate of C$1.30 to US$1.0 was used.

The cost for the five drill programs totalling approximately 26,410 m is estimated at US$9,188,815. This estimate does not include assay costs but includes a 15% contingency.

Several of the above stages can be completed in conjunction with other work programs. Contingent on the success of the drilling, the drill programs should be expanded as needed.

Ongoing studies should include continued Leapfrog 3D modelling of clay content, sulphide content, assessment of pre-mineral, syn-mineral and post-mineral structural corridors, alteration zonation, mineralization styles, carbonate species zonation and further definition of late mineral intrusive phases. Continued petrographic and SEM-EDS analysis in support of a metal deportment study is recommended. Targeted studies should include lithogeochemical sampling of outlying regional igneous rocks, further definition of the late mineral intrusive phases, and ongoing Ar-Ar (Argon-Argon) age dating of alteration envelopes to precious and base metal mineralization.

To identify exploration targets under the 85% recent cover (includes overburden and post mineral volcanics) of Cordero, a targeted GIS knowledge-driven spatial analysis should be completed to define areas with the likelihood of finding Cordero-style mineralization in covered areas. To better inform the alteration and mineralization modelling, further insight through exploratory data analysis should be completed.

26.2.2 Bulk Density Program

A bulk density estimation program to measure the density of every 2 m sample interval using whole core was continued in Q4 2022. This program should continue through 2023 since it will provide additional useful information to supplement the existing pulp density and whole core density measurements as the project advances. The cost of this activity is included in exploration program cost.

26.3 Metallurgical Characterization

The metallurgical work outlined below is recommended for the next project phase:

- Additional comminution tests to further expand the comminution database is recommended to develop a robust comminution model and grinding circuit design. This will improve the future analysis of power requirements and equipment selection.
- Optimization of concentrate regrind size is required. Only limited testwork has been conducted to date and specific energy consumption testwork was not included.

- Further investigation between the impact of depressant dosages and silver recovery to the lead-silver concentrate is recommended. Operating at lower depressant dosages would likely lead to higher silver recovery to the lead-silver concentrate where payment terms are more favourable.

- Alternate depressants to sodium cyanide should be evaluated to determine if it can be replaced entirely without adversely affecting metallurgical performance.

- Sensor-based sorting and/or dense media separation testwork should be undertaken to determine the response of the low-grade stockpile material to preconcentration.

- Further expansion of the variability flotation database is recommended and testwork on higher grade production composites is required to allow models of robust head grade vs. recovery to be developed.

- No dewatering testwork (dynamic thickener tests and concentrate filtration) has been conducted to date—this is recommended as part of the work in the next project phase.

- The use of 4 kg testwork charges for flotation testwork should be considered as standard going forward, especially for the low head grade samples.

The estimated cost of implementing the above recommendations for further metallurgical testwork is US$700,000, including a 15% contingency.

26.4 Mineral Resource Estimation

The following work related to mineral resource estimation is recommended for the next project phase:

- Future mineral resource updates should continue to explore the use of geological logging information to optimize the separation of structural domains into high-grade and low-grade subdomains.

- A small cross of closely spaced drill holes at approximately 10 m spacing should be drilled in a high-grade zone and low-grade zone to improve the understanding of short-scale continuity. This will assist the analysis and interpretation of spatial continuity for future resource estimation studies and provide useful information for planning a grade control system.

- Infill drilling should continue, both in inferred resource areas where confidence could move the mineral resources into the indicated category, and similarly in indicated resource areas where confidence could move the mineral resources into the measured category. By the time the project reaches the feasibility study phase, it is prudent to have the majority of the mineral resources in the payback period drilled to the level of measured confidence.

The cost of implementing the above recommendations is estimated at US$5,500,000, including a 15% contingency. The vast majority of the proposed resource drilling is to expand mineral resources in the Cordero main area, where resources are currently estimated, and to increase the confidence of resource estimates from the inferred to indicated category, and from the indicated to measured category.

26.5 Geotechnical Studies for Pit Slopes Designs

The geotechnical data collected from the 2021 and 2022 site investigation programs is considered sufficient for a PFS-level pit slope design. However, there are uncertainties and data gaps relating to large-scale structural features, rock mass strength, rock defect strength, rock mass permeability and porewater pressure distribution. Additional geotechnical investigations and slope stability assessments are required should the project advance to the feasibility study and/or detailed engineering stages. The recommended future work includes the following and has an estimated budget of US$0.5 million:

- A supplementary geotechnical drilling program in the proposed west wall area where the siltstone package is encountered for further bedding orientation and rock mass characterization.
- Additional laboratory rock strength testing to refine the intact rock and defect strength estimates of the siltstone unit.
- Further detailed slope stability analyses for refinement of pit slope designs.

26.6 Mine Engineering

The following mining-related studies and analyses should be completed as the project advances to the next study phase:

- The current assumption for grade control needs to be reviewed and sampling protocols need to be established.
- Additional information from further geotechnical drilling is required to develop a more detailed mass rock characterization and update pit slope criteria.
- Additional work needs to be completed to verify the cost benefit of using an Owner fleet. This includes detailed discussions with local contractors and vendors to determine whether a hybrid approach of early-stage contract mining and later-stage owner-operated mining is an economical option.
- Further study is required to better understand the nature of the waste rock and to classify it as potentially acid generating (PAG) or non-acid generating (NAG) or if particular lithologies are susceptible to metal leaching. The results may require a change to the waste rock management strategy.
- Optimization studies should be performed to refine the selected business case. This would likely include a cut-off optimization study to improve the blending strategy for the mill feed material and to determine the optimum size of the proposed marginal sulphides and oxides stockpiles.
- A detailed sensitivity analysis of pit optimization parameters is recommended to define the ultimate pit limits.
- The detailed mine design and schedule should be finalized with reference to more defined surface infrastructure/facilities for services, water management and other relevant components.

The cost of implementing the above mine engineering recommendations is estimated at US$250,000.

26.7 Tailings Storage Facility Studies

Recommendations for the next phase of project development related to the tailings storage facility are as follows:

- Field Programs (estimated budget US$1.8 million):
    - Complete additional site investigation programs and laboratory testing to support the level of detail required for future studies.
- Additional Studies and Evaluations (estimated budget US$1.1 million), such as:
    - Complete detailed consolidation modelling and updated seepage and stability modelling for the for the TSF.
    - Advance the site-specific seismic hazard analysis (SHA) considering in-situ testing to estimate ground motion parameters representative of the geotechnical foundation conditions. In addition, complete a fault study, an updated probabilistic seismic hazard analysis, and a deterministic seismic hazard analysis to define a maximum credible earthquake (MCE) for the TSF.
    - Complete a dam breach and inundation assessment to evaluate the impacts of failure of the TSF on the receiving environment and to inform a dam classification.
    - Complete additional geochemistry testing and studies to confirm the metal leaching and acid generating potential of the materials that will be stored and/or used for construction.
    - Complete testing on embankment construction materials and tailings materials to confirm suitability for proposed management strategies, and confirm material parameters for design (dry density, consolidation characteristics, strength parameters, etc.).
    - Complete additional studies to understand the potential for water recovery from the TSF.

26.8 Site-Wide Water Balance

It is recommended that the following be carried out to continue developing the site-wide water balance and supporting studies (estimated budget US$0.6 million):

- Evaluate measures to reduce the reliance on external make-up water.
- Complete water quality modelling to support collection, possible treatment, and distribution planning of the contact water from the mine site area and non-contact water from the upstream natural catchments.
- Continue to collect and monitor site-specific climate data; consider collecting hydrological data at the project site and installing an additional climate station in the project area at a different location and aspect; consider installing at least one hydrometric station with an automatic data logger on the most consistently flowing stream in vicinity of the project area.
- Complete a detailed and comprehensive hydrometeorological study to adequately characterize the climatic and hydrological characteristics of the project area to support subsequent levels of design.
- Refine the logic in the overall site-wide water balance model to a feasibility level; optimize water and waste management.

26.9 Environmental Studies, Permitting, and Social or Community Impact

Current regulations in Mexico require that a preliminary closure program be included in the MIA and a definite program be developed and submitted to the authorities during mine operation (generally accepted as three years into the operation). These closure plans tend to be conceptual and typically lack much of the detail necessary to develop an accurate closure cost estimate.

New tailing dams are subject to the requirements of NOM-141-SEMARNAT-2003 (Standard that Establishes the Requirements for the Design, Construction and Operation of Mine Tailings Dams). Under this regulation, studies of hydrogeology, hydrology, geology and climate must be completed for sites considering new tailings impoundments. If tailings are classified as hazardous under NOMCRP-001-ECOL/93, the amount of seepage from the impoundment must be controlled if the facility has the potential to affect groundwater. Environmental monitoring of groundwater and tailings pond water quality and revegetation requirements is specified in the regulations. It is recommended that a solid Tailings Management Plan be developed to prepare the Cordero project for international standards to be satisfied.

The cost of implementing the above environmental recommendations is estimated at US$500,000.

26.10 Hydrogeology

The following work related to hydrogeology is recommended for the next project phase:

- Further investigation of the location and nature of geological structures (e.g., faults) and the potential compartmentalization of the groundwater system is recommended to support the quantitative estimate of the occurrence and nature of groundwater flow. More detailed investigation is recommended to better characterize the hydrogeological system, especially the hydraulic features of the faults and their hydraulic connectivity.

- It is recommended that pumping wells be drilled, installed, and tested to reliably estimate the hydraulic parameters of the bedrock formations and their sustainable well yield. Additional piezometers will be needed to support the pumping tests, and to improve the knowledge about the geological features including the faults in the pit area; multi-level piezometers are recommended to be installed to allow vertical hydraulic gradients and groundwater flow directions to be characterized.

- The existing RC22 wells are recommended to be sampled for at least one hydrologic year on a quarterly basis to characterize seasonal variations of groundwater quality. The groundwater sampling results are required to confirm the suitability of the pit dewatering pumping water for the mine water supply, as well as for environmental assessment and project permitting.

- New groundwater monitoring wells are recommended to be drilled and installed at the proposed waste rock and tailings storage facilities and along the potential mine contact water seepage flow pathways towards the receiving environment. Once the wells are completed and developed, slug tests should be done to estimate hydraulic conductivities. Water levels and groundwater samples should be collected on a quarterly base for at least one hydrologic year.

- A 3D numerical groundwater model is recommended to be developed based on an updated conceptual hydrogeological model. The calibrated numerical model can be used to validate the pit inflow estimated and simulate the performance of the pit dewatering well system. The model can also be used to conduct pit depressurization analysis (if necessary) and to predict potential impacts of the mine on the groundwater system.

- It is recommended that surface water monitoring be carried out to support the future groundwater model development.

The costs for hydrogeological exploration holes and pumping wells (items 1 and 2 above) are covered in the Section 26.2.1 (Drilling Programs). The rest of the programs recommended above would cost approximately US$1.0 million, depending on the market prices of labour and materials in Mexico, as well as the services to be conducted.

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