UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Fiscal Year Ended December 31, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____to_____

Commission File Number: 001-35455

SSR MINING INC.

(Exact name of registrant as specified in its charter)

British Columbia **(State or Other Jurisdiction of Incorporation or Organization)**	**98-0211014** **(I.R.S. Employer Identification No.)**

Suite 800 - 7001 E. Belleview Avenue, Denver, Colorado 80237

(Address of Principal Executive Offices)

Registrant's telephone number, including area code (303) 292-1299

Securities registered pursuant to Section 12(b) of the Act.

Title of each class	**Trading symbol**	**Name of each exchange on which registered**
Common shares without par value	SSRM	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act. **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12-b2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12-b2 of the Exchange Act). ☐ Yes ☒ No

At June 30, 2021, the aggregate market value of the registrant's voting and non-voting common equity held by non-affiliates of the registrant was $3,351,155,606 based on the closing sale price as reported on Nasdaq Global Market on that date. There were 212,380,004 common shares outstanding on January 31, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Designated portions of the registrant's definitive Proxy Statement for its 2022 Annual Meeting of Shareholders, which is to be filed subsequent to the date hereof, are incorporated by reference into Part III of this Annual Report on Form 10-K.

EXPLANATORY NOTE

As of June 30, 2021, we determined that we no longer qualified as a "foreign private issuer," as such term is defined in Rule 405 under the Securities Act of 1933, as amended. Consequently, we were required to comply with U.S. domestic issuer requirements beginning January 1, 2022. As a U.S. domestic issuer, we have adopted U.S. generally accepted accounting principles for the first time with the preparation of our consolidated financial statements for the years ended December 31, 2021, 2020 and 2019. As a foreign private issuer, we previously prepared our consolidated financial statements in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board.

TABLE OF CONTENTS

	Page
PART I	
2021 HIGHLIGHTS	2
ITEM 1. BUSINESS	3
Introduction	3
Segment Information	3
Principal Products	3
Competition	4
Environmental, Social and Governance	4
Human Capital	7
Forward-Looking Statements	9
ITEM 1A. RISK FACTORS	11
ITEM 1B. UNRESOLVED STAFF COMMENTS	43
ITEM 2. PROPERTIES	43
ITEM 3. LEGAL PROCEEDINGS	94
ITEM 4. MINE SAFETY DISCLOSURES	94
PART II	
ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES	94
ITEM 6. SELECTED FINANCIAL DATA	97
ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF CONSOLIDATED FINANCIAL CONDITION AND RESULTS OF OPERATIONS	98
Business Overview	98
Consolidated Results of Operations	99
Results of Operations	104
Liquidity and Capital Resources	108
Non-GAAP Financial Measures	112
Critical Accounting Policies and Estimates	118
New Accounting Pronouncements	120
Risks and Uncertainties	120
ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	121
ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	124
ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	167
ITEM 9A. CONTROLS AND PROCEDURES	167
ITEM 9B. OTHER INFORMATION	167
PART III	
ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE	168
ITEM 11. EXECUTIVE COMPENSATION	168
ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	168
ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	168
ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES	168
PART IV	
ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES	169
ITEM 16. FORM 10-K SUMMARY	171
SIGNATURES	172

PART I

Full Year 2021 Highlights:

- **Strong full year operating cost performance:** The Company reported full year 2021 production of 794,456 gold equivalent ounces at all-in sustaining costs ("AISC") of $955 per gold equivalent ounce. See "Non-GAAP Measure – Cash Costs and AISC" for an explanation of AISC and a reconciliation of this financial measure to net income and production costs, which are the comparable GAAP financial measures.

- **Generated peer leading free cash flow:** Full year free cash flow of $444.2 million resulted in a sector-leading free cash flow yield of 12%. Attributable net income in 2021 was $368.1 million, or $1.70 in net income per share. See "Non-GAAP Measure – Free Cash Flow" and "Non-GAAP Measure – Adjusted Attributable Net Income" for explanations of these measures and reconciliations to cash provided by operating activities and net income attributable to equity holders of SSR Mining (GAAP), respectively, which is the comparable GAAP financial measures.

- **Delivered strong capital returns through initial dividends and inaugural share buy-back program:** During 2021, the Company returned $191.3 million in capital to shareholders through dividend payments and the repurchase of 8,800,700 shares under the Normal Course Issuer Bid ("NCIB") program announced on April 19, 2021. The inaugural dividend program was announced in February 2021, with a $0.05 quarterly per share dividend declared at the discretion of the Board of Directors. Subsequently, the Board has approved a 40% increase in the quarterly base dividend to $0.07 per share.

- **Balance Sheet Remained a Key Strength:** Closed 2021 with a cash and cash equivalent balance of $1,017.6 million despite the aforementioned $191.3M in capital returns to shareholders and $70.0 million in scheduled debt repayments.

- **Increased gold mineral reserves by 14%:** Mineral resource to reserve conversion at Çöpler's Çakmaktepe Extension (Ardich) and Seabee's Gap Hanging Wall drove an increase to mineral reserves and offset depletion at Marigold and Puna, increasing gold mineral reserves by 14%. Total gold equivalent mineral reserves increased by 13%, or 1.2 million ounces, to 10.2 million total ounces.

- **Delivered strong near-mine and greenfield exploration results across the portfolio:** Delivered positive exploration updates from the Çakmaktepe Extension (Ardich), Seabee, Marigold, Copper Hill, and Amisk properties in 2021, showcasing SSR Mining's robust global exploration platform. See Item 2. Properties for further information.

- **Expanded development portfolio in core jurisdictions and continued asset rationalizations**: On December 2, 2021, the Company announced the proposed acquisition of Taiga Gold Corp. for $21.0 million. The transaction will consolidate a 100% interest in the Fisher properties contiguous to the Seabee mine, eliminated an existing 2.5% net smelter return ("NSR") royalty on the majority of the Fisher properties, and added five new properties covering 30,480 hectares to complement the Company's existing exploration platform. Earlier in the fourth quarter of 2021, the Company announced an agreement to increase its ownership in the joint venture covering the Copper Hill exploration target in Turkey to 70%. Additionally, the Company progressed its portfolio rationalization process with the announcement of the sale of its non-core royalty portfolio to EMX Royalty Corporation ("EMX") on July 29, 2021, for total consideration of $100.0 million.

- **Updated Technical Report Summaries at all producing assets reiterate quality of longer-term platform:** The Company has completed Technical Report Summaries for each of its operating assets in compliance with Subpart 1300 of Regulation S-K. These reports include refreshed operating and economic assumptions for each asset and provide a base case for further growth and optimization to support the Company's long-term production base.

ITEM 1. BUSINESS

Introduction

SSR Mining is a precious metals mining company with four producing assets located in the United States, Turkey, Canada and Argentina. The Company is primarily engaged in the operation, acquisition, exploration and development of precious metal resource properties located in Turkey and the Americas. The Company produces gold doré as well as copper, silver, lead and zinc concentrates. SSR Mining's diversified asset portfolio is comprised of high-margin, long-life assets located in some of the world's most prolific metal districts. In 2021, the Company's four operating assets produced over 794 thousand gold equivalent ounces and generated over $440.0 million dollars of free cash flow. See "Non-GAAP Measure – Free Cash Flow" for an explanation of this measure and a reconciliation to cash provided by operating activities, which is the comparable GAAP financial measure.

The Company has an experienced leadership team with a proven track record of delivery and value creation. Across the organization, the Company has expertise in project construction, mining (open pit and underground), and processing (pressure oxidation, heap leach and flotation), with a robust commitment to health, safety, community engagement and environmental management.

The Company has a strong balance sheet, with over $1 billion in cash and cash equivalents as of December 31, 2021, to support its growth pipeline. The Company intends to leverage its balance sheet strength and proven track record of free cash flow generation to fund growth across its portfolio to facilitate superior returns to shareholders.

In this report, "SSR Mining," the "Company," "our" and "we" refer to SSR Mining Inc. together with its affiliates and subsidiaries, unless the context otherwise requires. All currency references herein are in United States dollars ("USD") unless otherwise indicated. References to "CAD" or the use of the symbol “C$” refers to Canadian dollars. References to “TL” are to the lawful currency of Turkey, the Turkish Lira. References to “ARS” are to the lawful currency of Argentina, the Argentine peso.

All share data in this report refers to consolidated shares/data, unless otherwise indicated.

Segment Information

The Company's operations consist of four operating mine sites - Çöpler Gold Mine, located in Erzincan Province, Turkey ("Çöpler"), Marigold Mine, located in Nevada, United States ("Marigold"), Seabee Gold Operations, located in Saskatchewan, Canada ("Seabee" or "SGO"), and Puna Operations, located in Jujuy Province, Argentina ("Puna") - each of which is a reportable operating segment and which are also referred to as producing assets. The contributions to our revenue by reportable operating segment for the year ended December 31, 2021 were 41% from Çöpler (2020 – 24%; 2019 – nil), 29% from Marigold (2020 – 48%; 2019 – 52%), 15% from Seabee (2020 – 16%; 2019 – 24%) and 15% from Puna (2020 – 12%; 2019 – 24%). See Note 4 to the Consolidated Financial Statements for further information relating to our reportable operating segments.

In addition to current mine production, the Company also operates exploration and development activities at properties located in Canada, Turkey, Peru and Mexico. See Item 2, Properties, for further information about the Company's production and exploration properties.

Principal Products

Çöpler, Marigold and Seabee produce gold doré. Doré is unrefined gold bullion bars usually consisting of in excess of 90% gold, which is subsequently refined by a third party to gold bullion. The Company sells gold doré primarily to bullion banks, however all of the gold doré produced at Çöpler is delivered to the Istanbul Gold Refinery. Puna produces silver, lead and zinc concentrates, which are sold to smelters or traders for further refining.

During 2021, sales of gold doré accounted for 84% of revenue, with 41% sold to Istanbul Gold Refinery, 30% to CIBC. During 2020, sales of gold doré to CIBC, Istanbul Gold Refinery, and Bank of Montreal accounted for 45%, 24%, and 14% of the Company's total revenues, respectively. During 2019, sales of gold doré to CIBC, Bank of Nova Scotia, and Bank of Montreal accounted for 37%, 22%, and 17% of the Company's total revenues, respectively.

The Company sells lead and zinc concentrate with high silver content, through contractual arrangements with smelters and traders located in Asia and Europe. The concentrates are sold under supply contracts updated annually or as needed through spot sales, with processing fees based on the demand for the concentrates in the global marketplace.

The Company's revenue by product category for the years ended December 31 was as follows:

	Years Ended December 31,		
Product Revenue [(1)]	**2021**	**2020**	**2019**
Gold	84 %	88 %	76 %
Silver	12 %	11 %	19 %
Lead	2 %	1 %	2 %
Zinc	1 %	1 %	3 %

(1) The Company also realizes de minimus revenue from copper.

As of December 31, 2021, the Company had attributable proven and probable gold reserves of 9,154 koz. For information on the mineral resources and mineral reserves for each operating asset, see Item 2, "Proven and Probable Reserve Estimates" and "Resource Estimates".

The market prices of gold and silver are key drivers of the Company's profitability. The prices of gold and silver can fluctuate widely and are affected by a number of macroeconomic factors, including global or regional consumption patterns, the supply of, and demand for gold and silver, interest rates, exchange rates, inflation or deflation, global economic conditions resulting from the COVID-19 pandemic, and the political and economic conditions of major gold- and silver-producing and gold- and silver-consuming countries throughout the world. Importantly, the price of gold and silver can be impacted by their role as safe havens during periods of market turmoil and as defense against the perceived inflationary impacts and currency depreciation caused by the responses of governments and central banking authorities to various economic threats. See Item 1A. Risk Factors, for further information.

During 2021, the gold price, based on the London Bullion Market Association ("LBMA") averaged $1,799 per ounce, which was $29 per ounce, or 2%, higher than the 2020 annual average of $1,770 per ounce and $409 per ounce, or 29%, higher than the 2019 annual average of $1,393 per ounce. During 2021, the price of silver, based on the LBMA silver price, averaged $25.14 per ounce, which was $4.59 per ounce, or 22%, higher than the 2020 annual average of $20.55 per ounce and $8.93 per ounce, or 55%, higher than the 2019 annual average of $16.21 per ounce. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, below, for further information relating to metal prices. For further details, see "Consolidated Results" and "Results of Operations" in Item 7, Management's Discussion and Analysis.

Competition

The precious and base metals mineral exploration and mining business is competitive. Competition is primarily for: mineral properties that can be developed and produced economically; technical experts that can find, develop and mine such mineral properties; labor to operate the mineral properties; and capital to finance exploration, development and operations.

The Company competes with other mining and exploration companies in the acquisition of mineral properties and in connection with the recruitment and retention of qualified employees. There is significant competition for mineral properties. Many larger competitors have greater financial and technical resources available to them. If the Company is unsuccessful in acquiring additional mineral properties or qualified personnel, the Company may not be able to replace mineral reserves, maintain production or grow.

Licenses and Concessions

Other than operating licenses for our mining and processing facilities, there are no third party patents, licenses or franchises material to our business. In many countries, however, we conduct our mining and exploration activities pursuant to concessions granted by, or under contracts with, the host government, including the United States, Canada, Mexico, Peru, Argentina, and Turkey. The concessions and contracts are subject to the political risks associated with the host country. See Item 1A. Risk Factors for further information.

Condition of Physical Assets and Insurance

Our business is capital intensive and requires ongoing capital investment for the replacement, modernization or expansion of equipment and facilities. See Results of Consolidated Operations and Liquidity and Capital Resources within Item 7. Management's Discussion and Analysis of Consolidated Financial Condition and Results of Operations, for further information.

We maintain insurance policies against property loss and business interruption and insure against risks that are typical in the operation of our business, in amounts that we believe to be reasonable. Such insurance, however, contains exclusions and limitations on coverage, particularly with respect to environmental liability and political risk. There can be no assurance that claims would be paid under such insurance policies in connection with a particular event. See Item 1A. Risk Factors, below for further information.

Environmental, Social and Governance ("ESG")

The Company's approach to environmental and social development is underpinned by the goal of minimizing the impact of our operations to the environment and leaving a positive legacy in the communities where the Company operates. For the Company, being a responsible corporate citizen means protecting the natural environment associated with its business activities, providing a safe workplace and work processes for its employees and contractors, and investing in the communities where the Company operates in an effort to enhance the lives of those who live and work in these communities beyond the life of its operations. The Company takes a long-term view of its corporate responsibility, which is reflected in the policies that guide the Company's business decisions, and in its corporate culture that fosters safe and ethical behavior across all levels of SSR Mining.

Environment Stewardship

The Company is committed to executing its business with strong environmental and community stewardship through the ongoing development of a sustainable approach to operating its business. The Company's Environmental & Sustainability Policy defines the organization's commitments to responsible environmental stewardship and to health and welfare of the people and communities in which the Company operates. The policy is designed to guide the Company in advancing each of those commitments. The Company annually publishes an ESG and Sustainability Report, which is developed using the Global Reporting Initiative framework and outlines the Company's approach to sustainability across a range of areas and summarizes the Company's sustainability performance. The Company's Environmental & Sustainability Policy and its ESG and Sustainability Report are available on the Company's website.

The Company's Board of Directors has also established an Environmental, Health, Safety and Sustainability Committee of the Board (the "EHS&S Committee") that, as part of its mandate, is responsible for reviewing the Company's safety, health, security, risk, environment, community relations and sustainability policies and practices, and monitoring the Company's performance in these areas. The Company's EHS&S Committee charter is available on the Company's website.

In 2007, Marigold became the first operating gold mine in the world certified as fully compliant with the International Cyanide Management Code (the "Cyanide Code"), a voluntary industry program for companies involved in the production of gold by the cyanidation process. The Cyanide Code addresses the production of cyanide, its transport from the producer to the mine, its on-site storage and use, decommissioning and financial assurance, worker safety, emergency response, training, stakeholder involvement and verification of implementation of the Cyanide Code. Marigold has been recertified in compliance with the Cyanide Code each time it has been audited by the International Cyanide Management Institute, with the most recent successful recertification occurring in 2021.

Producing precious metals is an energy-intensive business, resulting in carbon emissions. The Company's principal energy sources are purchased electricity, diesel fuel, natural gas and propane. The Company's operations are subject to a range of risks related to transitioning the business to meet regulatory, societal and investor expectations for operating in a low-carbon economy. Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. SSR Mining plans to establish an action plan to achieve net zero emissions by 2050. Consistent with this commitment, actions taken to achieve transition to a low-carbon economy may result in increased costs for the Company's operations, partners and suppliers, including increased energy, capital equipment, environmental monitoring and reporting and other costs to achieve the Company's carbon neutrality goal and to comply with ongoing regulations and legislation to address carbon emissions.

Community Engagement

The Company's community relations program is based on open and continuous communication with the members of communities located in its areas of operation. The Company takes a shared-value approach to local development activities to promote sustainable long-term economic and social benefits. In addition, the Company strives to ensure that local stakeholders have an opportunity for input and dialogue. Projects aimed at assisting and advancing the Company's communities include training and employment, development of infrastructure and support for education and medical services, among others. At all times, the Company works to be a partner in the long-term sustainability of the communities in which it operates. In addition to direct investments made by SSR Mining, the Company also invests in the local communities surrounding its operations by supporting education, social programs and infrastructure projects.

Environmental Regulations

The Company's activities are subject to extensive laws and regulations governing the protection of the environment and natural resources in all jurisdictions where the Company operates throughout the exploration, development and operating stages of a mining property. These laws address, among other things, emissions into the air and air quality, discharges into water and water quality, management of waste, management and disposal of solid and hazardous substances, protection of natural resources, fisheries and wildlife protection, antiquities, endangered species, noise and use and reclamation of lands disturbed by mining operations.

The Company is required to obtain governmental permits and, in some instances, provide bonding requirements under federal, state, or provincial air, water quality, and mine reclamation rules and permits. Violations of environmental laws are subject to civil sanctions and, in some cases, criminal sanctions, including the suspension or revocation of permits. Additionally, environmental laws in the countries in which the Company operates require that the Company periodically perform environmental impact studies and updates at its mines.

Reclamation

The Company's mining, exploration and development activities are subject to various federal, provincial, state and municipal laws and regulations relating to the protection of the environment, including requirements for closure and reclamation of mining properties. The Company believes that how it closes a mine is just as important as how it opens and operates a mine.

The Company has certain reclamation obligations at its mineral properties, including Çöpler, Marigold, Seabee and Puna Operations. At Marigold, the Company engages in concurrent reclamation practices and provides bonds for all permitted features, as part of the State of Nevada permitting process. Current bonding amounts are based on third party cost estimates to reclaim all permitted features at Marigold, with the exception of a few features permitted as permanent, post-mining features. The U.S. Bureau of Land Management ("BLM") and the State of Nevada both review and approve the bond estimate, and the BLM holds the financial instruments providing the bond backing. At Seabee, the Company also has an approved closure plan and financial assurance held by the Province of Saskatchewan. The closure plan addresses all final reclamation requirements as well as the longer-term post-reclamation monitoring and maintenance phase. As required by the Company's environmental permits, the closure plan is periodically updated.

The financial and operational effect of environmental protection requirements on the capital expenditures and earnings of each mineral property are not significantly different than that of similar sized mines in the same jurisdiction, and therefore should not have a negative effect on the Company's competitive position in the future. See Item 7. Management's Discussion and Analysis of Consolidated Financial Condition and Results of Operations, for further information regarding closure and reclamation cost estimates.

Human Capital Management

Employees and Contractors

As of December 31, 2021, the Company employed approximately 2,429 full-time employees and 1,608 contract employees throughout the United States, Canada, Mexico, Peru, Argentina and Turkey.

As of December 31, 2021, of the 649 full-time employees in Turkey, approximately 61% were represented by a union, and of the 839 full-time employees in Argentina, approximately 63% were represented by a union.

Diversity and Inclusion

The Company recognizes that a workforce composed of many individuals with a mix of skills, experience, perspectives, backgrounds and characteristics leads to a more robust understanding of opportunities, issues and risks, and to stronger decision-making. Given the broad geographic footprint of the Company's operations, we benefit from a meaningfully diverse workforce. The Company's Board of Directors also recognizes that a diverse board of directors makes prudent business sense and makes for better oversight and corporate governance and is committed to a merit-based process, which is based on objective criteria, solicits multiple perspectives and is free of conscious or unconscious bias and discrimination, for the identification and selection of nominees to the Board. In March 2019, the Company became a member of each of the Catalyst Accord 2022 and the 30% Club Canada. These initiatives are aimed at accelerating the advancement of women in the workplace with a target goal of at least 30% representation of women on public-company boards. The Board remains committed to these initiatives and is currently going through its annual Board renewal process with a focus on increasing diversity on the Board, including female Board members. The Board has engaged a third-party search firm to assist the Board in recruiting additional directors to ensure that the slate of nominees presented in the Company's proxy will reflect its commitment to Board diversity.

The Company has adopted a Diversity Policy which requires the Company to establish specific diversity initiatives, programs and targets. The Company's Corporate Governance and Nominating Committee oversees the diversity initiatives at the Board level and the Company's Compensation and Leadership Development Committees oversee such initiatives across the Company. The Company's Corporate Governance and Nominating Committee reviews the Diversity Policy available on our website annually and assesses its effectiveness. The Company and the Board of Directors are committed to establishing measurable diversity objectives and assessing on an annual basis the achievement against these objectives, including the representation of women at all levels of the organization.

In addition, the Company's Code of Business Conduct and Ethics (the "Code of Conduct"), available on our website, promotes and supports diversity and inclusion.

Health and Safety

The Company is committed to the health and safety of its employees and does so by creating and maintaining a safe working environment, equipment, work processes, effective safety and health management systems, and by complying with all applicable health and safety laws and regulations. The Company acknowledges that there are inherent risks associated with the Company's business and, through proactive risk management, continuously strives to maximize the safety of its operations and minimize and control health and safety risks.

The Company's safety framework emphasizes effective risk-centered management systems, positive and effective work cultures and proactive leadership to drive culture enhancement. The Company focuses on balancing the human and technical aspects of safety: blending leadership behaviors with traditional management activities to create a safe, productive culture. The Company ensures that its workers understand their individual roles and contributions to safe production and a safe workplace. In this way, the Company's employees maintain safety awareness, recognize hazards and analyze risk in their daily activities. The technical aspects of safety are addressed through established systems, policies and procedures that enable the Company's employees to identify and assess job-related risks, and that support our efforts to provide appropriate training and verify training competencies. Performance measurement and accountability provides feedback and maintains focus on continuous improvement.

Human Rights

As part of the Company's commitment to being a responsible corporate citizen, the Company recognizes the important role and responsibility it has in respecting the human rights of its stakeholders. The Company has adopted a Human Rights Policy, available on the Company's website, which is aligned with the United Nations Guiding Principles on Business and Human Rights, the United Nations Global Compact, and the Organization for Economic Cooperation and Development Guidelines for Multinational Enterprises. This includes support and respect for the human rights expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work.

COVID-19 Impact

During the year ended December 31, 2021, the COVID-19 pandemic negatively impacted global economic and certain financial markets. Many industries have been impacted by the COVID-19 pandemic and are facing operating challenges associated with the regulations and guidelines resulting from efforts to contain it.

Seabee and Puna were placed into care and maintenance near the end of the first quarter of 2020 and subsequently restarted through the second and third quarters of 2020, with no operational shutdowns in 2021. At Çöpler and Marigold, where no operational shutdowns have taken place, the sites continued to operate with limited impact from COVID-19 and have implemented numerous measures intended to protect employees, including quarantining, testing, ensuring physical distancing and providing additional protective equipment. Currently, Çöpler, Marigold, Seabee and Puna are all operating as expected, with limited impacts resulting from ongoing COVID-19 restrictions and related impacts. Each of the sites continue to work with national and local authorities in accordance with applicable regulations and remain vigilant with respect to on-site specific protocols to protect the health and safety of employees and stakeholders; however, all sites remain vulnerable to potential COVID-19 restrictions and impacts, including those resulting from existing or new variants and new governmental restrictions, which could suspend or limit the Company's operations or result in temporary loss of employees due to COVID-19 infections. COVID-19 is slowing government processes, including permitting, which has impacted the Company's operations as the Company is seeking additional permits and land access for possible growth and operations.

The Company continues to restrict non-essential travel and manage the contact of its employees and contractors in order to reduce the risk of COVID-19 impacting its operations and the communities surrounding our mine sites. The Company has reopened its corporate offices to the extent permitted by local health ordinances, with employees still working remotely, as necessary or required, to mitigate the spread of COVID-19.

Forward-Looking Statements

Certain statements contained in this report (including information incorporated by reference herein) are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and are intended to be covered by the safe harbor provided for under these sections. Forward looking statements can be identified with words such as “may,” “will,” “could,” “should,” “expect,” “plan,” “anticipate,” “believe,” “intend,” “estimate,” “projects,” “predict,” “potential,” “continue” and similar expressions, as well as statements written in the future tense. When made, forward-looking statements are based on information known to management at such time and/or management’s good faith belief with respect to future events. Such statements are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the Company's forward-looking statements. Many of these factors are beyond the Company's ability to control or predict. Given these uncertainties, readers are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements include, without limitation:

- forecasts and outlook;
- timing, production, cost, operating and capital expenditure guidance;
- the Company’s intention to return excess attributable free cash flow to shareholders;
- the timing and implementation of the Company’s dividend policy;
- the implementation of any share buyback program;
- statements regarding plans or expectations for the declaration of future dividends and the amount thereof;
- future cash costs and all-in sustaining costs (“AISC”) per ounce of gold, silver and other metals sold;
- the prices of gold, silver, copper, lead, zinc and other metals;
- mineral resources, mineral reserves, realization of mineral reserves, and the existence or realization of mineral resource estimates;
- the Company’s ability to discover new areas of mineralization;
- the timing and extent of capital investment at the Company’s operations;
- the timing of production and production levels and the results of the Company’s exploration and development programs;
- current financial resources being sufficient to carry out plans, commitments and business requirements for the next twelve months;
- movements in commodity prices not impacting the value of any financial instruments;
- estimated production rates for gold, silver and other metals produced by the Company;
- the estimated cost of sustaining capital;
- availability of sufficient financing;
- receipt of regulatory approvals;
- the timing of studies, announcements, and analysis;
- the timing of construction and development of proposed mines and process facilities;
- ongoing or future development plans and capital replacement;

- estimates of expected or anticipated economic returns from the Company's mining projects, including future sales of metals, concentrate or other products produced by the Company and the timing thereof;
- the impact of COVID-19, including any existing and new variants, on the Company's operations;
- the Company's plans and expectations for its properties and operations; and
- all other timing, exploration, development, operational, financial, budgetary, economic, legal, social, environmental, regulatory, and political matters that may influence or be influenced by future events or conditions.

Such forward-looking information and statements are based on a number of material factors and assumptions, including, but not limited to:

- the inherent speculative nature of exploration results;
- the ability to explore;
- communications with local stakeholders;
- maintaining community and governmental relations;
- status of negotiations of joint ventures;
- weather conditions at the Company's operations;
- commodity prices;
- the ultimate determination of and realization of mineral reserves;
- existence or realization of mineral resources;
- the development approach;
- availability and receipt of required approvals, titles, licenses and permits;
- sufficient working capital to develop and operate the mines and implement development plans;
- access to adequate services and supplies;
- foreign currency exchange rates;
- interest rates;
- inflation;
- access to capital markets and associated cost of funds;
- availability of a qualified workforce;
- ability to negotiate, finalize, and execute relevant agreements;
- lack of social opposition to the Company's mines or facilities;
- lack of legal challenges with respect to the Company's properties;
- the timing and amount of future production;
- the ability to meet production, cost, and capital expenditure targets;
- timing and ability to produce studies and analyses;

- capital and operating expenditures;
- economic conditions;
- availability of sufficient financing;
- the ultimate ability to mine, process, and sell mineral products on economically favorable terms; and
- any and all other timing, exploration, development, operational, financial, budgetary, economic, legal, social, geopolitical, regulatory and political factors that may influence future events or conditions.

The above list is not exhaustive of the factors that may affect any of the Company's forward-looking statements and information, and such statements and information will not be updated to reflect events or circumstances arising after the date of such statements or to reflect the occurrence of anticipated or unanticipated events.

Available Information

SSR Mining Inc. was incorporated in British Columbia, Canada in 2005 and its predecessor companies date back to 1946. The corporate office is located at Suite 800 - 7001 E. Belleview Avenue, Denver, Colorado 80237. SSR Mining's common shares are listed on the Nasdaq Global Market and the Toronto Stock Exchange under the trading symbol "SSRM." The Company's CHESS depositary interests ("CDIs") are listed under the ticker symbol "SSR" on Australian Securities Exchange (ASX).

General information about the Company is available through the Company's website at *http://www.ssrmining.com*. The Company's press releases and filings with the SEC in the United States and on SEDAR in Canada are available free of charge within the Investors section of the Company's website at *http://ir.ssrmining.com/investors*. In addition, the SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers, such as the Company, that are filed electronically with the SEC. The address of that website is *http://www.sec.gov*. The documents that the Company files under Canadian securities law requirements are available on SEDAR at the following address *http://sedar.com*. The information on or linked to the Company's website is neither a part of nor incorporated by reference in this Annual Report or any of the Company's other SEC filings or filings made on SEDAR. All references to www.ssrmining.com in this Annual Report are inactive textual references only and information contained at that website is not incorporated herein and does not constitute a part of this Annual Report.

As of June 30, 2021, we determined that we no longer qualified as a "foreign private issuer," as such term is defined in Rule 405 under the Securities Act of 1933, as amended. Consequently, we were required to comply with U.S. domestic issuer requirements beginning January 1, 2022. As a U.S. domestic issuer, we have adopted U.S. generally accepted accounting principles for the first time with the preparation of our consolidated financial statements for the years ended December 31, 2021, 2020 and 2019. As a foreign private issuer, we previously prepared our consolidated financial statements in accordance with International Financial Reporting Standards.

ITEM 1A. RISK FACTORS

The Company's business activities are subject to significant risks, including those described below. You should carefully consider these risks. If any of the described risks actually occurs, the Company's business, financial position and results of operations could be materially adversely affected. Such risks are not the only ones faced by the Company and additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect the Company's business. This Annual Report contains forward-looking statements that involve risks and uncertainties. The Company's actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See "Cautionary Note Concerning Forward-Looking Statements."

Risk Factor Summary

The Company is subject to a variety of risks and uncertainties, including risks related to the Company's operations and business, financial risks and risks related to the Company's indebtedness, risks related to the Company's industry and the jurisdictions in which we operate, risks related to our personnel, risks related to governmental regulation and legal proceedings and risks related to ownership of Company equity, which could have a material adverse effect on the Company's business, financial condition, results of operations and cash flow. The following is a summary of the principal risks faced by the Company, including, but not limited to:

- The Company's production, development plans and cost estimates may vary and/or not be achieved.
- Changes in the market prices of gold, silver and other metals, which in the past have fluctuated widely, will affect the Company’s operations.
- Epidemics, pandemics or other public health crises, including COVID-19, could adversely affect the Company’s business.
- The Company’s estimates of mineral reserves and mineral resources are based on interpretation and assumptions and may yield less mineral production under actual conditions than is currently estimated.
- The Company may be unable to replace its mineral reserves or acquire additional commercially mineable mineral rights.
- Increased operating and capital costs could affect the Company's profitability.
- The Company's operations may be adversely affected by rising energy prices or energy shortages.
- Supply chain and other disruptions could adversely affect the Company's business.
- Continuation of the Company's mining production is dependent on the availability of sufficient water supplies to support our mining operations.
- The Company may be exposed to future development risks.
- Land reclamation, mine closure and remediation requirements and costs may be burdensome and actual environmental and asset retirement obligations may exceed estimates and reserves.
- The Company is subject to certain transportation risks that could have a negative impact on the Company’s ability to operate.
- The Company may be subject to information systems security threats.
- The Company’s joint venture interests are subject to risks.
- Reputation loss may result in decreased investor confidence, increased challenges in developing and maintaining community relations and an impediment to the Company’s overall ability to advance its projects, thereby having a material adverse impact on the Company’s financial performance, financial condition, cash flows and growth prospects.
- The Company is subject to risks associated with its financial instruments.
- The Company may be adversely affected by fluctuations in foreign exchange rates.
- Inflation may have a material adverse effect on results of operations.
- Future funding requirements may affect the Company's business or its ability to develop mineral properties, complete exploration and development programs, pay cash dividends or engage in share repurchase transactions.
- The Company may be unable to generate sufficient cash to service its debt and other actions to satisfy such obligations may be unsuccessful.
- The Company may fail to fulfill its obligations under existing and future indebtedness, and such indebtedness may impair the financial health of the Company.

- Political or economic instability or unexpected regulatory change in the countries where the Company's mineral properties are located could adversely affect its business.
- Suitable infrastructure may not be available or damage to existing infrastructure may occur.
- Mining is inherently risky and subject to conditions and events beyond the Company's control.
- Mining companies are increasingly required to consider and provide benefits to the communities and countries in which they operate in order to maintain operations.
- Indigenous peoples' title claims and rights to consultation and accommodation may affect the Company's existing operations as well as development projects and future acquisitions.
- Civil disobedience in certain of the countries where the Company's mineral properties are located could adversely affect its business.
- The Company and the mining industry face geotechnical challenges, which could adversely impact our production and profitability.
- Certain of the Company's directors and/or officers also serve, or may serve, as directors of other companies involved in natural resource exploration and development, and consequently there exists the possibility for these directors and/or officers to be in a position of conflict.
- The Company could be subject to potential labor unrest or other labor disturbances.
- The Company is dependent on its ability to recruit and retain qualified personnel.
- The Company relies on contractors to conduct a significant portion of its operations and construction projects.
- The Company is subject to significant governmental regulations.
- The Company requires permits to conduct its operations, and delays in obtaining or failing to obtain such permits, or a failure to comply with the terms of any such permits that the Company has obtained, would adversely affect the Company's business.
- The Company's activities are subject to environmental laws and regulations that may increase the Company's costs and restrict its operations.
- Compliance with emerging climate change regulations could result in significant costs and climate change may present physical risks to a mining company's operations.
- The Company may be required by human rights laws to take actions that delay the Company's operations or the advancement of its projects.
- The Company's mineral properties may be subject to uncertain title.
- The Company is subject to claims and legal proceedings that arise in the ordinary course of business.
- The Company is subject to assessment by taxation authorities in multiple jurisdictions that arise in the ordinary course of business.
- The Company's common shares are publicly traded and are subject to various factors that have historically made the Company's common share price volatile.
- Holders of our common shares may not receive dividends.
- Future sales or issuances of equity securities could decrease the value of the Company's common shares, dilute investors' voting power and reduce the Company's earnings per share.

Risks Related to the Company's Operations and Business

The Company's production, development plans and cost estimates may vary and/or not be achieved.

The Company has prepared estimates of future production, operating costs and capital costs for Çöpler, Marigold, Seabee and Puna, and the Company's technical studies and reports for the Company's projects, including the Çöpler District Master Plan 2021 Technical Report Summary, the Marigold 2021 Technical Report Summary, the Seabee 2021 Technical Report Summary and the Puna 2021 Technical Report Summary, contain estimates of future production, development plans, operating and capital costs and other economic and technical estimates relating to these projects. These estimates are based on a variety of factors and assumptions and there is no assurance that such production, plans, costs or other estimates will be achieved. Actual production, costs and financial returns may vary significantly from the estimates depending on a variety of factors many of which are not within the Company's control. These factors include, but are not limited to: actual ore mined varying from estimates of grade, tonnage, dilution, metallurgical and other characteristics; short-term operating factors such as the need for sequential development of ore bodies and the processing of new or different ore grades from those planned; mine failures, slope failures or equipment failures; industrial accidents; natural phenomena such as inclement weather conditions, inadequate ice thickness for an ice road at Seabee, floods, droughts, wildfires, rock slides and earthquakes; encountering unusual or unexpected geological conditions; changes in power costs and potential power shortages; exchange rate and commodity price fluctuations; shortages of principal supplies needed for operations, including explosives, fuels, chemical reagents, water, equipment parts and lubricants; labor shortages or strikes; epidemics, pandemics and public health emergencies, including those related to the recent outbreak of COVID-19; high rates of inflation; civil disobedience and protests; and restrictions (including changes to the taxation regime) or regulations imposed by governmental or regulatory authorities, including permitting and environmental regulations, or other changes in the regulatory environments. Failure to achieve estimates or material increases in costs could have a material adverse impact on the Company's future cash flows, profitability, results of operations and financial condition.

Changes in the market prices of gold, silver and other metals, which in the past have fluctuated widely, will affect the Company's operations.

The Company's profitability and long-term viability and the economic feasibility of its mineral properties depend, in large part, on the market price of gold, silver, copper, lead and zinc. The market prices for these metals are volatile and are affected by numerous factors beyond the Company's control, including:

- global or regional consumption patterns;
- the supply of, and demand for, these metals;
- gold sales, purchases or leasing by governments and central banks;
- the monetary policies employed by the world's major central banks;
- the fiscal policies employed by the world's major industrialized economies;
- recession or reduced economic activity in the United States and other industrialized or developing countries;
- speculative short positions taken by significant investors or traders in gold, silver, lead, zinc or other metals;
- forward sales by producers in hedging or similar transactions;
- the availability and costs of metal substitutes;
- decreased industrial, jewelry, base metal or investment demand;
- increased import and export taxes;
- inflation and/or expectations for inflation;

- other political and economic conditions, including interest rates and currency values; and
- changing investor or consumer sentiment, including in connection with transition to a low-carbon economy, investor interest in crypto currencies and other investment alternatives and other factors

The Company cannot predict the effect of these factors on metal prices. For example, average gold prices for 2021 were $1,799 per ounce (2020: $1,770; 2019: $1,393), average silver prices for 2021 were $25.14 per ounce (2020: $20.55; 2019: $16.21), average lead prices for 2021 were $1.00 per pound (2020: $0.89; 2019: $0.99) and average zinc prices for 2021 were $1.36 per pound (2020: $1.03; 2019: $1.24). Any decline in our realized prices adversely impacts our revenues, net income and operating cash flows.

In addition, a decrease in the market price of gold, silver and other metals would affect the profitability of Çöpler, Marigold, Seabee and Puna Operations and could affect the Company's ability to finance the exploration and development of any of the Company's other mineral properties. The market price of gold, silver and other metals may not remain at current levels. In particular, an increase in worldwide supply, and consequential downward pressure on prices, may result over the longer term from increased gold or silver production from mines developed or expanded as a result of current metal price levels.

Furthermore, sustained lower gold, silver, copper, zinc, lead or other metal prices may:

- reduce revenues further through production declines due to cessation of the mining of deposits, or portions of deposits, that have become uneconomic at sustained lower metal prices;
- reduce or eliminate the profit that we currently expect from ore stockpiles and ore on leach pads and increase the likelihood and amount that the Company might be required to record as an impairment charge related to the carrying value of its stockpiles and ore on leach pads;
- halt or delay the development of new projects;
- reduce funds available for exploration and advanced projects with the result that depleted reserves may not be replaced; and
- reduce existing reserves by removing ores from reserves that can no longer be economically processed at prevailing prices.

Epidemics, pandemics or other public health crises, including COVID-19, could adversely affect the Company's business.

The COVID-19 pandemic has adversely impacted the Company's operations since 2020, including production and operating income, as well as temporary suspension of operations at Seabee and Puna. While all the Company's mines are currently operating at expected levels, the health and safety protocols that the Company has implemented for the protection of its employees and other stakeholders are adding costs and impacting the efficiency of the Company's operations. There is no assurance that the operations at any or all of the Company's mines will not be the subject of new or additional restrictions, protocols, suspensions or closures, in whole or in part, in the future, which could have a material adverse effect on the Company's business.

The global responses to the COVID-19 pandemic have led to significant restrictions on travel, temporary business closures, quarantines, stock market volatility, supplier and vendor uncertainty and a general reduction in global consumer activity. The effects of the COVID-19 pandemic continue to evolve, and governments may introduce new, or modify existing, laws, regulations, decrees or other orders that could impact the Company's operations or affect its employees, suppliers, local communities, customers, and other stakeholders. In addition, there is the risk that the responses of the relevant governments, including the effectiveness of vaccination programs implemented in the markets in which we operate, may be insufficient to contain the impact of the COVID-19 pandemic, which could further impact the Company's ability to operate. Further, there is the risk that one or more of the Company's employees, contractors or community members could contract COVID-19 or be directly affected by someone who contracts COVID-19 and is required to self-isolate. This could impact the Company's workforce, its ability to operate at that location and the health of the surrounding community. The Company has implemented what it believes to be the necessary protocols in each of the jurisdictions in which it operates in order to adequately respond to developments relating to the COVID-19 pandemic, including to further protect the health and safety of its workforce, their families and neighboring communities. However, with the uncertainties surrounding the continued development of the COVID-19 pandemic, including in connection with existing or new variants of COVID-19, and the resulting implications globally, there is no assurance that any protocols that have been or that may be put in place will mitigate the risks or that they will not cause the Company to experience less favorable economic and/or health and safety outcomes.

Finally, while the COVID-19 pandemic has adversely impacted the Company's operations in the short term, it is difficult to predict the long-term impact on the global economy, which could in turn materially adversely affect our operations, financial results and/or liquidity position. The prolonged exposure of the Company's business and the economy to the impacts of COVID-19 may exacerbate many of the risks that the Company is subject to, including the risks described in this report, and expose the Company to the following: operational and supply chain delays and disruptions, labor shortages, social unrest, breach of material contracts and customer agreements, increased insurance premiums and/or taxes, increased supplier and contractor expenses, decreased demand or the inability to sell and deliver precious metals, declines in the price of precious metals, delays in permitting or approvals, governmental disruptions, international economic and political conditions, international or regional consumptive patterns, expectations on inflation or deflation, interest rates, capital markets volatility, or other unknown but potentially significant impacts, including the possibility of a significant protracted economic downturn, including a global recession. These factors may impact, among other things, the Company's operating plans, production, liquidity and cash flows, valuation of its long-lived assets, the broader market and the trading price of SSR Mining's common shares.

Given the uncertainty of the duration and magnitude of the impact of the COVID-19 pandemic, the Company's future operations, including production and cash cost estimates, are subject to a higher than normal degree of risk and uncertainty. It is unknown whether and how the Company's operations may be affected if the COVID-19 pandemic persists for an extended period of time. Should the duration, spread or intensity of the COVID-19 pandemic further develop in 2022, SSR Mining's business, financial condition and results of operations could be more significantly impacted.

Further, to the extent that the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risk factors described herein, including, but not limited to, risks related to commodity prices and commodity markets, commodity price fluctuations, our indebtedness, information systems and cyber security and risks relating to our mining operations such as risks related to mineral reserve and mineral resource estimates, production forecasts, impacts of governmental regulations, international operations, availability of infrastructure and employees and challenging global financial conditions.

The Company may be unable to replace its mineral reserves or acquire additional commercially mineable mineral rights.

The Company must continually replace its depleted mineral reserves to maintain production levels over the long term. Mineral reserves can be replaced by expanding known ore bodies, locating new deposits or making acquisitions. There is a risk that depletion of the Company's mineral reserves will not be offset by discoveries or acquisitions. The Company's mineral base may decline if mineral reserves are mined without adequate replacement and the Company may not be able to sustain production beyond the current mine lives, based on current production rates. If the Company's mineral reserves are not replaced either by the development of additional mineral reserves and/or additions to mineral reserves, there may be an adverse impact on the Company's future cash flows, earnings, results of operations and financial condition, and this may be compounded by requirements to expend funds for reclamation and decommissioning.

The Company's future growth and productivity will depend, in part, on its ability to identify and acquire additional commercially mineable mineral rights, and on the costs and results of continued exploration and potential development programs. Mineral exploration is highly speculative in nature and is frequently non-productive. Most exploration projects do not result in the discovery of commercially mineable ore deposits, and there is no assurance that any anticipated or estimated level of recovery of mineral reserves will be realized or that any identified mineral deposit will ever qualify as a commercially mineable (or viable) orebody that can be legally and economically exploited. Once a site with mineralization is discovered, it may take several years from the initial phases of drilling until production is possible, during which time the economic feasibility of production may change. Substantial expenditures are also required to establish proven and/or probable mineral reserves and to construct mining and processing facilities. Material changes in mineral reserves, grades, stripping ratios or recovery rates may affect the economic viability of any project. As a result, there is no assurance that current or future exploration programs will be successful.

The Company may consider, from time to time, the acquisition of ore reserves from third parties. Such acquisitions are typically based on an analysis of a variety of factors including, but not limited to, historical operating results, estimates of and assumptions regarding the extent of ore reserves, the timing of production from such reserves, cash and other operating costs and the Company's assumptions for future gold, silver, copper, zinc or lead prices or other mineral prices. In connection with any acquisitions, the Company may rely on data and reports prepared by third parties, which may contain information or data that the Company is unable to independently verify or confirm. Other than historical operating results, all of these factors are uncertain and may have an impact on the Company's revenue, cash flow and other operating issues, as well as contributing to the uncertainties related to the process used to estimate ore reserves. In addition, there may be intense competition for the acquisition of ore reserves and/or attractive mining properties. There can be no assurance that the Company will be able to successfully acquire any desired ore reserves or mining properties.

The Company's estimates of mineral reserves and mineral resources are based on interpretation and assumptions and may yield less mineral production under actual conditions than is currently estimated.

There are numerous uncertainties inherent in estimating quantities of mineral reserves and grades of mineralization, including many factors beyond the Company's control. In making determinations about whether to advance any of the Company's projects to development or to mine existing mineral reserves, the Company must rely upon estimated calculations as to the mineral reserves and grades of mineralization on its properties. Until ore is actually mined and processed, mineral reserves and grades of mineralization must be considered as estimates only. These estimates are imprecise and depend upon geological interpretation and statistical inferences drawn from drilling and sampling, which may prove to be unreliable. The Company cannot assure that mineral reserves, mineral resources or other mineralization estimates will be accurate, or that mineralization can be mined or processed profitably. Actual operating and capital cost and economic returns on projects may differ significantly from original estimates. Further, it may take many years from the initial phases of exploration until commencement of production, during which time, the economic feasibility of production may change.

Additionally, the Company is required to comply with the disclosure standards under new Regulation S-K Subpart 1300 for the year ended December 31, 2021. The provisions of the new disclosure standards are intended to align with those used in the major mining regulatory jurisdictions, however certain provisions of the new disclosure standards may be more restrictive and/or prescriptive than those used in other regulatory jurisdictions. Such variation may result in declarations and disclosures of the Company differing, potentially materially, from those of our non-US joint-venture partners and competitors.

Any material changes in mineral reserves estimates and grades of mineralization will affect the economic viability of placing a property into production and a property's return on capital. The Company's estimates of mineral reserves and mineral resources have been determined and valued based on assumed future prices, cut-off grades and operating costs that may prove to be inaccurate. Extended declines in market prices for gold, silver and other precious metals may render portions of the Company's mineralization uneconomic and result in reduced reported mineral reserves or mineral resources.

Any material reductions in estimates of mineralization, or of the Company's ability to extract this mineralization, including estimates made in Çöpler District Master Plan 2021 Technical Report Summary, the Marigold 2021 Technical Report Summary, the Seabee 2021 Technical Report Summary and the Puna 2021 Technical Report Summary and the technical reports for the Company's additional projects, could have a material adverse effect on the Company's results of operations or financial condition. There is no assurance that mineral recovery rates achieved in small scale tests will be duplicated in large scale tests under on-site conditions or in production scale. If our reserve estimations are required to be revised using significantly lower gold, silver, zinc, lead and other metal prices as a result of a decrease in commodity prices, increases in operating costs, reductions in metallurgical recovery or other modifying factors, this could result in material write-downs of our investment in mining properties or increased amortization, reclamation and closure charges.

Increased operating and capital costs could affect the Company's profitability.

Costs at any particular mining location are subject to variation due to a number of factors, such as variable ore grade, changing metallurgy and revisions to mine plans in response to the physical shape and location of the ore body, as well as the age and utilization rates for the mining and processing related facilities and equipment. In addition, costs are affected by the price and availability of input commodities, such as fuel, electricity, labor, chemical reagents, explosives, steel, concrete and mining and processing related equipment and facilities. Commodity costs are, at times, subject to volatile price movements, including increases that could make production at certain operations less profitable. Further, changes in laws and regulations can affect commodity prices, uses and transport. Reported costs may also be affected by changes in accounting standards. A material increase in costs at any significant location could have a significant effect on our profitability and operating cash flow.

We could have significant increases in capital and operating costs over the next several years in connection with the development of new projects and in the sustaining and/or expansion of existing mining and processing operations. Costs associated with capital expenditures may increase in the future as a result of factors beyond our control. Increased capital expenditures may have an adverse effect on the profitability of and cash flow generated from existing operations, as well as the economic returns anticipated from new projects.

The Company's operations may be adversely affected by rising energy prices or energy shortages.

Our mining operations and development projects require significant amounts of energy. Increasing global demand for energy, concerns about nuclear power and the limited growth of new energy sources are affecting the price and supply of energy. A variety of factors, including higher energy usage in emerging market economies, actual and proposed taxation of carbon emissions as well as concerns surrounding unrest and potential conflict in the Middle East, could result in increased demand or limited supply of energy and/or sharply escalating diesel fuel, gasoline, natural gas and other energy prices. Additionally, changes in energy laws and regulations in various jurisdictions may impact energy dispatch rules and the ability to access energy and sell excess energy. Limitations on energy supply and increased energy prices could negatively impact our operating costs and cash flow.

Our principal energy sources are electricity, purchased petroleum products, natural gas and coal. Some of our operations are in remote locations requiring long distance transmission of power, and in some locations we compete with other companies for access to third party power generators or electrical supply networks. As our operations move towards lower greenhouse gas ("GHG") emissions targets, power sources and technology at our operations will continue to be evaluated. Certain of our operations may become more dependent upon access to electrical power supply as certain mines move towards electrification. A disruption in the transmission of energy, inadequate energy transmission infrastructure or the termination of any of our energy supply contracts could interrupt our energy supply and adversely affect our operations.

Supply chain and other disruptions could adversely affect the Company's business.

The Company's ability to mine, process and sell products is critical to our operations. The Company's operations depend on the continued availability of energy, water, equipment and labor, the costs of which are subject to worldwide supply and demand as well as other factors beyond the Company's control. Supply chain disruptions, power outages, labor disputes and/or strikes, geopolitical activity, weather events and natural disasters and global health risks or pandemics could seriously harm the Company's operations as well as the operations of the Company's customers and suppliers. Likewise, disruptions in the transportation and delivery of products may impact our ability to sell our products and deliver them to our customers on time. In addition, the costs of transporting materials and products through our chain of sourcing and production may increase, and such increases could be significant. Further, the Company's suppliers may experience capacity limitations in their own operations or may elect to reduce or eliminate certain product lines. To address this risk, generally, the Company seeks to have many sources of supply for key materials in order to avoid significant dependence on any one or a few suppliers, however, prices charged for such key materials by suppliers may differ substantially and obtaining key materials from different suppliers may impact the Company's costs. Although there can be no assurance that such mitigation efforts will prevent future difficulty in obtaining sufficient and timely delivery of certain materials, the Company believes it has adequate programs to ensure a reliable supply of key materials.

Failure to take adequate steps to mitigate the likelihood or potential impact of such disruptions, or to effectively manage such disruptions if they occur, could adversely affect our business and results of operations, as well as require additional resources to restore our global supply chain. Any of these factors could have a material adverse impact on our results of operations and financial condition.

Continuation of the Company's mining production is dependent on the availability of sufficient water supplies to support our mining operations.

The Company recognizes the right to clean, safe water and that reliable water supplies are vital for hygiene, sanitation, livelihoods and the health of the environment. Across the globe, water is a shared and regulated resource. Water is also critical to the Company's business, and the increasing pressure on water resources requires us to consider both current and future conditions in our water management approach. SSR Mining operates in areas where watersheds are under stress with limited supply, increasing population and water demand that impact water in various forms. The Company's management of water-related risks targets the specific areas of operation, as well as considering the physical environment and social and regulatory context. Although each of the Company's operations currently has sufficient water rights, claims and contracts to cover its operational demands, the potential outcome of pending or future legal proceedings or community negotiations relating to water rights, claims, contracts and uses is unknown and unpredictable. Further, laws and regulations may be introduced in certain operational jurisdictions, which could limit the Company's access to sufficient water resources. Water shortages may also result from weather or environmental changes and climate impacts out of the Company's control. While the Company has considered and incorporated systems to address the impact of the dry season as part of its operating plans, there is no assurance that those systems will be sufficient to address all shortages in water supply. Any interruption or shortage of water supplies could require the Company to curtail or shut down mining production and could prevent the Company from pursuing expansion opportunities, resulting in production and processing delays or stoppages.

The Company may be exposed to future development risks.

Any adverse condition affecting mining or processing conditions at a Company property could have a material adverse effect on the Company's financial performance and results of operations. The future development of any other properties found to be economically feasible and approved by the Company's Board of Directors will require the construction and operation of mines, processing plants and related infrastructure. As a result, the Company is and will continue to be subject to all of the risks associated with establishing new mining operations, including:

- the availability and cost of skilled labor, and mining and processing equipment;
- the availability and cost of appropriate smelting and refining arrangements;
- securing long-term access agreements required to develop and operate a mine;
- the need to obtain and retain necessary environmental and other governmental approvals and permits and the timing of the receipt of those approvals and permits;
- potential opposition from governmental or non-governmental organizations, environmental groups or local community groups which may delay or prevent development activities;
- potential for labor unrest or other labor disturbances;
- potential increases in cost structures due to changes in input costs including the cost of fuel, power, materials and supplies and fluctuations in currency exchange rates;
- the timing and cost, which may be considerable, of the construction and expansion of mining, processing and tailings management facilities;
- changes in tonnage, grades and metallurgical characteristics of ore to be mined and processed;
- the quality of the data on which engineering assumptions were made;
- adverse geotechnical conditions;
- changes in tax laws, the laws and/or regulations around royalties and other taxes due to the regional and national governments and royalty agreements;
- weather or severe climate impacts, including, without limitation, prolonged or unexpected precipitation, drought and/or sub-zero temperatures; and
- potential delays and restrictions in connection with health and safety issues, including pandemics (such as COVID-19) and other infectious diseases.

The costs, timing and complexities of operating the Company's existing operations and constructing and developing the Company's other projects may be greater than the Company anticipates. The majority of the Company's established and development property interests are not located in developed areas and, as a result, the Company's property interests may not be served by appropriate road access, water and power supply and other support infrastructure. Cost estimates may also increase as more detailed engineering work is completed on a project.

Properties not yet in production or slated for expansion are subject to higher risks, as new mining operations often experience unexpected problems during the construction and start-up phase, and production delays and cost adjustments can often occur. Further, feasibility studies, pre-feasibility studies and preliminary economic assessments contain project-specific estimates of future production, which are based on a variety of factors and assumptions. There is no assurance that such estimates will be achieved and the failure to achieve production or cost estimates or material increases in costs could have a material adverse effect on the Company's future cash flows, profitability, results of operations and financial condition and the Company's share price.

In addition, developments are prone to material cost overruns versus budget. The capital expenditures and time required to develop new mines, including building mining and processing facilities for new properties, are considerable, and changes in cost or construction schedules can significantly increase both the time and capital required to build the mine. The project development schedules are also dependent on obtaining the governmental approvals and permits necessary for the operation of a mine, which is often beyond the Company's control. It is not unusual in the mining industry for new mining operations to experience unexpected problems during the start-up phase, resulting in delays and requiring more capital than anticipated. There is no assurance that there will be sufficient availability of funds to finance construction and development activities, particularly if unexpected problems arise.

The Company's production forecasts are based on full production rates being achieved at all of the Company's mines. The Company's ability to achieve and maintain full production rates at these mines is subject to a number of risks and uncertainties. Future development activities may not result in the expansion or replacement of current production forecasts with new production forecasts. One or more new projects may be less profitable than anticipated or may not be profitable at all. Any reduction in production forecasts could have a material adverse effect on the Company's results of operations and financial position.

Land reclamation, mine closure and remediation requirements and costs may be burdensome and actual environmental and asset retirement obligations may exceed estimates and reserves.

Although variable depending on location and the governing authority, land reclamation, mine closure and remediation requirements are generally imposed on mining companies in order to minimize long-term effects of land disturbance. Such requirements may include requirements to control dispersion of potentially deleterious effluents, and reasonably re-establish pre-disturbance landforms and vegetation.

The laws and regulations governing mine closure and reclamation in a particular jurisdiction are subject to review at any time and may be amended to impose additional requirements and conditions. Any additional obligations may cause our provisions for environmental liabilities to be underestimated and could materially affect our financial position or results of operations. In addition, regulators are increasingly requesting security in the form of cash collateral, credit, trust arrangements or guarantees to secure the performance of environmental obligations, which could have an adverse effect on our financial position. For a more detailed description of potential environmental liabilities, see the discussion in Environmental Matters in Notes 6 and 19 to the consolidated financial statements.

Under the U.S. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and its state law equivalents, current or former owners of properties may be held jointly and severally liable for the costs of site cleanup or required to undertake remedial actions in response to unpermitted releases of hazardous substances at such property, in addition to, among other potential consequences, liability to governmental entities for the cost of damages to natural resources, which may be significant. These subject properties are referred to as "superfund" sites. While no operations are currently so designated, it is possible that certain of our other current or former operations in the U.S. could be designated as a superfund site in the future, exposing us to potential liability under CERCLA.

In order to carry out reclamation, mine closure and remediation obligations imposed on the Company in connection with its exploration, potential development and production activities, the Company must allocate financial resources that might otherwise be spent on further exploration and development programs, including providing the appropriate regulatory authorities with reclamation financial assurance. The amount and nature of the financial assurance are dependent upon a number of factors, including the Company's financial condition and reclamation cost estimates, and can be difficult to predict, particularly water remediation requirements which may be ongoing and long lasting. Changes to these amounts, as well as the nature of the collateral to be provided, could significantly increase the Company's costs, making the maintenance and development of existing and new mines less economically feasible. To the extent that the value of the collateral provided to the regulatory authorities is or becomes insufficient to cover the amount of financial assurance the Company is required to post, the Company would be required to replace or supplement the existing security with more expensive forms of security, which might include cash deposits, which would reduce the Company's cash available for operations and financing activities. There can be no assurance that the Company will be able to maintain or add to the Company's current level of financial assurance. The Company may not have sufficient capital resources to further supplement the Company's existing security.

Certain of the Company's mineral properties have been subject to historic mining operations and certain of the mineral properties that were historically mined by the Company are subject to remediation obligations. In addition, the actual costs of reclamation, mine closure and remediation are uncertain and planned expenditures may differ from the actual expenditures required. Therefore, the amount that the Company is required to spend could be materially higher than current estimates. Any additional amounts required to be spent on reclamation and mine closure may have an adverse effect on the Company's financial position and results of operations and may cause the Company to alter the Company's operations.

The Company is subject to certain transportation risks that could have a negative impact on the Company's ability to operate.

The Company's facilities depend on supplies of consumables (including diesel, tires, sodium cyanide and reagents) and capital items delivery to operate efficiently. At Seabee, supplies are delivered to site across a seasonal ice road. If the Company experiences prolonged disruption to the delivery of such consumables, the Company's production efficiency and ability to effectively complete capital projects requiring such deliveries may be reduced. Separately, if the seasonal ice road becomes unusable or unavailable for any reason, the Company may incur significant costs to arrange alternative transportation, if such alternative transportation is even available or possible. There can be no assurance that these transportation risks will not have an adverse effect on any site, particularly Seabee, and therefore on the Company's profitability.

In addition, ore mined at the Chinchillas property is loaded onto road trucks and transported approximately 45 kilometers to the Pirquitas processing facilities. Transportation of such ore is subject to numerous risks including, but not limited to, roadblocks, terrorism, interruption by domesticated and non-domesticated herding animals, theft, weather conditions, environmental liabilities in the event of an accident or spill, inability to transport ore in oversized loads, personal injury and loss of life. The Company is also subject to the risk of a potential interruption of business from a third party beyond the Company's control, which could have a material adverse effect on the Company's operations and revenues.

The Company may be subject to information systems security threats.

The Company has entered into agreements with third parties for hardware, software, telecommunications and other information technology ("IT") services in connection with its operations. The Company's operations depend, in part, on how well the Company and its suppliers protect networks, equipment, IT systems and software against damage from a number of threats, including, but not limited to, cable cuts, damage to physical plants, natural disasters, terrorism, fire, power loss, hacking, computer viruses, vandalism and theft. Cybersecurity risk is increasingly difficult to identify and quantify and cannot be fully mitigated because of the rapidly evolving nature of the threats, targets and consequences. Additionally, unauthorized parties may attempt to gain access to these systems or our information through fraud or other means of deceiving our third-party service providers, employees or vendors.

Given the unpredictability of the timing, nature and scope of information technology disruptions, we could potentially be subject to production downtimes, operational delays, the compromising of confidential or otherwise protected information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems and networks or financial losses from remedial actions. Outages in our operational technology may affect operations related to health and safety and could result in putting lives at risk of harm or death. In addition, as technologies evolve and cybersecurity attacks become more sophisticated, we may incur significant costs to upgrade or enhance our security measures to protect against such attacks and we may face difficulties in fully anticipating or implementing adequate preventive measures or mitigating potential harm, which could have a material adverse effect on our cash flows, competitive position, financial condition or results of operations. For instance, we review our cybersecurity controls against current industry threats and partner with security vendors to assist with protecting our network and data resources through activities such as penetration and vulnerability testing, assessments against current cybersecurity standards, and leveraging industry recommendations from both independent vendors as well as industry partners. These efforts are designed to address any remediation actions through our ongoing cyber security program. Such efforts may incur significant costs and yet prove insufficient to deter future cybersecurity attacks or prevent all security breaches.

The Company's operations also depend on the timely maintenance, upgrade and replacement of networks, equipment, IT systems and software, as well as pre-emptive expenses to mitigate the risks of failures. Any of these and other events could result in information system failures, delays and/or increase in capital and operating expenses. The failure of information systems or a component of information systems could, depending on the nature of any such failure, adversely impact the Company's reputation and results of operations.

Although to date the Company has not experienced any material losses relating to information systems security threats or other information security breaches, there can be no assurance that the Company will not incur such losses in the future. The Company's risk and exposure to these matters cannot be fully mitigated because of, among other things, the evolving nature of these threats. As cyber threats continue to evolve, the Company may be required to expend additional resources to continue to modify or enhance protective measures or to investigate and remediate any security vulnerabilities.

General economic conditions may adversely affect the Company's growth and profitability.

Market events and conditions, including the disruptions in the international credit markets and other financial systems, along with political instability and fluctuation of currency prices expressed in USD, CAD, TL, ARS, or the currency of any other location in which the Company operates may result in commodity price volatility. These conditions have, at times, caused a loss of confidence in global credit markets, resulting in the collapse of, and/or government intervention in, major banks, financial institutions and insurers, and creating a climate of greater volatility, tighter regulations, less liquidity, widening credit spreads, less price transparency, increased credit losses and tighter credit conditions. Notwithstanding various actions by governments, concerns about the general condition of the capital markets, financial instruments, banks and investment banks, insurers and other financial institutions may cause the broader credit markets to be volatile and interest rates to remain low. In addition, an increase in price levels generally, or in price levels in a particular sector such as the energy sector (such as current inflation related to domestic and global supply chain issues, which has led to both overall price increases and pronounced price increases in certain sectors) could result in a shift in demand for metals, which could adversely affect our revenues and, at the same time, increase our costs. These events are illustrative of the effect that events beyond the Company's control may have on commodity prices, demand for metals, including gold, silver, zinc and lead, availability of credit, investor confidence, and general financial market liquidity, all of which may adversely affect the Company's business.

The Company faces intense competition in the mining industry.

The mining industry is intensely competitive in all phases and the Company competes with many companies, several of which possess greater financial and technical resources than itself. Competition in the base and precious metals mining industry is primarily for mineral rich properties which can be developed and produced economically; the human resources and technical expertise to find, develop, and operate such properties; the labor to operate the properties; and the capital for the purpose of funding such properties. Many competitors not only explore for and mine precious metals, but also conduct refining and marketing operations on a world-wide basis. Such competition may result in the Company being unable to acquire desired properties, recruit or retain qualified employees or acquire the capital necessary to fund its operations and develop its properties. Existing or future competition in the mining industry could materially adversely affect the Company's prospects for mineral exploration and success in the future.

The Company may be subject to risks associated with future acquisitions.

As part of the Company's business strategy, it has sought and will continue to seek new operating, development and exploration opportunities in the mining industry. In pursuit of such opportunities, the Company may fail to select appropriate acquisition candidates or negotiate acceptable arrangements, including arrangements to finance acquisitions or integrate the acquired opportunities into the Company's existing business. The Company cannot provide assurance that it can complete any acquisition or business arrangement that it pursues, or is pursuing, on favorable terms, if at all, or that any acquisitions or business arrangements completed will ultimately benefit its business. Further, any acquisition the Company makes will require a significant amount of time and attention of the Company's management, as well as resources that otherwise could be spent on the operation and development of its existing business.

Any future acquisitions would be accompanied by risks, such as a significant decline in the relevant metal price after the Company commits to complete an acquisition on certain terms; the quality of the mineral deposit acquired proving to be lower than expected; the difficulty of assimilating the operations and personnel of any acquired companies; the potential disruption of its ongoing business; the inability of management to realize anticipated synergies and maximize its financial and strategic position; the failure to maintain uniform standards, controls, procedures and policies; and the potential for unknown or unanticipated liabilities associated with acquired assets and businesses, including tax, environmental or other liabilities. There can be no assurance that any business or assets acquired in the future will prove to be profitable, that the Company will be able to integrate the acquired businesses or assets successfully or that the Company will identify all potential liabilities during due diligence. Any of these factors could have a material adverse effect on its business, expansion, results of operations and financial condition.

The Company's joint venture interests are subject to risks.

The Company has joint venture arrangements in respect of certain of its properties, including its properties in Turkey. Although the Company expects relations with its joint venture and strategic partners to remain positive, contractual or other disputes may arise that may have a material adverse effect on the Company's financial condition or its ability to develop and operate its assets. Furthermore, the Company has inherently less control when it is not the operator of a project subject to a joint venture agreement, even if the Company has a controlling interest under a joint venture agreement. In such instances, the contractual terms of the agreement may limit the Company's ability to influence the operation of the project.

The Company's interest in deferred consideration received from divestitures may not be fully realizable.

From time to time, as partial or full consideration for the Company's disposition of assets, the Company may receive certain deferred cash or enter into long-term royalty arrangements, including net smelter royalties. The Company cannot provide any assurances that the Company will be able to realize the full value of any deferred cash or royalty interests.

Reputation loss may result in decreased investor confidence, increased challenges in developing and maintaining community relations and an impediment to the Company's overall ability to advance its projects, thereby having a material adverse impact on the Company's financial performance, financial condition, cash flows and growth prospects.

Damage to the Company's reputation can be the result of the actual or perceived occurrence of any number of events, and could include negative publicity, whether true or not. The increased use of social media and other web-based tools to generate, publish and discuss user-generated content and to connect with other users has made it increasingly easier for individuals and groups to communicate and share opinions and views regarding the Company and its activities, whether true or not. The Company does not ultimately have direct control over how it is perceived by others and reputational damage could have a material adverse impact on the Company's financial performance, financial condition, cash flows and growth prospects.

The Company's insurance coverage does not cover all of the Company's potential losses, liabilities and damages related to its business and certain risks are uninsured and uninsurable.

The Company's business is subject to a number of risks and hazards generally, including adverse environmental conditions, industrial accidents, labor disputes, unusual or unexpected geological conditions, ground or slope failures, cave-ins, mechanical failures, changes in the regulatory environment and natural phenomena such as inclement weather conditions, fires, floods, hurricanes and earthquakes. Such occurrences could result in damage to mineral properties or production facilities, personal injury or death, environmental damage to the Company's properties or the properties of others, delays in mining, monetary losses and possible legal liability.

Although the Company maintains insurance to protect against certain risks in such amounts as it considers reasonable, the Company's insurance will not cover all of the potential risks associated with a mining company's operations. The Company may also be unable to maintain insurance to cover these risks at economically feasible premiums. Insurance coverage may not continue to be available or may not be adequate to cover any resulting liability. Moreover, insurance against risks such as loss of title to mineral property, environmental pollution, or other hazards as a result of exploration and production is not generally available to the Company or to other companies in the mining industry on acceptable terms. The Company might also become subject to liability for pollution or other hazards which may not be insured against or which it may elect not to insure against because of premium costs or other reasons. Losses from these events may cause the Company to incur significant costs that could have a material adverse effect upon its financial performance and results of operations.

The Company is exposed to market and/or counterparty risks related to the sale of its concentrates and metals.

There is no assurance that the Company will, in the future and where necessary, be successful in entering into arrangements to sell the Company's doré or concentrates on acceptable terms, or at all. If the Company is not successful in entering into such arrangements, the Company may be forced to sell some or all of the Company's products, or greater volumes of them than the Company may from time to time intend, in the spot market, or the Company may not have a market for its products and the Company's future operating results may be materially adversely impacted as a result.

In addition, the Company may become subject to such market limitations and/or complications should any counterparty to any of the Company's arrangements not honor such arrangement or should any of such counterparties become insolvent. Moreover, there is no assurance that the Company will be able to renew any agreements the Company has in place to sell doré or concentrates when such agreements expire, that the Company will be able to enter into any new or additional sale agreements, or that the Company's doré or concentrates will meet the qualitative and/or quantitative requirements under supply agreements or of existing or future buyers.

Financial Risks and Risks Related to Our Indebtedness

The Company is subject to risks associated with its financial instruments.

The Company maintains financial instruments consisting of cash and cash equivalents, receivables, short-term investments, investments in publicly traded securities, trade and other payables and borrowings, including the Term Loan entered into with a syndicate of lenders (BNP Paribas (Suisse) SA, ING Bank NV, Societe Generale Corporate & Investment Banking and UniCredit S.P.A.) (the "Term Loan"), a Credit Agreement, as amended, with The Canadian Imperial Bank of Commerce, the Bank of Montreal and The Bank of Nova Scotia (the "Amended Credit Facility"), and the indenture governing the notes, dated as of March 19, 2019 entered into with The Bank of New York Mellon (the "2019 Notes"). The Company's financial instruments are denominated in various foreign currency denominations and are held in various financial institutions. These financial instruments, and others which the Company may acquire, involve substantial risks including, but not limited to, credit risk, liquidity risk, interest rate risk and foreign currency risk. Volatility of external factors beyond the Company's control may result in substantial and permanent losses. Furthermore, to adequately reduce these risks to acceptable levels, available investment alternatives may result in limited or no return on these assets and any derivative which may be acquired in attempt to mitigate these risks may be ineffective.

The Company's Term Loan and Amended Credit Facility use the London Inter-bank Offered Rate ("LIBOR") as the screen rate and benchmark rate, respectively, and contain LIBOR alternative provisions applicable when LIBOR ceases to exist. LIBOR has recently been the subject of international reform proposals and certain LIBOR settings were discontinued at the end of 2021, with the remaining settings expected to be discontinued by mid-2023. In the United States, the Alternative Reference Rates Committee has proposed the Secured Overnight Financing Rate ("SOFR") as an alternative to LIBOR for use in contracts that are currently indexed to USD LIBOR and has proposed a phased market transition plan to SOFR. There are significant differences between LIBOR and SOFR, such as LIBOR being an unsecured lending rate while SOFR is a secured lending rate, and SOFR is an overnight rate while LIBOR reflects term rates at different maturities. If our LIBOR-based borrowings are converted to SOFR or other alternative rates, the differences between LIBOR and such rates, plus the recommended spread adjustment, could result in interest costs that are higher than if LIBOR remained available, which could have a material adverse effect on our operating results. At this time, it is not possible to predict the effect that these developments, any discontinuance, modification or other reforms to LIBOR, or the establishment of alternative reference rates, such as SOFR, may have on LIBOR, other benchmark rates or floating rate debt instruments, or whether SOFR or any other alternative reference rates that have been proposed will attain market acceptance as replacements of LIBOR. While the Term Loan and Amended Credit Facility contain LIBOR alternative provisions, the use of alternative reference rates or other reforms could cause the interest rate on the Company's borrowings to be materially different than expected. These developments may cause the Company to renegotiate some of these agreements. The Company will continue to monitor market developments related to LIBOR's modification or discontinuance.

The Company may be adversely affected by fluctuations in foreign exchange rates.

The Company maintains its cash and cash equivalents primarily in USD. The Company’s revenues are in USD, while certain of the Company’s costs will be incurred in other currencies. Any appreciation in the currencies of Turkey, Canada, Argentina, or any other country in which the Company carries out exploration or development activities against the USD will increase the Company’s costs of carrying on operations in such countries. In addition, any decrease in the TL, CAD, ARS, or the currency of any other country in which the Company operates, against the USD will result in a loss on the Company’s books to the extent the Company holds funds or net monetary or non-monetary assets denominated in those currencies.

From time to time, countries in which the Company operates may adopt measures to restrict the availability of the local currency or the repatriation of capital across borders or enact tax rate changes designed to restrict fund movement across borders. These measures are imposed by governments or central banks, in some cases during times of economic instability, to prevent the removal of capital or the sudden devaluation of local currencies or to maintain in-country foreign currency reserves. In addition, many emerging markets countries require consents or reporting processes before local currency earnings can be converted into USD or other currencies and/or such earnings can be repatriated or otherwise transferred outside of the operating jurisdiction. These measures may have a number of negative effects on SSR Mining, reducing the immediately available capital that we could otherwise deploy for investment opportunities or the payment of expenses. In addition, measures that restrict the availability of the local currency or impose a requirement to operate in the local currency may create other practical difficulties for SSR Mining. As a result, the Company’s financial performance and forecasts may be significantly impacted by changes in foreign exchange rates.

Inflation may have a material adverse effect on results of operations.

Certain of the Company's operations are located in countries that have in the past experienced high rates of inflation. It is possible that in the future, high inflation in the countries in which we operate may result in an increase in operational costs in local currencies (without a concurrent devaluation of the local currency of operations against the dollar or an increase in the dollar price of gold, silver, copper, zinc or lead). Maintaining operating costs in currencies subject to significant inflation could expose us to risks relating to devaluation and high domestic inflation. Country-specific inflation rates are often volatile and unpredictable, and global inflation rates rose consistently at the end of 2021 as a result of numerous global economic factors and the continuing impact of the COVID-19 pandemic. For instance, in Argentina, the level of inflation during 2019 reached 53.8%, and the level of inflation in Turkey has fluctuated drastically over the end of 2021 and beginning of 2022, significantly impacting the value of the Turkish lira and precipitating Turkish governmental efforts to offset inflation impacts and restore the value of the lira, including lowering central bank interest rates. Significantly higher and sustained rates of inflation, with subsequent increases in operational costs, could result in the deferral or closure of projects and mines in the event that operating costs become prohibitive. This could have a material adverse effect on our business, financial position and results of operations.

The Company may be subject to risks associated with hedging activities.

Precious metals prices, foreign currency rates, and costs of materials and consumables associated with exploration, development and mining activities are subject to frequent, unpredictable and substantial volatility which is beyond the Company’s control. The Company currently has an interest rate hedge in place in relation to its Term Loan and the Company may engage in further hedging activities in the future. Hedging activities are intended to mitigate exposure to fluctuations in the price of precious metals, foreign currencies, materials and consumables. Certain precious metals hedging strategies may protect a company against lower prices, but they may also limit the price that can be realized on precious metal that is subject to forward sales and call options where the market price of gold exceeds the gold price in a forward sale or call option contract. Similarly, hedges of foreign currencies, materials and consumables may protect a company against adverse currency variances and rising costs but may result in losses if currency rates and costs move counter to a company’s hedge position. Hedging activities may be uneconomic due to numerous factors and no assurances can be made that hedging will effectively mitigate risks as intended.

Future funding requirements may affect the Company's business or its ability to develop mineral properties, complete exploration and development programs, pay cash dividends or engage in share repurchase transactions.

Potential future investments, including projects in the Company’s project pipeline, acquisitions and other investments, will require significant funds for capital expenditures. The continuation of production, development and exploration activities, if any, will depend on the Company’s ability to generate sufficient operating cash flows from its mining operations and to obtain additional external financing where necessary. Depending on gold, silver, copper, zinc and lead prices, the Company's operating cash flow may not be sufficient to meet all of these expenditures, depending on the timing of development and other projects. As a result, new sources of capital may be needed to fund investments, ongoing business activities, construction and operation of potential future projects and exploration projects, in addition to funding possible share repurchase transactions and paying dividends. The Company's ability to raise and service significant new sources of capital will be a function of macroeconomic conditions, future gold, silver, copper, zinc and lead prices as well as the Company's operational performance, current cash flow and debt position, among other factors. Failure to obtain sufficient financing could result in the delay or indefinite postponement of exploration, development or production on any or all of its projects. There can be no assurance that additional capital or other types of financing will be available if needed or that, if available, the terms of such financing will be favorable. Alternatively, the Company may determine that it may be necessary or preferable to issue additional equity or other securities, defer projects or sell assets in the future to meet the Company's capital needs.

U.S. and global markets have, from time to time, experienced significant dislocations and liquidity disruptions, and the COVID-19 pandemic has increased, and may continue to increase, volatility and pricing in the capital markets. Additional financing may not be commercially available when needed or, if available, the terms of such financing may not be favorable to us and, if raised by offering equity securities, any additional financing may involve substantial dilution to existing shareholders. In the event of lower gold, silver, copper, zinc or lead prices, unanticipated operating or financial challenges, or new funding limitations, the Company's ability to pursue new business opportunities, invest in existing and new projects, fund our ongoing business activities, retire or service all outstanding debt, repurchase shares and pay dividends could be significantly constrained. If the Company is unable to obtain financing or service existing or future debt we could be required to reduce, suspend or eliminate any dividend payments to shareholders or any planned share repurchase transactions. In addition, the Company's joint venture partners may not have sufficient funds or borrowing ability to make their expected capital commitments to such joint ventures. In the case that such joint venture partners do not make their economic commitments, the Company may be prevented from pursuing certain development opportunities or may assume additional financial obligations, which may require new sources of capital.

The Company may be unable to generate sufficient cash to service its debt and other actions to satisfy such obligations may be unsuccessful.

The Company's ability to make scheduled payments or to refinance our debt obligations and to fund our planned capital expenditures and other ongoing liquidity needs depends on our financial and operating performance, which is subject to prevailing economic and competitive conditions and to certain financial, business and other factors beyond our control. There can be no assurance that the Company's business will generate sufficient cash flow from operations or that borrowings will be available to us to pay the principal, premium, if any, and interest on our debt or to fund our other liquidity needs. The Company may need to refinance all or a portion of its debt on or before maturity, but there is no assurance that the Company will be able to refinance any debt on commercially reasonable terms, or at all.

If cash flows and capital resources are insufficient to fund the Company's debt service obligations, it may be forced to reduce or delay investments and capital expenditures or to sell assets, seek additional capital or restructure or refinance our debt. The Company's ability to restructure or refinance its debt will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of the Company's debt could be at higher interest rates and may require the Company to comply with more onerous covenants, which could further restrict business operations. The terms of existing or future debt instruments, including the indenture governing the 2019 Notes, the Amended Credit Facility and the Term Loan, may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on outstanding debt on a timely basis would likely result in a reduction of the Company's credit rating, which could harm our ability to incur additional debt.

The Company may fail to fulfill its obligations under existing and future indebtedness, and such indebtedness may impair the financial health of the Company.

As of December 31, 2021, the Company had total indebtedness of approximately $367.0 million, primarily in the form of the 2019 Notes and the Term Loan. The Company's level of debt and associated debt service obligations may have adverse effects on our business, financial condition, cash flows or results of operations, including:

- making it more difficult for us to satisfy our obligations with respect our outstanding indebtedness;
- reducing the amount of funds available to finance our operations, capital expenditures and other activities;
- increasing our vulnerability to economic downturns and industry conditions;
- limiting our flexibility in responding to changing business and economic conditions;
- jeopardizing our ability to execute our business plans;
- placing us at a disadvantage when compared to our competitors that have less debt;
- increasing our cost of borrowing; and

- limiting our ability to borrow additional funds.

The Company and its subsidiaries may incur substantial additional indebtedness in the future. If new debt is added to the Company and/or its subsidiaries' existing debt levels, the existing risks associated with the Company's aggregate debt would necessarily increase.

The Company's subsidiary, Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi, is party to the Term Loan assumed through the Company's 2020 merger with Alacer Gold Corp. In addition, the Company is party to the Amended Credit Facility. The Company's ability to make scheduled payments on or refinance its debt obligations under the Term Loan and Amended Credit Facility depends on its financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business, legislative, regulatory and other factors beyond its control. The Company may be unable to maintain a level of cash flows from operating activities sufficient to permit the Company to pay the principal, premium (if any) and interest on its indebtedness. If the Company's cash flows and capital resources are insufficient to fund its debt service obligations, it could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures or to dispose of material assets or operations, seek additional debt or equity capital or restructure or refinance its indebtedness. The Company may not be able to affect any such alternative measures on commercially reasonable terms or at all and, even if successful, those alternatives may not allow it to meet its scheduled debt service obligations. The Term Loan and the Amended Credit Facility will restrict the Company's ability to dispose of assets and use the proceeds from those dispositions and may also restrict its ability to raise debt or equity capital to be used to repay other indebtedness when it becomes due. The Company may not be able to consummate those dispositions or to obtain proceeds in an amount sufficient to meet any debt service obligations then due.

Under the 2019 Notes, the Company has made various covenants to the trustees on behalf of the holders of such notes, including to make payments of interest and principal when due and, upon undergoing a fundamental change, to offer to purchase all of the outstanding 2019 Notes, plus accrued and unpaid interest, if any. Furthermore, if an event of default were to occur under the Term Loan, Amended Credit Facility or 2019 Notes, this would place additional strain on the Company's cash resources, which could inhibit its ability to further the Company's exploration and development activities.

The Company may fail to meet financial covenants related to its indebtedness.

The terms of the Company's debt, including the Term Loan and the Amended Credit Facility, require the Company to satisfy various affirmative and negative covenants and to meet certain financial ratios and tests. These covenants limit, among other things, the Company's ability to incur further indebtedness if doing so would cause it to fail to meet certain financial covenants, create certain liens on assets or engage in certain types of transactions. Although these covenants do not currently restrict the Company's ability to conduct its business, there can be no assurances that the Company will continue to satisfy these covenants, that such covenants will not limit in its ability to respond to changes in its business or competitive activities in the future, or the Company will not be restricted from engaging in future mergers, acquisitions or dispositions of assets which may be beneficial to the Company. Furthermore, a breach of these covenants, including a failure to meet the financial tests or ratios, would likely result in an event of default under the associated debt instrument unless the Company can obtain a waiver or consent in respect of any such breach. There can be no assurance that such waiver or consent would be granted. In the event of any default, the applicable lenders could elect to declare all outstanding borrowings, together with accrued and unpaid interest, fees and other amounts due, to be immediately due and payable, which may have a material adverse impact on the Company's business, profitability or financial condition.

Risks Related to Our Industry and the Jurisdictions in Which We Operate

Political or economic instability or unexpected regulatory change in the countries where the Company's mineral properties are located could adversely affect its business.

The Company currently conducts operations in the United States, Turkey, Canada and Argentina, and has development and exploration assets in the United States, Turkey, Canada, Mexico and Peru; as such, the Company is exposed to various levels of economic, political and other risks and uncertainties. These risks and uncertainties vary from country to country and include, but are not limited to: royalties and tax increases or claims by governmental bodies; expropriation or nationalization; employee profit-sharing requirements; foreign exchange controls; restrictions on repatriation of profits; import and export regulations; cancellation or renegotiation of contracts; changing fiscal regimes and uncertain regulatory environments; fluctuations in currency exchange rates; high rates of inflation; changes in royalty and tax regimes, including the elimination of tax exemptions; underdeveloped industrial and economic infrastructure; unenforceability of contractual rights and judgments; loss of social license to operate resulting from a decline in societal support for the industry; loss of critical services such as power and water; and environmental permitting regulations. The occurrence of these various factors and uncertainties cannot be accurately predicted and could adversely affect the Company's business.

Furthermore, the introduction of new tax laws, regulations or rules, or changes to, or differing interpretation of, or application of, existing tax laws, regulations or rules in any of the countries in which the Company's operations or business is located, could result in an increase in its taxes, or other governmental charges, duties or impositions. No assurance can be given that new tax laws, rules or regulations will not be enacted or that existing tax laws will not be changed, interpreted or applied in a manner that could result in the Company's profits being subject to additional taxation or that could otherwise have a material adverse effect on the Company.

Additionally, the taking of property by nationalization or expropriation without adequate compensation is a risk in certain jurisdictions in which the Company has operations. Expropriation, or the threat of expropriation, is often the result of poor economic conditions within a country or has underlying political rationales. Although the Company does not presently anticipate that any of its properties will be the subject of expropriation, there can be no assurance that this will not occur. Such governmental actions may have an adverse impact on the Company's operations and profitability.

Suitable infrastructure may not be available or damage to existing infrastructure may occur.

Mining, processing, development and exploration activities depend on adequate infrastructure. Reliable roads, ice roads, bridges, port and/or rail transportation, power sources, water supply and access to key consumables are important determinants for capital and operating costs. The lack of availability on acceptable terms or the delay in the availability of any one or more of these items could prevent or delay exploration, development or exploitation of the Company's projects. If adequate infrastructure is not available in a timely manner, the Company cannot assure you that the exploitation or development of its projects will be commenced or completed on a timely basis, or at all, or that the resulting operations will achieve the anticipated production volume, or that the construction costs and operating costs associated with the exploitation and/or development of the Company's projects will not be higher than anticipated. In addition, extreme weather phenomena, sabotage, vandalism, government, non-governmental organization and community or other interference in the maintenance or provision of such infrastructure could adversely affect the Company's operations and profitability.

Mining is inherently risky and subject to conditions and events beyond the Company's control.

The development and operation of a mine or mine property is inherently risky and involves many risks that even a combination of experience, knowledge and careful evaluation may not be able to overcome, including:

- unusual or unexpected geological formations;
- metallurgical and other processing problems;
- shortages in materials or equipment and energy and electrical power supply interruptions or rationing;
- failure of engineered structures;

- inaccurate mineral modeling;
- unanticipated changes in inventory levels at heap-leach operations;
- metal losses;
- environmental hazards, including discharge of metals, concentrates, pollutants or hazardous chemicals;
- ground and water conditions;
- power outages;
- remote locations and inadequate infrastructure;
- community relations problems;
- labor disruptions;
- the availability and retention of skilled personnel;
- non-governmental organization or community activities;
- industrial accidents, including in connection with the operation of mining equipment, milling equipment and/or conveyor systems and accidents associated with the preparation and ignition of large-scale blasting operations, milling and processing;
- transportation incidents, including transportation of chemicals, explosions or other materials, transportation of large mining equipment and transportation of employees and business partners to and from sites;
- fall-of-ground accidents in underground operations;
- failure of mining pit slopes and tailings dam walls;
- periodic interruptions due to inclement or hazardous weather conditions;
- flooding, explosions, fire, rockbursts, cave-ins and landslides;
- seismic activity;
- changes to legal and regulatory requirements;
- security incidents, including activities of illegal or artisanal miners, gold bullion or concentrate theft, including in transport, and corruption and fraud;
- mechanical equipment and facility performance problems;
- failure of unproven or evolving technologies or loss of information integrity or data; and
- the availability of materials and equipment.

These risks could result in damage to, or destruction of, mineral properties, production facilities or other properties, environmental damage, delays in mining, increased production costs, asset write downs, monetary losses and possible legal liability or penalties, occupational illness or health issues, personal injury, and loss of life, and/or facility and workforce evacuation. The Company may not be able to obtain insurance to cover these risks at economically feasible premiums, or at all. The Company may suffer a material adverse effect on its business if it incurs losses related to any significant events that are not covered by the Company's insurance policies.

Additionally, the Company's operations, particularly those operations located outside of North America, are exposed to various levels of safety and security risks which could result in injury or death, damage to property, work stoppages, product theft, or blockades of the Company's mining operations and projects. Risks and uncertainties vary from region to region and include, but are not limited to, terrorism, hostage taking, local drug gang and/or other gang activities, military and/or governmental repression, labor unrest and war or civil unrest. Local opposition to mine development projects could arise and such opposition may be violent. If the Company were to experience resistance or unrest in connection with its mines or projects, it could have a material adverse effect on the Company's operations and profitability. Additionally, to the extent that such risks and uncertainties are directed towards local populations, the Company may not be able to retain sufficient labor forces to maintain the Company's operations.

Mining companies are increasingly required to consider and provide benefits to the communities and countries in which they operate in order to maintain operations.

Greater scrutiny on multi-national companies to contribute to sustainable outcomes in the places where they operate, has led to a proliferation of standards, reporting initiatives and expectations focused on environmental stewardship, social performance, community engagement and transparency. Extractive industries, and mining in particular, have seen significant increases in stakeholder expectations and attention. These businesses are increasingly required to meaningfully engage with impacted stakeholders; to understand, avoid or mitigate negative impacts while optimizing economic development and employment opportunities associated with their operations. The expectation is for companies to recognize the impact their operations can have on the communities in which they operate and develop strategies and identify targets to address the actual or perceived impact to create shared value for shareholders, employees, governments, local communities and host countries. Such expectations tend to be particularly focused on companies whose activities are perceived to have high environmental impacts, like mining companies. In response, the Company has developed and continues to evolve a robust system of ESG management that includes standards, guidance, assurance, and participation in international organizations focused on sustainability and improved performance and outcomes for host communities and the environment. Despite the Company's commitment to on-going engagement with communities and stakeholders, no assurances can be provided that increased stakeholder expectations will not result in interest from activists who seek a more rapid or more significant response to the environmental risks and opportunities faced by the Company or adverse financial and operational impacts to the business, including, without limitation, operational disruption, increased costs, increased investment obligations and increased taxes and royalties payable to governments.

Indigenous peoples' title claims and rights to consultation and accommodation may affect the Company's existing operations as well as development projects and future acquisitions.

Some of the Company's properties may be subject to the rights or the asserted rights of various community stakeholders, including indigenous peoples. The presence of community stakeholders may impact the Company's ability to develop or operate its mining properties and projects or to conduct exploration activities. Accordingly, the Company is subject to the risk that one or more groups may oppose the continued operation, further development, or new development or exploration of the Company's current or future mining properties and projects. Such opposition may be directed through legal or administrative proceedings, or through protests or other campaigns against the Company's activities. In addition, if historical artifacts or archaeological sites are discovered on or near the Company's properties, the Company may be prohibited or restricted from developing or mining its mineral properties or be required to relocate or preserve such findings.

Governments in many jurisdictions, including in some parts of Turkey, Canada, the United States, Argentina, Mexico and Peru, must consult with, or may require the Company to consult with, indigenous peoples with respect to grants of mineral rights and the issuance or amendment of project authorizations and permits, pursuant to various international and national laws, codes, resolutions, conventions and guidelines, such as the International Labour Organization Convention 169. Consultation and other rights of indigenous peoples may require accommodation including undertakings regarding employment, royalty payments and other matters. This may affect the Company's ability to acquire effective mineral titles, permits or licenses in these jurisdictions within a reasonable time, and may affect the timetable and costs of development and operation of the Company's mineral properties in these jurisdictions. In addition, the risk of unforeseen title claims by indigenous peoples could affect existing operations and development projects. These legal requirements may also affect the Company's ability to expand or transfer existing operations or to develop new projects.

Civil disobedience in certain of the countries where the Company's mineral properties are located could adversely affect its business.

Acts of civil disobedience are common in certain of the countries where the Company's properties are located. In recent years, many mining companies have been the targets of actions to restrict their legally granted access to mining concessions or property. The evolving expectations related to human rights, indigenous rights, and environmental protections may result in opposition to our current and future operations, the development of new projects and mines, and exploration activities. Such opposition may take the form of legal or administrative proceedings or manifestations such as protests, roadblocks or other forms of public expression against our activities, any of which may have a negative impact on our local or global reputation and operations. Such acts of civil disobedience often occur with no warning and can result in significant direct and indirect costs and delays in operations. Opposition by community and activist groups to our operations may require modification of, or preclude the operation or development of, our projects and mines or may require us to enter into agreements with such groups or local governments, which may cause increased costs and significant delays to the advancement of our projects. While the Company has not faced such acts of civil disobedience to date, there can be no assurance that the Company will not face such disruptions to site access in the future.

The Company and the mining industry face geotechnical challenges, which could adversely impact our production and profitability.

As certain of our mines age, the Company may face geotechnical challenges faced by the mining industry as a whole, including mining deeper pits and more complex deposits, which generally leads to higher pit walls, more complex underground environments and increased exposure to geotechnical instability and hydrological impacts. As our operations mature, the open pits at our sites will necessarily become deeper and we may face certain geotechnical failures at some of our mines. Unanticipated adverse geotechnical and hydrological conditions may occur. Such conditions are often affected by risks and hazards outside of our control, such as severe weather and considerable rainfall, which may lead to periodic floods, mudslides, wall instability and seismic activity, which may result in slippage of material. Such events may not be detected in advance.

In addition, SSR Mining has operational and closed tailings impoundments in a variety of climatic and topographic settings. The failure of tailings dam and storage facilities and other impoundments at our mining sites could cause severe, and in some cases catastrophic, property and environmental damage and loss of life. Geotechnical or tailings storage facility failures could result in limited or restricted access to mine sites, suspension of operations, government investigations, increased monitoring costs, remediation costs and other impacts, which could result in a material adverse effect on our results of operations and financial position. Recognizing this risk, while SSR Mining continues to review its existing practices, there can be no assurance that these events will not occur in the future.

Risks Related to Our Personnel

Certain of the Company's directors and/or officers also serve, or may serve, as directors of other companies involved in natural resource exploration and development, and consequently there exists the possibility for these directors and/or officers to be in a position of conflict.

Certain of the Company's directors and/or officers may have fiduciary and/or contractual obligations to other companies, including companies that are engaged in business activities similar to those intended to be conducted by the Company. Accordingly, such companies may participate in transactions and have obligations that may be in conflict or competition with the Company's business or acquisition strategy. As a result of such conflict, the Company may not be able to participate in certain transactions, which may have a material adverse effect on the Company's financial position. Any decision made by any of these directors and/or officers involving SSR Mining is required to be made in accordance with their duties and obligations to deal fairly and in good faith with a view to the best interests of SSR Mining and its shareholders.

The Company could be subject to potential labor unrest or other labor disturbances.

Production at Çöpler, Marigold, Seabee and Puna is dependent upon the efforts of the Company's employees and the Company's relations with them. Relations with the Company's employees may be affected by changes in the scheme of labor relations that may be introduced by the relevant governmental authorities in those jurisdictions in which the Company carries on business. Changes in such legislation or in the relationship with the Company's employees may have a material adverse effect on the Company's business, financial condition and results of operations. Additionally, we could experience labor disputes, work stops or other disruptions in production due to union activities or other employee actions. A failure to successfully enter into new contracts or resolve any complaints could result in future labor disputes, work stoppages or other disruptions in production. Any labor unrest or other labor disturbances could have a material adverse effect on the Company's business.

The Company is dependent on its ability to recruit and retain qualified personnel.

The Company competes with other mining companies to attract and retain key executives and skilled and experienced employees. The Company is dependent on the services of its key executives and other skilled and experienced personnel to focus on advancing its corporate objectives as well as the identification of new opportunities for growth and funding. Due to the size of the Company's organization, the loss of any of these persons, or the Company's inability to attract and retain suitable replacements for them or additional highly skilled employees and contractors required for the operation of the Company's corporate offices, Çöpler, Marigold, Seabee and Puna and the Company's other activities may have a material adverse effect on its business and financial condition.

The Company relies on contractors to conduct a significant portion of its operations and construction projects.

A significant portion of the Company's operations and construction projects in Turkey and Argentina are currently conducted in part by contractors. As a result, these operations are subject to a number of risks, some of which are outside of the Company's control, including:

- Negotiating agreements with contractors on acceptable terms;
- New legislation limiting or altering the ability to utilize contractors or outsourced resources;
- The inability to replace a contractor and its operating equipment in the event that either party terminates the agreement;
- Reduced control over those aspects of operations which are the responsibility of the contractor;
- Failure of a contractor to perform under its agreement;
- Interruption of operations or increased costs in the event that a contractor ceases its business due to insolvency or other unforeseen events;

- Failure of a contractor to comply with applicable legal and regulatory requirements, to the extent it is responsible for such compliance;
- Problems of a contractor with managing its workforce, labor unrest or other employment issues; and
- Liability to third parties as a result of the actions of our contractors.

In addition, law and regulations relating to the use of contractors may vary in the jurisdictions in which we operate, and changes in legal and regulatory restrictions may also impact our ability to utilize contractors and outsourcing services. The occurrence of one or more of these risks could adversely affect our results of operations and financial position.

Risks Related to Governmental Regulation and Legal Proceedings

The Company is subject to significant governmental regulations.

The Company's operations are subject to extensive and complex laws and regulations governing worker health and safety across our operating regions and failure to comply with applicable legal requirements can result in substantial penalties, civil sanctions and, in some cases, criminal sanctions, including the suspension or revocation of permits. Future changes in applicable laws, regulations, permits and approvals or changes in their enforcement or regulatory interpretation could substantially increase costs to achieve compliance, lead to the revocation of existing or future exploration or mining rights or otherwise have an adverse impact on the Company's results of operations and financial position. Matters which may be regulated by federal, state, provincial, territorial and local laws and regulations include:

- environmental protection;
- the management and use of toxic substances and explosives;
- the management of natural resources;
- the exploration of mineral properties;
- exports;
- insurance restrictions;
- import restrictions;
- exchange controls;
- capital controls;
- price controls;
- taxation and mining royalties;
- labor standards and occupational health and safety, including mine safety;
- employee profit-sharing arrangements;
- anti-corruption and anti-bribery statutes; and
- historical, archaeological and cultural preservation.

U.S. surface and underground mines are continuously inspected by the U.S. Department of Labor Mine Safety and Health Administration ("MSHA"), which inspections often lead to notices of violation under the *Federal Mine Safety and Health Act of 1977*. Our U.S. mine could be subject to a temporary or extended shutdown as a result of a violation alleged by MSHA. The Company's mining operations outside of the U.S. are similarly subject to inspection and regulation under applicable jurisdictional laws and regulations. If inspections result in an alleged violation, the Company may be subject to fines, penalties or sanctions and its mining operations could be subject to temporary or extended closures. In addition to potential government restrictions and regulatory fines, penalties or sanctions, the Company's ability to operate and thus, its results of operations and financial position, could be adversely affected by accidents, injuries, fatalities or events detrimental (or perceived to be detrimental) to the health and safety of our employees, the environment or the communities in which the Company operates.

In addition to existing regulatory requirements, legislation and regulations may be adopted, regulatory procedures modified, or permit limits reduced at any time, any of which could result in additional exposure to liability, operating expense, capital expenditures or restrictions and delays in the mining, production or development of our properties. Mining accidents and fatalities or toxic waste releases, whether or not at our mines or related to metals mining, may increase the likelihood of additional regulation or changes in law or enhanced regulatory scrutiny. In addition, enforcement or regulatory tools and methods available to regulatory bodies such as MSHA, the U.S. Environmental Protection Agency ("EPA"), and their equivalent agencies in other jurisdictions in which the Company has operations, which have not been or have infrequently been used against us or the mining industry to date, may in the future be used more extensively or more consistently.

Failure to comply with applicable laws and regulations may result in civil or criminal fines or penalties or enforcement actions, including orders issued by regulatory or judicial authorities enjoining or curtailing operations or requiring corrective measures, installation of additional equipment or remedial actions, or the imposition of additional local or foreign parties as joint venture partners, any of which could result in significant expenditures. The Company may also be required to compensate private parties suffering loss or damage by reason of a breach of such laws, regulations or permitting requirements. Future laws and regulations, or more stringent enforcement of current laws and regulations by governmental authorities, cannot be accurately predicted and it is possible that these could cause the Company to incur additional expense, divert management time and attention from revenue generating activities or restrict or delay the exploration and development of the Company's properties.

The Company requires permits to conduct its operations, and delays in obtaining or failing to obtain such permits, or a failure to comply with the terms of any such permits that the Company has obtained, would adversely affect the Company's business.

The Company's operations, including continued production at Çöpler, Marigold, Seabee and Puna, and further exploration, development and commencement of production on the Company's other mineral properties, require licenses, permits and other approvals from various governmental authorities, including land and water usage permits. Obtaining or renewing governmental permits is a complex and time-consuming process. The duration and success of efforts to obtain and renew permits are contingent upon many variables not within the Company's control.

The Company's ability to obtain the required permits and approvals to explore for, develop and operate mines and to successfully operate near communities in the jurisdictions in which we operate depends in part on our ability to develop, operate and close mines in a manner that is consistent with the creation of social and economic benefits in the surrounding communities, which may or may not be required by law. Our ability to obtain permits and approvals and to operate near certain communities may be adversely impacted by real or perceived detrimental events associated with our activities or those of other mining companies affecting the environment, health and safety of communities in which we operate. Further, certain communities may challenge, or seek to challenge, permits and approvals granted to the Company, which may result in temporary or permanent suspension of such permits and approvals or the cessation of Company operations. Any delay or suspension of the Company's operations as a result of such challenges, whether such challenges have merit, may adversely affect the Company's business, results of operations or financial condition.

Previously obtained permits and approvals may be suspended or revoked for many reasons, including through government or court action, or may be adjusted in a manner that adversely affects our operations, including our ability to explore or develop properties, commence production or continue operations. There can be no assurance that all permits, licenses and approvals that are required for the operations of the Company, including any for construction of mining facilities or conduct of mining, will be obtainable or renewable on reasonable terms, or at all. Delays or a failure to obtain such required permits, or the expiry, revocation or failure by the Company to comply with the terms of any such permits that it has obtained, would adversely affect the Company's business.

The Company's activities are subject to environmental laws and regulations that may increase the Company's costs and restrict its operations.

The Company's activities are subject to extensive laws and regulations governing the protection of the environment, natural resources and human health. These laws address, among other things, emissions into the air and air quality, discharges into water and water quality, management of waste, management and disposal of solid and hazardous substances, protection of natural resources, fisheries and wildlife protection, antiquities, endangered species, noise and use and reclamation of lands disturbed by mining operations. The Company is required to obtain governmental permits and, in some instances, provide bonding requirements under federal, state or provincial air quality, water quality, and mine reclamation rules and permits. Although the Company makes provisions for reclamation costs, it cannot be assured that these provisions will be adequate to discharge the Company's future obligations for these costs. Violations of environmental laws may be subject to civil sanctions and, in some cases, criminal sanctions, including the suspension or revocation of permits. While responsible environmental, health and safety stewardship is one of the Company's core values, there can be no assurance that the Company has been or will be at all times in complete compliance with such laws, regulations and permits, or that the costs of complying with current and future environmental laws and permits will not materially and adversely affect the Company's business, results of operations or financial condition.

Our U.S. operations are subject to the *Clean Water Act* (the "CWA"), which requires permits for certain discharges into waters of the United States. Such permitting has been a frequent subject of litigation and enforcement activity by environmental advocacy groups and the EPA, respectively, which has resulted in declines in such permits or extensive delays in receiving them, as well as the imposition of penalties for permit violations. In 2015, the regulatory definition of "waters of the United States" that are protected by the CWA was expanded by the EPA, thereby imposing significant additional restrictions on waterway discharges and land uses. However, in 2018, implementation of the relevant rule was suspended for two years, and in December 2019 a revised definition that narrows the 2015 version was implemented. Even with the narrowed rule, it is possible that in the future the definition could again be expanded, or states could take action to address a perceived fall-off in protection under the CWA, either of which could increase litigation involving water discharge permits, which may result in delays in, or in some instances preclude, the commencement or continuation of development or production operations. Enforcement actions by the EPA or other federal or state agencies could also result. Adverse outcomes in lawsuits challenging permits or failure to comply with applicable regulations or permits could result in the suspension, denial, or revocation of required permits, or the imposition of penalties, any of which could have a material adverse impact on our cash flows, results of operations, or financial condition.

Some of the mining wastes from our U.S. operations currently are exempt to a limited extent from the extensive set of EPA regulations governing hazardous waste under the *Resource Conservation and Recovery Act* ("RCRA"). If the EPA were to repeal this exemption, and designate these mining wastes as hazardous under RCRA, we would be required to expend additional amounts on the handling of such wastes and to make significant expenditures to construct hazardous waste storage or disposal facilities. In addition, if any of these wastes or other substances we release or cause to be released into the environment cause or has caused contamination in or damage to the environment at a U.S. mining facility, that facility could be designated as a "Superfund" site under the *Comprehensive Environmental Response, Compensation and Liability Act of 1980* ("CERCLA"). Under CERCLA, any present owner or operator of a Superfund site or the owner or operator at the time of contamination may be held jointly and severally liable regardless of fault and may be forced to undertake extensive remedial cleanup action or to pay for the cleanup efforts. The owner or operator also may be liable to federal, state and tribal governmental entities for the cost of damages to natural resources, which could be substantial.

Under certain environmental laws, the Company could be held jointly and severally liable for removal or remediation of any hazardous substance contamination at its current, former and future properties, at nearby properties, or at other third-party sites where the Company's wastes may have migrated or been disposed. The Company could also be held liable for damages to natural resources resulting from hazardous substance contamination. Additionally, environmental laws in some of the countries in which the Company operates require that the Company periodically perform environmental impact studies at the Company's mines. The Company cannot provide assurance that these studies will not reveal environmental impacts that would require the Company to make significant capital outlays or cause material changes or delays in its intended activities, any of which could adversely affect the Company's business.

The failure to comply with environmental laws and regulations or liabilities related to hazardous substance contamination could result in project development delays, material financial impacts or other material impacts to the Company's projects and activities, fines, penalties, lawsuits by the government or private parties, or material capital expenditures. Environmental legislation in many countries is evolving and the trend has been towards stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects, and increasing responsibility for companies and their officers, directors and employees. Future changes in these laws or regulations could have a significant adverse impact on some portion of the Company's business, causing the Company to re- evaluate those activities at that time.

In addition to evolving and expanding environmental regulations providing governmental authorities with the means to make claims against us, private parties have in the past and may in the future bring claims against us based upon damage to property and injury to persons resulting from the environmental, health and safety impacts of prior and current operations (including for exposure to or contamination by lead). Laws in the United States such as CERCLA and similar state laws may expose us to joint and several liability or claims for contribution made by the government (state or federal) or private parties. Moreover, exposure to these liabilities arises not only from our existing but also from closed operations, operations sold to third parties, or operations in which we had a leasehold, joint venture, or other interest. Because liability under CERCLA is often alleged on a joint and several basis against any property owner or operator or arranger for the transport of hazardous waste, our exposure to environmental claims may be greater because of the bankruptcy or dissolution of other mining companies which may have engaged in more significant activities at a mining site than we but which are no longer available for governmental agencies or other claimants to make claims against or obtain judgments from. Similarly, there is also the potential for claims against us based on agreements entered into by certain affiliates and predecessor companies relating to the transfer of businesses or properties, which contained indemnification provisions relating to environmental matters.

Compliance with emerging climate change regulations could result in significant costs and climate change may present physical risks to a mining company's operations.

GHGs are emitted directly by the Company's operations, as well as by external utilities from which it purchases power. Currently, a number of international and national measures to address or limit GHG emissions, including the Kyoto Protocol, the Copenhagen Accord, Durban Platform and the Paris Agreement, are in various phases of discussion or implementation in the countries in which the Company operates. These, or future, measures could require the Company to reduce its direct GHG emissions or energy use or to incur significant costs for GHG emissions permits or taxes or have these costs or taxes passed on by electricity utilities which supply the Company's operations. The Company could also incur significant costs associated with capital equipment, GHG monitoring and reporting and other obligations to comply with applicable requirements. Additionally, concerns about potential GHG emissions impacts could manifest themselves in shareholder proposals, preferred purchasing, delays or failures in obtaining or retaining regulatory approvals, lack of market acceptance, continued pressure for and adoption of more stringent regulatory intervention and litigation, including governmental entities and other plaintiffs bringing claims against us for purported damages caused by the alleged effects of climate change. These risks could result in unexpected costs, increase our operating expenses, reduce the demand for our products and result in reputational harm to the Company, which in turn could have an adverse effect on the Company's business, results of operations and financial condition.

The Company's operations could be exposed to a number of physical risks from climate change, such as changes in rainfall rates, rising sea levels, reduced water availability, higher temperatures, increased snowpack and extreme weather events. Events or conditions such as flooding or inadequate water supplies could disrupt mining and transport operations, mineral processing and rehabilitation efforts, could create resource shortages and could damage the Company's property or equipment and increase health and safety risks on site. Such events or conditions could have other adverse effects on the Company's workforce and on the communities around the Company's mines, such as an increased risk of food insecurity, water scarcity and prevalence of disease. In addition, if the effects of extreme weather events cause prolonged disruption to the delivery, or increased prices, of essential commodities or capital items, particularly over the seasonal ice road at Seabee, the Company's production efficiency may be reduced. Although the Company makes efforts to mitigate these risks by ensuring that extreme weather conditions are included in emergency response plans at mine sites as required, there can be no assurance that these efforts will be effective and that these risks will not have an adverse effect on the Company's operations.

Further, climate change litigation has grown in frequency, as scientists, agencies, and the general public increasingly associate catastrophic environmental events with changing climate. In recent years, litigants have utilized common law theories and existing environmental statutes to try to hold companies liable for the effects of climate change. While much of the climate change litigation to date has focused on allegations that companies have or are contributing to GHG emissions, businesses have also been targeted based on a theory of failing to prepare for the effects of climate change. Additionally, increasing scrutiny of public climate change disclosures made by companies has prompted recent government investigations and enforcement actions. The Company may become subject to climate change-related lawsuits in the future. Regardless of whether future litigants are successful in such claims, such lawsuits may require significant time and attention by the Company's management, result in significant defense costs and expense or possible penalties and may materially adversely affect the Company's business and/or its ability to continue all or certain of its mining, exploration and development activities.

The Company may be required by human rights laws to take actions that delay the Company's operations or the advancement of its projects.

Various international and national laws, codes, resolutions, conventions, guidelines and other materials relate to human rights (including rights with respect to health and safety and the environment surrounding the Company's operations). Many of these materials impose obligations on government and companies to respect human rights. Some mandate that governments consult with communities surrounding the Company's projects regarding government actions that may affect local stakeholders, including actions to approve or grant mining rights or permits. The obligations of government and private parties under the various international and national materials pertaining to human rights continue to evolve and be defined. One or more groups of people may oppose the Company's current and future operations or further development or new development of its projects or operations. Such opposition may be directed through legal or administrative proceedings or expressed in manifestations such as protests, roadblocks or other forms of public expression against the Company's activities, and may have a negative impact on its reputation. Opposition by such groups to the Company's operations may require modification of, or preclude the operation or development of, the Company's projects or may require it to enter into agreements with such groups or local governments with respect to its projects, in some cases causing considerable delays to the advancement of its projects.

The Company's mineral properties may be subject to uncertain title.

There can be no assurance that title to the Company's mineral properties will not be challenged. The Company owns, leases or has under option, unpatented and patented mining claims, mineral claims or concessions which constitute its property holdings. The ownership and validity, or title, of unpatented mining claims and concessions are often uncertain and may be contested. Further, the Company may not have, or may not be able to obtain or economically obtain, all necessary surface rights to develop a property. Title insurance is generally not available for mineral properties and the Company's ability to ensure that it has obtained a secure claim to individual mining properties or mining concessions may be severely constrained. The Company has not conducted surveys of all of the claims in which it holds direct or indirect interests. A successful claim contesting the Company's title to a property will cause the Company to lose the Company's rights to explore and, if warranted, develop that property or undertake or continue production thereon. This could result in the Company not being compensated for its prior expenditures relating to the property.

The Company is subject to claims and legal proceedings that arise in the ordinary course of business.

The Company is subject to various claims and legal proceedings, including adverse rulings in current or future litigation against the Company and/or its directors or officers, covering a wide range of matters that arise in the ordinary course of business activities. Each of these matters is subject to various uncertainties and it is possible that some of these matters may be resolved unfavorably to the Company. The Company carries liability insurance coverage and establishes reserves for matters that are probable and can be reasonably estimated. In addition, the Company may be involved in disputes with other parties in the future that may result in litigation, which may have a material adverse impact on the Company's future cash flows, profitability, results of operations and financial condition. Additionally, the Company may be subject to frivolous and/or nuisance claims. While such claims are often dismissed, there can be no assurance that all such claims will be dismissed entirely, or that the Company will not be required to incur significant expenses defending such claims.

The Company is subject to assessment by taxation authorities in multiple jurisdictions that arise in the ordinary course of business.

In the normal course of business, the Company is subject to assessment by taxation authorities in various jurisdictions. Income tax provisions and income tax filing positions require estimates and interpretations of income tax rules and regulations of the various jurisdictions in which the Company operates and judgments as to their interpretation and application to the Company's specific situation. Tax rates and the calculations of taxes and the associated deferred tax assets and liabilities can change significantly and are influenced by changes in political administrations, foreign currency fluctuations and other factors. The Company's business and operations, and that of its subsidiaries, is complex, and the Company has, historically, undertaken several significant financings, acquisitions and other material transactions. The computation of income taxes payable as a result of these transactions involves many complex factors as well as the Company's interpretation of, and compliance with, relevant tax legislation and regulations. While the Company's management believes that the provision for income tax is appropriate and in accordance with U.S. GAAP and applicable legislation and regulations, tax filing positions are subject to review and adjustment by taxation authorities, which may challenge the Company's interpretation of the applicable tax legislation and regulations.

The Company is subject to anti-corruption laws.

The Company is subject to anti-corruption laws under the Canadian *Corruption of Foreign Public Officials Act* and the U.S. *Foreign Corrupt Practices Act*, which generally prohibit companies from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. In addition, the Company may also be subject to the extra-territorial provisions of the *Bribery Act 2010* (United Kingdom) which, in certain circumstances, can apply to offenses committed outside of the United Kingdom by foreign companies, as well as other anti-corruption laws applicable in the jurisdictions in which we operate. Corruption, extortion, bribery, pay-offs, theft and other fraudulent practices may occur from time-to-time in Turkey, Argentina, Peru, Mexico or any other jurisdiction in which the Company may conduct business, and the Company cannot provide assurance that its employees or other agents will not engage in such prohibited conduct for which the Company might be held responsible. If the Company's employees or other agents, including past employees or agents of companies the Company has acquired, are found to have engaged in such practices, the Company could suffer severe penalties and other consequences that may have a material adverse effect on its business, financial condition and results of operations. The Company has an Anti-Corruption Policy and internal controls and procedures intended to address compliance and business integrity issues, and the Company trains its employees on anti-bribery compliance on a global basis. However, despite careful establishment and implementation, the Company cannot assure you that these or other anti-bribery, anti-fraud or anti-corruption policies and procedures are or will be sufficient to protect against fraudulent and/or corrupt activity. In particular, the Company, in spite of its best efforts, may not always be able to prevent or detect corrupt or unethical practices by current or former employees or third parties, such as subcontractors or joint venture partners, which may result in reputational damage, civil and/or criminal liability (under the Canadian *Corruption of Foreign Public Officials Act*, the U.S. *Foreign Corrupt Practices Act* or any other relevant compliance, anti-bribery, anti-fraud or anti-corruption laws) being imposed on the Company.

Risks Related to Ownership of Company Equity

The Company's common shares are publicly traded and are subject to various factors that have historically made the Company's common share price volatile.

The market price of the Company's common shares has experienced, and may continue to experience, significant volatility, which may result in losses to investors. The market price of the Company's common shares may increase or decrease in response to a number of events and factors, including: the Company's operating performance and the performance of competitors and other similar companies; volatility in metal prices; the public's reaction to the Company's press releases on developments at the Company's properties, material change reports, other public announcements and the Company's filings with the various securities regulatory authorities; changes in earnings estimates or recommendations by research analysts who track the Company's common shares or the shares of other companies in the resource sector; changes in general economic and/or political conditions; the number of common shares to be publicly traded after an offering of the Company's common shares; the arrival or departure of key personnel; and acquisitions, strategic alliances or joint ventures involving the Company or the Company's competitors.

In addition, the global stock markets and prices for mining company shares have experienced volatility that often has been unrelated to the operating performance of such companies. These market and industry fluctuations may adversely affect the market price of the Company's common shares, regardless of the Company's operating performance. The variables which are not directly related to the Company's success and are, therefore, not within the Company's control, include other developments that affect the market for mining company shares, the breadth of the public market for the Company's common shares and the attractiveness of alternative investments. The effect of these and other factors on the market price of the Company's common shares on the exchanges on which they trade has historically made the Company's common share price volatile and suggests that the Company's common share price will continue to be volatile in the future.

Holders of our common shares may not receive dividends.

Holders of our common shares are entitled to receive only such dividends as the Company's Board of Directors may declare out of funds legally available for such payments. On February 17, 2021, the Company's Board of Directors approved its inaugural quarterly dividend payment of $0.05 per common share that was paid on March 31, 2021 to shareholders of record at the close of business on March 5, 2021. During the year ended December 31, 2021, the Company declared and paid cash dividends of $0.20 per common share in the aggregate amount of $43.2 million. The declaration and payment of future dividends is at the discretion of the Board of Directors and will be made based on the Company's financial position and other factors relevant at the time. The Company's ability to pay dividends will be subject to future earnings, capital requirements, financial condition, compliance with covenants and financial ratios related to existing or future indebtedness and other factors deemed relevant by the Board of Directors. An annualized dividend payout level has not been declared by the Board of Directors, and the declaration and payment of future dividends, including future quarterly dividends, remains at the discretion of the Board of Directors. The Company's dividend framework is non-binding, and the Board of Directors may modify the dividend framework or reduce, defer or eliminate the common stock dividend in the future.

Future sales or issuances of equity securities could decrease the value of the Company's common shares, dilute investors' voting power and reduce the Company's earnings per share.

The Company may sell additional equity securities in subsequent offerings (including through the sale of securities convertible into equity securities) and may issue equity securities in acquisitions. The Company cannot predict the size of future issuances of equity securities or the size and terms of future issuances of debt instruments or other securities convertible into equity securities or the effect, if any, that future issuances and sales of the Company's securities will have on the market price of the Company's common shares.

Additional issuances of the Company's securities may involve the issuance of a significant number of common shares at prices less than the current market price for the common shares. Issuances of substantial numbers of common shares, or the perception that such issuances could occur, may adversely affect prevailing market prices of the Company's common shares. Any transaction involving the issuance of previously authorized but unissued common shares, or securities convertible into common shares, would result in dilution, possibly substantial, to security holders. The Company is not able at this time to predict the future amount of such issuances or dilution.

Furthermore, sales of substantial amounts of the Company's securities by the Company or the Company's existing shareholders, or the availability of such securities for sale, could adversely affect the prevailing market prices for the Company's securities and dilute investors' earnings per share.

Risks Related to Being a Public Company

The Company may fail to maintain adequate internal control over financial reporting pursuant to the requirements of applicable regulations.

No evaluation can provide complete assurance that the Company's internal control over financial reporting will prevent, detect or uncover all failures of persons within the Company to disclose material information required to be reported. The effectiveness of the Company's controls and procedures could also be limited by simple errors or faulty judgments. In addition, as the Company continues to expand, the challenges involved in implementing appropriate internal control over financial reporting will increase and will require that the Company continue to improve its internal control over financial reporting. Although the Company intends to devote substantial time and incur substantial costs, as necessary, to ensure ongoing compliance, the Company cannot be certain that it will be successful in complying with internal control regulations.

Due to the loss of the Company's foreign private issuer status, the Company is now required to comply with the Exchange Act's domestic reporting regime.

As of June 30, 2021, we determined that we no longer qualified as a "foreign private issuer," as such term is defined in Rule 405 under the Securities Act, which means that as of January 1, 2022 we are required to comply with all the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers. The transition from foreign private issuer status is expected to result in incremental increase in costs as the requirements applicable to U.S. domestic issuers are more detailed and extensive than the requirements for foreign private issuers.

The Company's accounting and other estimates may be imprecise.

Preparing consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts and related disclosure of assets, liabilities, revenue and expenses at the date of the consolidated financial statements and reporting periods. The more significant areas requiring the use of management assumptions and estimates relate to:

- Mineral reserves, mineral resources, and other resources that are the basis for future income and cash flow estimates and units-of-production depreciation, depletion and amortization calculations;
- future ore grades, throughput and recoveries;
- future metals prices;
- future capital and operating costs;
- environmental, reclamation and closure obligations;
- permitting and other regulatory considerations;
- asset impairments;
- valuation of business combinations;
- future foreign exchange rates, inflation rates and applicable tax rates;

- reserves for contingencies and litigation; and
- deferred tax asset valuation allowance.

Future estimates and actual results may differ materially from these estimates as a result of using different assumptions or conditions. For additional information, see Critical Accounting Policies and Estimates in Item 7. Management's Discussion and Analysis of Consolidated Financial Condition and Results of Operations, Note 2 of the Notes to the Consolidated Financial Statements, and the risk factors set forth in this section.

It may be difficult to obtain and enforce judgments against the Company because of its Canadian incorporation and foreign assets.

The Company is a corporation existing under the laws of the Province of British Columbia. Some of the Company's officers, directors, and experts are Canadian or non-U.S. residents, and many of its assets are located outside the United States. Investors should not assume that Canadian or other foreign courts would enforce judgments of United States courts, or liabilities, obtained in actions against the Company or its directors, officers or experts predicated upon the civil liability provisions of the United States federal securities laws or the securities or "blue sky" laws of any state or jurisdiction of the United States. In addition, while statutory provisions exist in British Columbia for derivative actions to be brought in certain circumstances, the circumstances in which a derivative action may be brought, and the procedures and defenses that may be available in respect of any such action, may be different than those of shareholders of a company incorporated in the United States.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES

The following descriptions summarize selected information about the Company's four producing assets: Çöpler Gold Mine, Marigold Mine, Seabee Gold Operation and Puna Operations, each of which is an operating segment. All of the Company's properties are wholly owned except for Çöpler.

The disclosure in this Annual Report of a scientific or technical nature for each asset is based on the Çöpler District Master Plan 2021 Technical Report Summary, the Marigold 2021 Technical Report Summary, the Seabee 2021 Technical Report Summary and the Puna 2021 Technical Report Summary (collectively, the "Technical Report Summaries"). Each Technical Report Summary is filed with the SEC as an exhibit to this Annual Report and incorporated by reference herein and is being filed concurrently with the applicable securities regulatory authorities in Canada as a technical report in compliance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101"), and are available for review on EDGAR at www.sec.gov and on SEDAR at www.sedar.com. You should read each such Technical Report Summary as part of your review of the information in this Item 2. Properties.

Additional Mining Company Financial Information

The Company is listed on Nasdaq and the TSX and is subject to the ongoing disclosure and reporting requirements, including those required of a mineral resource company, in both the United States and Canada. The mineral resource company disclosure requirements in each country are different. As a result, certain additional disclosures have been included in this "Item 2. Properties" to comply with requirements under Canada's National Instrument 51-102 – *Continuous Disclosure Obligations* ("NI 52-101") and 43-101. Certain of these additional disclosures include financial measures that are customary in the mining industry, including capital costs and operating costs, which have been calculated in a manner that is not in accordance with U.S. GAAP. There are no standardized definitions or comparable financial measures under U.S. GAAP for these mining industry non-GAAP financial measures. As a result, we have not identified a comparable financial measure calculated under U.S. GAAP and we have also not provided a reconciliation of these mining industry non-GAAP financial measures to a U.S. GAAP financial measure. We believe investors rely on these mining industry non-GAAP financial measures to assist in an evaluation and comparison of the operating performance of mining companies. These disclosures are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with U.S. GAAP. These mining industry non-GAAP financial measures should be read in conjunction

with “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operation” and our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Properties Overview

Çöpler is an open pit gold mine located along the Tethyan belt in east-central Turkey’s Erzincan Province. Çöpler contains oxide and sulfide ores which are mined concurrently and processed through its two separate processing circuits. Gold contained in oxide ore is recovered through heap leach processing producing gold doré with a minor by-product of copper concentrate, while gold sulfide mineralization is subjected to pressure oxidation and carbon-in-leach processing, to produce gold doré.

Marigold is an open pit gold mine located along the northern margin of the Battle Mountain-Eureka Trend in Nevada, USA. Marigold is a run-of-mine heap leach operation producing gold doré bars.

Seabee is an underground gold mine located along the Trans-Hudson Corridor in east-central Saskatchewan, Canada. Seabee processes ore through its processing plant using gravity concentration, cyanide leaching and carbon-in-pulp to produce gold doré.

Puna is an open pit silver-lead-zinc mine located along the silver belt in northern Argentina in the Province of Jujuy. Puna processes ore mined from the Chinchillas mine through its Pirquitas flotation processing mill to produce a silver/lead and a zinc concentrate.

Çöpler Gold Mine, Erzincan Province, Turkey

The Çöpler project consists of a number of mining licenses covering mineral resources on the Çöpler, Çakmaktepe, Çakmaktepe Expansion (Ardich), and Bayramdere deposits, mineral reserves on the Çöpler and Çakmaktepe open pit mines, oxide and sulfide processing facilities, and supporting infrastructure.

The Çöpler deposit, including the mineral resources and mineral reserves, is wholly owned by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi ("Anagold"). SSR Mining controls 80% of the shares of Anagold, Lidya Madencilik Sanayi ve Ticaret A.Ş. ("Lidya") controls 18.5%, and a bank wholly-owned by Çalık Holdings A.Ş. holds the remaining 1.5%. Çakmaktepe is wholly owned by Kartaltepe and Çakmaktepe Expansion (Ardich) spans both Kartaltepe and Anagold ground (predominantly Anagold). SSR Mining controls 50% of the shares of Kartaltepe Madencilik Sanayi ve Ticaret Anonim Şirketi ("Kartaltepe"). Çakmaktepe Expansion (Ardich) and Bayramdere deposits and the Mavialtın Porphyry Belt (including the Aslantepe, Sarıdere, Fındıklıdere and Mavidere porphyries) have areas owned by both Anagold and Kartaltepe. SSR Mining is the Operator of both Anagold and Kartaltepe. All of the processing facilities and operating assets are located on land owned by Anagold. In total 77% of the exclusive Mineral Resources and 79% of the Mineral Reserve at Çöpler are owned by SSR Mining.

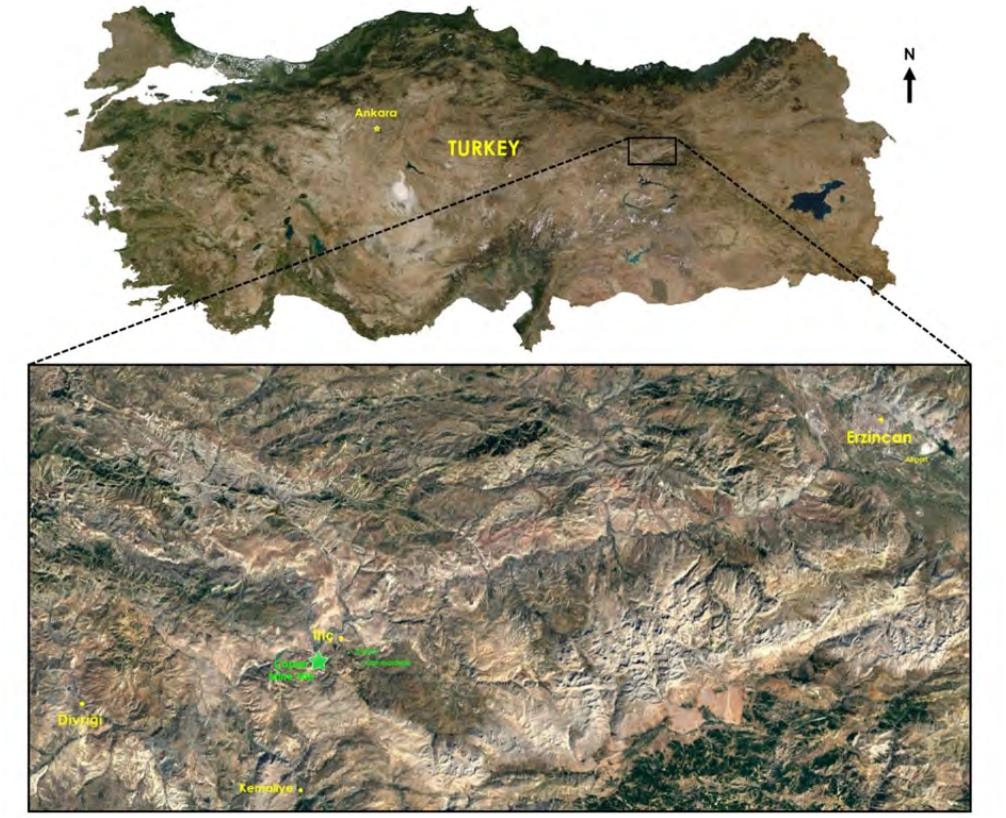
Also, in Turkey, SSR Mining owns 30% of Tunçpınar Madencilik Sanayi ve Ticaret Anonim Şirketi ("Tunçpınar"), operated by Lidya, and 70% of Bakırtepe Madencilik Sanayi ve Ticaret Anonim Şirketi ("Bakırtepe"), which is operated by SSR Mining. Bakırtepe includes the Copper Hill exploration target.

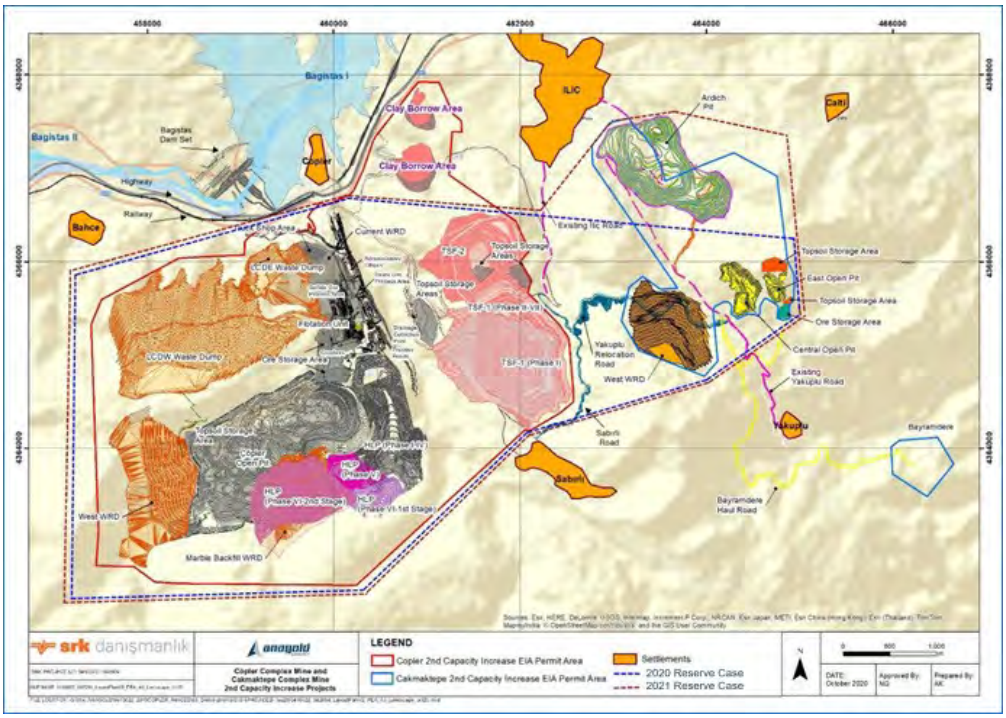
Property Description and Location

The Çöpler project is located in east central Turkey, 120 kilometers west of the city of Erzincan, in Erzincan Province, 40 kilometers east of the iron-mining city of Divriği, and 550 kilometers east of Turkey's capital city, Ankara. The nearest urban center, İliç, is located approximately 6 kilometers northeast of the Çöpler mine.

The Çöpler project is serviced by road and rail networks. The mine is accessed from the main paved highway between Erzincan and Kemaliye. The project area is located in the Eastern Anatolia geographical district of Turkey. Mining operations are conducted year-round. The climate is typically continental with cold, wet winters and hot, dry summers.

The Çöpler mining operations fall within the license areas numbered 847, 49729, and 20067313, which have been granted by the General Directorate of Mining and Petroleum Affairs. The Çakmaktepe satellite mining operation is located 6 km east of the current Çöpler pit. The Çakmaktepe pits are located within Kartaltepe License 1054. Ore mined at Çakmaktepe is hauled and treated at the Anagold Çöpler facilities.





Anagold holds the exclusive right to engage in mining activities within the Çöpler project area. Anagold holds six granted licenses covering a combined area of approximately 16,600 hectares. Kartaltepe holds eight licenses covering approximately 9,200 hectares. The total near-mine tenement package is approximately 25,800 hectares.

Kartaltepe sells Anagold ore from Çakmaktepe at an agreed rate. SSR Mining holds a 2% net smelter return ("NSR") on the Kartaltepe licenses, receivable after repayment of a historical royalty pre-payment.

Under Turkish Mining Law, the royalty rate for precious metals is variable and tied to metal prices. The Çöpler project is subject to a mineral production royalty that is based on a sliding scale to gold price and is payable to the Turkish government. In September 2020 a presidential decree was issued, increasing the prescribed royalty rates by 25%. Royalty rates are reduced by 40% for ore processed in country, as an incentive to process ore locally. As the Çöpler project produces its gold doré on-site, the Çöpler project is eligible for a 40% reduction to the royalty rate.

History

The Çöpler region has been subject to gold and silver mining dating back at least to Roman times. The Turkish Geological Survey carried out regional exploration work in the early-1960s that was predominately confined to geological mapping. In 1964, a local Turkish company started mining for manganese until 1973; the property was sold in January 1979 and manganese production restarted, continuing until 1992.

In 1998, Anatolia Minerals Development Ltd ("Anatolia") identified several porphyry-style gold–copper prospects in east central Turkey and applied for exploration licenses for these prospects, including in the Çöpler basin. In August 2009, a joint venture agreement between Anatolia and Lidya was executed.

In February 2011, Anatolia merged with Avoca Resources Limited, an Australian company, to become Alacer Gold Corp., which further merged with SSR Mining in September 2020.

Geological Setting, Mineralization, and Deposit Types

The Çöpler project is located near the northern margin of a complex collision zone that lies between the Pontide Belt / North Anatolian Fault, the Arabian Plate, and the East Anatolian Fault, which bounds several major plates. The region underwent crustal thickening related to the closure of a single ocean, or possibly several oceanic and micro-continental realms, in the late Cretaceous to early Tertiary period.

The gold, silver, and copper mineralization of economic interest at Çöpler occurs in a porphyry-related epithermal environment, with most of the gold mineralization concentrated in three zones: Main Zone, Manganese Zone, and Marble Zone, with mineralization present in five different forms:

- Stockwork and veins with disseminated marcasite, pyrite, and arsenopyrite
- Clay-altered brecciated and carbonatized diorite with rhodochrosite veinlets, and disseminated marcasite, pyrite, realgar, orpiment, sphalerite, and galena
- Massive marcasite and pyrite replacement bodies
- Massive jarositic gossan
- Massive manganese oxide

Oxidation of this mineralization has resulted in the formation of gossans, massive manganese oxide, and goethitic / jarositic assemblages hosting fine-grained free gold. The oxidized cap is underlain by primary and secondary sulfide mineralization. In addition to the gold–silver–copper mineralization of economic interest some arsenic, lead, magnesium, manganese, mercury, and zinc are also present.

The Manganese Zone (pit) is about 650 m wide in the north-south direction and about 650 m in the east-west direction. The surface was predominantly covered with marble. A major component of the mineralization is associated with the contact between the diorite and the marble. Disseminated mineralization also occurs outside the contact zones. Mineralization ranges from the surface to 400m deep.

The Marble Zone (pit) is in the southeastern portion of the system and associated with a northeast striking fault contact between marble on the east and hornfels (metasediments) and intrusives on the west. The width is almost 350 m and the strike length is about 300 m east-north-east. Depth of the mineralization ranges from the surface to about 160 m.

The Main Zone (pit) drilling identified a mineralization extending about 750 m north-south and 1,000 m east west. Oxide zone is confined to near surface to depths of about 40 m. Main Pit is the largest area of exposure in the west and south of the Çöpler mine and exposes dominantly diorite-granodiorite porphyry in the southern wall in contact with Hornfels Block. High grade gold is controlled by both faults and contacts. Supergene enrichment enhanced along syn- and post-mineral structures plays an important role in localizing high-grade gold mineralization at lithological contacts, late-stage faults and shear zones, and fault/contact intersections.

The West Pit exposes a high-grade gossan/fanglomerates at the basal contact of Munzur Limestone with hornfels. The contact is locally well preserved and shows a ~10 m thick zone of broken rock cataclastites at the base of limestone on a wide zone of highly sheared hornfelds with folded foliations. Some Gossans would be supergene of polymetallic replacement deposits. Gossans are confined to limestone and hornfels and enriched/formed as a result of karstic process in the area.

Mining Operations

Open pit mining at the Çöpler project is carried out by a mining contractor and managed by Anagold. The mining method is a conventional open pit method with drill and blast and utilizing excavators and trucks operating on bench heights of 5 meters. The mining contractor provides operators, line supervisors, equipment, and ancillary facilities required for the mining operation. SSR Mining provides management, technical, mine planning, engineering, and grade control functions for the operation.

The facility infrastructure supports the mine, and the oxide heap leach and sulfide plant processing facilities. The current leach pad consists of four phases designed to accommodate approximately 58 million tonnes of oxide ore heap with a nominal maximum heap height of 100 meters above the pad liner, with additional phases in development.

The tailings storage facility is developed and constructed in stages. Ongoing work in ensuring sufficient long-term capacity for storage of tailings is undertaken. Studies by Anagold have determined that the effect of the addition of the flotation plant to the sulfide plant circuit would result in an increase in the solids content and improvement in the final settled density based on an increase in the rate of tailings consolidation.

Infrastructure, Permitting and Compliance Activities

The power supply for the Çöpler mine and processing facilities is provided via a 154 kV transmission line to site. Existing mine site facilities are located primarily within the Çöpler and Sabırlı Creek watersheds immediately upstream of their confluence with the Karasu River. The only perennial surface water in the vicinity of the Çöpler project is the Karasu River flowing in the northern and western part of the area. All other valleys are either ephemeral streams or dry valleys.

The Çöpler mining and processing operations involve open pit mining from multiple pits, construction of multiple waste rock dumps to accommodate mined materials, processing of oxide ores and placement on heap leach pads, and processing of sulfide ores with placement of tailings in a tailings storage facility. Operation of the Çöpler mining and processing facilities, and mining at Çakmaktepe, have been investigated and authorized by means of a series of Environmental Impact Assessments ("EIAs"). Anagold has remained in compliance with all aspects of the EIAs and operating permits throughout the history of the project.

The currently permitted EIA boundary incorporates 1,747 hectares, whereas the footprint of the mine units covers a combined 1,089 hectares. The currently permitted Çakmaktepe EIA boundary incorporates 290 hectares, but pending approval, it is anticipated that the Çakmaktepe EIA boundary will increase to 360 hectares.

Mineral Processing and Metallurgical Testing

Oxide Testwork

The heap leaching facilities were commissioned at the Çöpler mine site in late-2010 and have operated continuously since that time. Oxide heap leach operations were ongoing at the Cöpler District Master Plan 2021 Technical Report Summary ("CDMP21TRS") effective date.

Metallurgical testwork on Çakmaktepe oxide material for heap leaching has been undertaken at the on-site metallurgical laboratory, initially under the supervision of Kappes, Cassiday & Associates. The initial testwork in 2015 undertook bottle roll and column leach tests. The results are comparable with the Çöpler oxide ore, with similar behavior and leach kinetics. Subsequently, Çakmaktepe oxide ore has been heap leached along with Çöpler oxide ore. Oxide column testwork on oxide ore continues at the on-site laboratory.

Metallurgical testwork on Ardich oxide material for heap leaching has been undertaken at McClelland laboratories and supervised by Metallurgium. An initial testwork program, including bottle roll and column leach, was carried out in 2019. This initial program identified two distinct domains with respect to gold recovery based on sulfur content: <1% and 1%–2%. The column testwork results indicated that the listwanite, dolomite, and jasperoid lithologies have physical properties amenable to heap leaching. This initial test program was followed up with further testwork in 2020.

Analysis of the results of the metallurgical testwork and a review of the existing recovery models for use in economic analysis were undertaken in 2020. This was done for the oxide and sulfide processing, including the flotation circuit. The resulting recoveries have been used in the economic analysis for the CDMP21TRS.

Oxide gold recoveries vary by lithology for Çöpler in the range 62.3%–78.4%, at Çakmaktepe the range is 61%–80%. At Ardich the testwork suggest recoveries will vary in the range 40%–73%. The average oxide recovery in the Reserve Case is 61%.

Sulfide Testwork

The sulfide process plant commenced commissioning in Q4'18. The plant consists principally of a pressure oxidation (POX) leach followed by a cyanide leach to recover gold.

Significant testwork had been conducted on sulfide ores prior to commissioning of the sulfide plant, with pilot plant testwork campaigns and a significant number of batch variability tests on POX / cyanide leach completed.

Whilst a POX / cyanide leach circuit was implemented, significant work had also been undertaken on flotation of the gold-bearing sulfides as a process route, although ultimately this option was not selected for development. Flotation of a partial stream of the plant feed was considered to maximize the available capacity of the plant, including the POX autoclave and available oxygen supply. Further flotation testwork demonstrated that the addition of a small flotation plant into the existing sulfide process route would allow optimization and maximization of already installed capacities.

The testwork indicates that sulfur recovery through flotation is estimated to be 75% to concentrate with a corresponding 55% gold recovery. Flotation tails gold recovery is estimated at 43%. A side stream flotation plant capable of treating 50 to 150 tonnes per hour commenced commissioning on December 24, 2021. Once fully commissioned the actual plant performance will be reconciled with expected performance.

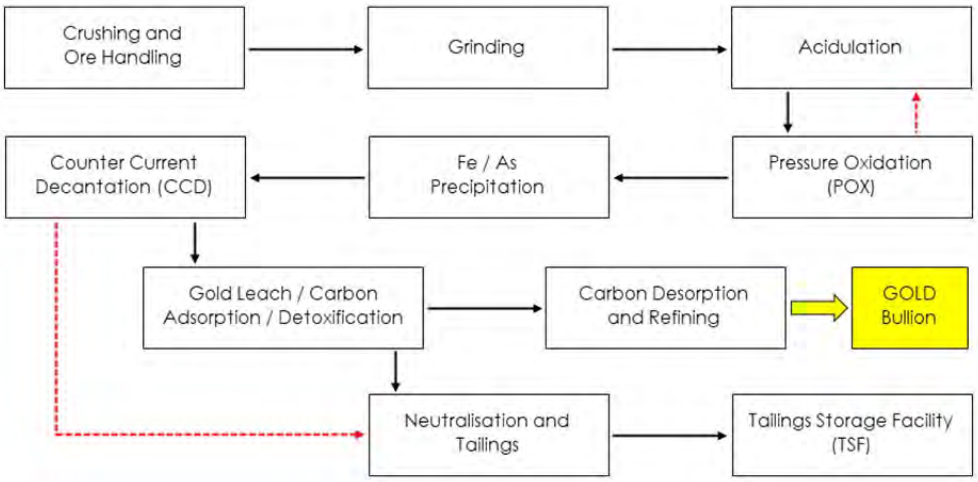
The current determination of POX gold recovery is based on assessment of results for the pilot testwork programs undertaken prior to commencement of operations and benchmarked with the existing operating data. An equation has been derived to calculate gold recovery by material type for all ore that is subject to POX; this includes direct POX feed and flotation concentrate. The Reserve Case average sulfide gold recovery is 91%.

Processing and Recovery Operations

The Company currently operates a sulfide process plant and an oxide heap leach facility.

The oxide heap leaching facilities were commissioned at the Çöpler mine site in the second half of 2010 with initial gold production achieved in the fourth quarter of 2010. The process was originally designed to treat approximately 6.0 million tonnes per annum of ore by three-stage crushing (primary, secondary, and tertiary) to 80% passing 12.5 millimeters, agglomeration, and heap leaching on lined heap leach pads with dilute alkaline sodium cyanide solution. Gold is recovered through a carbon in-column system, followed by stripping of metal values from carbon, electrowinning and smelting to yield a doré (containing gold and silver) suitable for sale. Control of copper in leach solutions is undertaken in a sulfidization, acidification, recovery, and thickening ("SART") plant, which also regenerates cyanide.

The sulfide plant commenced commissioning in the fourth quarter of 2018. The basic flow of processing through the sulfide plant is as follows:



The incorporation of a flotation circuit into the existing sulfide plant to upgrade sulfide sulfur to fully utilize grinding and pressure oxidation ("POX") autoclave capacity was constructed and commenced ore production at the end of December 2021. This addition to the sulfide plant is incorporated between grinding and acidulation by taking a bleed / slip stream from the grinding thickener feed, floating sulfides, and returning the sulfide concentrate to the grinding thickener to be combined with direct autoclave feed. Gold in the flotation tails (not recovered to the flotation concentrate) is combined with the material that was processed through the POX autoclave circuit, this combined stream then goes to the gold leaching and recovery circuits to recover gold.

Since completing ramp-up of the sulfide plant in June 2020, POX throughput has progressively improved to exceed design up to a monthly average peak of 330 tonnes per hour and at the maximum sulfide sulfur of 13.7 tonnes per hour. The gold recovery has remained at around 91%, with the tailings grade ranging between about 0.25–0.30 grams of gold per tonne.

See "Proven and Probable Reserve Estimates" and "Resource Estimates" in this Item 2 for further information on the mineral resources and mineral reserves for Çöpler, and see "Operating Statistics" in this Item 2 for further information on production of the Çöpler operations for the years ended December 31, 2021 and December 31, 2020.

Exploration

The principal exploration technique at the Çöpler project has been reverse circulation and diamond core drilling, conducted in several campaigns starting in 2000. Initially, exploration was directed at evaluating the economic potential of the near-surface oxide mineralization for the recovery of gold by either heap leaching or conventional milling techniques.

Exploration in Çöpler after the discovery of several porphyry centers identified the ore body in four adjacent zones (and subsequent open pits) from east to west: Manganese Pit, Marble Pit, Main Pit and West Pit.

Since 2000, the Company's exploration program within the Çöpler district has identified several new gold-dominant and copper–gold prospects. The gold-dominant regional prospects include the Çöpler Saddle and Elmadere. Copper–gold prospects include Aslantepe, Sarıdere, Fındıklıdere and Mavidere porphyries located within the Mavialtın Porphyry Belt and the early exploration stage Meşeburnu porphyry located west of the Çöpler deposit.

Drilling

Drilling at the Çöpler deposit commenced in 2000, and since that time a total of 2,635 holes have been drilled for 373,562 meters. A total of 68 diamond core holes have been completed in 2021 (18,492 meters). Step-out drilling at the Çöpler deposit has defined most of the lateral boundaries of the mineralization. There has been additional development drilling, as well as condemnation drilling of areas planned for infrastructure during the last few years.

Drilling at Çakmaktepe commenced in 2012 and has resulted in the definition of three distinct mineralized zones: East, Central, and North. As production proceeded within the Çakmaktepe Central and East pits, additional targets were generated to provide push-back options around the pit design. A total of 136 diamond core holes have been completed since 2019 to test for continuation of the Çakmaktepe mineralization to the north and the east.

Since the initial discovery of mineralization at Çakmaktepe Expansion (Ardich), SSR Mining has undertaken several drilling programs to better-define the geological model and to attempt to increase resource inventories. Anagold has completed 531 diamond core holes for 111,004 meters at Çakmaktepe Expansion (Ardich) from late-2017 to December 31, 2021, including holes for metallurgical testing and hydrogeological studies.

Drilling at Bayramdere commenced in 2007 as part of the near-mine exploration strategy. Since that time 120 holes have been drilled at Bayramdere for a total of 10,734 meters.

Sampling, Analysis and Data Verification

Exploration samples are submitted to ALS Global laboratories in Izmir, Turkey for sample preparation and analysis which is an ISO/IEC 17025:2005 certified and accredited laboratory. Bureau Veritas (Acme) laboratory, Ankara is used for umpire check sample analysis. Gold is analyzed by fire assay with an AAS finish, and the multi-element analyses are determined by four acid digestion and ICP-AES and MS finish. For gold assays greater than or equal to 10 g/t, the fire assay process is repeated with a gravimetric finish for coarse gold. The drill and geochemical samples were collected in accordance with accepted industry standards. SSR Mining conducts routine QA/QC analysis on all assay results, including the systematic utilization of certified reference materials, blanks, field duplicates, and umpire laboratory check assays.

SSR Mining operates an onsite laboratory at Çöpler for assay of production samples. The onsite laboratory is certified to 17025:2017 but is not independent. It is primarily used in grade control.

Data verification procedures are well established at Çöpler. Routine ongoing checking of all data is undertaken prior to being uploaded to the database. This is followed by campaign-based independent data verification audits at milestone stages throughout data collection programs. For drillhole data, verification includes the checking of Topcon differential global positioning system ("DGPS") collar coordinates relative to topographic surveys, checking of down hole surveys relative to adjacent readings and planned dip and azimuth of the hole, checking logged data entries to ensure they are consistent with log key sheets, cross-checking a subset of assay data with the original laboratory reports, and submission of and review of QA/QC data.

The QA/QC program has historically consisted of a combination of QA/QC sample types that are designed to monitor different aspects of the sample preparation and assaying process. None of the verification programs have identified material issues with the supporting data.

Capital and Operating Costs.

The capital and operating cost estimates derived for Çöpler are based on a combination of the data set forth in the Çöpler District Master Plan 2021 Technical Report Summary and budgetary estimates and reflect SSR Mining's current estimates as of December 31, 2021.

Capital costs are estimated to be $474 million for the life of Çöpler and are primarily composed of mine and plant equipment, tailings storage expansions and asset componentization. Estimated operating costs for mine operations include both cash and non-cash costs.

Cost	Total LOM ($M)	5-Year Average per year ($/t)	LOM Average per year ($/t)
Mining	$ 766	$ 14.98	$ 10.15
Process	2,225	27.79	29.49
Site Support and G&A	473	7.14	6.27
Operating Costs	$ 3,464	$ 49.91	$ 45.91

Capital costs and operating costs are provided for mineral property disclosure purposes in accordance with NI 51-102 and are, generally, non-GAAP mining company financial measures. See "Additional Mining Company Financial Information" in this Item 2 for more information.

Costs in individual years may vary significantly as a result of, among other things, current or future nonrecurring expenditures, and changes to input costs and exchange rates. Please refer to the Çöpler District Master Plan 2021 Technical Report Summary for other key metrics including detailed cash flows by year and net present value computations.

Çöpler Copper, Initial Assessment Case

The Çöpler Copper project (C2) has been developed to leverage off the copper mineralization within and adjacent to existing resource pits. Supporting the 2021 Çöpler Mineral Resource estimate an Initial Assessment has been prepared to analyse the impact of changes in processing method for the Çöpler Mineral Resource. The current project has two processing methods: a sulfide process plant and a heap leach oxide processing facility.

The sulfide plant includes the crushing, grinding, flotation and pressure oxidation to produce gold and small amounts of silver. The heap leach facility produces gold and small amounts of silver and copper.

The scenario for the Initial Assessment Case analysis includes additional processing units to recover copper from the sulfide Mineral Resource. The two processing units are:

- A Copper Concentrator producing a copper concentrate for sale and a pyrite concentrate to feed to the sulfide plant
- A Sodium Hydrosulfide (NaSH) copper recovery circuit to be installed in the current sulfide plant which will produce a copper concentrate for sale.

The copper concentrator with a capacity of 1.8 Mtpa and would make a copper concentrate for sale to smelters and a pyrite concentrate to be fed into the autoclaves in the sulfide plant. The pyrite concentrate would have a high gold content and also provide sulfur as a source of fuel for the autoclaves.

The Çöpler Mineral Resource has been selected for the Initial Assessment analysis, as the other Mineral Resources at the project do not have significant amounts of copper.

Implementation of the copper recovery options will require capital expenditures and will also provide opportunities for operational cost and productivity improvements. The Çöpler Copper Case shows the results of a shorter term analysis using the Reserve Case metal prices and the impact of the estimated capital and potential cost savings from economies of scale and reallocation of shared and fixed costs.

For both the Initial Assessment economic analysis, the Ardich and Cakmaktepe Mineral Reserve has been included in the cash flow analysis without change from the Reserve Case. This is to allow the analysis to quantify the impact of the copper concentrator and NaSH circuit and demonstrate the potential of the additional Mineral Resources.

A separate analysis of the Initial Assessment Case was prepared using only Measured and Indicated Mineral Resources (MI Case). Comparison of the initial years of the Initial Assessment and the MI Case showed only 1.4% of the material processed in the first nine years of the Initial Assessment is Inferred Mineral Resource. The majority of the Inferred material is processed in years 10 to 20 and does not exceed 50% of the total processing in any one year.

The Initial Assessment Case production is oxide of 41.8 Mt 1.26 g/t Au, 59.7 Mt at 2.45 g/t Au and 24.9 Mt at 0.50g/t Au and 0.2% Cu for a total of 126.4 Mt at 1.67 g/t Au. The gold production in the Initial Assessment Case is 5.4 Moz and 164 Mlb of copper. Copper is produced from all three processing streams. The impact of including the copper concentrator as a processing facility is to expand the Çöpler pit which ceases mining in 2043. Additional production in the Initial Assessment Case comes from feed of 1.8 Mtpa to the copper concentrator and also from additional sulfide and oxide processing feed that is exposed when the pit gets deeper. Total capital including contingency of 25% for the copper concentrator and the copper recovery circuit in the sulfide plant is $218M. The capital costs have an accuracy of +/- 50%.

The Initial Assessment Case shows an after-tax NPV at a 5% discount rate of $2.00 billion and the average AISC is $924/oz gold.

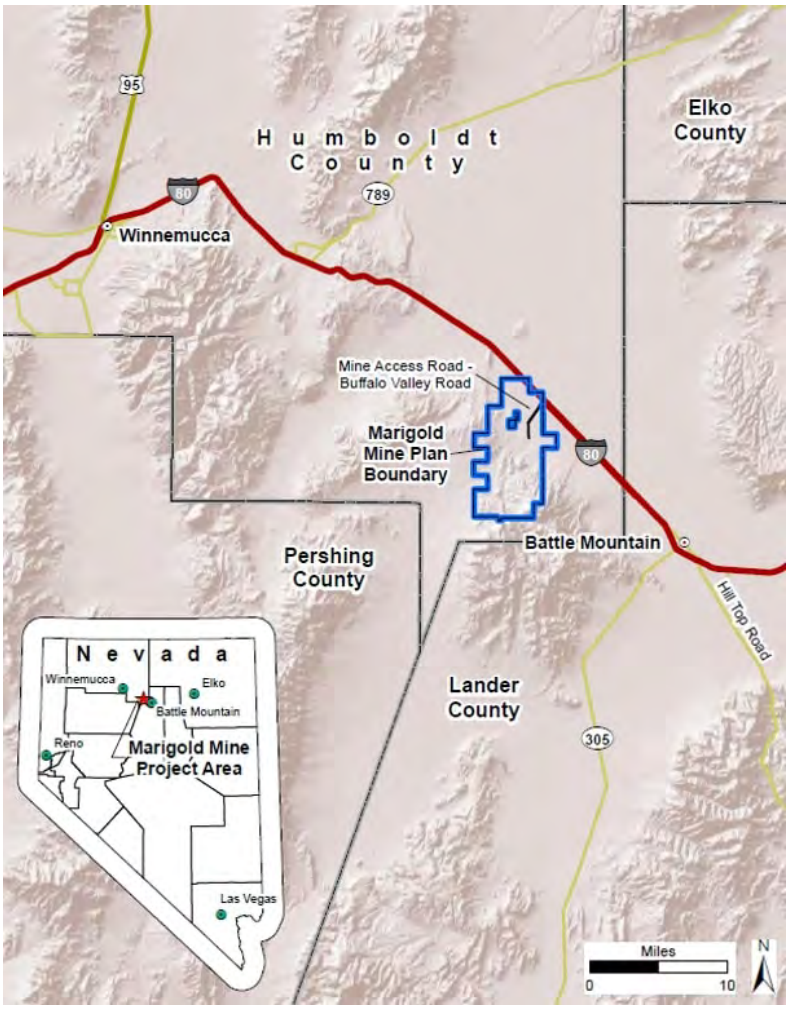
The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realized.

Marigold Mine, Nevada, United States

Marigold Mine is an open pit mining and processing operation located in Nevada, United States. SSR Mining holds a 100% interest in Marigold through its wholly owned subsidiary, Marigold Mining Company.

Property Description and Location

Marigold is located in southeastern Humboldt County, in the northern foothills of the Battle Mountain Range, Nevada, U.S. The mine is situated approximately 5 kilometers south–southwest of the town of Valmy, Nevada. Other nearby municipalities include Winnemucca and Battle Mountain, Nevada, which lie approximately 58 kilometers to the northwest and 24 kilometers to the southeast of the property, respectively.



The surface and mineral rights held by the Company at Marigold are comprised of fee owned real property, unpatented mining claims, and leasehold rights held with respect to unpatented mining claims, mill site claims and certain surface lands. Certain of the leases require the Company to make NSR royalty payments to the lessors and comply with other obligations, including completing work commitments or paying taxes levied on the underlying properties. The NSR royalty payments are based on the specific gold-extraction areas and are payable when the corresponding gold ounces are extracted, produced, and sold. The NSR royalty payments vary between 0% and 10.0% of the value of gold production, net of off-site refining costs, which equates to an annual average ranging from 3.7% to 10.0% and a weighted average of 7.8% over the life-of-mine. Mineral claims in Nevada are managed federally by the U.S. Bureau of Land Management.

The authorized Plan of Operations ("PoO") area for Marigold currently encompasses approximately 10,703 hectares, with approximately 3,296 hectares within the PoO permitted for mining-related disturbance. Land and mineral ownership within the PoO are within the corridor initially governed by the Pacific Railroad Act of 1862, and, as such, these areas generally have a "checkerboard" ownership pattern.

New Millennium, enabled by land acquisitions completed in 2016, 2018 and 2019, represents a low cost, high probability development opportunity. The New Millennium target area is comprised of six distinct zones which include East Basalt, Battle Cry, Antler, Section 6, L'il Gun and North Antler. In addition, exploration on the 100% controlled 8,900-hectare land package to the south of Marigold continues at the past producing Buffalo Valley, North Peak, and Trenton Canyon mines.

History

The first recorded gold production from the property occurred in 1938 when the Marigold Mining Company developed and operated an underground mine which came to be known as Marigold. Approximately 9,000 tonnes of ore, averaging about 6.85 grams of gold per tonne, was processed before World War II halted production. Several unsuccessful attempts were made to open and operate the mine before exploration activities began again in 1968. The property was further explored and developed by various companies and operations from 1968, with two million ounces of gold recovered from Marigold by mid-2009.

The Company acquired Marigold in April 2014 for total cash consideration of $268 million. In August 2015, Marigold mine acquired 2,844 hectares of adjacent land from Newmont Corporation. This land included previously mined areas known as the Mud pit, NW pit, and the Valmy pits. Marigold has now been in continuous operation for more than 30 years and poured the four millionth ounce in 2020.

Geological Setting, Mineralization, and Deposit Types

Marigold is located in north-central Nevada within the Basin and Range physiographic province bounded by Sierra Nevada to the west and the Colorado Plateau to the east. The western part of the North American continent has undergone a complex history of extensional and compressional tectonics from the Proterozoic through to the Quaternary. Predominantly Paleozoic rifting and basin subsidence led to the formation of thick (hundreds of meters) passive margin sedimentary sequences and repeated inter plate collisions caused accretion of arc related volcanics and ocean floor rocks, which were pushed together with the basin sediments to form fold and thrust belts. Subsequent extension related to subduction and back arc basin rifting resulted in the development of Basin and Range topography. Crustal thinning caused by the extension allowed the rise of magma close to the surface, which produced extensive and voluminous magmatism from the middle Eocene to late Miocene. Crustal extension with bimodal (mafic and felsic) volcanism occurred in the region from the late Miocene to the present day.

The property is in the Battle Mountain mining district on the northern end of the Battle Mountain-Eureka trend, a conspicuous lineament of sedimentary-hosted gold deposits. The Battle Mountain district hosts numerous mineral occurrences, including porphyry copper–gold, porphyry copper–molybdenum, skarn, placer gold, distal disseminated silver-gold, and Carlin-type gold systems. Gold at Marigold is currently mined from multiple deposits located on a >10-kilometer by 1.5-kilometer area. Depth of the mineralization ranges from the surface to about 250m for the oxide ore. The majority of individual mineralization zones at Marigold have coalesced into the Mackay pit.

The gold deposits at Marigold cumulatively define a north trending alignment of gold mineralized rock more than 8 kilometers long. A silver and base metal mineralizing event at Marigold includes a mineral association of chalcopyrite, argentiferous tennantite, galena, and sphalerite. Gold mineralizing fluids were primarily controlled by fault structure and lithology, with tertiary influence by fold geometry. The deposition of gold was restricted to fault zones and quartzite chert dominant horizons within the Valmy Formation and high permeability units within the Antler sequence. Gold mineralization was also influenced by fold geometry in the Valmy Formation.

Rocks within the Marigold mine area are oxidized to a maximum depth of approximately 450 meters. The redox boundary is not consistent throughout the Property and is substantially influenced by lithology. Shale, argillite, and siltstone units are frequently oxidized adjacent to pervasively oxidized quartzite horizons. Gold occurs natively in fractures in association with iron oxide.

Mining Operations

Marigold uses open pit mining methods at a life-of-mine sustained mining rate of approximately 250,000 tonnes per day. The mine conducts conventional drilling and blasting activities with a free face trim row blast to ensure stable wall rock conditions. Mining occurs on 15.2-meter benches. Loading operations are currently performed using one electric shovel and three hydraulic shovels. Waste and ore haulage is performed with a fleet of 300 tonne class haul trucks.

The Marigold geotechnical management plan includes highwall monitoring using three radar systems which provide full coverage for the Mackay pit, the mine's largest, and which can be deployed in smaller pits, if required. Routine monitoring of waste dumps, leach pads and inactive pits using INSAR data is performed by a third party monthly.

Infrastructure, Permitting and Compliance Activities

The infrastructure facilities at Marigold include ancillary buildings, offices and support buildings, access roads into the plant site, power distribution, source of fresh water and water distribution, fuel supply, storage and distribution, waste management and communications. Equipment maintenance is performed on site for all equipment. There are no contract mining operations on site.

The power supply for Marigold is provided by NV Energy Inc. via a 120 kV transmission line to site. Water for Marigold is supplied from three existing groundwater wells located near the access road to the Property. Marigold owns groundwater rights and collectively allows up to 3.134 million m^3 liters of water consumption annually. Water is primarily consumed by retention in the heap leach pad, evaporation, processing operations and dust suppression.

Marigold holds valid permits for all facets of the current mining operation as required by county, state, and federal regulations. The Company performs duties on leased lands pursuant to all federal and state requirements to maintain leases in good standing. The Company engages in concurrent reclamation practices and is bonded for all permitted features, as part of the Nevada permitting process.

Mineral Processing and Metallurgical Testing

Marigold uses an assay method that measures cyanide-soluble gold. This technique generates a value that represents the head grade of the ore in terms of the amount of gold in a finely ground sample that can be dissolved by a strong sodium cyanide solution. The gold content of the final solution is measured using atomic absorption ("AA").

All Marigold blasthole samples are assayed for cyanide-soluble gold. Samples from each ore polygon delineated by ore control are selected for fire assay based on the grade distribution for the polygon tonnage and targeting one sample per every 2,000 short tons of ore. Therefore, some samples have two assay values: an AuCN (cyanide soluble) value; and an AuFA (fire assayed) value. The ratio of AuCN:AuFA provides the theoretical maximum gold recovery that can be achieved.

Testwork has demonstrated that, generally, all ore at Marigold behaves similarly. The ratio of AuCN / AuFA is an important characteristic. A best-fit linear regression from approximately 155,000 pairs of fire assays (field AUFA in the database) and cyanide soluble assays (field AUAA in the database shows the AuCN / AuFA ratio is 0.8037:1 (~80% cyanide soluble gold), based on the most recent assessment in 2017.

Processing and Recovery Operations

Marigold processing plant and processing facilities combine run-of-mine ("ROM") heap leaching, carbon adsorption, carbon desorption and electro-winning circuits to produce a final precious metal (doré) product. All processing of ore, which is oxide in nature, is completed via ROM heap leaching. ROM ore is delivered to the leach pad by haulage truck and stacked in 6.1-meter to 12.2-meter lifts. At any given time, approximately 0.5 million square meters of pad area is being leached.

Barren leach solution (cyanide-bearing solution, very low in gold grade) is applied selectively to different areas of the heap leach pad. The barren leach solution is pumped to the leach pad and the pregnant solution (gold-bearing) from the leach pad is then recovered through a carbon in-column system, followed by stripping of metal values from carbon, electrowinning and smelting to yield a doré (containing gold and silver) suitable for sale.

From March 1990 through December 2021, gold recovery from the heap leach pad was 71.1%. The LOM actual leach pad recovery is 74.2% (including in-process gold inventory through December 2021).

See “Proven and Probable Reserve Estimates” and "Resource Estimates" in this Item 2 for further information on the mineral resources and mineral reserves for Marigold for the years ended December 31, 2021 and December 31, 2020, and see "Operating Statistics" in this Item 2 for further information on production of the Marigold operations for the years ended December 31, 2021, December 31, 2020 and December 31, 2019.

Exploration

After the purchase of Marigold was completed in 2014, SSR Mining completed a gravity survey in areas that had not been previously covered, with a main objective to delineate possible fluid conduits or feeder structures for the Marigold mineralization. After finalizing the purchase of the Valmy property in 2015, the Company expanded the geophysical gravity survey to include this new ground.

Drilling

The Company has conducted drilling and sampling throughout the Marigold property. As of December 31, 2021, a total of 9,323 drillholes for 1,940,438 meters of drilling had been completed on the property. SSR Mining also has undertaken a deep drilling program at Marigold that, to date, includes nine diamond drillholes to test for sulfide mineralization at depth. This drilling has been completed across the property to help understand the overall geology of the property and to target higher gold grade sulfide ores beyond the oxidation boundary.

Sampling, Analysis and Data Verification

Since 2014, all exploration samples from Marigold and the Valmy property are analysed at American Assay Laboratories (“AAL”), an ISO 17025 certified facility in Sparks, Nevada. AAL is independent from SSR Mining. All samples are subjected to first-pass fire assay (“FA”) determination with an atomic absorption (“AA”) finish and FA with gravimetric finish for over-limits. This is followed by a gold cyanide solution assay with an AA finish on samples that have FA values greater than or equal to 0.03 grams of gold per tonne.

Following the acquisition of Marigold and the adjacent Valmy property, the Company’s exploration personnel manually checked the entire drillhole database against the original documents for data entry errors. Less than 1% of the drillholes had any issues, and these were subsequently corrected. As an additional check, SSR Mining acquired the chip trays for 687 drillholes, pulps from 57 drillholes, and sample rejects from 66 drillholes, of which 5% were reviewed for lithology and alteration. The original logging was deemed accurate and was used to construct the lithological models.

The collar positions of 43 Valmy drillholes were verified using differentially corrected GPS methods. The results showed a maximum variance of 4 m in the X/Y planes (easting and northing) and < 1 m in the Z dimension (elevation). This error-shift is less than half the size of a resource model cell and is not material to any resulting estimate. The Valmy data was deemed accurate and precise, and appropriate for resource estimation purposes.

For data collected after April 2014, verification was completed as part of the generation of the mineral resources estimate for Marigold. Three technical issues were identified in the Marigold mineral resources database which have been resolved: (i) drillholes were missing downhole surveys; (ii) some samples were only assayed by cyanide soluble analysis and not by FA; and (iii) assay results for a high percentage of lower grade samples were recorded as 0.0 grams of gold per tonne.

Capital and Operating Costs.

The capital and operating cost estimates derived for Marigold are based on a combination of the data set forth in the Marigold 2021 Technical Report Summary and budgetary estimates and reflect the Company’s current estimates as of December 31, 2021.

Capital costs, exclusive of discretionary exploration, are estimated to be $359 million for the life of Marigold and are primarily composed of mine and plant equipment and the associated asset componentization. Estimated operating costs for mine operations include both cash and non-cash costs.

	Total LOM ($M)	5-Year Average per year ($/t)	LOM Average per year ($/t)
Mining	$ 1,469	$ 7.53	$ 7.18
Processing	373	1.57	1.82
Site Support	214	0.92	1.05
Operating Costs	$ 2,056	$ 10.01	$ 10.05

Capital costs and operating costs are provided for mineral property disclosure purposes in accordance with NI 51-102 and, generally, are non-GAAP mining company financial measures. See "Additional Mining Company Financial Information" in this Item 2 for more information.

Costs in individual years may vary significantly as a result of, among other things, current or future nonrecurring expenditures, and changes to input costs and exchange rates. Please refer to the Marigold 2021 Technical Report Summary for other key metrics including detailed cash flows by year and net present value computations.

Trenton Canyon and Buffalo Valley

The Trenton Canyon project is located approximately 4 km south of New Millennium at Marigold and is one of three historically producing mines on a 100% controlled 8,900-hectare parcel acquired from Newmont Corporation in 2019. The Buffalo Valley project is located approximately 10 km south-west of New Millennium.

Exploration work on the Trenton Canyon and Buffalo Valley properties consists of drilling, geophysical surveying, remote sensing, geochemical surveying, and mapping.

Gold mineralization at Trenton Canyon is structurally controlled with significantly less dissemination than at Marigold. The net result of this change in mineralization style is higher gold grades in a smaller volume of mineralized rock at Trenton Canyon.

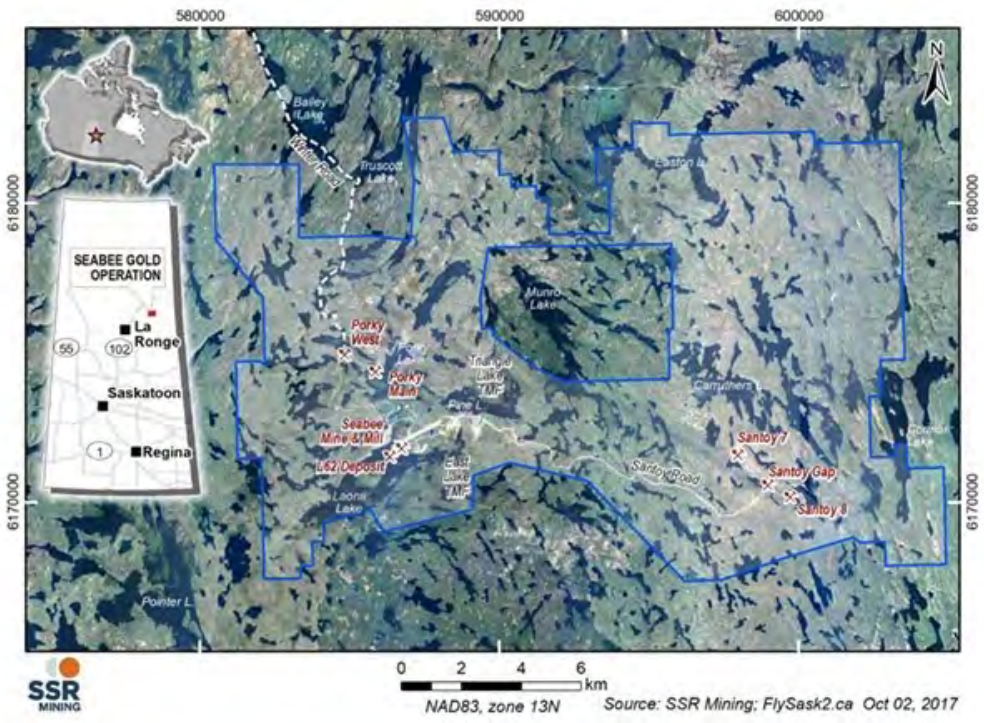
SSR Mining has completed 13 deep exploration diamond core holes on Trenton Canyon totaling 10,131 meters, and 249 reverse circulation drillholes for 73,165 meters. As of December 2021, one diamond core hole has been completed at Buffalo Valley to a depth of 598 meters.

Seabee Gold Operation, Saskatchewan, Canada

The Seabee Gold Operation ("SGO") is an underground gold mining and milling operation, located in Saskatchewan, Canada. SSR Mining holds a 100% interest in the property through its wholly-owned subsidiary, SGO Mining Inc.

Property Description and Location

SGO is located at the north end of Laonil Lake, approximately 125 kilometers north-east of the town of La Ronge, Saskatchewan, Canada. Ore is currently produced from the Santoy underground mine from a ramp access/surface portal and is hauled 14 kilometers to the mill located at the Seabee site. A second underground mine, also having ramp access, was operated from 1991–2018 at Seabee. All ore is processed at the Seabee mill facility, which is located close to the now-closed Seabee mine and has been in operation since 1991. The Seabee mill facility produces gold doré bars that are shipped to a third-party refinery.



The mine is a remote operation. SGO is accessible by fixed-wing aircraft from the town of LaRonge and during the winter months, typically January through the end of March, a 60 kilometers winter road is also built between the mine site and Brabant Lake, approximately 120 kilometers north of La Ronge.

SGO is comprised of seven mineral leases and 102 mineral claims that cover an area of approximately 62,158 hectares, including the Fisher Property rights. SGO is subject to production and NSR royalties payable to third parties, including certain royalty payments to the Province of Saskatchewan, which are calculated on 10% of net operating profits and are payable once capital and exploration costs are recovered. The other NSR royalty payments are based on specific gold production and/or sales and vary between 1.0% and 3.0% of the value of gold production and/or sales, as applicable.

SGO currently has a valid surface lease with the Province of Saskatchewan, which was amended in March 2010. This surface lease provides land surface rights necessary to carry out the mining, milling and associated operations at the SGO. The existing surface lease is in effect from March 2010 to its expiry date of May 31, 2040.

History

The Laonil Lake region has been intermittently explored since the 1940s, with the first gold discovery made by prospectors in 1947, with detailed drilling and exploration of the property constituting the SGO conducted from 1947 until construction of the Seabee mill was initiated in the summer of 1990. Mill construction was completed in late 1991, and mining commenced in December 1991. Exploration and production expanded into the Santoy segment of the property through the early 2000s.

The Company acquired the SGO on May 31, 2016. SGO has produced over 1.6 million ounces of gold since production began in 1991. Production has steadily increased to achieving 84 koz, 96 koz and 112 koz of gold during 2017, 2018 and 2019, respectively. A drop in gold production was experienced in 2020 due to impacts from the COVID-19 pandemic. In 2021 Seabee mined and processed record tonnes delivering record production of 119 koz.

Geological Setting, Mineralization, and Deposit Types

Northern Saskatchewan forms part of the Churchill Province of the Canadian Shield and has been subdivided into a series of litho-structural crustal units, of which the SGO is located within the Glennie domain of the Proterozoic Trans-Hudson Orogen. The Glennie domain is wedge shaped and characterized by arcuate belts of Lower Proterozoic supracrustal rocks separated by granitoid gneisses and granitoid intrusions. It is bounded on the west by the north–north-east trending Stanley shear zone and bounded on the east by the north–south trending Tabbernor fault zone. To the south, Phanerozoic sedimentary rocks cover the Glennie domain.

Gold mineralization at the Santoy mine occurs in gold-sulfide-chlorite-quartz veins in the shear zones, near or in the granodiorite and granite sills. The gold mineralization throughout the SGO exhibits complex geometrical patterns attributed to a combination of structural and/or lithological controls.

Mining Operations

There is currently one operating mine as part of the SGO, that being the underground Santoy mine, with ore hauled to the surface and then 14 kilometers to the mill located near the old Seabee mine.

Access underground at the Santoy mine is provided from the surface via a main ramp with sublevels spaced between 17–20 meters vertically. Mining is carried out using sublevel open stoping mining methods with backfill, with stopes filled with a combination of rock fill and cemented rock fill, mined in a bottom-up mining sequence. Sill pillars are mined on retreat once the stopes below and above have been mined.

Infrastructure, Permitting and Compliance Activities

The major infrastructure at the SGO site includes roads, an airstrip, powerhouse and electrical distribution system, mill buildings and related services facilities, portal and ventilation raises, fuel storage, explosive storage, water supply and distribution, water management ponds and water treatment plant, tailings management facilities, administrative buildings and camp accommodation.

There are currently two tailings management facilities (“TMF”) that are being used by the mill; the East Lake TMF and the Triangle Lake TMF. Tailings deposition alternates between the two TMFs where winter deposition occurs in the Triangle Lake TMF and summer deposition is in the East Lake TMF. The remaining storage capacities of both facilities, based on the planned production rates, will potentially reach maximum capacity towards the end of 2030. To ensure that water treatment volumes are attained, a water treatment plant was constructed at East Lake TMF.

SGO holds an Approval to Operate Pollutant Control Facilities issued by the Province of Saskatchewan’s Ministry of Environment. This approval, which is a multi-year approval issued in October 2019, is valid until September 2022. Renewal of this approval is triggered through an application submitted to the Ministry of Environment at least 90 days prior to its expiry date. Subject to the terms and conditions of this approval, SSR Mining is authorized to operate all pollutant control facilities associated with the operation’s mine and mill.

Mineral Processing and Metallurgical Testing

SGO was originally developed based on bench-scale metallurgical testwork that characterized the Seabee deposit as a lode gold style of mineralisation that was free milling and that would respond to a standard flow sheet employing gravity recovery and cyanidation.

Historical recovery at the Seabee mill was in the 94%–96% range, with routine low levels of losses both in the tailings solids and solution. Future recovery estimates are 98%, based on the recent mill performance with recoveries of more than 98%. These improvements are attributed to the better condition of the leach equipment as well as the restored leach capacity.

Processing and Recovery Operations

Material has been processed for 30 years in the mill constructed immediately adjacent to the old Seabee mine. The operation was initially developed and operated on diesel power and later connected to the Saskatchewan grid power in 1992. The initial capacity of the mill was 500 tonnes per day, which was later expanded to a nameplate capacity of 1,000 tonnes per day, with the addition of a third grinding mill in 2005. The mill flow sheet is a conventional crushing and grinding circuit employing gravity concentration and cyanide leaching and carbon-in-pulp for recovery and production of doré gold on site.

Capital projects have included the addition of the primary ball mill, addition of a second Knelson concentrator and Acadia gravity gold recovery. The current Seabee process plant capacity is nominally 1,320 tonnes per day, or 1,240 tonnes per day annual average. The Seabee operation is characterized by coarse gold making the gravity recovery circuit critical to the overall gold recovery of the process plant. In recent years, with incorporation of gravity circuit improvements including the Acacia circuit, gold recovery has improved and is typically 98%.

See “Proven and Probable Reserve Estimates” and "Resource Estimates" in this Item 2 for further information on the mineral resources and mineral reserves for the SGO for the years ended December 31, 2021 and December 31, 2020, and see "Operating Statistics" in this Item 2 for further information on production of the SGO operations for the years ended December 31, 2021, December 31, 2020 and December 31, 2019.

Exploration

Historically, several rock and soil sampling programs have been executed on the SGO property. Over 1,200 surface rock samples and nearly 7,000 soil samples were collected between 1985 and 1988, with a further nearly 2,000 surface rock samples and over 7,000 soil samples collected between 1990 and 2013. Early samples were largely collected around the Laonil Lake, Porky Lake and Pine Lake areas, but the focus of exploration later shifted to the Santoy area.

Upon its acquisition of the SGO, SSR Mining performed a review of all exploration activities conducted on the property by previous operators. In addition to the data review, the Company executed an exploration program that included detailed mapping of the Herb West and Santoy Lake areas, as well as the collection of accompanying soil samples to be submitted for gold assay. Limited anomalous occurrences were identified from grab and soil sample results, and no new showings or gold in soil trends were recognized. The Company plans to map additional regions to the north and east within the Herb Lake area as additional shear zones are targeted. The Company has also planned further exploration in prospective areas east and west of the Santoy Lake area.

The objective of ongoing exploration conducted by SSR is to delineate, increase, and upgrade Mineral Resources. Underground drilling since 2016 focused on the Santoy 8 and 9 veins and the Gap Hangingwall and Santoy Hangingwall veins.

At the SGO, the three-year budget calls for an average of 80 km of combined surface and underground drilling per year between 2022 and 2024. This drilling is for testing of targets to maximize Mineral Resource potential at the mine as SSR develops its long-term strategy for continuing to replenish its 3–5 year reserve inventory in the same way it has for more than 20 years, with particular focus on bringing higher grade zones on stream to displace lower tenor inventory that currently occurs in the schedule from 2024 onwards.

Drilling

In total exploration at the SGO has comprised of surficial geochemical sampling, airborne and ground geophysical surveys and extensive drilling. To date, drilling completed on the SGO property (by SSR and previous operators) includes 2,324 surface drillholes totaling 496,197 meters and 6,139 underground drillholes totaling 1,161,184 meters.

Sampling, Analysis and Data Verification

All drill samples in respect of the Seabee Gold Operation underground drilling program and some samples from the surface program were assayed by our onsite non-accredited assay laboratory, which is not independent from SSR Mining. Surface drilling samples not analyzed by our onsite assay laboratory were analyzed at TSL Laboratories Inc. ("TSL") in Saskatoon, Saskatchewan, which also serves as the QAQC laboratory for our onsite lab. Duplicate check assays were conducted at site as well as at TSL, which is independent from SSR Mining. Mean results of the spot checks were consistent with those reported. Sampling interval was established by minimum or maximum sampling lengths and geological and/or structural criteria.

SGO site lab typically prepares two hundred-gram samples that were pulverized until greater than 80 percent passed through a 200-mesh screen. Thirty-gram pulp samples were then analyzed for gold by fire assay with gravimetric finish (0.01 g/t gold detection limit). TSL prepares a minus-200 mesh pulp (95% passing) weighing 250 grams from a minus 10 mesh coarse crush reject. Fire assay with Atomic Absorption finish was completed on a 30-gram aliquot to produce gold analytical results with a 0.003 g/t gold detection limit. Fire assay with gravimetric finish was prepared on those samples with greater than 3 g/t gold.

All regional exploration's drill and surface samples are analyzed at TSL Laboratories Inc. in Saskatoon, Saskatchewan. Duplicate check assays are conducted at TSL and the Saskatchewan Research Council, which are independent from SSR Mining. Mean results of the spot checks were consistent with those reported. Sampling interval was established by minimum or maximum sampling lengths and geological or structural criteria.

Capital and Operating Costs.

Capital costs are estimated to be $162 million and are primarily composed of mine and plant equipment and the associated asset componentization. Estimated operating costs for mine operations include both cash and non-cash costs.

Cost Component	**US$/t milled**
Mining	$ 46
Surface Haulage	6
Milling (& Fixed Plant)	35
General & Admin	68
Total Operating Expense	$ 155

Capital costs and operating costs are provided for mineral property disclosure purposes in accordance with NI 51-102 and are mining company financial measures. See "Additional Mining Company Financial Information" in this Item 2 for more information.

Costs in individual years may vary significantly as a result of, among other things, current or future nonrecurring expenditures, and changes to input costs and exchange rates. Please refer to the Seabee 2021 Technical Report Summary for other key metrics including detailed cash flows by year and net present value computations.

Fisher Property

SSR Mining announced the proposed acquisition of Taiga Gold Corp. in December 2021. Upon closing, expected in the first half of 2022, SSR Mining will own 100% of the Fisher project. The Fisher property is contiguous to the SGO leases southeast of the Santoy mine.

Gold mineralization on the Fisher property is found in four major areas, and within 16 kilometers of the Santoy mine. Mineralization observed on the Fisher property to date is similar to that of Santoy, where disseminated to coarse gold-bearing sheeted quartz veins occur along major ductile shear zones. Like the SGO, the Fisher property is hosted within the Pine Lake greenstone belt, which is dominated by supracrustal rocks, including mafic volcanics, sediments, mafic intrusions and a range of felsic intrusions, of which some are directly associated with gold-bearing quartz veins. The southern extension of the Santoy shear zone onto the Fisher property is an underexplored gold

target that occurs across a 10-kilometer-wide stratigraphic package and is considered as part of future exploration on the property.

Puna Operations, Jujuy Province, Argentina

The Puna property ("Puna") comprises the Chinchillas property and the Pirquitas property, both of which are located the Jujuy Province in far north Argentina. Puna is 100% owned by SSR Mining through its subsidiary Puna Operations Inc.

Property Description and Location

The Chinchillas property is located in the Puna region of northwestern Argentina, in the province of Jujuy, department of Rinconada, approximately 290 kilometers northwest of San Salvador de Jujuy, the capital of Jujuy Province. The property is centered at elevations ranging from 4,000–4,200 meters above sea level. The Pirquitas Property is also located in the Rinconada Department in the Province of Jujuy, approximately 45 kilometers southwest of the Chinchillas Property and approximately 335 kilometers northwest of San Salvador de Jujuy. Activities at the Property are centered at elevations of between 4,000–4,450 meters above sea level.

The Chinchillas property is composed of three contiguous claims, totaling 2,043 hectares, and the Pirquitas operation includes surface rights covering an area of approximately 7,500 hectares, which is used for purposes such as housing, infrastructure facilities, processing facilities, proposed tailings facility and other facilities to support mining operations for Puna. Ore from the Chinchillas mine is transported to the Pirquitas plant for processing. The Chinchillas mine is located approximately 45 kilometers from the Pirquitas plant.

Concentrates produced at Puna are subject to a maximum 3% 'mouth of mine value' royalty that is payable to the Province of Jujuy. This royalty payment is based on the net recoverable value of the contained metals less certain operating costs.

History

Chinchillas was first prospected and mined in small scale in the eighteenth century by Jesuit missionaries. An initial mining concession was granted in 1956, with small scale production beginning after 1968 through 1982. Exploration and sampling were conducted on and off at Chinchillas between 1982 and the mid-2010s. Between the 1930s and 1995, the area of the Pirquitas mine had multiple small mining operations to recover silver and tin from placer and vein deposits, with comprehensive mineral exploration conducted on the property between 1995 and 2000. The Pirquitas mine was formally inaugurated in April 2009 and commercial production started in December of that year until open pit ore mining was completed in mid-January 2017. The Pirquitas processing plant has been in continuous operation since 2009.

The Company entered into a joint venture in October 2015 comprising the Chinchillas property, the Pirquitas pit and the Pirquitas operations. The agreement included an 18-month pre-development period to advance Chinchillas, including the infill drilling, engineering and environmental studies, and permitting, with an option for the Company to assume full ownership, which the Company exercised on March 31, 2017.

Geological Setting, Mineralization, and Deposit Types

The Chinchillas and Pirquitas properties are considered part of the Bolivian tin-silver–zinc belt that extends from the San Rafael tin-copper deposit in southern Peru into the Puna region of Jujuy and are located in the Puna geological belt. Deposits with similar environments and styles of mineralization include San Cristóbal, Potosí, and Pulacayo. These deposits are generally characterized by intrusion of dacite dome complexes with mineralization hosted in shears and breccias within the dacite domes and / or within shears and breccias within the host rocks. More rarely, as in the case of the Chinchillas Property and San Cristóbal, the deposits also contain disseminated flat lying manto bodies within sedimentary and pyroclastic rocks that are cut by the 'feeder' shears. All the deposits are known to have large vertical extents.

Significant silver-lead-zinc mineralization occurs in four main areas at the Chinchillas Property deposit: the Silver Mantos and Mantos Basement zones in the west part of the Project, and the Socavon del Diablo and Socavon Basement zones in the east part.

Mining Operations

The Chinchillas deposit is mined as a conventional open pit operation. Most of the in-pit haulage for both ore and waste is carried out using 100 tonne haul trucks. Ore is mined in five-meter benches and stockpiled in a staging area close to the pit. In the staging area, ore is loaded onto 35 tonne road trucks to be transported to the crusher at the Pirquitas operation. Throughout the mining operation, low grade ore is stockpiled near the pit rim to be processed at the end of mine life. Waste rock will be mined and hauled to two major on-site rock storage facilities based on their geochemical characteristics.

The nearest community to Chinchillas is the village of Santo Domingo, and nearest to Pirquitas is the village of Nuevo Pirquitas. Basic amenities are supplied from Susques and Abra Pampa, while supplies for mining are obtained through the provincial capital of San Salvador de Jujuy, which has an airport with daily commercial air service to Buenos Aires.

Infrastructure, Permitting and Compliance Activities

Infrastructure at Chinchillas is limited. Electricity onsite at Chinchillas is supplied along existing power lines from the generators at Pirquitas. Water supply for human consumption comes from bottled water, and water for mining operations is drawn from wells.

Pirquitas has been a permitted commercial mine and processing facility, operated by SSR Mining since December 2009, with existing infrastructure that includes a processing plant, a permitted tailings facility, a fully serviced workers camp sufficient for approximately 670 personnel, a communications system including cellular and intranet access, fully serviced office buildings, and wastewater treatment facilities, organic waste landfill and a recycling center. Electricity is produced from natural gas at the Pirquitas site. Water supply is from a site known as San Marcos, which is located within the property a short distance downstream from where the Pirquitas River drains into the Collahuaima River. Domestic water is pumped from a diversion upstream of the open pit for use at the camp.

Government permits required to conduct exploration, drilling and processing at Puna have been obtained.

Mineral Processing and Metallurgical Testing

The metallurgical testing of Chinchillas ore types commenced in 2013 and continued until 2016. The first testwork was focused on silver recovery by both leaching and flotation methods with flotation proving to be superior at this early stage. The second program continued process development of flotation into separate lead/silver and zinc concentrates. The third testwork campaign was designed to advance the flotation process and test specifically these ore types to the Pirquitas mill flow sheet.

The Pirquitas process plant operating performance since commencement on Chinchillas ores is used to provide the concentrate grade recovery and mass pull relationships.

Processing and Recovery Operations

The Pirquitas processing plant consists of crushing grinding and froth flotation to produce 2 products, a silver/lead and a zinc concentrate. These 2 product concentrates are bagged separately in one tonne bags and transported to Buenos Aires by truck for export to smelters. The Pirquitas process plant has continued to improve performance from the expected 4,000 tonnes per day feed capacity to 4,500 tonnes per day achieved in 2021.

See “Proven and Probable Reserve Estimates” and "Resource Estimates" in this Item 2 for further information on the mineral resources and mineral reserves for Puna for the years ended December 31, 2021 and December 31, 2020, and see "Operating Statistics" in this Item 2 for further information on production of the Puna operations for the years ended December 31, 2021, December 31, 2020 and December 31, 2019.

Exploration

At Chinchillas, surface exploration programs included detailed mapping with a special emphasis on structures, rock chip sampling, trenching, soil sampling and talus sampling. These programs identified the major structural zones, the strong east–west control on basin formation, and new mineralized target areas. Work has included geophysical surveys IP ("Induced Polarization")/Resistivity, Controlled-Source Audio-Magnetotelluric Technique ("CSAMT"), Magnetics). Five drilling programs constituting approximately 50,000 meters of drilling were conducted at the Chinchillas property.

At Pirquitas, comprehensive mineral exploration was conducted on the property, including geological mapping, geophysical surveying (44 line-kilometers of ground magnetics and 19.2 line- kilometers of induced polarization surveying), underground rock sampling and multiple programs of RC and diamond drilling.

The Granada target area is at the intersection of the Potosi vein and Cortaderas vein-breccia in San Miguel Pit. The Potosí Vein is a west-northwest oriented steeply dipping vein. The Cortaderas Vein gives outcrops at the south slope of the Cortaderas Valley around 500 m north of the San Miguel Open Pit and oriented east-west with a dip direction around 60° to the southwest. Colquechaca and Blanca Veins are located slightly north of Potosi, strike both northwest and southeast and variably dip steeply to the north and south.

In 2019–2020, the objective of the deep Granada drill program was to test the theorized intersection between the south west dipping Cortaderas vein breccia and the steeply north-dipping Potosi vein, located at depth beneath the San Miguel pit. Three HQ drill holes were completed between October 6, 2019 and January 31, 2020 and the total length drilled was 3,430 m. Results from the Granada drilling program intersected the two different mineral compositions that correspond with historically described veins. Mineralization is commonly filling open spaces as fracturing, brecciation, and faulting, usually as massive or semi-massive veins or veinlets, they have widths ranging commonly from 5–30 cm, and range up to 3.5 m. The Granada target was not encountered at the anticipated depth but the program did identify significant intersections of gold values below the elevation of previous mining within the San Miguel open pit (~4,000 m). The gold values are commonly associated with elevated concentrations of Ag, As, Bi, Cu, and Sn.

Drilling

An early drilling program (before SSR, 2008), was effectively conducted in two phases, with the transition being marked by a change in analytical laboratories from American Assay Laboratories ("AAL") to the SGS Chile laboratory partway through its drilling program. RC drillholes AR 001-AR 092 and diamond core drillholes DDH 001-DDH 042 were analyzed by AAL, RC drillholes AR 093-AR 164 and diamond core drillholes DDH 043-DDH 069 were analyzed by SGS Chile. Both analytical labs took possession of the samples at Pirquitas and were in custody of them throughout the sample preparation and analysis steps (including sample transportation from site to the respective analytical laboratory). AAL set up sample preparation facilities on-site at Pirquitas whilst SGS Chile transported the samples to their analytical laboratory in Salta, Argentina. Each laboratory implemented QC programs that were reviewed and monitored by Sunshine Argentina and an independent consultant.

Alex Stewart is the primary laboratory and ALS in Peru ("ALS") is used as the secondary laboratory for check samples. All samples are tested for a suite of 39 elements including silver, lead and zinc by a four-acid digestion method and analysis by Inductively Coupled Plasma atomic emission spectroscopy ("ICP") (method ICP-MA-39). Silver greater than 200 parts per million (ppm) is assayed by fire assay using a 50 g sample with gravimetric finish (method Ag4A-50). Lead and zinc greater than 10,000 ppm are re-assayed by an oxidizing acid digestion for ore grade material and reading by ICP (method ICP-ORE).

ALS is used as secondary laboratory by method ME-ICP61 based on a four-acid digestion and reading by ICP. Samples greater than one percent lead or zinc are re-tested using ore grade method Pb-OG62 and Zn-OG62. Samples greater than 100 ppm silver are re-assayed by fire assay with gravimetric finish (method Ag-GRA22).

Sampling, Analysis and Data Verification

No material sample bias was identified by the qualified persons during the review of the drill data and assays. Observation of the drill core during the site visits and inspection and validation of the data collected convinced the qualified persons that the drill data are adequate for the estimation of measured, indicated and inferred mineral resources.

Capital and Operating Costs.

Total capital expenditure, exclusive of discretionary exploration, is estimated to be $47 million which is primarily composed of mine and plant equipment, tailings storage facility expansions and asset componentization. Estimated operating costs for mine operations include both cash and non-cash costs.

Description	Total ($M)	LOM Average ($/t milled)
Mining Costs	$ 110	$ 15.01
Processing Costs	183	24.95
G&A Costs	93	12.71
Total	$ 387	$ 52.67

Capital costs and operating costs are provided for mineral property disclosure purposes in accordance with NI 51-102 and are mining company financial measures. See "Additional Mining Company Financial Information" in this Item 2 for more information.

Costs in individual years may vary significantly as a result of, among other things, current or future nonrecurring expenditures, and changes to input costs and exchange rates. Please refer to the Puna 2021 Technical Report Summary for other key metrics including detailed cash flows by year and net present value computations.

Exploration and Development

Turkey Exploration

SSR Mining owns 30% of Tunçpınar Madencilik Sanayi ve Ticaret Anonim Şirketi ("Tunçpınar") operated by Lidya and 70% of Bakırtepe Madencilik Sanayi ve Ticaret Anonim Şirketi ("Bakırtepe") which is operated by SSR Mining. Bakırtepe includes the Copper Hill exploration target.

Copper hill is in the Black Sea region of Turkey and is a priority target of the Company's exploration program.

Drilling at Copper Hill (Bakırtepe) commenced in April 2020, with eight diamond drill holes totaling 3,181 meters. Seven of the eight holes intersected sulfide (chalcopyrite) copper mineralization. To-date, 35 diamond drill holes, totaling 10,829 meters have been completed. The northwest-southeast trending mineralized zone has been identified over a strike length of at least 450 meters with a width of 180 meters and a depth extent of at least 200 meters. Copper Hill sits within the package of exploration leases known as Kazıkbeli. The Lidya Mining Exploration team discovered Bakırtepe and undertook the preliminary exploration activities on behalf of the joint venture with the Company. Site activities are now being transitioned to the SSR Mining Exploration and Project Development teams.

Amisk, Canada Exploration

The Amisk property is 39,880 hectares (and 126 claims) with extensive Proterozoic-volcano-sedimentary rock assemblages that are prospective for gold-silver epithermal, gold-rich volcanogenic massive sulfide and orogenic gold deposits.

In the Amisk property the West Channel and Black Diamond trends occur along regional-scale ductile shear zones that range from 5 to 50 meters in orthogonal width. Intermediate volcanic and volcaniclastic rocks core much of these trends with lesser meta-volcanic, meta-sedimentary and gabbro packages occurring in proximity to the high-strain corridors. Alteration assemblages of sericite, iron-carbonate and silicification dominate the regional shear zones. Localized chlorite and diaspore occurrences are diagnostic and associated with auriferous quartz veins at the Monarch target area. Arsenopyrite is the most common sulfide mineral associated with this vein-hosted gold mineralization. Pyrite, chalcopyrite and pyrrhotite are also present, but generally to a lesser degree. Based on visual observations, Sulfide content related to gold mineralization can range from 1%-15%, with most zones hosting 3-5% total sulfide. Coarse visible gold is relatively uncommon on the property and is presently identified at the Raine-Walker, TCA and Black Diamond targets to-date.

Pitarrilla, Mexico Exploration

The Pitarrilla project is a wholly owned silver project located within the Municipality of Santa María del Oro and Indé, on the eastern flank of the Sierra Madre Occidental mountain range in the central part of Durango State, Mexico. The project is held by the Company's wholly owned subsidiary, SSR Durango, S.A. de C.V.

On January 12, 2022, the Company entered into an agreement with Endeavor Silver Corp. ("Endeavor Silver") to sell the Pitarrilla project. The transaction is expected to close in the first half of 2022. Until closing, Pitarrilla will be maintained in good standing by the Company.

San Luis, Peru Exploration

The San Luis project is a wholly owned high-grade gold-silver project located in the Ancash Department of central Peru. The project is held by the Company's wholly owned subsidiary, Reliant Ventures S.A.C.

In September 2012, Peru's Ministry of Mines and Energy approved the EIA for the mining operation of the Ayelén deposit, completing a significant milestone for the San Luis project. Based on the preliminary and early works the Company conducted in respect of the project in 2017, the EIA now has no expiry date.

The San Luis project includes several vein systems across an area of land whose surface rights are held by two local communities: Ecash and Cochabamba. The execution of the San Luis project requires land access and use negotiations to be completed with both communities. Exploration activities were successfully undertaken on land belonging to the Ecash community in 2021 and the company plans to extend exploration activities onto Cochabamba lands in 2022.

Qualified Persons

The Technical Report Summaries were prepared by OreWin, an independent mining consultancy based in Australia, and the following contributors, each of whom is an independent Qualified Person for purposes of Subpart 1300 of Regulation S-K and NI 43-101:

- In respect of the Çöpler District Master Plan 2021 Technical Report Summary, Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin as Technical Director - Mining, was responsible for the overall preparation, the Mineral Reserve estimates, Sections 1 to 5, Sections 10, Section 12 to 25; and Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3, Section 6 to 9, Section 11, Sections 22 to 25.

- In respect of the Marigold 2021 Technical Report Summary, Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin as Technical Director - Mining, was responsible for the overall preparation, the Mineral Reserve estimates, Sections 1 to 5, Sections 10, Section 12 to 25; and Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3, Section 6 to 9, Section 11, Sections 22 to 25; OreWin Pty Ltd was responsible for the preparation of Sections 1 to 25.

- In respect of the Seabee 2021 Technical Report Summary, Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin as Technical Director - Mining, was responsible for the overall preparation, the Mineral Reserve estimates, Sections 1 to 5, Sections 10, Section 12 to 25; and Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3, Section 6 to 9, Section 11, Sections 22 to 25; OreWin Pty Ltd was responsible for the preparation of Sections 1 to 25.

- In respect of the Puna 2021 Technical Report Summary, Gregory Gibson, BSc (Mining), SME(4134135), employed by SSR Mining as Vice President Americas Operations, was responsible for the preparation of Sections 1 to 25; Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin as Technical Director - Mining, was responsible for the overall preparation and the Mineral Reserve estimates, Sections 1 to 5, Sections 10, Section 12 to 25; Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3, Section 6 to 9, Section 11, Sections 22 to 25; OreWin Pty Ltd was responsible for the preparation of Sections 1 to 25.

Bernard Peters, an independent Qualified Person, has approved the 2021 mineral reserves, and Sharron Sylvester, an independent Qualified Person, has approved the 2021 mineral resources included in this Annual Report related to the Technical Report Summaries.

Additionally, Karthik Rathnam, a Qualified Person employed by SSR Mining as Manager Resource Geology, has approved the mineral resources and reserves included in this Annual Report in respect of the Pitarrilla, Mexico and San Luis, Peru exploration projects, and Cengiz Demirci, a Qualified Person employed by SSR Mining as Vice President, Exploration, has approved the mineral resources and reserves included in this Annual Report in respect of the Amisk, Canada exploration project.

OreWin is not affiliated with SSR Mining and, other than Gregory Gibson, Karthik Rathnam and Cengiz Demirci, none of the Qualified Persons identified above are employees of, or otherwise affiliated with, SSR Mining or any of its subsidiaries.

Internal Controls over the Mineral Reserves and Mineral Resources Estimation Process

The Company has internal controls over the mineral reserves and mineral resources estimation processes that result in reasonable and reliable estimates aligned with industry practice and reporting regulations. Annually, qualified persons and other employees review the estimates of mineral reserves and mineral resources, the supporting documentation, and compliance to the internal controls, and, based on their review of such information, recommend approval to use the mineral reserve and mineral resource estimates to our senior management. The Company's controls utilize management systems including but not limited to, formal quality assurance and quality control protocols, standardized procedures, workflow processes, supervision and management approval, internal and external reviews and audits, reconciliations, and data security covering record keeping, chain of custody and data storage.

The Company's systems also cover exploration activities, sample preparation and analysis, data verification, mineral processing, metallurgical testing, recovery estimation, mine design and sequencing, and mineral reserve and resource evaluations, with environmental, social and regulatory considerations. The Company's quality assurance and control protocols over sampling and assaying of drill hole samples include insertion of blind samples consisting of standards, blanks, and duplicates in the primary sample streams, as well as selective sample validation at secondary laboratories.

These controls and other methods help to validate the reasonableness of the estimates. The effectiveness of the controls are reviewed periodically to address changes in conditions and the degree of compliance with policies and procedures. Refer to Item 1A. "Risk Factors" for discussion of risks associated with our estimates of mineral reserves and mineral resources.

Proven and Probable Reserve Estimates

Proven and probable Mineral Reserves are based on extensive drilling, sampling, geological modeling, and metallurgical testing from which economic feasibility has been determined. The price sensitivity of Mineral Reserves depends upon several factors including grade, metallurgical recovery, operating cost, waste-to-ore ratio and ore type. Metallurgical recovery rates vary depending on the metallurgical properties of each deposit and the production process used. The Mineral Reserve tables below list the average metallurgical recovery rate for each deposit, which takes into account the several different processing methods to be used. The cut-off grade, or lowest grade of mineralized material considered economic to process, varies with material type, metallurgical recoveries and operating costs.

The proven and probable Mineral Reserves presented herein are estimates based on information available at the time of calculation. No assurance can be given that the indicated levels of recovery of gold, silver, lead, zinc, and copper will be realized. Ounces of gold or silver, or pounds of copper, lead or zinc in the proven and probable Mineral Reserves are calculated without regard to any losses during metallurgical treatment. Mineral Reserves estimates may require revision based on actual production experience. Market price fluctuations of gold, silver, lead, zinc, and copper as well as increased production costs or reduced metallurgical recovery rates, could render proven and probable Mineral Reserves containing relatively lower grades of mineralization uneconomic to exploit and might result in a decrease in actual recovery as compared to the Mineral Reserves reported herein.

The Mineral Reserves presented below as of December 31, 2021 have been prepared in accordance with the U.S. Securities and Exchange Commission (SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300). Mineral Reserves metal prices used for preparation of the 2021 report, which were selected, in each case, by the Qualified Persons that prepared the 2021 Technical Report Summary for each property, are: $1,350 per gold ounce, $18.50 per silver ounce, $0.90 per lead pound, $1.05 per zinc pound, and $3.30 per copper pound unless otherwise stated.

The Mineral Reserves presented below as of December 31, 2020 have been prepared in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”). The Mineral Reserves metal price assumptions for 2020 report are: $1,350 per gold ounce, $18.50 per silver ounce, $0.90 per lead pound, $1.05 per zinc pound, and $3.00 per copper pound unless otherwise stated.

Technical Report Summaries for Çöpler, Marigold, Seabee and Chinchillas (Puna) operations are available under the Company's profile on the SEDAR website at www.sedar.com and as part of the Company’s Annual Report on Form 10-K filed on the SEC’s EDGAR website at sec.gov. For additional information about the projects, readers are encouraged to review the Company’s Annual Report on Form 10-K, which includes the Technical Report Summaries for each property.

The point of reference for Mineral Reserves is the point of feed into the processing facility for all projects except for Marigold, which is entry into the carbon columns in the processing facility.

Metals shown in the table are contained metals in ore mined and processed.

Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.

Figures may vary due to rounding.

The following tables summarize the Company's estimated gold reserves as of December 31, 2021 and December 31, 2020 for each of its production and exploration assets:

Gold Reserves as of December 31, 2021

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Metallurgical Recovery
Çöpler (OP)[1][2][3][4]	Turkey	78%	9,024	2.55	741	53,863	2.03	3,522	62,887	2.11	4,263	84 %
Çöpler Stockpile	Turkey	80%	—	—	—	12,479	2.25	901	12,479	2.25	901	91 %
Marigold (OP)[5]	United States	100%	—	—	—	203,768	0.48	3,173	203,768	0.48	3,173	75 %
Marigold (leach pad inventory)	United States	100%	—	—	—	—	—	237	—	—	237	71 %
Seabee (UG)[6][7]	Canada	100%	304	9.16	90	2,379	6.40	490	2,684	6.72	580	98 %
			9,328	2.77	831	272,489	0.92	8,323	281,818	0.98	9,154	78 %

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine, Cakmaktepe and Ardich.

(2) Mineral Reserves are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Reserves (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) Mineral Reserve cut-offs are based on $1,350/oz gold price. The average oxide recoveries are 73% and average sulfide recoveries are 91%. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations. Oxide cutoff grades vary between 0.44-0.80g/t gold and sulphide cutoff grades vary between 1.05-1.11g/t gold.

(4) There are no sulfide Mineral Reserves at Çakmaktepe and Bayramdere.

(5) Marigold Mineral Reserves are reported at a cut-off grade of 0.065 g/t payable gold (gold assay factored for metallurgical recovery, royalty, and net proceeds). No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.

(6) Seabee Mineral Reserves are reported using $1,600/oz gold and a cut-off grade of 2.52 g/t gold. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98%.

(7) Seabee Mineral Reserves includes Santoy 8, Santoy 9, and Gap Hangingwall ("GHW") lodes.

Gold Reserves as of December 31, 2020

Deposit	Country	SSR Share	Proven			Probable			Proven and Probable			Metallurgical Recovery
			Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	
Çöpler (OP)[1][2][3][4]	Turkey	78%	2,196	2.31	163	47,617	2.03	3,109	49,814	2.04	3,273	84 %
Çöpler Stockpile	Turkey	80%	—	—	—	6,993	2.54	571	6,993	2.54	571	91 %
Marigold (OP)[5]	United States	100%	—	—	—	219,398	0.49	3,425	219,398	0.47	3,425	75 %
Marigold (leach pad inventory)	United States	100%	—	—	—	—	—	270	—	—	270	73 %
Seabee (UG)[6]	Canada	100%	529	8.79	150	1,031	10.37	344	1,560	9.83	493	98 %
			2,725	3.57	313	275,039	0.84	7,719	277,765	0.87	8,032	77 %

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine and Cakmaktepe.

(2) Çöpler Mineral Reserves are reported at the following cut-off grades: oxide cut-off grades are 0.47-0.71 g/t gold and Çöpler sulfide cut-off grade is 1.05 g/t gold. All cut-off grades include allowance for royalty payable.

(3) Metallurgical recoveries vary with grade and average recoveries for oxide is 61% and for sulphides is 91%. The overall average recovery is 84%.

(4) Copler Reserves are located on ground held 80% by SSR and Çakmaktepe reserves (<1%) of the total reserves on ground 50% by SSR.

(5) Marigold Mineral Reserves are reported using $1,350/oz gold and at a gold cut-off grade of 0.065 g/t which incorporates royalty and metallurgical recovery.

(6) Seabee Mineral Reserves are reported using $1,350/oz gold and a cut-off grade of 3.99 g/t gold.

The following tables summarize the Company's estimated silver reserves as of December 31, 2021 and December 31, 2020 for each of its production and exploration assets:

Silver Reserves as of December 31, 2021

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Metallurgical Recovery
Çöpler (OP)[(1)(2)(3)(4)]	Turkey	78%	9,024	4.15	1,203	53,863	4.48	7,765	62,887	4.44	8,968	9 %
Chinchillas (OP)[(5)(6)]	Argentina	100%	2,379	168.91	12,918	5,041	155.30	25,174	7,420	159.68	38,092	98 %
Chinchillas (Stockpile)	Argentina	100%	—	—	—	187	141.00	846	187	141.00	846	98 %
			11,403	38.52	14,121	59,091	17.78	33,785	70,494	21.14	47,906	19 %

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine, Cakmaktepe and Ardich.

(2) Mineral Reserves are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Reserves (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) Mineral Reserve cut-offs are based on $1,350/oz gold price. The average oxide recoveries are 73% and average sulfide recoveries are 91%. The weighted average gold recovery is 84%. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations. Oxide cutoff grades vary between 0.44-0.80g/t gold and sulphide cutoff grades vary between 1.05-1.11g/t gold.

(4) There are no sulfide Mineral Reserves at Çakmaktepe and Bayramdere.

(5) Chinchillas Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes lead and zinc attributable metals.

(6) Chinchillas processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 93% for lead and 63% for zinc.

Silver Reserves as of December 31, 2020

Deposit	Country	SSR Share	Proven			Probable			Proven and Probable			Metallurgical Recovery
			Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	
Çöpler (OP)[(1)(2)(3)(4)]	Turkey	78%	2,196	7.70	544	47,617	5.03	8,836	49,814	5.85	9,379	9 %
Chinchillas (OP)[(5)]	Argentina	100%	420	142.58	1,926	7,614	162.17	39,696	8,034	161.14	41,622	96 %
Chinchillas (Stockpile)	Argentina	100%	—	—	—	339	126.74	1,382	339	126.74	1,382	94 %
			2,616	29.35	2,470	55,570	27.94	49,914	58,187	28.00	52,383	21 %

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine and Cakmaktepe.

(2) Çöpler Mineral Reserves are reported at the following cut-off grades: oxide cut-off grades are 0.47-0.71 g/t gold and Çöpler sulfide cut-off grade is 1.05 g/t gold. All cut-off grades include allowance for royalty payable.

(3) Metallurgical recoveries vary with gold grade and the average silver recovery is 9%.

(4) Çöpler mine Mineral Reserves are located on ground held 80% by SSR and Çakmaktepe Mineral Reserves (<1%) are located on ground held 50% by SSR

(5) Chinchillas Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes lead and zinc attributable metals. Metal price assumptions for reserves are $18.00/oz silver, $0.90/lb lead, and $1.00/lb zinc.

The following tables summarize the Company's estimated lead reserves as of December 31, 2021 and December 31, 2020 for each of its production and exploration assets:

Lead Reserves as of December 31, 2021

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Metallurgical Recovery
Chinchillas (OP)[1][2]	Argentina	100%	2,379	1.33	69.7	5,041	1.29	143.4	7,420	1.30	213.1	95 %
Chinchillas Stockpile	Argentina	100%	—	—	—	187	1.33	5.5	187	1.33	5.5	95 %
			2,379	1.33	69.7	5,228	1.29	148.9	7,607	1.30	218.6	95 %

(1) Chinchillas Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes silver and zinc attributable metals.

(2) Chinchillas processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 93% for lead, and 63% for zinc.

Lead Reserves as of December 31, 2020

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Metallurgical Recovery
Chinchillas (OP)[1]	Argentina	100%	420	0.73	6.8	7,614	1.39	232.6	8,034	1.35	239.4	96 %
Chinchillas Stockpile	Argentina	100%	—	—	—	339	0.84	6.3	339	0.84	6.3	94 %
			420	0.73	6.8	7,953	1.36	238.9	8,373	1.33	245.7	96 %

(1) Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes silver and zinc attributable metals. Metal price assumption for reserves are $0.90/lb lead.

The following tables summarize the Company's estimated zinc reserves as of December 31, 2021 and December 31, 2020 for each of its production and exploration assets:

Zinc Reserves as of December 31, 2021

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Metallurgical Recovery
Chinchillas (OP)[1][2]	Argentina	100%	2,379	0.34	17.8	5,041	0.25	27.8	7,420	0.28	45.6	63 %
Chinchillas Stockpile	Argentina	100%	—	—	—	187	0.50	2.1	187	0.50	2.1	63 %
			2,379	0.34	17.8	5,228	0.26	29.9	7,607	0.28	47.7	63 %

(1) Chinchillas Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes silver and lead attributable metals.

(2) Chinchillas processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 95% for lead and 63% for zinc.

Zinc Reserves as of December 31, 2020

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Metallurgical Recovery
Chinchillas (OP)[1]	Argentina	100%	420	0.37	3.4	7,614	0.36	60.4	8,034	0.36	63.8	15 %
Chinchillas Stockpile	Argentina	100%	—	—	—	339	0.45	3.4	339	0.45	3.4	68 %
			420	0.37	3.4	7,953	0.36	63.8	8,373	0.36	67.2	17 %

(1) Chinchillas Mineral Reserves are reported at NSR cut off value of $44.11 per tonne which incorporates appropriate metallurgical recoveries and includes silver and lead attributable metals. The metal price assumption for reserves is $1.00/lb zinc.

The following tables summarize the Company's estimated copper reserves as of December 31, 2021 and December 31, 2020 for each of its production and exploration assets:

Copper Reserves as of December 31, 2021

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Metallurgical Recovery
Çöpler (OP)[(1)(2)(3)(4)(5)(6)]	Turkey	78%	9,024	—	0.2	53,863	0.01	9.2	62,887	0.01	9.4	2 %
			9,024	—	0.2	53,863	0.01	9.2	62,887	0.01	9.4	2 %

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine, Cakmaktepe and Ardich.

(2) Mineral Reserves are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Reserves relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) Mineral Reserve cut-offs are based on $1,350/oz gold price. The average oxide recoveries are 73% and average sulfide recoveries are 91%. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations. Oxide cutoff grades vary between 0.44-0.80g/t gold and sulphide cutoff grades vary between 1.05-1.11g/t gold.

(4) There are no sulfide Mineral Reserves at Çakmaktepe and Bayramdere.

(5) There is no copper recovery in sulphide material.

(6) Copper oxide recoveries are 2%.

Copper Reserves as of December 31, 2020

			Proven			Probable			Proven and Probable			
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Metallurgical Recovery
Çöpler (OP)[(1)(2)(3)(4)(5)]	Turkey	78%	2,196	0.01	0.3	47,344	0.02	18.1	49,540	0.02	18.4	2 %
			2,196	0.01	0.3	47,344	0.02	18.1	49,540	0.02	18.4	2 %

isis

(1) Çöpler Mineral Reserves includes reserves from Çöpler Mine and Cakmaktepe.

(2) Çöpler Mineral Reserves are reported at the following cut-off grades: oxide cut-off grades are 0.47-0.71 g/t gold and Çöpler sulfide cut-off grade is 1.05 g/t gold. All cut-off grades include allowance for royalty payable.

(3) Çöpler mine Mineral Reserves are located on ground held 80% by SSR and Çakmaktepe Mineral Reserves (<1%) are located on ground held 50% by SSR.

(4) Metallurgical recoveries vary with grade and average recoveries for oxide is 2%.

(5) There is no copper recovery in sulphides.

Resource Estimates

Mineral Resources are presented exclusive of Mineral Reserves. Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.

The Mineral Resources presented below as of December 31, 2021 have been prepared in accordance with the U.S. Securities and Exchange Commission (SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300). Mineral Resources metal prices used for preparation of the 2021 report, which were selected, in each case, by the applicable Qualified Persons for each property, are: $1,750 per gold ounce, $22.00 per silver ounce, $0.95 per lead pound, $1.15 per zinc pound, and $3.95 per copper pound unless otherwise stated.

The Mineral Resources presented below as of December 31, 2020 have been prepared in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). Resources metal prices used for preparation of the 2020 report are: $1,750 per gold ounce, $22.00 per silver ounce, $1.00 per lead pound, $1.15 per zinc pound, and $3.25 per copper pound unless otherwise stated in the footnotes.

The point of reference for Mineral Resources is the point of feed into the processing facility for all projects except for Marigold, which is entry into the carbon columns in the processing facility.

Metals shown in the tables below are contained metals in ore mined and processed.

Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.

Figures may vary due to rounding.

The following tables summarize the Company's estimated gold resources as of December 31, 2021 and 2020 for each of its production and exploration assets:

Gold Resources as of December 31, 2021

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)
Çöpler (OP) (1)(2)(3)(4)(5)(6)(7)	Turkey	77%	3,306	1.92	204	88,948	1.03	2,933	92,254	1.06	3,137	103,154	1.17	3,875
Marigold (OP)(8)(9)	United States	100%	—	—	—	115,294	0.43	1,611	115,294	0.43	1,611	21,795	0.36	250
Seabee (UG)(10)	Canada	100%	71	19.75	45	797	12.23	313	869	12.83	358	2,754	6.05	536
Amisk (OP)(11)	Canada	100%	—	—	—	43,976	0.73	1,028	43,976	0.73	1,028	49,985	0.52	830
San Luis (UG)(12)	Peru	100%	—	—	—	484	22.40	349	484	22.43	349	20	5.60	4
			3,377	2.30	249	249,499	0.78	6,234	252,877	0.80	6,483	177,708	0.96	5,495

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) Mineral Resources are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Resources (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz gold and $19.00/oz silver for Bayramdere).

(4) Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere, oxide is defined as material <2% total sulfur.

(5) Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%). There is no sulfide material at Çakmaktepe or Bayramdere.

(6) Mineral Resources are reported at the variable gold cut-off grades based on different metallurgical parameters: oxide cut-off grades are 0.19-0.76 g/t gold, sulfide cut-off uses an NSR value in $/t based on gold price of $1,750/oz, silver price of $22.00/oz, and copper price of $3.95/lb with allowances for payability, deductions, transport, and royalties.

(7) Çöpler oxide recoveries vary between 38.0-78.4% and sulphide recoveries vary between 55-98%.

(8) Marigold Mineral Resource estimate is based on an optimised pit shell at a cut off grade of 0.065 g/t payable gold (gold assay factored for recovery, royalty, and net proceeds).

(9) Marigold metallurgical recoveries varies with gold grade and on average recoveries are 67%

(10) Seabee Mineral Resources are reported using a cut-off grade of 2.07 g/t and were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes. Mineral resources includes Santoy 8, Santoy 9, and GHW lodes.

(11) Amisk Mineral Resources are reported using a gold equivalent cut-off grade of 0.30 g/t and include silver attributable ounces. Average gold recovery is 90%.

(12) San Luis Mineral Resources are reported at gold price assumptions of $600/oz using a gold equivalent cut-off grade of 6.0 g/t and include silver attributable ounces. Average gold recovery is 94%.

Gold Resources as of December 31, 2020

Deposit	Country	SSR Share	Measured			Indicated			Measured and Indicated			Inferred		
			Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)
Çöpler (OP) (1)(2)(3)(4)(5)(6)(7)	Turkey	76%	5,707	1.70	312	70,619	1.34	3,049	76,326	1.37	3,362	73,741	1.30	3,089
Marigold (OP)(8)	United States	100%	—	—	—	121,332	0.43	1,680	121,332	0.43	1,680	28,597	0.36	334
Seabee (UG)(9)	Canada	100%	24	103.17	80	1,421	9.40	429	1,445	10.97	510	2,030	7.77	507
Amisk (OP)(10)	Canada	100%	—	—	—	43,976	0.73	1,028	43,976	0.73	1,028	49,985	0.52	830
San Luis (UG)(11)	Peru	100%	—	—	—	484	22.40	349	484	22.40	349	20	5.60	4
			5,731	2.13	392	237,832	0.85	6,535	243,563	0.88	6,929	154,373	0.96	4,765

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells based on metal prices of $1,750/oz for gold ($1,400 for gold and $19/oz for silver for Bayramdere). The following parameters were used: gold metallurgical recoveries in oxide: Çöpler mine 62.3–78.4%, Çakmaktepe 38.0–80.0%, Ardich 40.0–73.0%, and Bayramdere 75.0%, and in sulfide: Çöpler 85.0%, and Ardich 82.9%; gold cut-off grades in oxide: Çöpler 0.32–0.41 g/t gold, Çakmaktepe 0.36–0.76 g/t gold, Ardich 0.30–0.55 g/t gold, and Bayramdere 0.35–0.50 g/t gold, and in sulfide: Çöpler 0.73 g/t gold and Ardich 0.77 g/t gold (there are no credits for silver or copper in the cut-off grade calculations); allowances have been made for royalty payable.

(3) At Çöpler, oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur.

(4) At Ardich and Çakmaktepe, low-sulfur (LS) oxide is defined as material with <1% total sulfur, high-sulfur (HS) oxide is material with ≥1% and <2% total sulfur, and sulfide material is ≥2% total sulfur.

(5) At Bayramdere. oxide is defined as material <2% total sulfur. There is no sulfide material at Bayramdere.

(6) Mineral Resources are reported at the following cut-off grades: oxide cut-off grades 0.32-0.76 g/t gold and Çöpler sulfide cut-off grades 0.73-0.77 g/t gold. All cut-off grades include allowance for royalty payable.

(7) Mineral Resources are shown on a 100% basis. Çöpler Mineral Resources are located on ground held 80% by SSR, Çakmaktepe and Bayramdere Mineral Resources are located on ground held 50% by SSR, and approximately 96% of Ardich Mineral Resources are located on ground held 80% by SSR, with the remainder located on ground 50% held by SSR.

(8) Marigold Mineral Resources are reported using a cut-of grade of 0.065 g/t within a conceptual open pit shell with a average process recovery of 75%.

(9) Seabee Mineral Resources are reported using a cut-off grade of 3.11 g/t with an average recovery of 98%.

(10) Amisk Mineral Resources are reported using a gold equivalent cut-off grade of 0.30 g/t and include silver attributable ounces. Gold process recovery is 90%.

(11) San Luis Mineral Resources are reported at gold price assumptions of $600/oz using a gold equivalent cut-off grade of 6.0 g/t and include silver attributable ounces. Gold process recovery is 94%.

The following tables summarize the Company's estimated silver resources as of December 31, 2021 and 2020 for each of its production and exploration assets:

Silver Resources as of December 31, 2021

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)
Çöpler (OP) (1)(2)(3)(4)(5)(6)(7)	Turkey	77%	3,306	4.30	457	88,948	3.35	9,572	92,254	3.38	10,029	103,154	9.56	31,695
Chinchillas (OP)(8)	Argentina	100%	1,110	99.20	3,540	4,904	101.13	15,943	6,014	100.76	19,483	165	101.86	540
Pirquitas (UG)(9)	Argentina	100%	79	444.50	1,129	2,555	287.67	23,627	2,634	292.33	24,756	1,080	206.86	7,185
San Luis (UG)(10)	Peru	100%	—	—	—	484	578.10	9,003	484	578.56	9,003	20	272.00	175
Pitarilla (OP)(11)	Mexico	100%	12,345	90.10	35,746	147,016	97.50	460,728	159,361	96.90	496,474	8,524	77.40	21,213
Pitarilla (UG)(12)	Mexico	100%	—	—	—	5,430	164.90	28,793	5,430	164.93	28,793	1,230	138.10	5,461
Amisk(13)	Canada	100%	—	—	—	43,976	5.30	7,531	43,976	5.33	7,531	49,985	3.50	5,550
			16,840	75.52	40,872	293,313	58.88	555,197	310,153	59.78	596,069	164,158	13.62	71,819

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) Mineral Resources are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Resources (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19.00/oz for silver for Bayramdere).

(4) Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere: oxide is defined as material <2% total sulfur.

(5) Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%). There is no sulfide material at Çakmaktepe or Bayramdere.

(6) Mineral Resources are reported at the variable gold cut-off grades based on different metallurgical parameters: oxide cut-off grades 0.19-0.76 g/t gold, sulfide cut-off uses an NSR value in $/t based on gold price of $1,750/oz, silver price of $22.00/oz, and copper price of $3.95/lb with allowances for payability, deductions, transport, and royalties.

(7) Average silver recoveries are 16%.

(8) Chinchillas Mineral Resource are contained within a pit shell generated using an NSR cut-off of $33.20. Metallurgical recoveries vary based on the grade and on average are 98% for silver, 95% for lead, and 63% for zinc.

(9) Piriquitas UG Mineral Resources are reported using a silver metal price of $20.00/oz, $1.10/lb lead, and $1.30/lb zinc. The cut-off grade includes lead and zinc attributable metal and is calculated at $100/t. Metallurgical recoveries vary with grade and on average are 87% for silver, 50% for lead, and 85% for zinc.

(10) San Luis Mineral Resources are reported at silver price assumptions of $9.25/oz. The cut-off grade includes gold ounces and is 6.0 g/t gold equivalent. Gold process recovery is 90%.

(11) Pitarilla Open Pit Mineral Resources are reported at silver price assumptions of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes attributable lead and zinc metal and the NSR cut-off values is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Silver process recovery is 71.8%.

(12) Pitarilla UG Mineral Resources are reported at silver price of $20.00/oz,$1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes attributable lead and zinc metal and the NSR cut-off values is $80 per tonne. Silver process recovery is 72%.

(13) Amisk Mineral Resources are reported at a cut-off grade that includes gold ounces and is 0.30 g/t gold equivalent. Silver process recovery is 80%.

Silver Resources as of December 31, 2020

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)	Tonnes (kt)	Grade (g/t)	Silver (koz)
Çöpler (OP) [(1)(2)(3)(4)(5)(6)(7)]	Turkey	78%	5,707	0.20	36	70,619	3.10	7,039	76,326	2.88	7,076	73,741	9.16	21,708
Chinchillas (OP)[(8)]	Argentina	100%	378	85.89	1,043	14,077	69.52	31,463	14,455	69.95	32,507	21,836	49.82	34,974
Pirquitas (UG)[(9)]	Argentina	100%	79	444.50	1,129	2,555	287.70	23,627	2,634	292.37	24,756	1,080	206.86	7,185
San Luis (UG)[(10)]	Peru	100%	—	—	—	484	578.10	9,003	484	578.10	9,003	20	272.00	175
Pitarilla (OP)[(11)]	Mexico	100%	12,345	90.06	35,746	147,016	97.50	460,728	159,361	96.90	496,474	8,524	77.41	21,213
Pitarilla (UG)[(12)]	Mexico	100%	—	—	—	5,430	164.90	28,793	5,430	164.93	28,793	1,230	138.10	5,461
Amisk[(13)]	Canada	100%	—	—	—	43,976	5.30	7,531	43,976	5.30	7,531	49,985	3.45	5,550
			18,509	63.78	37,954	284,157	62.19	568,184	302,666	62.29	606,140	156,416	19.14	96,266

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells based on metal prices of $1,750/oz for gold ($1,400/oz for gold and $19.00/oz for silver for Bayramdere). The following parameters were used: gold metallurgical recoveries in oxide: Çöpler mine 62.3–78.4%, Çakmaktepe 38.0–80.0%, Ardich 40.0–73.0%, and Bayramdere 75.0%, and in sulfide: Çöpler 85.0%, and Ardich 82.9%; g cut-off grades in oxide: Çöpler 0.32–0.41 g/t gold, Çakmaktepe 0.36–0.76 g/t gold, Ardich 0.30–0.55 g/t gold, and Bayramdere 0.35–0.50 g/t gold, and in sulfide: Çöpler 0.73 g/t gold and Ardich 0.77 g/t gold, (there are no credits for silver or copper in the cut-off grade calculations); allowances have been made for royalty payable.

(3) At Çöpler, oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur.

(4) At Ardich and Çakmaktepe, low-sulfur (LS) oxide is defined as material with <1% total sulfur, high-sulfur (HS) oxide is material with ≥1% and <2% total sulfur, and sulfide material is ≥2% total sulfur.

(5) At Bayramdere, oxide is defined as material <2% total sulfur. There is no sulfide material at Bayramdere.

(6) Silver average recoveries are 9%.

(7) Mineral Resources are shown on a 100% basis. Çöpler Mineral Resources are located on ground held 80% by SSR, Çakmaktepe and Bayramdere Mineral Resources are located on ground held 50% by SSR, and approximately 96% of Ardich Mineral Resources are located on ground held 80% by SSR, with the remainder located on ground 50% held by SSR.

(8) Chinchillas Mineral Resources are calculated using a silver equivalent cut off value of 60.0g/t. The cut-off value includes lead and zinc attributable metal. Silver process recovery is 89%. Metal price assumption for resources are $20.00/oz silver.

(9) Piriquitas UG Mineral Resources are reported using a silver price of $20.00/oz. The cut-off grade includes lead and zinc attributable metal and is calculated at NSR $90-$100/t. Silver process recovery is 87%.

(10) San Luis Mineral Resources are reported using a silver price of $9.25/oz. The cut-off grade includes gold ounces and is 6.0 g/t gold equivalent. Gold process recovery is 90%

(11) Pitarilla Open Pit Mineral Resources are reported using a silver price of $20.00/oz. The cut-off grade includes attributable lead and zinc metal and the NSR cut-off values is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Silver process recovery is 71.8%.

(12) Pitarilla UG Mineral Resources are reported using a silver price of $20.00/oz. The cut-off grade includes attributable lead and zinc metal and the NSR cut-off values is $80 per tonne. Silver process recovery is 72%.

(13) Amisk Mineral Resources are reported at a cut-off grade that includes gold ounces and is 0.30 g/t gold equivalent. Silver process recovery is 80%.

The following tables summarize the Company's estimated lead resources as of December 31, 2021 and 2020 for each of its production and exploration assets:

Lead Resources December 31, 2021

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)
Chinchillas (OP)[(1)]	Argentina	100%	1,110	0.86	21.0	4,904	0.88	95.6	6,013	0.88	116.6	165	0.48	1.8
Pirquitas (UG)[(2)]	Argentina	100%	79	0.20	0.3	2,555	0.02	1.1	2,634	0.03	1.4	1,080	—	0.1
Pitarilla (OP)[(3)]	Mexico	100%	12,345	0.70	190.0	147,016	0.32	1,040.4	159,361	0.35	1,230.4	8,524	0.18	32.9
Pitarilla (UG)[(4)]	Mexico	100%	—	—	—	5,430	0.68	81.4	5,430	0.68	81.4	1,230	0.89	24.1
			13,534	0.71	211.3	159,905	0.34	1,218.5	173,438	0.37	1,429.8	10,999	0.25	58.9

(1) Chinchillas Mineral Resource are contained within a pit shell generated using an NSR cut-off of $33.20. Metallurgical recoveries vary based on the grade and on average are 98% for silver, 95% for lead and 63% for zinc.

(2) Piriquitas UG Mineral Resources are contained within underground mining shapes based on an NSR cut-off on $90-$100/t are reported using a silver metal price of $20.00/oz, $1.10/lb for lead and $1.30/lb for zinc. Metallurgical recoveries vary with grade and on average are 87% for silver, 50% for lead, and 85% for zinc.

(3) Pitarilla Open Pit Mineral Resources are reported using a silver price of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes silver and zinc metal and the NSR cut-off values is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Lead process recovery is 68%.

(4) Pitarilla UG Mineral Resources are reported using a silver price of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes silver and zinc metal and the NSR cut-off values is $80 per tonne. Lead process recovery is 68%.

Lead Resources December 31, 2020

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)	Tonnes (kt)	Grade (%)	Lead (Mlbs)
Chinchillas (OP)[(1)]	Argentina	100%	378	0.62	5.1	14,077	0.79	243.9	14,455	0.78	249.0	21,836	0.55	263.4
Pirquitas (UG)[(2)]	Argentina	100%	79	0.20	0.3	2,555	0.02	1.1	2,634	0.03	1.4	1,080	—	0.1
Pitarilla (OP)[(3)]	Mexico	100%	12,345	0.70	190.0	147,016	0.32	1,040.4	159,361	0.35	1,230.4	8,524	0.18	32.9
Pitarilla (UG)[(4)]	Mexico	100%	—	—	—	5,430	0.68	81.4	5,430	0.68	81.4	1,230	0.89	24.1
			12,802	0.69	195.4	169,078	0.37	1,366.8	181,880	0.39	1,562.2	32,670	0.45	320.5

(1) Chinchillas Mineral Resources are calculated using a silver equivalent cut off value of 60.0 g/t that includes silver and zinc attributable metal. Lead process recovery is 93%. Metal price assumption for resources is $1.10/lb lead.

(2) Piriquitas UG Mineral Resources are reported using a lead price of $1.10/lb. The cut-off grade includes silver and zinc attributable metal and is calculated at NSR $90-$100/t. Lead process recovery is 50%.

(3) Pitarilla Open Pit Mineral Resources are reported using a lead price of $1.10/lb. The cut-off grade includes silver and zinc metal and the NSR cut-off values is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Lead process recovery is 68%.

(4) Mineral Resources are reported using a lead price of $1.10/lb. The cut-off grade includes silver and zinc metal and the NSR cut-off values is $80 per tonne. Lead process recovery is 68%.

The following tables summarize the Company's estimated zinc resources as of December 31, 2021 and 2020 for each of its production and exploration assets:

Zinc Resources as of December 31, 2021

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)
Chinchillas (OP)[(1)]	Argentina	100%	1,110	0.31	7.6	4,904	0.19	20.5	6,013	0.21	28.0	165	0.16	0.6
Pirquitas (UG)[(2)]	Argentina	100%	79	1.17	2.0	2,555	4.56	256.8	2,634	4.46	258.9	1,080	7.45	177.4
Pitarilla (OP)[(3)]	Mexico	100%	12,345	1.22	333.1	147,016	0.87	2,803.6	159,361	0.89	3,136.7	8,524	0.58	108.2
Pitarilla (UG)[(4)]	Mexico	100%	—	—	—	5,430	1.34	160.4	5,430	1.34	160.4	1,230	1.25	33.9
			13,534	1.15	342.7	159,904	0.92	3,241.3	173,438	0.94	3,584.0	10,999	1.32	320.1

(1) Chinchillas Mineral Resources are calculated using a NSR cut off value of $33.20 that includes silver and lead attributable metal. The average recovery is estimated to be 98% for silver, 93% for lead and 63% for zinc.

(2) Piriquitas UG Mineral Resources are contained within underground mining shapes based on an NSR cut-off on $90-$100/t are reported using a silver metal price of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. Metallurgical recoveries vary with grade and on average are 87% silver, 50% for lead, and 85% for zinc.

(3) Pitarilla Open Pit Mineral Resources are reported using a silver price of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes silver and lead metal and the NSR cut-off values is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Zinc process recovery is 72%.

(4) Pitarilla UG Mineral Resources are reported using a silver price of $20.00/oz, $1.10/lb for lead, and $1.30/lb for zinc. The cut-off grade includes silver and lead metal and the NSR cut-off values is $80 per tonne. Zinc process recovery is 72%.

Zinc Resources as of December 31, 2020

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)	Tonnes (kt)	Grade (%)	Zinc (Mlbs)
Chinchillas (OP)[(1)]	Argentina	100%	378	0.66	5.5	14,077	0.77	238.5	14,455	0.77	244.0	21,836	0.83	400.0
Pirquitas (UG)[(2)]	Argentina	100%	79	1.17	2.0	2,555	4.56	256.8	2,634	4.46	258.8	1,080	7.45	177.4
Pitarilla (OP)[(3)]	Mexico	100%	12,345	1.22	333.1	147,016	0.87	2,803.6	159,361	0.89	3,136.7	8,524	0.58	108.2
Pitarilla (UG)[(4)]	Mexico	100%	—	—	—	5,430	1.34	160.4	5,430	1.34	160.4	1,230	1.25	33.9
			12,802	1.21	340.6	169,078	0.93	3,459.3	181,880	0.95	3,799.9	32,670	1.00	719.5

(1) Chinchillas Mineral Resources are calculated using a silver equivalent cut off value of 60.0 g/t that includes silver and lead attributable metal. Zinc process recovery is 81%. Metal price assumption for resources is $1.30/lb zinc.

(2) Piriquitas UG Mineral Resources are reported using a zinc price of $1.30/lb. The cut-off grade includes silver and lead attributable metal and is calculated at NSR $90-$100/t. Zinc process recovery is 85%. The project is currently undeveloped.

(3) Pitarilla Open Pit Mineral Resources are reported using a zinc price of $1.30/lb. The cut-off grade includes silver and lead metal and the NSR cut-off value is $16.38 per tonnes (leach) or $16.40 per tonne flotation. Zinc process recovery is 72%.

(4) Pitarilla UG Mineral Resources are reported using a zinc price of $1.30/lb. The cut-off grade includes silver and lead metal and the NSR cut-off value is $80 per tonne. Zinc process recovery is 72%.

The following tables summarize the Company's estimated copper resources as of December 31, 2021 and 2020 for each of its production and exploration assets:

Copper Resources as of December 31, 2021

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)
Çöpler (OP) (1)(2)(3)(4)(5)(6)(7)	Turkey	77%	3,306	0.03	2.1	88,948	0.15	296.7	92,254	0.15	298.8	103,154	0.13	285.6
			3,306	0.03	2.1	88,948	0.15	296.7	92,254	0.15	298.8	103,154	0.13	285.6

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) Mineral Resources are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Resources (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground of which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground of which SSR holds 50% rights. Total ownership percentages are weighted averages.

(3) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19.00/oz for silver for Bayramdere).

(4) Oxide definitions: At Çöpler, oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere, oxide is defined as material <2% total sulfur.

(5) Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%). There is no sulfide material at Çakmaktepe or Bayramdere.

(6) Mineral Resources are reported at the variable gold cut-off grades based on different metallurgical parameters: oxide cut-off grades 0.19-0.76 g/t gold, sulfide cut-off uses an NSR value in $/t based on a gold price of $1,750/oz, silver price of $22.00/oz, and copper price of $3.95/lb with allowances for payability, deductions, transport, and royalties.

(7) Copper oxide recoveries are 2% and sulphide recoveries are 65%.

Copper Resources as of December 31, 2020

			Measured			Indicated			Measured and Indicated			Inferred		
Deposit	Country	SSR Share	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)	Tonnes (kt)	Grade (%)	Copper (Mlbs)
Çöpler (OP) (1)(2)(3)(4)(5)(6)	Turkey	77%	5,707	—	0.2	70,619	0.04	59.9	76,326	0.04	60.1	73,741	0.06	94.9
			5,707	—	0.2	70,619	—	59.9	76,326	0.04	60.1	73,741	0.06	94.9

(1) Çöpler Mineral Resources include resources from Çöpler Mine, Cakmaktepe, Ardich and Bayramdere.

(2) All Mineral Resources for Çöpler were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells based on metal prices of $1,750/oz for gold ($1,400/oz for gold and $19.00/oz for silver for Bayramdere). The following parameters were used: gold metallurgical recoveries in oxide: Çöpler mine 62.3–78.4%, Çakmaktepe 38.0–80.0%, Ardich 40.0–73.0%, and Bayramdere 75.0%, and in sulfide: Çöpler 85.0%, and Ardich 82.9%; gold cut-off grades in oxide: Çöpler 0.32–0.41 g/t gold, Çakmaktepe 0.36–0.76 g/t gold, Ardich 0.30–0.55 g/t gold, and Bayramdere 0.35–0.50 g/t gold, and in sulfide: Çöpler 0.73 g/t gold and Ardich 0.77 g/t gold, (there are no credits for silver or copper in the cut-off grade calculations); allowances have been made for royalty payable.

(3) Mineral Resources are shown on a 100% basis. Çöpler Mineral Resources are located on ground held 80% by SSR, Çakmaktepe and Bayramdere Mineral Resources are located on ground held 50% by SSR, and approximately 96% of Ardich Mineral Resources are located on ground held 80% by SSR, with the remainder located on ground 50% held by SSR.

(4) At Ardich and Çakmaktepe, low-sulfur (LS) oxide is defined as material with <1% total sulfur, high-sulfur (HS) oxide is material with ≥1% and <2% total sulfur, and sulfide material is ≥2% total sulfur.

(5) At Bayramdere, oxide is defined as material <2% total sulfur. There is no sulfide material at Bayramdere.

(6) Copper oxide recoveries are 2% and sulphide recoveries are 65%.

Operating Statistics

The following tables summarize operating statistics related to production of our operations for the years ended December 31, 2021 and December 31, 2020:

	Year Ended December 31, 2021			
	Çöpler	**Marigold**	**Seabee**	**Puna**
Gold produced (oz)	329,276	235,282	118,888	—
Gold sold (oz)	333,761	236,847	118,746	—
Silver produced ('000 oz)	—	—	—	8,010
Silver sold ('000 oz)	—	—	—	7,810
Lead produced ('000 lb)	—	—	—	37,695
Lead sold ('000 lb)	—	—	—	33,378
Zinc produced ('000 lb)	—	—	—	13,642
Zinc sold ('000 lb)	—	—	—	10,751
Ore mined (kt)	9,750	19,999	384	1,449
Waste removed (kt)	15,015	79,885	272	9,594
Total material mined (kt)	24,765	99,884	656	11,043
Ore stacked - oxide (kt)	1,786	19,999	—	—
Gold grade stacked - oxide (g/t)	1.24	0.41	—	—
Ore milled (kt)	2,325	—	382	1,643
Gold mill feed grade (g/t)	3.71	—	9.92	—
Gold recovery (%)	91.0	—	98.4	—
Silver mill feed grade (g/t)	—	—	—	158.00
Lead mill feed grade (%)	—	—	—	1.12
Zinc mill feed grade (%)	—	—	—	0.57
Silver recovery (%)	—	—	—	95.8
Lead recovery (%)	—	—	—	93.0
Zinc recovery (%)	—	—	—	65.6

	Year Ended December 31, 2020			
	Çöpler [1]	Marigold	Seabee	Puna
Gold produced (oz)	102,616	234,443	81,686	—
Gold sold (oz)	108,283	229,892	75,600	—
Silver produced ('000 oz)	—	—	—	5,581
Silver sold ('000 oz)	—	—	—	4,411
Lead produced ('000 lb)	—	—	—	17,193
Lead sold ('000 lb)	—	—	—	14,179
Zinc produced ('000 lb)	—	—	—	6,988
Zinc sold ('000 lb)	—	—	—	5,111
Ore mined (kt)	2,535	23,556	256	817
Waste removed (kt)	5,573	62,038	219	4,879
Total material mined (kt)	8,108	85,594	475	5,696
Ore stacked - oxide (kt)	1,413	23,556	—	—
Gold grade stacked - oxide (g/t)	1.20	0.39	—	—
Ore milled (kt)	669	—	255	1,118
Gold mill feed grade (g/t)	3.62	—	10.10	—
Gold recovery (%)	91.0	—	98.4	—
Silver mill feed grade (g/t)	—	—	—	164.00
Lead mill feed grade (%)	—	—	—	0.77
Zinc mill feed grade (%)	—	—	—	0.51
Silver recovery (%)	—	—	—	94.6
Lead recovery (%)	—	—	—	90.2
Zinc recovery (%)	—	—	—	55.5

(1) The operating data presented in this column represents the period from September 16, 2020 to December 31, 2020, the period for which the Company was entitled to the economic benefits of Çöpler following the Company's acquisition of Alacer.

	Year Ended December 31, 2019		
	Marigold	**Seabee**	**Puna**
Gold produced (oz)	220,227	112,137	—
Gold sold (oz)	226,823	104,527	—
Silver produced ('000 oz)	—	—	7,674
Silver sold ('000 oz)	—	—	7,204
Lead produced ('000 lb)	—	—	23,957
Lead sold ('000 lb)	—	—	22,886
Zinc produced ('000 lb)	—	—	8,392
Zinc sold ('000 lb)	—	—	11,794
Ore mined (kt)	25,676	345	1,443
Waste removed (kt)	48,364	260	10,839
Total material mined (kt)	74,040	605	12,282
Total ore stacked (kt)	25,676	—	—
Gold stacked grade (g/t)	0.40	—	—
Ore milled (kt)	—	334	1,394
Gold mill feed grade (g/t)	—	9.56	—
Gold mill recovery (%)	—	98.2	—
Silver mill feed grade (g/t)	—	—	184.00
Lead mill feed grade (%)	—	—	0.89
Zinc mill feed grade (%)	—	—	0.54
Silver mill recovery (%)	—	—	93.2
Lead mill recovery (%)	—	—	85.8
Zinc mill recovery (%)	—	—	49.2

ITEM 3. LEGAL PROCEEDINGS

From time to time, the Company and its subsidiaries have become involved in litigation relating to claims arising out of operations in the normal course of business. Information regarding legal proceedings is contained in Note 20 to the Consolidated Financial Statements contained in this Annual Report and is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

The Company is required to report certain mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K, and that required information is included in Exhibit 95 to this Annual Report, which is incorporated herein by reference.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASE OF EQUITY SECURITIES

The Company's common shares are listed under the ticker symbol "SSRM" on the Toronto Stock Exchange and Nasdaq Global Select Market. The Company's CDIs are listed under the ticker symbol "SSR" on ASX. As of January 31, 2022, there were approximately 1,243 holders of record of the Company's common shares without par value, and approximately 3,528 holders of record of the Company's CDIs.

On April 19, 2021, the Company announced that it received acceptance from the Toronto Stock Exchange to initiate a Normal Course Issuer Bid (the "NCIB") permitting the Company to purchase for cancellation up to 10,000,000 common shares of the Company, representing 4.5% of the total issued and outstanding common shares, during the twelve-month period beginning April 21, 2021 and ending April 20, 2022. In connection with the NCIB, the Company has entered into an automatic share purchase plan with a designated broker (the "ASPP"). The ASPP is intended to allow for the purchase of Common Shares under the NCIB at times when it would ordinarily not be permitted to purchase shares due to regulatory restrictions and customary self-imposed blackout periods. Through the end of September 2021, 8,800,700 common shares were purchased under the NCIB through the ASPP. No shares were purchased in the fourth quarter of 2021.

The following table summarizes purchases by the Company or an affiliated purchaser of the Company's equity securities registered pursuant to Section 12 of the Exchange Act during the three months ended December 31, 2021:

Period	Total Number of Shares Purchased (1)	Average Price Paid Per Share (1)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (2)
April 1 - April 30	-	-	-	10,000,000
May 1 - May 31	2,000,000	$17.84	2,000,000	8,000,000
June 1 - June 30	2,000,000	$17.27	4,000,000	6,000,000
July 1 - July 31	2,000,000	$16.07	6,000,000	4,000,000
August 1 - August 31	2,000,000	$16.27	8,000,000	2,000,000
September 1 - September 30	800,700	$16.50	8,800,700	1,199,300

(1) The total number of shares purchase (and the average price paid per share) reflects shares purchase pursuant to the repurchase program described in (2) below.

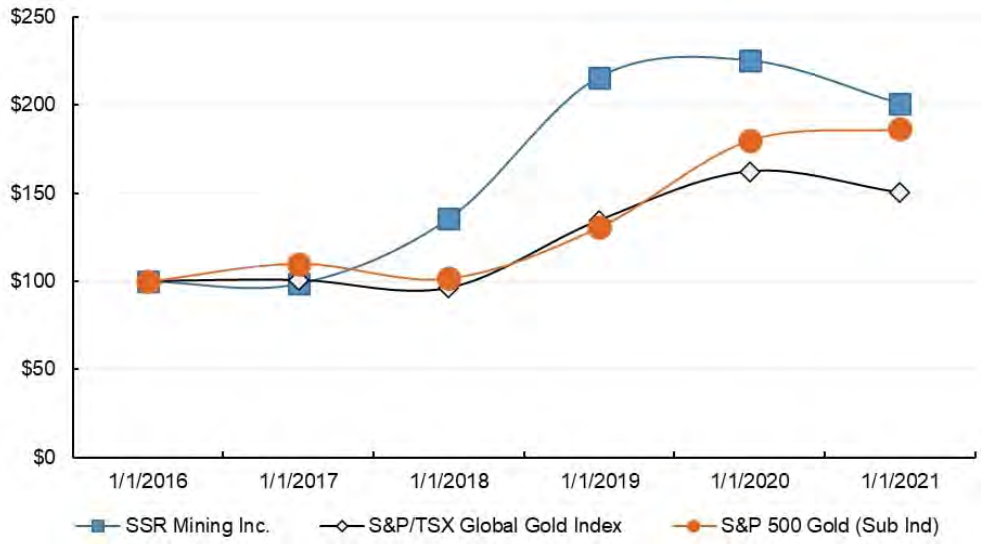
(2) The Company's Board of Directors authorized a share repurchase program, under which the Company was authorized to repurchase up to 10,000,000 common shares. Such program was announced April 19, 2021 and will expire April 20, 2022. The Company repurchased 8,800,700 common shares during 2021 under such program. The extent to which the Company repurchases its shares, and the timing of such repurchases, will depend upon a variety of factors, including trading volume, market conditions, legal requirements, business conditions and other factors. The repurchase program may be discontinued at any time, and the program does not obligate the Company to acquire any specific number of shares of its common stock.

Dividend Policy

On February 17, 2021, the Company's Board of Directors approved its inaugural quarterly dividend payment of $0.05 per common share that was paid on March 31, 2021 to shareholders of record at the close of business on March 5, 2021. During the year ended December 31, 2021, the Company declared and paid cash dividends of $0.20 per common share in the aggregate amount of $43.2 million. The declaration and payment of future dividends is at the discretion of the Board of Directors and will be made based on the Company's financial position and other factors relevant at the time. The Company expects to declare comparable cash dividends in the future, with increases to the amount of cash dividends declared as possible based on the Company's financial position going forward.

Performance Graph

The following performance graph compares the performance of our common shares during the period beginning December 31, 2016 and ending December 31, 2021 to the S&P 500 and the S&P 500 Gold Index. The graph assumes a $100 investment in our common shares and in each of the indexes since the beginning of the period, and a reinvestment of dividends paid on such investments on a quarterly basis throughout the period.



	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
SSR Mining Inc.	$100.00	$98.54	$135.54	$215.92	$225.45	$201.02
S&P/TSX Global Gold Index	$100.00	$100.62	$96.16	$134.52	$162.38	$150.31
S&P 500 Gold (Sub Ind)	$100.00	$110.13	$101.70	$130.71	$180.17	$186.58

The share performance information above is "furnished" and shall not be deemed to be "soliciting material" or subject to Rule 14A of the Exchange Act, shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, and shall not be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, whether made before or after the date of this Annual Report and irrespective of any general incorporation by reference language in any such filing, except to the extent that it specifically incorporates the information by reference.

Exchange Controls

Canada has no system of exchange controls. There are no Canadian restrictions on the repatriation of capital or earnings of a Canadian public company to non-resident investors. There are no laws in Canada or exchange restrictions affecting the remittance of dividends, profits, interest, royalties and other payments to non-resident holders of the Company's securities, except as discussed in "Canadian Federal Income Tax Considerations" below.

There are no limitations under the laws of Canada or in the organizing documents of the Company on the right of foreigners to hold or vote securities of the Company, except that the *Investment Canada Act* may require review and approval by the Minister of Industry (Canada) of certain acquisitions of "control" of the Company by a "non-Canadian." "Non-Canadian" generally means an individual who is not a Canadian citizen, or a corporation, partnership, trust or joint venture that is ultimately controlled by non-Canadians.

Certain United States Federal Income Tax Considerations for U.S. Holders

There may be material U.S. federal income tax consequences to U.S. holders in relation to an acquisition or disposition of common shares or other securities of the Company. U.S. holders should consult their own legal, accounting and tax advisors regarding such tax consequences under United States, state, local or foreign tax law regarding the acquisition or disposition of our common shares or other securities, in particular the tax consequences if the Company becomes a "passive foreign investment company" (commonly known as a "PFIC") within the meaning of Section 1297 of the United States Internal Revenue Code.

U.S. Resident Holders whose shares are taxable Canadian property should consult their own tax advisors.

Canadian Federal Income Tax Considerations

This summary is applicable to a holder or prospective purchaser of common shares who, for the purposes of the *Income Tax Act* (Canada) and any applicable treaty and at all relevant times, is not (and is not deemed to be) resident in Canada, does not (and is not deemed to) use or hold the common shares in, or in the course of, carrying on a business in Canada, and is not an insurer that carries on an insurance business in Canada and elsewhere.

This summary is based on the current provisions of the *Income Tax Act* (Canada), the regulations thereunder, all specific proposals to amend such Act and regulations publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof and the Company's understanding of the administrative policies and assessing practices published in writing by the Canada Revenue Agency prior to the date hereof. This summary does not otherwise take into account any change in law or administrative policy or assessing practice, whether by judicial, governmental, legislative or administrative decision or action, nor does it take into account other federal or provincial, territorial or foreign tax consequences, which may vary from the Canadian federal income tax considerations described herein.

Currency Conversion

For the purposes of the *Income Tax Act* (Canada), all amounts relating to the acquisition, holding or disposition of common shares, including dividends and proceeds of disposition must be determined in CAD based on the daily exchange rate of the Bank of Canada on the particular day, or such other rate of exchange as acceptable to the CRA.

Dividends on Common Shares

Canadian withholding tax at a rate of 25.0% (subject to reduction under the provisions of any applicable tax treaty) will be payable on dividends (or amounts paid or credited on account or in lieu of payment of, or in satisfaction of, dividends) paid or credited to a holder of common shares. Under the Canada - U.S. Income Tax Convention (1980), as amended (the "Canada - U.S. Income Tax Treaty"), the withholding tax rate is reduced to 15.0% for a holder who is entitled to the benefits of the Canada - U.S. Income Tax Treaty and who is the beneficial owner of the dividends (or to 5.0% if the holder is a company that owns at least 10.0% of the common shares).

Capital Gains and Losses

Subject to the provisions of any relevant tax treaty, capital gains realized by a holder on the disposition or deemed disposition of common shares held as capital property will not be subject to Canadian tax unless the common shares are taxable Canadian property (as defined in the *Income Tax Act* (Canada)), in which case the capital gains will be subject to Canadian tax at rates which will approximate those payable by a Canadian resident. Common shares generally will not be taxable Canadian property to a holder provided that, at the time of the disposition or deemed disposition, the common shares are listed on a designated stock exchange (which currently includes the NYSE) unless at any time within the 60 month period immediately preceding such time (a) any combination of (i) such holder, (ii) persons with whom such holder did not deal at arm's length or (iii) a partnership in which such holder or any such persons holds a membership interest either directly or indirectly through one or more partnerships, owned 25.0% or more of the issued shares of any class or series of shares of the Company and (b) more than 50% of the fair market value of the common shares was derived directly or indirectly from one or any combination of (i) real or immovable property situated in Canada, (ii) Canadian resource properties, (iii) timber resource properties, and (iv) options in respect of, or interests in, or for civil law rights in, property described in any of paragraphs (i) to (iii), whether or not the property exists. In certain circumstances set out in the *Income Tax Act* (Canada), the common shares may be deemed to be taxable Canadian property. Under the Canada - U.S. Income Tax Treaty, a holder who is entitled to the benefits of the Canada - U.S. Income Tax Treaty and to whom the common shares are taxable, Canadian property will not be subject to Canadian tax on the disposition or deemed disposition of the common shares unless at the time of disposition or deemed disposition, the value of the common shares is derived principally from real property situated in Canada.

ITEM 6. [RESERVE]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following Management's Discussion and Analysis ("MD&A") provides information that management believes is relevant to an assessment and understanding of the consolidated financial condition and results of operations of SSR Mining Inc. and its subsidiaries (collectively, the "Company"). The Company uses certain non-GAAP financial measures in this MD&A; for a description of each of these measures, please see the discussion under "Non-GAAP Financial Measures" in Part II, Item 7, Management's Discussion and Analysis herein. This item should be read in conjunction with the Consolidated Financial Statements and the notes thereto included in this annual report.

Overview

SSR Mining is a precious metals mining company with four producing assets located in the United States, Turkey, Canada and Argentina. The Company is primarily engaged in the operation, acquisition, exploration and development of precious metal resource properties located in Turkey and the Americas. The Company produces gold doré as well as copper, silver, lead and zinc concentrates. SSR Mining's diversified asset portfolio is comprised of high-margin, long-life assets located in some of the world's most prolific metal districts.

During the years ended December 31, 2021 and 2020, the COVID-19 pandemic negatively impacted the global economy and certain financial markets. Seabee and Puna were placed into care and maintenance near the end of the first quarter of 2020 and restarted operations during the second and third quarters of 2020, respectively. Çöpler and Marigold's operations were uninterrupted during 2020. While the length and duration of the COVID-19 pandemic, and the impact of any existing variant, continues to remain unknown, all sites have remained operational throughout 2021. The Company continues to restrict non-essential travel, protect the health and safety of its employees and contractors and take necessary steps to reduce the risk of COVID-19 impacting its operations.

On September 16, 2020, the Company completed the business acquisition of Alacer Gold Corp. ("Alacer"). The Company acquired all of the issued and outstanding common shares of Alacer for total consideration of $2,180 million. The financial information included in the following discussion and analysis of financial condition and results of operations for the year ended December 31, 2020, compared to the same periods in 2019, includes the results of the Çöpler operation since September 16, 2020. For further information, see Note 3 to the Consolidated Financial Statements.

On October 21, 2021, the Company completed the sale of a portfolio of 16 royalties and various deferred consideration interests in Turkey and the Americas (the "Royalty Portfolio") to EMX Royalty Corporation ("EMX"). The Company received total consideration of $33.0 million in cash and $34.5 million in equity (12.3 million common shares at $2.80 per share). In addition, the Company will receive up to $34.0 million in contingent cash payments payable upon completion of certain milestones related to the Yenipazar project. For further information, see Note 3 to the Consolidated Financial Statements.

On December 2, 2021, the Company announced an agreement to acquire all the issued and outstanding common shares of Taiga Gold Corporation ("Taiga Gold") at a price of CAD $0.265 per Taiga Gold share which implies an equity value of approximately $21.0 million. Taiga Gold has announced that it intends to call a meeting of shareholders to be held on or before March 15, 2022 to seek shareholder approval for the transaction. The transaction will require approval of (i) at least 66⅔% of the votes cast by Taiga Gold shareholders and (ii) a simple majority of the votes cast by certain Taiga Gold shareholders, which excludes votes from certain shareholders, as required under Canadian Multilateral Instrument 61-601 - *Protection of Minority Securityholders in Special Transactions*. The completion of the transaction is also subject to receipt of court, stock exchange and any other regulatory approvals, and is subject to customary closing conditions for transactions of this nature. The agreement provides for non-solicitation covenants with "fiduciary out" provisions that allow Taiga Gold to consider and accept a superior proposal, subject to a "right to match period" in favor of the Company. The agreement also provides for (i) a termination fee of $1.2 million to be paid by Taiga Gold to the Company if the agreement is terminated in certain specified circumstances; and (ii) and expense reimbursement fee of $0.3 million to be paid by the Company to Taiga Gold if the transaction fails to close as a result of specified breaches of the agreement by the Company. The transaction is expected to close in the first half of 2022. For further information, see Note 3 to the Consolidated Financial Statements.

On January 12, 2022, the Company entered into an agreement with Endeavour Silver Corp. ("Endeavour Silver") to sell its Pitarrilla project in Durango, Mexico for consideration consisting of $35.0 million in common shares of Endeavor Silver, $35.0 million in cash, and a 1.25% net smelter returns royalty on the Pitarilla property. The transaction is expected to close in the first half of 2022. Until closing, Pitarrilla will be included in the Company's Exploration, evaluation and development properties segment.

Consolidated Results of Operations

A summary of the Company's consolidated financial and operating results for the years ended December 31, are presented below (in thousands):

	Years Ended December 31,			Change	
	2021	2020	2019	2021 (%)	2020 (%)
Financial Results					
Revenue	$ 1,474,199	$ 853,089	$ 606,850	72.8 %	40.6 %
Operating income	$ 444,375	$ 188,275	$ 118,395	136.0 %	59.0 %
Production costs	$ 671,374	$ 444,538	$ 349,619	51.0 %	27.1 %
Net income	$ 425,922	$ 157,162	$ 101,218	171.0 %	55.3 %
Net income attributable to equity holders of SSR Mining	$ 368,076	$ 151,535	$ 102,776	142.9 %	47.4 %
Basic net income per share attributable to equity holders of SSR Mining	$ 1.70	$ 1.00	$ 0.84	70.0 %	19.0 %
Adjusted attributable net income[1]	$ 401,757	$ 193,401	$ 82,019	107.7 %	135.8 %
Adjusted basic attributable net income per share [1]	$ 1.86	$ 1.28	$ 0.67	45.3 %	91.0 %
Adjusted diluted attributable net income per share [1]	$ 1.78	$ 1.21	$ 0.63	47.1 %	92.1 %
Operating Results					
Gold produced (oz)	683,446	418,745	331,120	63.2 %	26.5 %
Gold sold (oz)	689,354	413,775	331,350	66.6 %	24.9 %
Silver produced ('000 oz)	8,010	5,581	7,674	43.5 %	(27.3)%
Silver sold ('000 oz)	7,810	4,411	7,204	77.1 %	(38.8)%
Lead produced ('000 lb) [2]	37,695	17,193	23,958	119.2 %	(28.2)%
Lead sold ('000 lb) [2]	33,378	14,179	22,886	135.4 %	(38.0)%
Zinc produced ('000 lb) [2]	13,642	6,988	8,392	95.2 %	(16.7)%
Zinc sold ('000 lb) [2]	10,751	5,111	11,794	110.4 %	(56.7)%
Gold equivalent produced (oz) [3]	794,456	484,153	421,828	64.1 %	14.8 %
Gold equivalent sold (oz) [3]	797,602	465,471	415,383	71.4 %	12.1 %
Average realized gold price ($/oz sold)	$ 1,802	$ 1,812	$ 1,394	(0.6)%	30.0 %
Average realized silver price ($/oz sold)	$ 24.98	$ 21.23	$ 16.26	17.7 %	30.6 %
Production cost per gold equivalent ounce sold	$ 842	$ 955	$ 842	(11.8)%	13.4 %
Cash cost per gold equivalent ounce sold [1, 3]	$ 698	$ 814	$ 787	(14.3)%	3.4 %
AISC per gold equivalent ounce sold [1, 3]	$ 955	$ 1,193	$ 1,078	(19.9)%	10.7 %

(1) The Company reports non-GAAP financial measures including adjusted attributable net income, adjusted basic attributable net income per share, cash costs and AISC per ounce sold to manage and evaluate its operating performance at its mines. See "Non-GAAP Financial Measures" for an explanation of these financial measures and a reconciliation of these financial measures to net income and production costs, which are the comparable GAAP financial measures.

(2) Data for lead production and sales relate only to lead in lead concentrate. Data for zinc production and sales relate only to zinc in zinc concentrate.

(3) Gold equivalent ounces have been established using the average realized metal prices per ounce of precious metals sold in the period and applied to the recovered silver metal content produced by the mines. Zinc and lead production are not included in gold equivalent ounces produced.

Revenue

For the year ended December 31, 2021, revenue increased by $621.1 million, or 72.8%, to $1,474.2 million as compared to $853.1 million the year ended December 31, 2020. The increase was mainly due to an increase in gold equivalent ounces sold by 71.4%, partially offset by a 0.6% decrease in average realized gold prices. Changes in sales across the Company's operations were as follows: (i) gold sales at Çöpler increased $402.4 million, (ii) metal sales at Puna increased $123.5 million, (iii) gold sales at Seabee increased $78.6 million and (iv) gold sales at Marigold increased $16.6 million. At Çöpler, gold sales were 195.8% higher in 2021 due to a full year of operations and the results for the year ended December 31, 2020 represent only the results from September 16, 2020 to December 31, 2020, the period for which the Company was entitled to the economic benefits of Çöpler following the Company's acquisition of Alacer. At Seabee and Puna, the increase in revenues in 2021 was due to the impact of the temporary suspensions of operations related to COVID-19 during the year ended December 31, 2020. At Marigold, revenues remained relatively consistent for the year ended December 31, 2021 as compared to the year ended December 31, 2020.

Revenue increased by $246.2 million, or 40.6%, to $853.1 million for the year ended December 31, 2020, as compared to $606.9 million for the year ended December 31, 2019. The increase was mainly due to an increase in gold equivalent ounces sold of 12.1% coupled with a 30.0% increase in average realized gold prices. Changes in sales across the Company's operations were as follows: (i) $205.5 million in gold sales at Çöpler, which was acquired in September 16, 2020, (ii) a $94.4 million increase in gold sales at Marigold, (iii) a decrease of $42.9 million in silver sales at Puna and (iv) a decrease of $10.8 million in gold sales at Seabee. At Çöpler, revenue reflects the first period reporting results from Çöpler following the acquisition of Alacer on September 16, 2020. At Marigold, gold sales revenue was 29.9% higher primarily due to a 28.2% increase in the average realized gold price. At Puna, sales revenue was 29.5% lower primarily due to a 38.8% decrease in the volume of silver ounces sold, partially offset by a 30.6% increase in the average realized silver price. At Seabee, sales revenue was 7.4% lower due to a 27.7% decrease in the volume of gold ounces sold, offset partially by a 28.0% increase in the average realized gold price. The lower sales volumes at Seabee and Puna were due to the impact of the temporary suspensions of operations related to COVID-19.

Production costs

Production costs increased by $226.8 million, or 51.0%, to $671.4 million for the year ended December 31, 2021, as compared to $444.5 million for the year ended December 31. 2020. The increase was primarily due to an additional $143.3 million in production costs at Çöpler during 2021, a 117.8% increase, reflecting a full year of operations during the year ended December 31, 2021 as compared to partial year costs recorded in 2020 from September 16, 2020 through December 31, 2020, following the acquisition of Alacer. The remaining increase is due to higher production costs of $25.8 million at Seabee, $55.1 million at Puna and $2.7 million at Marigold. At Seabee and Puna, production costs increased in 2021 as the sites did not shut down or temporarily suspend operations as the result of COVID-19 as had happened in the year ended December 31, 2020. At Marigold, production costs remained relatively consistent for the year ended December 31, 2021 as compared to the year ended December 31, 2020.

Production costs increased by $94.9 million, or 27.1%, to $444.5 million for the year ended December 31, 2020, as compared to $349.6 million for the year ended December 31, 2019. The increase in production costs was due to the inclusion of $121.6 million in new production costs from Çöpler and an increase of $24.3 million at Marigold, partially offset by a decrease of $45.0 million at Puna and a decrease of $6.1 million at Seabee. At Çöpler, the production costs were new resulting from the acquisition of Alacer on September 16, 2020. At Marigold, production costs increased primarily due to a higher royalty as a result of more ounces produced at a higher average realized gold price. At Seabee and Puna, production costs decreased primarily due to the impact of the temporary suspensions of operations related to COVID-19 during the year ended December 31, 2020.

Depreciation, depletion and amortization

	Years Ended December 31,			Change	
	2021	2020	2019	2021 (%)	2020 (%)
Depreciation, depletion, and amortization ($000s)	$ 227,959	$ 109,258	$ 85,644	108.6 %	27.6 %
Gold equivalent ounces sold	797,602	465,471	415,383	71.4 %	12.1 %
Depreciation, depletion, and amortization per gold equivalent ounce sold	$ 286	$ 235	$ 206	21.7 %	14.1 %

Depreciation, depletion, and amortization expense increased by $118.7 million, or 108.6%, to $228.0 million for the year ended December 31, 2021 as compared to $109.3 million for the year ended December 31, 2020. At Çöpler, the increase of $91.4 million reflected a full year of operations being included in the results for the year ended December 31, 2021 as compared to the period from September 16, 2020 to December 31, 2020, following the acquisition from Alacer. At Seabee and Puna, depreciation, depletion, and amortization increased primarily due to the impact of the temporary suspensions of operations related to COVID-19 during the year ended December 31, 2020.

Depreciation, depletion, and amortization expense increased by $23.6 million, or 27.6%, to $109.3 million for the year ended December 31, 2020 as compared to $85.6 million for the year ended December 31, 2019. The increase is mainly due to the inclusion of $33.8 million of depreciation, depletion, and amortization from Çöpler, an increase of $0.2 million at Marigold, partially offset by decreases at Puna and Seabee of $2.4 million and $8.0 million, respectively. At Çöpler, the depreciation, depletion, and amortization expense reflects the addition of Çöpler following the acquisition of Alacer on September 16, 2020, adding additional depreciation, depletion and amortization to 2020. At Seabee and Puna, depreciation, depletion, and amortization decreased primarily due to the impact of the temporary suspensions of operations related to COVID-19 during the year ended December 31, 2020.

General and administrative expense

General and administrative expense for the year ended December 31, 2021 was $56.6 million as compared to $33.6 million for the year ended December 31, 2020. General and administrative expenses increased primarily due to a larger combined organization following the acquisition of Alacer that covers more locations and jurisdictions, partially offset by the decrease in stock-based compensation expense primarily related to mark-to-market adjustments for cash-settled units due to changes in the Company's common share price. Further, the insurance market has hardened in 2021 across almost all insurance policy types and the Company is experiencing increased rates as a result of the pricing change in the market.

General and administrative expense for the year ended December 31, 2020 was $33.6 million as compared to $31.1 million for the year ended December 31, 2019. General and administrative expenses increased mainly due to the acquisition of Alacer, partially offset by a decrease in cash-settled stock-based compensation expense as a result of a smaller increase in the Company's common share price during the year ended December 31, 2020 as compared to the year ended December 31, 2019.

Exploration, evaluation and reclamation costs

Exploration, evaluation, and reclamation costs for the year ended December 31, 2021 were $42.4 million as compared to $27.0 million for the year ended December 31, 2020. Exploration and evaluation activity in the year ended December 31, 2020 was restricted by COVID-19. The expenditures incurred during the year ended December 31, 2021 mainly relate to brownfield exploration work at Çöpler, particularly around the Saddle target and Ardich, in addition to work at the Trenton Canyon property of Marigold and work at Seabee. The expenditures incurred during the year ended December 31, 2020 mainly related to greenfield exploration work performed at the Trenton Canyon property of Marigold and Seabee.

Exploration, evaluation, and reclamation costs for the year ended December 31, 2020 were $27.0 million as compared to $22.1 million for the year ended December 31, 2019. The expenditures incurred during the year ended December 31, 2020 mainly related to greenfield exploration work performed at Trenton Canyon property of Marigold, as well as at Çöpler and Seabee. The expenditures incurred during the year ended December 31, 2019 mainly related to greenfield exploration work performed at Trenton Canyon and Seabee.

Care and maintenance expense

Care and maintenance expense for the year ended December 31, 2020 was $29.6 million and no expenses were recognized for the years ended December 31, 2021 and 2019. Care and maintenance expenses of $13.6 million and $16.0 million were recognized at Seabee and Puna, respectively. These costs related to expenses incurred with the temporary suspension of the operations in response to COVID-19 during 2020. During the temporary suspensions, certain costs were incurred at each of the sites to provide care and maintenance activities. These costs were identified and recognized as care and maintenance expenses in the consolidated statements of income.

Impairment of long-lived and other assets

Impairment loss for the year ended December 31, 2021 was $20.3 million and no loss was recognized for the year ended December 31, 2020. The Company recognized an impairment loss related to the Royalty Portfolio sold on October 21, 2021, based on the difference between the carrying amount of the assets within the Royalty Portfolio, and the estimated net transaction price.

Transaction, integration and SEC conversion expense

Transaction, integration and SEC conversion expense for the year ended December 31, 2021 was $11.2 million as compared to $20.8 million for the year ended December 31, 2020. During the year ended December 31, 2021, the Company incurred expenses of $6.9 million associated with the integration activities related to the merger with Alacer and $4.3 million related to the transitional requirements in connection with converting from a foreign private issuer to a domestic filer under SEC reporting requirements. Expenses for the year ended December 31, 2020 of $20.8 million were associated with the acquisition of Alacer. No such expenses were incurred during the year ended December 31, 2019.

Interest expense

Interest expense for the year ended December 31, 2021 was $19.1 million as compared to $13.9 million for the year ended December 2020. The increase is mainly due to the addition of a full year of interest expense incurred in 2021 associated with the Term Loan and the Air Liquide oxygen plant at Çöpler which were assumed as part of the acquisition of Alacer.

Interest expense for the year ended December 31, 2020 was $13.9 million as compared to $12.8 million for the year ended December 31, 2019. The increase is mainly due to the interest expense for the partial year on the Term Loan assumed in the acquisition of Alacer.

Other income (expense)

Other expense for the year ended December 31, 2021 was $14.1 million as compared to income of $31.1 million for the year ended December 31, 2020. The change is mainly due to the fluctuation in fair value of marketable securities. For the years ended December 31, 2021 and 2020, the Company recognized a loss of $10.7 million and a gain of $21.4 million, respectively.

Other income for the year ended December 31, 2020 was $31.1 million as compared to $39.2 million for the year ended December 31, 2019. The decrease is mainly due to the change in fair value of marketable securities. For the years ended December 31, 2020 and 2019, the Company recognized a gain of $21.4 million and a gain of $34.6 million, respectively.

Foreign exchange gain (loss)

Foreign exchange gain for the year ended December 31, 2021 was $3.6 million compared to a loss of $3.7 million for the year ended December 31, 2020. The Company's main foreign exchange exposures are related to net monetary assets and liabilities denominated in TRY, ARS and CAD. During the year ended December 31, 2021, the foreign exchange gain was mainly due to a weakening of the TRY against the USD and its impact on TRY-denominated liabilities at Çöpler, partially offset by a weakening of the ARS against the USD and its impact on ARS-denominated assets at Puna.

Foreign exchange loss for the year ended December 31, 2020 was $3.7 million as compared to $5.1 million for the year ended December 31, 2019. During the year ended December 31, 2020, the foreign exchange loss was mainly due to a weakening of the ARS and its impact on the ARS-denominated assets at Puna, offset partially by a foreign exchange gain on CAD-denominated liabilities during the first quarter of 2020, as the CAD weakened, in addition to a foreign exchange gain on cash and cash equivalents balance during the second and third quarters of 2020 as the CAD strengthened. During the year ended December 31, 2019, the foreign exchange loss was due mainly to a weakening of the ARS and its impact on ARS denominated assets at Puna, as well as a strengthening of the CAD and its impact on CAD denominated assets.

Income and mining tax benefit (expense)

Income and mining tax benefit for the year ended December 31, 2021 was $14.1 million as compared to expense of $43.2 million for the year ended December 31, 2020. The decrease in tax expense in the year ended December 31, 2021 was primarily a result of a remeasurement gain on non-monetary assets denominated in non-functional currencies, primarily resulting from Turkey. In particular there was a significant devaluation of the Lira relative to the U.S. dollar amounting to $116.8 million.

Income and mining tax expense for the year ended December 31, 2020 was $43.2 million as compared to $35.4 million for the year ended December 31, 2019. The increase in tax expense for the year ended December 31, 2020 is primarily a result of increased income from operations.

Results of Operations

Çöpler, Turkey

Operating Data	Years Ended December 31, 2021	2020 [1]	Change (%)
Gold produced (oz)	329,276	102,616	220.9 %
Gold sold (oz)	333,761	108,283	208.2 %
Average realized gold price ($/oz sold)	$ 1,800	$ 1,887	(4.6)%
Production costs	$ 264,889	$ 121,614	117.8 %
Production costs ($/oz gold sold)	$ 794	$ 1,123	(29.3)%
Cash costs ($/oz gold sold) [2]	$ 578	$ 623	(7.2)%
AISC ($/oz gold sold) [2]	$ 713	$ 749	(4.8)%

(1) The operating data presented in this column represents the period from September 16, 2020 to December 31, 2020, the period for which the Company was entitled to the economic benefits of Çöpler following the Company's acquisition of Alacer.

(2) The Company reports the non-GAAP financial measures of cash costs and AISC per ounce of gold sold to manage and evaluate operating performance at Çöpler. See "Non-GAAP Financial Measures" for an explanation of these financial measures and a reconciliation to production costs, which are the comparable GAAP financial measure. Cash costs and AISC per ounce of gold sold exclude the impact of any fair value adjustment on acquired inventories as of the date of the Company's acquisition of Alacer.

Production and Production Costs

For the year ended December 31, 2021 and the period from September 16, 2020 to December 31, 2020, Çöpler produced 329,276 and 102,616 ounces of gold, respectively. Higher production for the year ended December 31, 2021 reflects a full year of production following the acquisition of Alacer on September 16, 2020. The Çöpler flotation plant construction was completed during the third quarter of 2021 on budget and schedule. The environmental impact assessment was approved in October 2021. Subsequent provincial permitting for the operation of the new facility was completed and the flotation plant was brought online in late December 2021 after the final permit was received.

Production costs for the year ended December 31, 2021 were $264.9 million, a 117.8% increase as compared to the year ended December 31, 2020. The production costs were higher due to the acquisition of Alacer on September 16, 2020.

Cash Costs

For the years ended December 31, 2021 and 2020, cash costs per ounce of gold sold were $578 and $623, respectively. The decrease is mainly due to the increase in ounces sold during the year ended December 31, 2021.

AISC

For the years ended December 31, 2021 and 2020, AISC per ounce of gold sold were $713 and $749, respectively. The decrease is mainly due to the increase in ounces sold during the year ended December 31, 2021.

Marigold, USA

Operating Data	Years Ended December 31, 2021	2020	2019	Change 2021 (%)	2020 (%)
Gold produced (oz)	235,282	234,443	220,227	0.4 %	6.5 %
Gold sold (oz)	236,847	229,892	226,823	3.0 %	1.4 %
Average realized gold price ($/oz sold)	$ 1,804	$ 1,783	$ 1,391	1.2 %	28.2 %
Production costs	$ 219,035	$ 216,358	$ 192,032	1.2 %	12.7 %
Production costs ($/oz gold sold)	$ 925	$ 941	$ 847	(1.7)%	11.1 %
Cash costs ($/oz gold sold) [(1)]	$ 926	$ 938	$ 847	(1.3)%	10.7 %
AISC ($/oz gold sold) [(1)]	$ 1,187	$ 1,205	$ 1,044	(1.5)%	15.4 %

(1) AISC per ounce of gold sold to manage and evaluate operating performance at Marigold. See "Non-GAAP Financial Measures" for an explanation of these financial measures and a reconciliation to production costs, which are the comparable GAAP financial measure.

Production and Production Costs

Production ounces remained consistent during the year ended December 31, 2021, compared to the same period in 2020. For the year ended December 31, 2020, Marigold produced 234,443 ounces of gold, an increase of 6.5% compared to 220,227 ounces for the year ended December 31, 2019. The increase was due to low stacking elevations throughout 2020 which contributed to faster leach times and a decrease in electrowinning cell inventory during 2020.

Production costs for the year ended December 31, 2021 were $219.0 million, a 1.2% increase as compared to the year ended December 31, 2020. The production costs remained consistent with prior periods. Production costs for the year ended December 31, 2020 were $216.4 million, a 12.7% increase compared to the year ended December 31, 2019. The increase is primarily due to 35.0% higher royalty as a result of 6.5% more ounces produced at a 28.2% higher gold price compared to the prior year.

Cash Costs

Cash costs per ounce of gold sold for the year ended December 31, 2021 were $926, a 1.3% decrease compared to the year ended December 31, 2020. The cash cost per ounce remained consistent with the prior period.

Cash costs per ounce of gold sold for the year ended December 31, 2020 were $938, a 10.7% increase compared to the year ended December 31, 2019, primarily due to an increase in per unit royalty costs due to higher realized gold prices in 2020.

AISC

AISC remained consistent during the year ended December 31, 2021, compared to the same period in 2020.

For the year ended December 31, 2020, AISC per ounce of gold sold was $1,205, a 15.4% increase compared to the year ended December 31, 2019. The increase is primarily due to higher cash costs and an increase in capital expenditures per gold ounce sold. Capital expenditures were higher during the year ended December 31, 2020 compared to the prior period in 2019 due to mobile mine equipment replacements, increased leach pad construction, and dewatering construction costs.

Seabee, Canada

Operating Data	Years Ended December 31, 2021	2020	2019	Change 2021 (%)	2020 (%)
Gold produced (oz)	118,888	81,686	110,893	45.5 %	(26.3)%
Gold sold (oz)	118,746	75,600	104,527	57.1 %	(27.7)%
Average realized gold price ($/oz sold)	$ 1,804	$ 1,790	$ 1,398	0.8 %	28.0 %
Production costs	$ 66,354	$ 40,575	$ 46,627	63.5 %	(13.0)%
Production costs ($/oz gold sold)	$ 559	$ 537	$ 446	4.1 %	20.4 %
Cash costs ($/oz sold) [(1)]	$ 521	$ 522	$ 447	(0.2)%	16.8 %
AISC ($/oz sold) [(1)]	$ 804	$ 1,110	$ 798	(27.6)%	39.1 %

(1) The Company reports the non-GAAP financial measures of cash costs and AISC per ounce of gold sold to manage and evaluate operating performance at Seabee. See "Non-GAAP Financial Measures" for an explanation of these financial measures and a reconciliation to production costs, which are the comparable GAAP financial measure.

Production and Production Costs

For the year ended December 31, 2021, Seabee produced 118,888 ounces of gold, a 45.5% increase compared to the year ended December 31, 2020. The increase was primarily due to a full year of mill operations in 2021 compared to the mill shut down from March 2020 through August 2020 due to the temporary suspension of operations as a result of COVID-19. For the year ended December 31, 2020, Seabee produced 81,686 ounces of gold, a 26.3% decrease compared to the year ended December 31, 2019. The decrease was primarily due to the mill shut down from March 2020 through August 2020 due to COVID-19 while the mill was fully operational in 2019. In response to the COVID-19 pandemic, Seabee was voluntarily placed into temporary care and maintenance on March 25, 2020 as a precautionary measure to protect the Company's employees, their families, and communities. Through this period, the mine was maintained in a state of operational readiness. The Company commenced a phased restart in June 2020 and the mine was operating at full capacity starting in August 2020.

Production costs for the year ended December 31, 2021 were $66.4 million, a 63.5% increase compared to the year ended December 31, 2020. The increase was primarily due to the temporary suspension of operations in 2020. Production costs for the year ended December 31, 2020 were $40.6 million, a 13.0% decrease as compared to the year ended December 31, 2019. The decrease was primarily due to the temporary suspension of operations in 2020.

Cash Costs

Cash costs per ounce of gold sold remained consistent during the year ended December 31, 2021, compared to the same period in 2020.

Cash costs per ounce of gold sold for the year ended December 31, 2020 were $522 as compared to $447 for the year ended December 31, 2019. The increase in cash costs was primarily due to a 27.7% decrease in gold ounces sold, partially offset by a 13.0% decrease in production costs.

AISC

For the year ended December 31, 2021, AISC per ounce was $804, a 27.6% decrease compared to the year ended December 31, 2020. The decrease is primarily due to a 57.1% increase in gold ounces sold.

For the year ended December 31, 2020, AISC per ounce of gold sold was $1,110, a 39.1% increase compared to the year ended December 31, 2019. The increase is primarily due to a 27.7% decrease in gold equivalent ounces sold while the AISC costs remained consistent with the prior period.

Puna, Argentina

	Years Ended December 31,			Change	
Operating Data	**2021**	**2020**	**2019**	**2021 (%)**	**2020 (%)**
Silver produced ('000 oz)	8,010	5,581	7,674	43.5 %	(27.3)%
Silver sold ('000 oz)	7,810	4,411	7,204	77.1 %	(38.8)%
Lead produced ('000 lb)	37,695	17,193	23,958	119.2 %	(28.2)%
Lead sold ('000 lb)	33,378	14,179	22,886	135.4 %	(38.0)%
Zinc produced ('000 lb)	13,642	6,988	8,392	95.2 %	(16.7)%
Zinc sold ('000 lb)	10,751	5,111	11,794	110.4 %	(56.7)%
Gold equivalent sold ('000 oz) [2]	108,248	51,696	84,033	109.4 %	(38.5)%
Average realized silver price ($/oz)	$ 25.12	$ 21.23	$ 16.26	18.3 %	30.6 %
Production costs	$ 121,096	$ 65,991	$ 110,960	83.5 %	(40.5)%
Production costs ($/oz gold equivalent sold)	$ 1,119	$ 1,277	$ 1,320	(12.4)%	(3.3)%
Cash costs ($/oz silver sold) [1]	$ 10.56	$ 12.72	$ 12.24	(17.0)%	3.9 %
Cash costs ($/oz gold equivalent sold)	$ 762	$ 1,085	$ 1,049	(29.8)%	3.4 %
AISC ($/oz silver sold) [1]	$ 12.40	$ 18.56	$ 13.81	(33.2)%	34.4 %
AISC ($/oz gold equivalent sold)	$ 897	$ 1,584	$ 1,184	(43.4)%	33.8 %

(1) The Company reports the non-GAAP financial measures of cash costs and AISC per ounce of silver sold to manage and evaluate operating performance at Puna. See "Non-GAAP Financial Measures" for an explanation of these financial measures and a reconciliation to production costs, which are the comparable GAAP financial measure.

(2) Gold equivalent ounces have been established using realized metal prices per ounce of precious metal sold in the period and applied to the recovered metal content of the silver sold by Puna. The Company has not included lead and zinc as they are considered a by-product.

Production

For the year ended December 31, 2021, Puna produced 8.0 million ounces of silver, a 43.5% increase compared to the year ended December 31, 2020. The increase is primarily due to a full year of production in 2021 as compared to the temporary suspension of operations in response to COVID-19 during the second and third quarters of 2020. Lead and zinc production were significantly higher for the same reason. For the year ended December 31, 2020, Puna produced 5,581.2 million ounces of silver, a 27.3% decrease compared to the year ended December 31, 2019. The decrease is primarily due to the temporary suspension of operations in response to COVID-19 during the second and third quarters of 2020 and a full year of operations in 2019.

Production costs for the year ended December 31, 2021 were $121.1 million a 83.5% increase compared to the year ended December 31, 2020. The increase was primarily due to the temporary suspension of operations in 2020. Production costs for the year ended December 31, 2020 were $66.0 million, a 40.5% decrease as compared to the year ended December 31, 2019. The decrease was primarily due to the temporary suspension of operations in 2020.

Cash Costs

Cash costs per ounce of silver sold for the year ended December 31, 2021 were $10.56, a 17.0% decrease as compared to the year ended December 31, 2020. The decrease is primarily due to the increased silver ounces produced partially offset by increases in operating costs due to increased productivity of mining equipment and higher average daily plant throughput.

Cash costs per ounce of silver sold for the year ended December 31,2020 were $12.72, a 3.9% increase as compared to the year ended December 31, 2019. The increase was primarily due to higher mining unit costs, offset by lower processing and overhead unit costs. Mining costs were higher due to operating inefficiencies through shutdown and start-up phases and an increase in maintenance work performed during the temporary suspensions. The lower processing and overhead unit costs are a result of higher average daily plant throughput and the positive impact of the renegotiation of the natural gas contract.

AISC

For the year ended December 31, 2021, AISC per ounce of silver sold was $12.40, a 33.2% decrease compared to the year ended December 31, 2020. The decrease in per ounce cost is primarily due to a significant increase in volumes produced and sold during 2021. Volumes increased in 2021 primarily due to the temporary suspension of operations in response to COVID-19 during the second and third quarters of 2020.

For the year ended December 31, 2020, AISC per ounce of silver sold was $18.56, a 34.4% increase as compared to the year ended December 31, 2019. The increase is primarily due to higher cash costs per ounce sold, offset partially by lower sustaining capital expenditures. The lower sustaining capital expenditures were mainly due to the deferral of capital projects due to impacts of COVID-19.

Liquidity and Capital Resources

The Company manages its liquidity risk through a rigorous planning, budgeting and forecasting process, which is reviewed and updated on a regular basis, to help determine the funding requirements to support its current operations, expansion and development plans, and by managing its capital structure.

The Company's objectives when managing capital are to:

- safeguard its ability to continue as a going concern in order to develop and operate its current projects and pursue strategic growth initiatives; and
- maintain a flexible capital structure which lowers its cost of capital.

In assessing capital structure, the Company includes the components of shareholders' equity, the 2019 Notes, the Term Loan and the Amended Credit Facility. In order to facilitate the management of capital requirements, the Company prepares annual budgets and continuously monitors and reviews actual and forecasted cash flows. The annual budget is monitored and approved by the Company's Board of Directors. To maintain or adjust the capital structure, the Company may, from time to time, issue new shares or debt, repay debt, dispose of non-core assets, or buy back shares. The Company expects its current capital resources will be sufficient to meet its business requirements for a minimum of twelve months.

Cash Dividends

During the year ended December 31, 2021, we declared and paid cash dividends of $0.20 per common share in the aggregate amount of $43.2 million.

Share Repurchase Plan/ NCIB

On April 19, 2021, the Board authorized a share repurchase plan, pursuant to which the Company may purchase in open market transactions, from time to time over the 12-month period commencing April 21, 2021, up to an aggregate of 10,000,000 of our common shares on the Nasdaq Global Select Market, the TSX and/or other exchanges and alternative trading systems in Canada and/or the United States, if eligible, subject to applicable law and stock exchange rules. The price that the Company will pay for common shares in open market transactions will be the market price at the time of purchase or such other price as may be permitted by applicable law or stock exchange rules. During the year ended December 31, 2021, the Company repurchased and cancelled 8,800,700 common shares for $148.1 million under the 2021 Repurchase Plan.

The TSX approved the Company's notice of intention to commence the NCIB pursuant to which the Company may purchase common shares over the TSX and Nasdaq for the period commencing April 21, 2021 until April 20, 2022 in accordance with the TSX's normal course issuer bid rules, including that such purchases are to be made at prevailing market prices or as otherwise permitted. Under the rules of the TSX, the maximum number of common shares that may be purchased in this period is 10,000,000 (representing 4.5% of the Company's issued and outstanding common shares as of April 9, 2021), and the maximum number of common shares that may be purchased on a single day on the TSX is 144,221 common shares, which is 25.0% of 576,887 (the average daily trading volume for the common shares on the TSX for the six months ended prior to the TSX's acceptance of the notice of the NCIB), subject to certain exceptions for block purchases, subject in any case to the volume and other limitations under Rule 10b-18. Under the rules of the NASDAQ, the maximum number of common shares that can be purchased on a single day on the Nasdaq is 25.0% of the rolling 4-week average.

Cash and Cash Equivalents

At December 31, 2021, the Company had $1,017.6 million of cash and cash equivalents, an increase of $156.9 million from December 31, 2020, mainly due to positive cash flows generated at each of the Company's operations. The Company held $975.0 million of its cash and cash equivalents balance in USD. Additionally, the Company held cash and cash equivalents of $24.5 million, $12.8 million and $3.0 million in ARS, CAD and TRY, respectively. All cash is invested in short-term investments or high interest savings accounts in accordance with the Company's investment policy with maturities of 90 days or less, providing the Company with sufficient liquidity to meet its foreseeable corporate needs.

Debt

On June 7, 2021, the Company amended its previous Credit Facility which expired on June 8, 2021, increasing the facility size from $75.0 million to $200.0 million and extending the maturity by four years to June 8, 2025. The Amended Credit Facility also includes an accordion feature that increased from $25.0 million to $100.0 million. The Amended Credit Facility may be used by the Company for working capital, reclamation bonding and other general corporate purposes. Amounts drawn under the Amended Credit Facility are subject to variable interest rates at LIBOR plus an applicable margin ranging from 2.00% to 3.00%, based on the Company's net leverage ratio. The Amended Credit Facility contains fallback language that replaces LIBOR with an alternative benchmark rate based on either SOFR or another alternative benchmark rate when LIBOR ceases to exist. Undrawn amounts are subject to a standby fee ranging from 0.40% to 0.60%, based on the Company's net leverage ratio. The Amended Credit Facility is undrawn at December 31, 2021.

The Company's working capital at December 31, 2021, together with future cash flows from operations, are expected to be sufficient to fund planned activities and commitments.

Cash Flows

The following table summarizes the Company's cash flow activity for year ended December 31:

	Year Ended December 31,		
	2021	2020	2019
Net cash provided by operating activities	$ 608,986	$ 307,098	$ 118,139
Cash (used in) provided by investing activities	(129,137)	240,423	(114,881)
Cash (used in) provided by financing activities	(319,769)	(158,374)	81,469
Effect of foreign exchange rate changes on cash and cash equivalents	(3,136)	789	12
Increase in cash, cash equivalents and restricted cash	156,944	389,936	84,739
Cash, cash equivalents, and restricted cash, beginning of period	895,921	505,985	421,246
Cash, cash equivalents, and restricted cash, end of period	$ 1,052,865	$ 895,921	$ 505,985

Cash provided by operating activities

For the year ended December 31, 2021, cash provided by operating activities was $609.0 million compared to $307.1 million for the year ended December 31, 2020. The increase in cash provided by operating activities is mainly due to the impact of higher gold sales across all mine sites including a full year of operations at Çöpler during the year ended December 31, 2021.

For the year ended December 31, 2020, cash provided by operating activities was $307.1 million compared to $118.1 million for the year ended December 31, 2019. The increase in cash provided by operating activities during 2020 was mainly due to the impact of increased gold production due to the acquisition of Alacer, as well as higher average realized gold prices.

Cash (used in) provided by investing activities

For the year ended December 31, 2021, cash used in investing activities was $129.1 million compared to cash provided by investing activities of $240.4 million for the year ended December 31, 2020. The increase in cash used in investing activities is mainly due to increased capital expenditures of $25.8 million and a $85.7 million reduction in proceeds from sales of marketable securities, partially offset from the proceeds of $32.6 million from the royalty portfolio sale in 2021. Furthermore, the Company acquired cash, cash equivalents, and restricted cash of $303.4 million in connection with the acquisition of Alacer during 2020.

For the year ended December 31, 2020, cash provided by investing activities was $240.4 million compared to cash used in investing activities of $114.9 million for the year ended December 31, 2019. The increase in cash provided is mainly due to the acquisition of cash, cash equivalents, and restricted cash on the acquisition of Alacer on September 16, 2021 and higher proceeds from marketable securities, partially offset by increased capital expenditures in 2020.

Cash (used in) provided by financing activities

For the year ended December 31, 2021, cash used in financing activities was $319.8 million compared to $158.4 million for the years ended December 31, 2020. The increase in cash used in financing activities is mainly due to the repurchase and cancellation of shares under the 2021 Repurchase Plan and dividends paid in 2021 compared to the redemption of the 2013 Notes and higher debt payments in 2020.

For the year ended December 31, 2020, cash used in financing activities was $158.4 million compared to cash provided by financing activities of $81.5 million for the year ended December 31, 2019. The increase in cash used in financing activities is mainly due to the proceeds from the issuance of the 2019 Notes in 2019 and higher debt payments in 2020.

Contractual Obligations

The Company enters into contracts in the normal course of business that give rise to commitments for future minimum payments. The following table summarizes the contractual obligations of the Company's financial liabilities, operating and capital commitments:

	December 31, 2021		
(in thousands)	**Current**	**Non-current**	**Total**
Accounts payable and accrued liabilities	$ 179,506	$ —	$ 179,506
Convertible notes (principal portion)	—	230,000	230,000
Term Loan and other debt (principal portion)	70,000	70,000	140,000
Interest payments on debt	1,093	918	2,011
Lease liabilities	14,677	111,490	126,167
Reclamation liabilities	2,384	122,660	125,044
Operating expenditure commitments	3,456	752	4,208
Capital expenditure commitments	12,368	2,137	14,505
Other	—	—	—
Total contractual obligations	$ 283,484	$ 537,957	$ 821,441

The Company believes working capital as of December 31, 2021, together with future cash flows from operations, are sufficient to support its commitments through 2022.

Non-GAAP Financial Measures

The Company has included certain non-GAAP financial measures to assist in understanding the Company's financial results. The non-GAAP financial measures are employed by the Company to measure its operating and economic performance and to assist in decision-making, as well as to provide key performance information to senior management. The Company believes that, in addition to conventional measures prepared in accordance with GAAP, certain investors and other stakeholders will find this information useful to evaluate the Company's operating and financial performance; however, these non-GAAP performance measures do not have any standardized meaning. These performance measures are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP. These non-GAAP measures should be read in conjunction with the Company's consolidated financial statements.

Non-GAAP Measure - Cash Costs and AISC

The Company uses cash costs per ounce of precious metals sold to monitor its operating performance internally. The most directly comparable measure prepared in accordance with GAAP is production costs. The Company believes this measure provides investors and analysts with useful information about its underlying cash costs of operations and the impact of by-product credits on its cost structure. The Company also believes it is a relevant metric used to understand its operating profitability and ability to generate cash flow. When deriving the production costs associated with an ounce of precious metal, the Company includes by-product credits. Thereby allowing management and other stakeholders to assess the net costs of gold and silver production. In calculating cash costs per ounce, the Company also excludes the impact of specific items that are significant, but not reflective of its underlying operations, including the impact of measuring inventories at fair value in connection with business combinations.

AISC includes total production costs incurred at the Company's mining operations, which forms the basis of cash costs. Additionally, the Company includes sustaining capital expenditures, sustaining mine-site exploration and evaluation costs, reclamation cost accretion and amortization, and general and administrative expenses. This measure seeks to reflect the ongoing cost of gold and silver production from current operations; therefore, expansionary capital and non-sustaining expenditures are excluded. Certain other cash expenditures, including tax payments and financing costs are also excluded.

The Company believes that AISC represents the total costs of producing gold and silver from current operations and provides the Company and other stakeholders with additional information about its operating performance and ability to generate cash flows. It allows the Company to assess its ability to support capital expenditures and to sustain future production from the generation of operating cash flows.

When deriving the number of ounces of precious metal sold, the Company considers the physical ounces available for sale after the treatment and refining process, commonly referred to as payable metal, as this is what is sold to third parties.

AISC includes total production costs incurred at the Company's mining operations, which forms the basis of its cash costs and which are reconciled to reported production costs.

The following tables provide a reconciliation of production costs to cash costs and AISC:

(in thousands, unless otherwise noted)	Year Ended December 31, 2021					
	Çöpler	Marigold	Seabee	Puna	Corporate	Total
Production costs (GAAP)	$ 264,889	$ 219,035	$ 66,354	$ 121,096	$ —	$ 671,374
By-product credits	$ (5,989)	$ (103)	$ (94)	$ (50,192)	$ —	$ (56,378)
Treatment and refining charges	$ —	$ 956	$ 394	$ 15,724	$ —	$ 17,074
Incremental COVID-19 related costs[1]	$ —	$ (649)	$ (4,786)	$ (4,151)	$ —	$ (9,586)
Fair value adjustment on acquired inventories	$ (65,939)	$ —	$ —	$ —	$ —	$ (65,939)
Cash costs (non-GAAP)	$ 192,961	$ 219,239	$ 61,868	$ 82,477	$ —	$ 556,545
Sustaining capital expenditures	$ 35,015	$ 57,722	$ 33,010	$ 10,458	$ —	$ 136,205
Sustaining exploration and evaluation expense	$ 992	$ 1,572	$ —	$ 140	$ —	$ 2,704
Reclamation cost accretion and amortization	$ 2,395	$ 2,738	$ 642	$ 1,624	$ —	$ 7,399
General and administrative expense and stock-based compensation expense	$ 6,664	$ (103)	$ (28)	$ 2,165	$ 50,072	$ 58,770
Total AISC (non-GAAP)	$ 238,027	$ 281,168	$ 95,492	$ 96,864	$ 50,072	$ 761,623
Gold sold (oz)	333,761	236,847	118,746	—	—	689,354
Silver sold (oz)	—	—	—	7,810,282	—	7,810,282
Gold equivalent sold (oz) [2][3]	333,761	236,847	118,746	108,248	—	797,602
Production cost per gold equivalent ounce sold	$ 794	$ 925	$ 559	$ 1,119	N/A	$ 842
Cash cost per gold ounce sold	$ 578	$ 926	$ 521	N/A	N/A	N/A
Cash cost per silver ounce sold	N/A	N/A	N/A	$ 10.56	N/A	N/A
Cash cost per gold equivalent ounce sold	$ 578	$ 926	$ 521	$ 762	N/A	$ 698
AISC per gold ounce sold	$ 713	$ 1,187	$ 804	N/A	N/A	N/A
AISC per silver ounce sold	N/A	N/A	N/A	$ 12.40	N/A	N/A
AISC per gold equivalent ounce sold	$ 713	$ 1,187	$ 804	$ 895	N/A	$ 955

(1) COVID-19 related costs include direct, incremental costs associated with COVID-19.
(2) Gold equivalent ounces have been established using realized metal prices per ounce of precious metal sold in the period and applied to the recovered metal content of the gold and silver sold by Çöpler, Marigold, Seabee and Puna. The Company has not included lead and zinc as they are considered a by-product.
(3) Gold equivalent ounces sold may not re-calculate based on amounts presented in this table due to rounding.

(in thousands, unless otherwise noted)	Year Ended December 31, 2020					
	Çöpler	Marigold	Seabee	Puna	Corporate	Total
Production costs (GAAP)	$ 121,614	$ 216,358	$ 40,575	$ 65,991	$ —	$ 444,538
By-product credits	$ (1,158)	$ (53)	$ (53)	$ (16,018)	$ —	$ (17,282)
refining charges	$ —	$ 214	$ 153	$ 6,601	$ —	$ 6,968
COVID-19 related costs [1]	$ (1,014)	$ (769)	$ (1,189)	$ (475)	$ —	$ (3,447)
Fair value adjustment on acquired inventories	$ (51,931)	$ —	$ —	$ —	$ —	$ (51,931)
Cash costs (non-GAAP)	$ 67,511	$ 215,750	$ 39,486	$ 56,099	$ —	$ 378,846
Sustaining capital expenditures	$ 12,893	$ 55,563	$ 30,325	$ 6,323	$ —	$ 105,104
Sustaining exploration and evaluation expense	$ 162	$ 2,463	$ —	$ 204	$ —	$ 2,829
Care and maintenance	$ —	$ —	$ 13,644	$ 15,949	$ —	$ 29,593
Reclamation cost accretion and amortization	$ 306	$ 2,756	$ 344	$ 1,771	$ —	$ 5,177
General and administrative expense and stock-based compensation expense	$ 251	$ 435	$ 127	$ 1,520	$ 31,236	$ 33,569
Total AISC (non-GAAP)	$ 81,123	$ 276,967	$ 83,926	$ 81,866	$ 31,236	$ 555,118
Gold sold (oz)	108,283	229,892	75,600	—	—	413,775
Silver sold (oz)	—	—	—	4,411,087	—	4,411,087
Gold equivalent sold (oz) [2][3]	108,283	229,892	75,600	51,696	—	465,471
Production cost per gold equivalent ounce sold	$ 1,123	$ 941	$ 537	$ 1,277	N/A	$ 955
Cash cost per gold ounce sold	$ 623	$ 938	$ 522	N/A	N/A	N/A
Cash cost per silver ounce sold	N/A	N/A	N/A	$ 12.72	N/A	N/A
Cash cost per gold equivalent ounce sold	$ 623	$ 938	$ 522	$ 1,085	N/A	$ 814
AISC per gold ounce sold	$ 749	$ 1,205	$ 1,110	N/A	N/A	N/A
AISC per silver ounce sold	N/A	N/A	N/A	$ 18.56	N/A	N/A
AISC per gold equivalent ounce sold	$ 749	$ 1,205	$ 1,110	$ 1,584	N/A	$ 1,193

(1) COVID-19 related costs include direct, incremental costs associated with COVID-19.

(2) Gold equivalent ounces have been established using realized metal prices per ounce of precious metal sold in the period and applied to the recovered metal content of the gold and silver sold by Çöpler, Marigold, Seabee and Puna. The Company has not included lead and zinc as they are considered a by-product.
(3) Gold equivalent ounces sold may not re-calculate based on amounts presented in this table due to rounding.

	Year Ended December 31, 2019[1]				
(in thousands, unless otherwise noted)	Marigold	Seabee	Puna	Corporate	Total
Production costs (GAAP)	$ 192,032	$ 46,627	$ 110,960	$ —	$ 349,619
By-product credits	$ (70)	$ (50)	$ (32,988)	$ —	$ (33,108)
Treatment and refining charges	$ 259	$ 127	$ 10,199	$ —	$ 10,585
Cash costs (non-GAAP)	$ 192,221	$ 46,704	$ 88,171	$ —	$ 327,096
Sustaining capital expenditures	$ 40,363	$ 33,558	$ 6,672	$ —	$ 80,593
Sustaining exploration and evaluation expense	$ 1,250	$ 2,622	$ 786	$ —	$ 4,658
Reclamation cost accretion and amortization	$ 2,163	$ 252	$ 2,054	$ —	$ 4,469
General and administrative expense and stock-based compensation expense	$ 819	$ 248	$ 1,775	$ 28,266	$ 31,108
Total AISC (non-GAAP)	$ 236,816	$ 83,384	$ 99,458	$ 28,266	$ 447,924
Gold sold (oz)	226,823	104,527	—	—	331,350
Silver sold (oz)	—	—	7,204,312	—	7,204,312
Gold equivalent sold (oz) [1][2]	226,823	104,527	84,033	—	415,383
Production cost per gold equivalent ounce sold	$ 847	$ 446	$ 1,320	N/A	$ 842
Cash cost per gold ounce sold	$ 847	$ 447	N/A	N/A	N/A
Cash cost per silver ounce sold	N/A	N/A	$ 12.24	N/A	N/A
Cash cost per gold equivalent ounce sold	$ 847	$ 447	$ 1,049	N/A	$ 787
AISC per gold ounce sold	$ 1,044	$ 798	N/A	N/A	N/A
AISC per silver ounce sold	N/A	N/A	$ 13.81	N/A	N/A
AISC per gold equivalent ounce sold	$ 1,044	$ 798	$ 1,184	N/A	$ 1,078

(1) The operating data presented in this table present results for the entire year ended December 31, 2019. As the Company was not entitled to the economic benefits of Çöpler prior to the acquisition, financial data for the periods prior to September 16, 2020 are not provided.
(2) Gold equivalent ounces have been established using realized metal prices per ounce of precious metal sold in the period and applied to the recovered metal content of the gold and silver sold by Çöpler, Marigold, Seabee and Puna. The Company has not included lead and zinc as they are considered a by-product.
(3) Gold equivalent ounces sold may not re-calculate based on amounts presented in this table due to rounding.

Non-GAAP Measure - Adjusted Attributable Net Income

Adjusted attributable net income and adjusted attributable net income per share are used by management and investors to measure the Company's underlying operating performance. The most directly comparable financial measures prepared in accordance with GAAP are net income attributable to equity holders of SSR Mining and net income per share attributable to equity holders of SSR Mining. Adjusted attributable net income is defined as net income adjusted to exclude the after-tax impact of specific items that are significant, but not reflective of the Company's underlying operations, including the impact of measuring inventories and mineral properties at fair value in connection with business combinations; impairment adjustments and reversals; foreign exchange (gains) losses and inflationary impacts on tax balances; transaction, integration and SEC conversion expenses; changes in tax rate for fair value adjustments and other non-recurring items.

The following table provides a reconciliation of net income attributable to equity holders of SSR Mining to adjusted net income attributable to equity holders of SSR Mining:

	Years Ended December 31,		
(in thousands, except per share)	2021	2020	2019
Net income attributable to equity holders of SSR Mining (GAAP)	$ 368,076	$ 151,535	$ 102,776
Interest saving on convertible notes, net of tax	4,889	4,883	3,392
Net income used in the calculation of diluted net income per share	$ 372,965	$ 156,418	$ 106,168
Weighted-average shares used in the calculation of net income and adjusted net income per share			
Basic	215,993	151,144	121,769
Diluted	228,241	163,699	135,443
Net income per share attributable to common stockholders (GAAP)			
Basic	$ 1.70	$ 1.00	$ 0.84
Diluted	$ 1.63	$ 0.96	$ 0.78
Adjustments:			
Fair value adjustment on acquired assets[(1)]	$ 104,714	$ 48,893	$ —
COVID-19 related costs [(2)]	9,586	3,447	—
Foreign exchange loss (gain)	(3,629)	3,732	5,119
Transaction, integration, and SEC conversion expense	11,240	20,813	—
Impairment of long-lived and other assets	20,275	—	—
Changes in fair value of investments	10,741	(21,368)	(34,630)
Loss (gain) on sale of mineral properties, plant and equipment	(412)	2,804	863
Loss on redemption of convertible debt	—	—	3,044
Income tax impact related to above adjustments	(34,120)	(15,144)	3,197
Foreign exchange (gain) loss and inflationary impacts on tax balances	(97,288)	(1,311)	1,650
Impact of tax rate change on fair value adjustments	12,574	—	—
Adjusted net income attributable to equity holders of SSR Mining (Non-GAAP)	$ 401,757	$ 193,401	$ 82,019
Adjusted net income per share attributable to SSR Mining shareholders (Non-GAAP)			
Basic	$ 1.86	$ 1.28	$ 0.67
Diluted	$ 1.78	$ 1.21	$ 0.63

(1) Fair value adjustments on acquired assets relate to the acquisition of Alacer's inventories and mineral properties.
(2) COVID-19 related costs include direct, incremental costs associated with COVID-19 at all operations.

Non-GAAP Measure - Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") and Adjusted EBITDA

EBITDA represents net income before interest, taxes, depreciation, and amortization. EBITDA is an indicator of the Company's ability to generate liquidity by producing operating cash flow to fund working capital needs, service debt obligations, and fund capital expenditures.

Adjusted EBITDA represents net income before interest, taxes, depreciation, and amortization, adjusted to exclude the impact of specific items that are significant, but not reflective of the Company's underlying operations, including the impact of measuring inventories at fair value in connection with business combinations; impairment adjustments and reversals; foreign exchange gains (losses); transaction and integration expenses; unrealized gains (losses) on derivatives; and other non-recurring items.

The most directly comparable financial measure prepared in accordance with GAAP to EBITDA and Adjusted EBITDA is net income attributable to equity holders of SSR Mining.

The following is a reconciliation of net income attributable to equity holders of SSR Mining to EBITDA and adjusted EBITDA:

	Years Ended December 31,		
(in thousands)	**2021**	**2020**	**2019**
Net income attributable to equity holders of SSR Mining (GAAP)	$ 368,076	$ 151,535	$ 102,776
Net income (loss) attributable to non-controlling interests	57,846	5,627	(1,558)
Depletion, depreciation and amortization	227,959	109,258	85,644
Interest expense	19,097	13,876	12,771
Income and mining tax expense (benefit)	(14,116)	43,203	35,439
EBITDA (non-GAAP)	658,862	323,499	235,072
Fair value adjustment on acquired inventories [(1)]	65,939	51,931	—
COVID-19 related costs [(2)]	9,586	3,447	—
Foreign exchange loss (gain)	(3,629)	3,732	5,119
Transaction, integration, and SEC conversion expense	11,240	20,813	—
Impairment of long-lived and other assets	20,275	—	—
Changes in fair value of investments	10,741	(21,368)	(34,630)
Loss (gain) on sale of mineral properties, plant and equipment	(412)	2,804	863
Loss on redemption of convertible debt	—	—	3,044
Adjusted EBITDA (non-GAAP)	$ 772,602	$ 384,858	$ 209,468

(1) Fair value adjustments on acquired inventories relate to the acquisition of Alacer.
(2) COVID-19 related costs include direct, incremental costs associated with COVID-19 at all operations.

Non-GAAP Measure - Free Cash Flow

The Company uses free cash flow to supplement information in its consolidated financial statements. The most directly comparable financial measures prepared in accordance with GAAP is cash provided by operating activities. The Company believes that in addition to conventional measures prepared in accordance with US GAAP, certain investors and analysts use this information to evaluate the ability of the Company to generate cash flow after capital investments and build the Company's cash resources. The Company calculates free cash flow by deducting cash capital spending from cash generated by operating activities.

The following table provides a reconciliation of cash provided by operating activities to free cash flow:

	Year Ended December 31,		
(in thousands)	2021	2020	2019
Cash provided by operating activities (GAAP)	$ 608,986	$ 307,098	$ 118,139
Expenditures on mineral properties, plant and equipment	(164,810)	(138,990)	(110,624)
Free cash flow (non-GAAP)	$ 444,176	$ 168,108	$ 7,515

Critical Accounting Estimates

MD&A is based on our consolidated financial statements, which have been prepared in conformity with US GAAP. The preparation of these statements requires that the Company makes estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. The Company bases these estimates on historical experience and on assumptions that the Company considers reasonable under the circumstances; however, reported results could differ from those based on the current estimates under different assumptions or conditions. The areas requiring the use of management's estimates are also discussed in Note 2 – Summary of Significant Accounting Policies. The policies identified as being critical to the understanding of our business and results of operations and that require the application of significant management judgment are outlined below.

Recoverable metal in stockpiles and leach pads

The Company estimates the quantity of recoverable metal in stockpiled ore and on leach pads using surveyed volumes of material, ore grades determined through sampling and assaying of blastholes, and estimated recovery rates based on ore type. The quantity of recoverable metal and recovery rates varies based on ore mineralogy, ore grade, ore particle sizes and the percentage of cyanide soluble gold. The estimated recoverable gold ounces placed on the leach pads are periodically reconciled by comparing the related ore to the actual gold ounces recovered (metallurgical balancing). The ultimate recoverable metal or life-of-mine recovery rate is unknown until mining operations cease. Accounting for recoverable metal in stockpiled ore and on leach pads represents a critical accounting estimate because (i) it is impracticable to determine metal contained in stockpiles and leach pads by physical count, thus requiring management to employ reasonable estimation methods and (ii) recovery rates from leach stockpiles can vary significantly. A change in the recovery rate or the quantity of recoverable gold ounces in our stockpiles or ore on leach pads could materially impact our financial statements.

Mineral reserves

Recoverable proven and probable reserves are the part of a mineral deposit that can be economically and legally extracted or produced at the time of the reserve determination. The determination of reserves involves numerous uncertainties with respect to the geology of the ore bodies, including quantities, grades and recovery rates. Estimating the quantity and grade of mineral reserves requires us to determine the size, shape and depth of our ore bodies by analyzing geological data, such as samplings of drill holes, tunnels and other underground workings. In addition to the geology of our mines, assumptions are required to determine the economic feasibility of mining these reserves, including estimates of future commodity prices and demand, the mining methods we use and the related costs incurred to develop and mine our reserves. The Company's estimates of recoverable proven and probable mineral reserves are prepared by and are the responsibility of its employees. These estimates are reviewed and verified regularly by independent experts in mining, geology and reserve determination.

As discussed in Note 2 – Summary of Significant Accounting Policies, the Company depreciates its mineral properties and mine development costs using the units-of-production method based on the estimated recoverable ounces in proven and probable reserves. Because the economic assumptions used to estimate mineral reserves may change from period to period and additional geological data is generated during the course of operations, estimates of reserves may change, which could have a significant impact on our results of operations, including changes to prospective depreciation rates and impairments of long-lived asset carrying values.

Impairment of long-lived assets

The Company assesses the carrying value of its long-lived assets for impairment when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. Events or circumstances that could indicate that the carrying value of an asset or asset group may not be recoverable include, but are not limited to, significant adverse changes in the business climate including changes in future metal prices, significant changes to the extent or manner in which the asset is being used or its physical condition including significant decreases in production or mineral reserves, and significant decreases in the market price of the assets. In evaluating long-lived assets for recoverability, estimates of undiscounted future cash flows of the Company's mines are used. Estimates of future cash flows are derived from current business plans which are developed using short and long-term metal price assumptions; estimates of costs; resource, reserve and exploration potential estimates, including timing and costs to develop and produce the material; and the use of discount rates in the measurement of fair value. The Company believes its estimates and models used to determine fair value are similar to what a market participant would use.

Goodwill

Goodwill is allocated to reporting units and is tested for impairment annually as of December 31 and when events or circumstances indicate that the carrying value of a reporting unit exceeds its fair value. In testing for goodwill impairment, the Company first evaluates qualitative factors to determine whether the existence of events or circumstances indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is determined that it is more likely than not that the carrying value exceeds the fair value, then a quantitative goodwill impairment test is performed by determining the fair value of the reporting unit. The fair value of a reporting unit is determined using either the income approach by utilizing estimates of discounted future cash flows or the market approach utilizing recent transaction activity for comparable properties. Estimates of future cash flows are derived from current business plans which are developed using short and long-term metal price assumptions; estimates of costs; resource, reserve and exploration potential estimates, including timing and costs to develop and produce the material; and the use of discount rates in the measurement of fair value.

Income taxes

Deferred income taxes are accounted for using the asset and liability method. Under this method, deferred tax assets and liabilities are determined by applying the enacted statutory tax rates in effect at the end of a reporting period to the cumulative temporary differences between the tax basis of assets and liabilities and their reported amounts in the Company’s consolidated financial statements. The effect on deferred taxes for a change in tax rates is recognized in income in the period that includes the enactment date.

The Company's operations are in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. Some of these tax regimes are defined by contractual agreements with the local government, while others are defined by general tax laws and regulations. The Company is subject to reviews of its income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of its contracts or laws.

The Company recognizes potential liabilities and records tax liabilities for anticipated tax audit issues based on our estimate of whether, and the extent to which, additional taxes will be due. These reserves are adjusted in light of changing facts and circumstances; however, due to the complexity of some of these uncertainties, the final resolution may result in a payment that is materially different from the current estimate of the tax liabilities. If the estimated tax liabilities prove to be less than the final assessment, an additional charge to expense would result. If the estimated tax liabilities prove to be greater than the final assessment, a tax benefit would result. In certain jurisdictions, the Company must pay a portion of the disputed amount to the local government in order to formally appeal the assessment. Such payment is recorded as a receivable if the Company believes the amount is ultimately collectible.

A valuation allowance for deferred tax assets is established when it is more likely than not that some portion of the benefit from deferred tax assets will not be realized. In determining the amount of the valuation allowance, the Company considers estimated future taxable income or loss as well as feasible tax planning strategies in each jurisdiction. If the Company determines all or a portion of our deferred income tax assets will not be realized, the valuation allowance will be increased. Conversely, if the Company determines all or a portion of the related benefits for which a valuation allowance has been provided will ultimately be realized, all or a portion of the related valuation allowance will be reduced.

Reclamation liabilities

The Company recognizes a liability for the fair value of estimated future reclamation costs when incurred. Reclamation liabilities are periodically adjusted to reflect changes in the estimated present value resulting from the passage of time and revisions to the estimates of either the timing or amount of reclamation costs. The estimated reclamation liability is based on when spending for an existing disturbance is expected to occur. The Company reviews, on an annual basis, unless otherwise deemed necessary, the reclamation obligation at each mine site.

Remediation costs are accrued based on the Company's best estimate at the end of each period of the costs expected to be incurred at a site. Accounting for reclamation liabilities requires the Company to make estimates unique to each mining operation of the future costs we will incur to complete the reclamation work required to comply with existing laws and regulations. Any such changes in future costs, the timing of reclamation activities, scope, or the exclusion of certain costs not considered reclamation costs, could materially impact the amounts charged to earnings for reclamation. Additionally, future changes to environmental laws and regulations could increase the extent of reclamation work required.

New Accounting Pronouncements

As of December 31, 2021, the Company has adopted all accounting pronouncements affecting the Company.

Risks and Uncertainties

The mining industry involves many risks including global pandemics which are inherent to the nature of the business, global economic trends and economic, environmental and social conditions in the geographical areas of operation. As a result, the Company is subject to a number of risks and uncertainties, each of which could have an adverse effect on its operating results, business prospects or financial position. The Company continuously assesses and evaluates these risks, seeking to minimize them by implementing high operating standards and processes to identify, assess, report and monitor risk across the organization.

For a comprehensive list of other known risks and uncertainties affecting the business, please refer to the section entitled "Risk Factors" in Part 1, Item 1A.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is exposed to a variety of financial risks as a result of its operations, including market risk (which includes price risk, currency risk and interest rate risk), credit risk, liquidity risk and capital risk. The Company's overall risk management strategy seeks to reduce potential adverse effects on its financial performance. Risk management is carried out under policies approved by the Board of Directors. The Company may, from time to time, use foreign exchange contracts, commodity price contracts, equity hedges and interest rate swaps to manage its exposure to fluctuations in foreign currency, energy or diesel prices, marketable securities values and interest rates.

The risks associated with the Company's financial instruments, and the policies on how the Company mitigates those risks are set out below. This is not intended to be a comprehensive discussion of all risks. There were no significant changes to the Company's exposures to these risks or the management of its exposures during the year ended December 31, 2021.

Market Risk

This is the risk that the fair values of financial instruments will fluctuate due to changes in market prices. The significant market risks to which the Company is exposed are price risk, currency risk and interest rate risk.

Price Risk

The Company sells concentrates produced from its Puna operation on a provisional basis. Provisional concentrate sales contain an embedded derivative that is required to be separated from the host contract for accounting purposes. The embedded derivative is marked to market through earnings each period prior to final settlement. The Company's concentrate metal sales agreements are subject to pricing terms that settle within one to four months after delivery of concentrate. This adjustment period represents the Company's exposure to commodity price risk on its trade receivables. A 10% increase or decrease in the silver price as of December 31, 2021, with all other variables held constant, would have resulted in a $6.7 million increase or decrease to the Company's after-tax net income, respectively.

Currency Risk

Currency risk is the risk that the fair values or future cash flows of the Company's financial instruments will fluctuate because of changes in foreign exchange rates. Exchange rate fluctuations affect the costs the Company incurs at its operations. Gold, silver, lead and zinc are sold in USD and the Company's costs are principally in USD, TRY, CAD and ARS. The appreciation or depreciation of foreign currencies against the USD can increase or decrease the cost of metal production and capital expenditures in USD terms. The Company is also exposed to currency risk arising from cash, cash equivalents and restricted cash held in foreign currencies, marketable securities, accounts receivable and other financial assets, trade and other payables, lease liabilities, other financial liabilities, and current and deferred income and other taxes denominated in foreign currencies. Further, the Company is exposed to currency risk through non-monetary assets and liabilities and tax bases of assets, liabilities and losses of entities whose taxable profit or tax loss are denominated in foreign currencies.

Effective September 2, 2019, Argentina introduced new Central Bank regulations which require export proceeds to be converted into ARS within five business days of such proceeds entering the country. These provisions were intended to be temporary until December 31, 2019; however, the provisions remained in effect as of December 31, 2021. While these provisions remain in effect, the Company is unable to hold funds in Argentina in USD, which has increased its exposure to the ARS.

At December 31, 2021, the Company was primarily exposed to currency risk through the following financial assets and liabilities denominated in foreign currencies:

	December 31, 2021		
(in thousands)	TRY	CAD	ARS
Financial assets			
Cash and cash equivalents	$ 2,968	$ 12,763	$ 24,450
Marketable securities	—	7,820	3,489
Accounts receivable and other financial assets [1]	20,004	39	4,716
Financial liabilities			
Trade and other payables	(26,782)	(24,954)	(14,374)
Lease liabilities [1]	(4,456)	(278)	—
Other financial liabilities	(4,354)	(236)	—
	$ (12,620)	$ (4,846)	$ 18,281

	December 31, 2020		
(in thousands)	TRY	CAD	ARS
Financial assets			
Cash and cash equivalents	$ 1,435	$ 4,556	$ 3,325
Marketable securities	—	25,235	—
Accounts receivable and other financial assets [1]	11,435	362	2,670
Financial liabilities			
Trade and other payables	(33,263)	(38,569)	(9,289)
Lease liabilities [1]	(6,389)	(293)	—
Other financial liabilities	(3,195)	(13,933)	—
	$ (29,977)	$ (22,642)	$ (3,294)

(1) Includes current and non-current portion.

The Company assessed the impact of a 10% change in the USD exchange rate relative to the ARS and CAD and a 25% change in the USD exchange rate relative to the TRY as of December 31, 2021, on the Company's net income based on the above net financial assets and liabilities. As of December 31, 2021, depreciation of the TRY, CAD, and ARS against the USD would have resulted in an increase to the Company's total net income as follows:

(in thousands)	Year Ended December 31, 2021
TRY	$ 2,524
CAD	$ 441
ARS	$ (1,662)

Interest Rate Risk

Interest rate risk is the risk that the fair values or future cash flows of the Company's financial instruments will fluctuate because of changes in market interest rates. The Company manages interest rate risk by maintaining an investment policy for short-term investments and cash held in banks, which focuses on preservation of capital and liquidity. As of December 31, 2021, the Company is exposed to interest rate cash flow risk arising from its cash and restricted cash in bank accounts that earn variable interest rates, and interest expense on variable rate borrowings. The Company's variable rate borrowings are comprised of the Term Loan, which is subject to a variable interest rate of LIBOR plus 3.50% to 3.70%, and the Amended Credit Facility, which is subject to a variable interest rate of LIBOR plus 2% to 3%. The Term Loan and Amended Credit Facility contain fallback language that replaces LIBOR with an alternative benchmark rate based on either SOFR or another alternative benchmark rate when LIBOR ceases to exist. The Amended Credit Facility is undrawn at December 31, 2021.

Future net cash flows from interest income on cash, restricted cash, and interest expense on variable rate borrowings will be affected by interest rate fluctuations. To mitigate exposures to interest rate risk, the Company may purchase short-term investments at market interest rates that result in fixed yields to maturity.

As of December 31, 2021, a 1.0% increase or decrease in the LIBOR interest rate, assuming all other variables remained constant, would decrease or increase the Company's after-tax net income for the year ended December 31, 2021 by $1.3 million.

As of December 31, 2021 and 2020, the weighted average interest rate earned on the Company's cash and cash equivalents was 0.14% and 0.16%, respectively. With other variables unchanged, a 1.0% change in the annualized interest rate would impact the Company's after-tax net income by $6.4 million and $4.0 million for the years ended December 31, 2021 and December 31, 2020, respectively.

Credit risk

Credit risk is the risk that the counterparty to a financial instrument will cause a financial loss for the Company by failing to discharge its obligations under the terms of the financial contract. The Company's maximum exposure to credit risk as of December 31, 2021 and December 31, 2020 was as follows (in thousands):

	December 31,	
	2021	**2020**
Cash and cash equivalents	$ 1,017,562	$ 860,633
Trade receivables	73,656	38,456
Value added tax receivable	22,456	29,899
Restricted cash	35,303	35,288
Other current and non-current financial assets	39,335	24,898
	$ 1,188,312	$ 989,174

As of December 31, 2021, no amounts were held as collateral except those discussed above related to other financial assets.

In addition, the Company uses surety bonds to support certain environmental bonding obligations. As of December 31, 2021 and 2020, the Company had surety bonds totaling $117.0 million and $117.5 million, respectively, outstanding.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of SSR Mining Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting
We have audited the accompanying consolidated balance sheets of SSR Mining Inc. and its subsidiaries (together, the Company) as of December 31, 2021 and 2020, and the related consolidated statements of operations, cash flows, and statement of changes in equity for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the COSO.

Basis for Opinions
The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting under item 9a. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting
A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Assessment of impairment indicators of mineral properties, plant and equipment

As described in Note 2 to the consolidated financial statements, the carrying value of mineral properties, plant and equipment is reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets or asset groups may not be recoverable (impairment indicators). The carrying amount of the Company's mineral properties, plant and equipment was $3.2 billion as of December 31, 2021. Management applies judgment to assess whether there are impairment indicators present that give rise to the requirement to conduct an impairment test. Events or changes in circumstances that could trigger an impairment test include (i) significant adverse changes in the business climate including changes in future metal prices; (ii) significant changes in the extent or manner in which the asset is being used or its physical condition including significant decreases in production or mineral reserves; and (iii) significant decreases in the market price of the assets.

The principal considerations for our determination that performing procedures relating to the assessment of impairment indicators of mineral properties, plant and equipment is a critical audit matter are that there was significant judgment by management when assessing whether there were indicators of impairment related to the Company's mineral properties, plant and equipment, specifically related to assessing whether there were (i) significant adverse changes in the business climate including changes in future metal prices; (ii) significant changes in the extent or manner in which the asset is being used or its physical condition including significant decreases in production or mineral reserves; and (iii) significant decreases in the market price of the assets. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence related to the judgments made by management in their assessment of impairment indicators that could give rise to the requirement to conduct an impairment test.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's assessment of impairment indicators of mineral properties, plant and equipment. These procedures also included, among others, (i) evaluating whether there were significant adverse changes in the business climate including changes in future metal prices by considering external market and industry data; (ii) evaluating whether there were any significant changes in the extent or manner in which the asset is being used or its physical condition including by assessing any significant decreases in production or mineral reserves by considering mineral reserve and resource technical reports and production results compared to historical actuals; and (iii) assessing whether there were significant decreases in the market price of the assets by considering any significant or prolonged declines in the Company's share price, and evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, Canada
February 23, 2022

We have served as the Company's auditor since 1989.

SSR Mining Inc.
Consolidated Statements of Operations
(in thousands)

	Years Ended December 31,		
	2021	**2020**	**2019**
Revenue	$ 1,474,199	$ 853,089	$ 606,850
Operating Costs and Expenses:			
Production costs	671,374	444,538	349,619
Depreciation, depletion, and amortization	227,959	109,258	85,644
General and administrative expense	56,594	33,569	31,108
Exploration. evaluation, and reclamation costs	42,382	27,043	22,084
Care and maintenance expense	—	29,593	—
Impairment of long-lived and other assets	20,275	—	—
Transaction, integration and SEC conversion expense	11,240	20,813	—
Operating income	444,375	188,275	118,395
Other income (expense):			
Interest expense	(19,097)	(13,876)	(12,771)
Loss on redemption of convertible debt	—	—	(3,044)
Other income (expense)	(14,149)	31,124	39,196
Foreign exchange gain (loss)	3,629	(3,732)	(5,119)
Total other income (expense)	(29,617)	13,516	18,262
Income before income and mining taxes	414,758	201,791	136,657
Income and mining tax benefit (expense)	14,116	(43,203)	(35,439)
Equity income (loss) of affiliates	(2,952)	(1,426)	—
Net income	425,922	157,162	101,218
Net loss (income) attributable to non-controlling interest	(57,846)	(5,627)	1,558
Net income attributable to SSR Mining shareholders	$ 368,076	$ 151,535	$ 102,776
Net income per share attributable to SSR Mining shareholders			
Basic	$ 1.70	$ 1.00	$ 0.84
Diluted	$ 1.63	$ 0.96	$ 0.78

The accompanying notes are an integral part of the Consolidated Financial Statements.

SSR Mining Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Years Ended December 31,		
	2021	**2020**	**2019**
Operating activities			
Net income	$ 425,922	$ 157,162	$ 101,218
Adjustments for:			
Depletion, depreciation, and amortization	227,959	109,258	85,644
Amortization of debt discount	948	938	1,611
Reclamation costs	4,821	3,815	3,729
Deferred income taxes	(130,570)	20,659	10,643
Loss on redemption of convertible debt	—	—	3,044
Stock-based compensation	14,799	15,851	14,424
Equity pickup on investments in joint ventures	2,952	1,426	—
Unrealized loss (gain) on derivative instruments	(5,093)	5,215	(2,238)
Change in fair value of marketable securities	10,741	(21,368)	(34,630)
Non-cash fair value adjustment on acquired inventories	65,939	51,930	—
Loss (gain) on sale of mineral properties, plant and equipment	(412)	2,804	863
Impairment of long-lived and other assets	20,275	—	—
Net change in operating assets and liabilities	(29,295)	(40,592)	(66,169)
Net cash provided by (used in) operating activities	608,986	307,098	118,139
Investing activities			
Additions to mineral properties, plant and equipment	(164,810)	(138,990)	(110,624)
Purchases of marketable securities	(10,086)	(29,550)	(3,435)
Proceeds on Royalty Portfolio sale	32,600	—	—
Net proceeds from sales of marketable securities	11,396	97,098	3,308
Proceeds from sale of mineral properties, plant and equipment	2,505	8,537	1,214
Acquisition of non-controlling interest	—	—	(2,415)
Acquisition of Alacer, cash, cash equivalents and restricted cash	—	303,388	—
Other investing activities	(742)	(60)	(2,929)
Net cash provided by (used in) investing activities	(129,137)	240,423	(114,881)

SSR Mining Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Years Ended December 31,		
	2021	**2020**	**2019**
Financing activities			
Repayment of debt, principal	$ (70,000)	$ (35,000)	$ —
Redemption of convertible notes	—	(114,994)	(152,250)
Proceeds from issuance of convertible notes, net of transaction costs	—	—	222,932
Proceeds from issuance of debt	—	3,087	—
Proceeds from exercise of stock options	8,778	6,545	7,875
Purchase and cancellation of common shares	(148,075)	—	—
Dividends paid	(43,233)	—	—
Settlement of restricted and performance share units	408	(14,389)	60
Funding from non-controlling interest	—	—	3,710
Non-controlling interest dividend	(55,464)	—	—
Principal payments on finance leases	(10,441)	(3,623)	(554)
Other financing activities	(1,742)	—	(304)
Net cash provided by (used in) financing activities	(319,769)	(158,374)	81,469
Effect of foreign exchange rate changes on cash, cash equivalents and restricted cash	(3,136)	789	12
Net increase (decrease) in cash, cash equivalents, and restricted cash	156,944	389,936	84,739
Cash, cash equivalents, and restricted cash beginning of year	895,921	505,985	421,246
Cash, cash equivalents, and restricted cash end of year	$ 1,052,865	$ 895,921	$ 505,985
Reconciliation of cash, cash equivalents, and restricted cash:			
Cash and cash equivalents	$ 1,017,562	$ 860,633	$ 503,647
Restricted cash	35,303	35,288	2,338
Total cash, cash equivalents, and restricted cash	$ 1,052,865	$ 895,921	$ 505,985

The accompanying notes are an integral part of the Consolidated Financial Statements.

SSR Mining Inc.
Consolidated Balance Sheets
(in thousands)

	December 31,	
	2021	**2020**
ASSETS		
Cash and cash equivalents	$ 1,017,562	$ 860,633
Marketable securities	40,431	26,748
Trade and other receivables	121,356	83,218
Inventories	389,416	437,034
Prepaids and other current assets	31,549	16,162
Total current assets	1,600,314	1,423,795
Mineral properties, plant and equipment, net	3,249,764	3,469,739
Inventories	221,617	135,200
Restricted cash	35,303	35,288
Equity method investments	4,918	7,782
Goodwill	49,786	49,786
Deferred income tax assets	8,501	15,072
Other non-current assets	41,235	40,682
Total assets	$ 5,211,438	$ 5,177,344
LIABILITIES		
Accounts payable	$ 34,844	$ 42,923
Accrued liabilities and other	165,108	131,781
Finance lease liabilities	12,439	3,568
Current portion of debt	71,491	71,025
Total current liabilities	283,882	249,297
Debt	295,493	366,612
Finance lease liabilities	105,965	109,544
Reclamation liabilities	122,660	102,721
Deferred income tax liabilities	338,788	473,027
Other non-current liabilities	12,133	25,655
Total liabilities	1,158,921	1,326,856
Contingently redeemable shares	—	3,311
EQUITY		
Common shares – unlimited authorized common shares with no par value; 211,879 and 219,607 shares issued and outstanding as of December 31, 2021 and December 31, 2020, respectively	3,140,189	3,242,821
Retained earnings	397,667	92,077
SSR Mining's shareholders' equity	3,537,856	3,334,898
Non-controlling interest	514,661	512,279
Total equity	4,052,517	3,847,177
Total liabilities and equity	$ 5,211,438	$ 5,177,344

The accompanying notes are an integral part of the Consolidated Financial Statements.

SSR Mining Inc.
Consolidated Statement of Changes of Equity
(in thousands)

	Common shares		Retained earnings (Accumulated Deficit)	Total equity attributable to equity holders of SSR Mining	Non-controlling interest	Total equity	Contingently redeemable shares
	Number of shares	Amount					
Balance January 1, 2019	120,740	$ 1,074,821	$ (163,191)	$ 911,630	$ 31,829	$ 943,459	$ —
Exercise of stock options	1,094	7,875	—	7,875	—	7,875	—
Settlement of RSUs	4	60	—	60	—	60	—
Acquisition of non-controlling interest	1,246	19,681	—	19,681	(33,981)	(14,300)	—
Equity-settled stock-based compensation	—	3,397	—	3,397	—	3,397	—
Transfer of equity-settled PSUs	—	1,356	—	1,356	—	1,356	—
Reclassification of contingently redeemable shares	—	(3,599)	—	(3,599)	—	(3,599)	3,599
Funding from non-controlling interest	—	—	—	—	3,710	3,710	—
Net income (loss)	—	—	102,776	102,776	(1,558)	101,218	—
Balance December 31, 2019	123,084	$ 1,103,591	$ (60,415)	$ 1,043,176	$ —	$ 1,043,176	$ 3,599
Acquisition of Alacer	95,700	2,142,703	—	2,142,703	506,652	2,649,355	
Exercise of stock options	825	6,545	—	6,545	—	6,545	—
Settlement of RSUs and PSUs	—	(15,557)	1,168	(14,389)	—	(14,389)	—
Transfer of cash-settled RSUs and PSUs	—	(4,138)	900	(3,238)	—	(3,238)	—
Equity-settled stock-based compensation	—	8,677	—	8,677	—	8,677	—
Reclassification of contingently redeemable shares	—	288	—	288	—	288	(288)
Other	(2)	712	(1,111)	(399)	—	(399)	—
Net income (loss)	—	—	151,535	151,535	5,627	157,162	—
Balance December 31, 2020	219,607	$ 3,242,821	$ 92,077	$ 3,334,898	$ 512,279	$ 3,847,177	$ 3,311
Repurchase of common shares	(8,801)	(129,052)	(19,023)	(148,075)	—	(148,075)	—
Exercise of stock options	818	8,778	—	8,778	—	8,778	—
Settlement of RSUs and PSUs	255	408	—	408	—	408	—
Transfer of equity settled RSUs	—	8,802	—	8,802	—	8,802	—
Equity-settled stock-based compensation	—	5,121	—	5,121	—	5,121	—
Reclassification of contingently redeemable shares	—	3,311	—	3,311	—	3,311	(3,311)
Dividends paid to equity holders of SSR Mining	—	—	(43,233)	(43,233)	—	(43,233)	—
Dividends paid to non-controlling interest	—	—	—	—	(55,464)	(55,464)	—
Other	—	—	(230)	(230)	—	(230)	—
Net income (loss)	—	—	368,076	368,076	57,846	425,922	—
Balance December 31, 2021	211,879	$ 3,140,189	$ 397,667	$ 3,537,856	$ 514,661	$ 4,052,517	$ —

The accompanying notes are an integral part of the Consolidated Financial Statements.

1. THE COMPANY

SSR Mining Inc. and its subsidiaries (collectively, "SSR Mining," or the "Company") is incorporated under the laws of the Province of British Columbia, Canada. The Company's common shares are listed on the Toronto Stock Exchange ("TSX") in Canada and the Nasdaq Global Select Market ("NASDAQ") in the United States under the symbol "SSRM" and the Australian Securities Exchange (ASX) in Australia under the symbol "SSR."

The Company is principally engaged in the operation, acquisition, exploration and development of precious metal resource properties located in Turkey and the Americas. The Company has four producing mines in Turkey, the United States, Canada, and Argentina. The Company's focus is on safe, profitable gold and silver production from its Çöpler Gold Mine ("Çöpler") in Erzincan, Turkey, Marigold mine ("Marigold") in Nevada, USA, Seabee Gold Operation ("Seabee") in Saskatchewan, Canada and Puna Operations ("Puna") in Jujuy, Argentina, and to advance, as market and project conditions permit, its principal development projects towards development and commercial production.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies used in the preparation of these consolidated financial statements are as follows:

Risks and uncertainties

As a mining company, the revenue, profitability and future rate of growth of the Company are substantially dependent on the prevailing prices for gold, silver, zinc and lead. The prices of these metals are volatile and affected by many factors beyond the Company's control, and there can be no assurance that commodity prices will not be subject to wide fluctuations in the future. A substantial or extended decline in commodity prices could have a material adverse effect on the Company's financial position, results of operations, cash flows, access to capital and the quantities of reserves that the Company can economically produce. The carrying value of the Company's *Mineral properties, plant and equipment*; *Inventories; Deferred income tax assets*; and *Goodwill* are particularly sensitive to the outlook for commodity prices. A decline in the Company's price outlook could result in material impairment charges related to these assets.

COVID-19

During the year ended December 31, 2021, the COVID-19 pandemic continued to impact global economic and financial markets, disrupting global supply chains and workforce participation. Many industries and businesses, including the Company, continue to be impacted by the COVID-19 pandemic and face operating challenges associated with the regulations and guidelines resulting from efforts to contain COVID-19.

The Company continues to restrict all non-essential travel and manage the contacts of its employees and contractors in order to reduce the risk of COVID-19 impacting its operations. The Company is operating its corporate offices at reduced capacity, with most employees working remotely.

The Company's mine sites remain operational with carefully managed COVID-19 based restrictions designed to protect communities and employees, including quarantining, testing, ensuring physical distancing and providing additional protective equipment.

Basis of preparation

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”). Previously, the Company prepared its consolidated financial statements under International Financial Reporting Standards ("IFRS") as permitted by securities regulators in Canada, as well as in the United States under the status of a Foreign Private Issuer as defined by the United States Securities and Exchange Commission ("SEC"). As of June 30, 2021, the Company determined that it no longer qualified as a Foreign Private Issuer under the SEC rules. As a result, beginning January 1, 2022 the Company is required to report with the SEC on domestic forms and comply with domestic company rules in the United States. The transition to U.S. GAAP was made retrospectively for all periods from the Company’s inception. New accounting standards implemented subsequent to January 1, 2019 were adopted on their required adoption date.

Use of estimates

Preparing financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The more significant areas requiring the use of management’s estimates and assumptions relate to mineral reserves that are the basis for future cash flow estimates utilized in impairment calculations and units-of-production depreciation; reclamation liabilities; valuation of assets acquired and liabilities assumed in business combinations; estimates of fair value for certain reporting units and asset impairments (including impairments of long-lived assets and goodwill); estimates of recoverable metal in stockpile and leach pad inventories; estimates of the net realizable value of inventory, stockpiles and ore on leach pads; and estimates of deferred tax assets and liabilities. The Company has based its estimates on historical experience and various other assumptions that it believes to be reasonable. Accordingly, actual results may differ materially from these estimates under different assumptions or conditions. Changes in facts and circumstances may alter such estimates and affect the results of operations and financial position in future periods.

Principles of consolidation

These consolidated financial statements include the accounts of SSR Mining Inc., its wholly owned subsidiaries, and variable interest entities (“VIEs”) in which it is the primary beneficiary. Intercompany assets, liabilities, equity, income, expenses, and cash flows between SSR Mining Inc. and its subsidiaries have been eliminated on consolidation. Investments in joint ventures in which the Company has significant influence and VIEs where the Company is not the primary beneficiary are accounted for under the equity method of accounting.

Operating segments

The Company has five reportable segments for financial reporting purposes: Çöpler, Marigold, Seabee, Puna and the exploration, evaluation and development properties. Çöpler, Marigold, Seabee and Puna segments represent the Company's four operating mine sites. The exploration, evaluation and development properties segment represents a portfolio of prospective exploration tenures, both near or adjacent to the existing operations (near-mine) and greenfield standalone prospects, across Turkey, the U.S., Canada, Mexico and Peru. For further information refer to Note 4.

Business combinations

The Company recognizes and measures the assets acquired and liabilities assumed in a business combination based on their estimated fair values at the acquisition date, while transaction and integration costs are expensed as incurred. Any excess of the purchase consideration when compared to the fair value of the net tangible and intangible assets acquired, if any, is recorded as goodwill. For material acquisitions, the Company engages independent valuation specialists to assist with the determination of the fair value of assets acquired, liabilities assumed, non-controlling interest, if any, and goodwill, based on recognized business valuation methodologies. An income, market or cost valuation method may be utilized to estimate the fair value of the assets acquired, liabilities assumed, and non-controlling interest, if any, in a business combination. If the initial accounting for the business combination is incomplete by the end of the reporting period in which the acquisition occurs, an estimate will be recorded.

Subsequent to the acquisition date, and not later than one year from the acquisition date, the Company will record any material adjustments to the initial estimate based on new information obtained that would have existed as of the date of the acquisition. Any adjustment that arises from information obtained that did not exist as of the date of the acquisition will be recorded in the period the adjustment arises.

Foreign currency transactions

The functional and reporting currency of SSR Mining and each of its subsidiaries is the USD. Accordingly, foreign currency transactions and balances of the Company's subsidiaries are remeasured as follows: (i) monetary assets and liabilities denominated in currencies other than the USD ("foreign currencies") are remeasured into USD at the exchange rates prevailing at the balance sheet date; and (ii) non-monetary assets denominated in foreign currencies and measured at other than fair value are remeasured using the rates of exchange at the transaction date. Foreign exchange gains and losses are recognized in *Foreign exchange gain (loss)* in the Consolidated Statements of Operations. Unrealized foreign exchange gains and losses on cash and cash equivalent balances denominated in foreign currencies are disclosed separately in the Consolidated Statements of Cash Flows.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and held at banks and short-term investments with an original maturity of three months or less, which are readily convertible into a known amount of cash. Restricted cash is presented separately in *Restricted cash* in the Consolidated Balance Sheets. Restricted cash is deposited at banks and financial institutions and represents both a debt service reserve account and reclamation reserve account.

Inventories

Stockpiled ore, leach pad inventory, work-in-process inventory, and finished goods are valued at the lower of average cost or net realizable value ("NRV"). NRV is calculated using the estimated price at the time of sale based on prevailing and forecasted metal prices, less estimated future production costs to convert the inventory into saleable form, depreciation, and all associated selling costs. Costs include all direct costs incurred in production, including direct labor and materials, freight, depletion and depreciation, and directly attributable overhead costs. Any write-downs of inventory to NRV are recognized within *Production costs* and *Depreciation, depletion, and amortization* in the Consolidated Statements of Operations.

Stockpiled ore represents ore that has been extracted from the mine and is available for further processing. The cost of stockpiled ore is derived from the current mining costs incurred up to the point of stockpiling the ore and is removed at the weighted average cost as ore is processed. Quantities of stockpiled ore are verified by periodic surveys. Stockpiled ore that is not expected to be processed within the next twelve months is classified as non-current.

Leach pad inventory represents ore that has been mined and placed on leach pads where a solution is applied to the surface of the heap to dissolve the gold and by-products. The resulting solution is further processed in a plant to recover the gold. The cost of leach pad inventory is derived from current mining and leaching costs and is removed as ounces of gold are recovered at the weighted average cost per recoverable ounce of gold on the leach pads. Estimates of recoverable gold in the leach pads are calculated based on the quantities of ore placed on the leach pads (measured tonnes added to the leach pads), the grade of ore placed on the leach pads (based on assay data), and an estimated recovery percentage (based on estimated recovery assumptions from the block model). The nature of the leaching process inherently limits the ability to precisely monitor inventory levels. As a result, estimates are refined based on actual results and engineering studies over time. The final recovery of gold from leach pads will not be known until the leaching process is concluded at the end of the mine life. Ore on leach pads that is not expected to be recovered within the next twelve months is classified as non-current.

Work-in-process inventory represents material that is currently in the process of being converted to a saleable product, whether being processed in a mill or following recovery from a leach pad. Work-in-process inventory is determined based on assays of the material fed into the process and the projected recoveries of the respective processing plants. Work-in-process inventory is valued at the lower of average cost of the material fed into the process plus the in-process conversion costs, including applicable depreciation relating to the process facilities, or NRV.

Finished goods inventory includes metal concentrates at site and in transit, doré at a site or a refinery, or gold bullion and are valued at the lower of the average cost of the respective in-process inventories incurred prior to the refining process, plus applicable refining costs, or NRV. Costs are transferred from finished goods inventory and recorded as *Production costs* and *Depreciation, depletion and amortization* in the Consolidated Statements of Operations upon sale.

Materials and supplies inventories are measured at the lower of average cost or NRV. A regular review is undertaken to determine the extent of any reserve for obsolescence.

Mineral properties, plant and equipment

Mineral properties

Mineral properties are capitalized at fair value at the acquisition date. Mineral properties may include mineral reserves, mineral resources and exploration potential. Mineral reserves represent the estimate of ore that can be economically and legally extracted from the Company's mining properties. Production stage mineral properties are operating properties that contain proven and probable reserves and are amortized using the units-of-production method based on the estimated recoverable ounces or pounds in proven and probable reserves. Development stage mineral properties are those under development that contain proven and probable reserves. Exploration stage mineral properties are those that potentially contain mineralized material, consisting of (i) areas adjacent to existing mineral resources and mineralization located within the immediate mine area; (ii) areas outside of immediate mine areas that are not part of mineral resources; and (iii) greenfield exploration potential that is not associated with any other production, development, or exploration stage property. Mineral properties in the development and exploration stage are not amortized until the property is converted to the production stage. Mineral exploration costs, including costs associated with prospecting, sampling, mapping, diamond drilling and other work involved in searching for mineral resources are charged to *Exploration, evaluation and reclamation* costs as incurred.

Mine development

Mine development costs include engineering and metallurgical studies, drilling and other related costs to delineate an ore body, the removal of overburden to initially expose an ore body at open pit surface mines and the building of access ways, shafts, lateral access, drifts, ramps and other infrastructure at underground mines. Capitalization of mine development project costs that meet the definition of an asset begins once mineralization is classified as proven and probable reserves.

Drilling and related costs are capitalized for an ore body where proven and probable reserves exist, and the activities are directed at obtaining additional information about the ore body or converting mineralized material to proven and probable reserves. All other drilling and related costs are expensed as incurred. Drilling costs incurred during the production phase for operational ore control are allocated to inventory costs and then included as a component of *Production costs*.

The cost of removing overburden and waste materials to access the ore body at an open pit mine prior to the production phase are referred to as “pre-stripping costs.” Pre-stripping costs are capitalized during the development of an open pit mine. Where multiple open pits exist at a mining complex utilizing common processing facilities, pre-stripping costs are capitalized for each pit. The removal, production, and sale of de minimis saleable materials may occur during the development phase of an open pit mine and are assigned incremental mining costs related to the removal of that material.

The production phase of an open pit mine commences when saleable minerals, beyond a de minimis amount, are produced. Stripping costs incurred during the production phase of a mine are variable production costs that are included as a component of inventory to be recognized in *Production costs* in the same period as the revenue from the sale of inventory.

Mine development costs are amortized using the units-of-production method based on estimated recoverable ounces or pounds in proven and probable reserves. To the extent that these costs benefit an entire ore body, they are amortized over the estimated life of the ore body. Costs incurred to access specific ore blocks or areas that only provide benefit over the life of that area are amortized over the estimated life of that specific ore block or area.

Plant and equipment

Expenditures for new facilities or equipment and expenditures that extend the useful lives of existing facilities or equipment are capitalized and recorded at cost. Facilities and equipment acquired as part of a finance lease are capitalized and recorded as right-of-use ("ROU") assets based on the contractual lease terms. The carrying amounts of plant and equipment are depreciated to their estimated residual value over the estimated useful lives of the specific assets or the estimated life-of-mine ("LOM"), if shorter. Depreciation starts on the date when the asset is available for its intended use. Construction in process assets are not depreciated until available for their intended use. The major categories of plant and equipment are depreciated on a straight-line basis using the estimated lives indicated below:

Vehicles	5 years - 7 years
Mining equipment	3 years - 21 years
Mobile equipment components	2 years - 7 years
Buildings	5 years - 21 years
Mine plant equipment	3 years - 21 years
Underground infrastructure	5 years - 21 years
ROU assets - plant and equipment (1)	10 years - 21 years

(1) For ROU assets, the depreciation period indicated above represents the period from lease commencement date to the earlier of the end of the useful life of the underlying asset or the end of the lease term.

Impairment of long-lived assets

The Company assesses the carrying value of its long-lived assets for impairment when events or changes in circumstances indicate that the related carrying amounts of such assets may not be recoverable. Events or circumstances that could indicate that the carrying value of an asset or asset group may not be recoverable include, but are not limited to, significant adverse changes in the business climate including changes in future metal prices, significant changes to the extent or manner in which the asset is being used or its physical condition including significant decreases in production or mineral reserves, and significant decreases in the market price of the assets. In evaluating long-lived assets for recoverability, estimates of undiscounted future cash flows of the Company's mines are used. An impairment is considered to exist if total estimated undiscounted future cash flows are less than the carrying amount of the asset. Once it is determined that an impairment exists, and impairment loss is recognized based on the difference between the estimated fair value of the long-lived assets and their carrying amounts. Fair value is typically determined through the use of an income approach utilizing estimates of discounted future cash flows. Future cash flows are derived from current business plans which are developed using short and long-term metal price assumptions; estimates of costs; and resource, reserve and exploration potential estimates, including timing and costs to develop and produce the material and are considered Level 3 fair value measurements. The Company believes its estimates and models used to determine fair value are similar to what a market participant would use.

Goodwill

Under the acquisition method of accounting for business combinations, the identifiable assets acquired and liabilities assumed are recognized at their estimated fair value as of the date of acquisition. The excess of the fair value of consideration paid over the fair value of the identifiable net assets acquired is recognized as *Goodwill* and allocated to the reporting units.

Goodwill is allocated to reporting units and assessed for impairment annually as of December 31 and when events or circumstances indicate that the carrying value of a reporting unit exceeds its fair value. In testing for goodwill impairment, the Company first evaluates qualitative factors to determine whether the existence of events or circumstances indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is determined that it is more likely than not that the fair value is less than the carrying value, then a quantitative goodwill impairment test is performed by determining the fair value of the reporting unit. The fair value of a reporting unit is determined using either the income approach by utilizing estimates of discounted future cash flows or the market approach utilizing recent transaction activity for comparable properties. These approaches are considered Level 3 fair value measurements. If the carrying amount of a reporting unit exceeds the fair value, an impairment loss is recognized in the current period in an amount equal to the excess.

Stock-based compensation

The Company determines the fair value on the grant date for stock-based compensation awards and expenses the awards in the Consolidated Statements of Operations over the vesting period on a straight-line basis. Based on the terms of the award, and the Company's intent and past practice for settlement in cash or shares, the awards are classified as liabilities or equity. The Company recognizes forfeitures as they occur.

Cash-settled stock-based compensation arrangements; including Deferred Share Units ("DSUs"), DSU Replacement Units, Performance Stock Units ("PSUs"), and PSU Replacement Units are remeasured at fair value at the end of each reporting period and at the date of settlement, with any changes in fair value recognized in profit or loss for the period.

For equity-settled stock options, the fair value at the grant date is estimated using the Black-Scholes option pricing model. For Restricted Share Units ("RSUs") and RSU Replacement Units, the fair value at the grant date is estimated based on the quoted market price of the Company's common stock.

Income taxes

The income tax and mining expense for the period is comprised of current tax expense and deferred tax expense, and is recognized in the Consolidated Statements of Operations.

Current income tax

Current tax for each of the Company's taxable entities is based on the local taxable profit for the period at the local statutory tax rates enacted at the date of the Consolidated Balance Sheets as well as the available double tax treaty rates as ratified. Management periodically evaluates positions taken in tax returns in situations in which applicable tax regulation is subject to interpretation. The Company establishes provisions where appropriate on the basis of amounts expected to be paid to tax authorities. Any uncertain tax positions must meet a more-likely-than-not realization threshold to be recognized and any potential accrued interest and penalties related to unrecognized tax benefits are recognized within *Income tax benefit (expense)*.

Deferred tax

Deferred income taxes are accounted for using the asset and liability method. Under this method, deferred tax assets and liabilities are determined by applying the enacted statutory tax rates in effect at the end of a reporting period to the cumulative temporary differences between the tax bases of assets and liabilities and their reported amounts in the Company's consolidated financial statements. Deferred income tax assets are recognized for all deductible temporary differences to the extent that it is more likely than not that taxable profits will be available to be utilized against those deductible temporary differences. A valuation allowance for deferred tax assets is established when it is more likely than not that some portion of the benefit from deferred tax assets will not be realized. The extent to which deductible temporary differences, unused tax losses and other income tax deductions are expected to be realized are reassessed at the end of each reporting period. The effect on deferred taxes for a change in tax rates is recognized in income during the period that the enactment date is effective.

Deferred tax assets are recognized for investment incentive tax credits in Turkey in the period earned as expenditures that are more likely than not to be accepted as eligible spend occur and it is more likely than not that taxable profits will be available to be utilized against those credits, which can be applied to current and future year income tax payments. The Company accounts for the investment incentive tax credit in Turkey using the flow-through method. Under this method, the investment incentive tax credit is treated as a reduction of income taxes in the year in which the credit arises. Deferred income tax liabilities are not recognized for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, unless it becomes apparent that the excess book over tax basis difference is expected to reverse in the foreseeable future. Accordingly, deferred income tax assets and liabilities are recognized for future withholding taxes payable where it has been determined that the amount would reasonably be payable in the foreseeable future.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset the current tax assets against the current tax liabilities, when they relate to income taxes levied by the same taxation authority, and the Company intends to settle its current tax assets and liabilities on a net basis.

Mining taxes and other tax arrangements

Mining taxes or royalties and other arrangements are treated as taxation arrangements when they have the characteristics of an income tax. This is the case when they are imposed under government authority and the amount payable is calculated by reference to an income measure. Obligations arising from royalty arrangements that do not satisfy these criteria are recognized as current liabilities and included within *Production costs*.

Investments

The Company has investments in debt securities and marketable equity securities. The Company determines the appropriate classification of debt securities at the time of purchase and re-evaluates such determinations at each reporting date. Current investments include marketable equity securities and held to maturity and available for sale debt securities. Marketable equity securities are carried at fair value. Held to maturity securities, classified based on the intent and ability to hold the securities to maturity, are carried at amortized cost. Marketable debt securities are categorized as available for sale and carried at fair value.

Gains and losses on the sale of securities are recognized on a specific identification basis. Unrealized gains and losses are included in *Other income (expense)* on the Consolidated Statements of Operations.

Derivative financial instruments

The Company is exposed to various market risks, including the effect of changes in metal prices and foreign exchange rates, and from time to time uses derivatives to manage financial exposures that occur in the normal course of business. The Company recognizes derivatives as either assets, presented in the Consolidated Balance Sheets in *Prepaid and other current assets* or *Other non-current assets*, or liabilities, presented in the Consolidated Balance Sheets in *Accrued liabilities and other* or *Other non-current liabilities*, and measures those instruments at fair value. These are considered Level 2 fair value measurements. Changes in the value of derivative instruments are recorded each period in *Production Costs* or *Other income (expense)* on the Consolidated Statements of Operations. Management applies judgment in estimating the fair value of instruments that are highly sensitive to assumptions regarding commodity prices, market volatilities, and foreign currency exchange rates. The Company currently does not apply hedge accounting.

Reclamation liabilities

The Company recognizes a liability for the fair value of estimated future reclamation costs when incurred. The liability is accreted over time through periodic charges to *Exploration, evaluation and reclamation costs* in the Consolidated Statements of Operations. In addition, the asset retirement cost is capitalized as part of the asset's carrying value and amortized over the life of the related asset. Reclamation liabilities are periodically adjusted to reflect changes in the estimated present value resulting from the passage of time and revisions to the estimates of either the timing or amount of reclamation costs. Changes in the estimate of reclamation costs may result from changes in legal or regulatory requirements, increased obligations arising from additional mining and exploration activities, and changes to cost estimates. Changes in reclamation estimates at mines that are not currently operating, as the mine or portion of the mine site has entered the closure phase and has no substantive future economic value, are reflected in *Exploration, evaluation and reclamation costs* in the Consolidated Statements of Operations. The estimated reclamation obligation is based on when spending for an existing disturbance is expected to occur. The Company reviews, on an annual basis, unless otherwise deemed necessary, the reclamation obligation at each mine site.

Leases

The Company has entered into lease contracts under which it is the lessee. The Company determines whether an arrangement is, or contains, a lease based on the substance of the arrangement at its inception. If the contract is determined to be a lease, the Company classifies the lease as either an operating or financing lease. Operating lease right of use ("ROU") assets are included in *Other non-current assets* and lease obligations are included in *Accrued liabilities and other* and *Other non-current liabilities* in the Consolidated Balance Sheets. Finance lease ROU assets are included in *Mineral properties, plant and equipment* and lease obligations are included in *Finance lease liabilities* in the Consolidated Balance Sheets.

ROU assets represent the Company’s right to use the underlying assets for the lease term and the corresponding lease liabilities represent its obligations to make lease payments arising from the leases. Operating and finance lease ROU assets and liabilities are recognized at the commencement date based on the present value of the expected lease payments over the lease term. When the rate of interest implicit in the lease cannot be readily determined, the Company uses its incremental borrowing rate in determining the present value of future lease payments.

Operating lease costs are recognized on a straight-line basis over the lease term. Finance lease costs are recognized based on the effective interest method for the lease liability and straight-line amortization of the ROU asset, resulting in more cost being recognized in earlier periods. Variable lease payments are recognized in the period in which they are incurred.

The Company has elected certain practical expedients including the short-term lease recognition exemption for all classes of underlying assets. Accordingly, leases with a term of one year or less have not and will not be recognized on the Consolidated Balance Sheets. The Company has also elected the practical expedient to not separate lease and non-lease components such as taxes and common area maintenance charges, in certain classes of assets such as its office facilities.

Most of the Company's leasing arrangements include extension and termination options, all of which provide the Company flexibility in retaining the underlying facilities and equipment, as well as some protection from future price variability. The Company has applied judgment to determine the lease term, which is the non-cancelable period in the contract, plus the period beyond that cancellation period that the Company believes it is reasonably certain it will need the equipment for operational purposes.

Revenue recognition

The Company generates revenue by selling gold, copper, silver, lead and zinc produced from its mining operations. The majority of the Company's sales come from the sale of refined gold bullion; however, the end product at the Company's gold operations is generally doré bars. The Company also sells silver-lead and zinc concentrate to smelters for further treatment and refining.

Gold sales

Doré is sent to refiners to produce bullion that meets the required market standard of 99.95% gold. Under the terms of the Company's refining agreements, the doré bars are refined for a fee, and the Company's share of the refined gold and separately recovered silver is credited to its bullion account. Doré produced at Marigold and Seabee is sold primarily to bullion banks in the London spot market. Doré produced at Çöpler is sold primarily on the Istanbul Gold Exchange. Under legislation commenced in Turkey in 2018, the Central Bank of the Republic of Turkey has the first right of refusal for all gold produced by mining operations in Turkey.

The Company generally recognizes revenue for gold from doré production when it satisfies the performance obligation of transferring gold bullion credits to the customer, as this is the point at which the customer obtains the ability to direct the use of and hold the remaining benefits of ownership of the asset. The transaction price is fixed on the date of sale based on the London Bullion Market Association's ("LBMA") gold fix price or spot price and number of ounces delivered. Payment is due upon delivery of gold bullion credits to the customer's account.

Concentrate sales

Metals produced at Puna are sold in concentrate form to smelters and traders. The Company recognizes revenue for silver-lead and zinc concentrate, net of treatment and refining costs, when it satisfies the performance obligation of transferring control of the concentrate to the customer. This generally occurs as material passes over the vessel's rail at the port of loading or unloading, as the customer has the risk of loss and ability to direct the use of and obtain substantially all of the remaining benefits of the material. The Company has elected to account for shipping and handling costs for concentrate contracts as fulfillment activities and not as promised goods or services; therefore, these activities are not considered separate performance obligations.

The initial sales price of concentrate metal sales is determined on a provisional basis at the date of sale as the final selling price is subject to movements in the monthly average London Metal Exchange ("LME") or LBMA prices up to the date of final pricing. The period between provisional invoicing and final pricing, or settlement period, is typically between 30 and 120 days.

The Company's accounts receivable from provisionally priced sales contain an embedded derivative that is required to be separated from the host contract for accounting purposes. The host contract is the receivable from the sale of concentrates measured at the forward price at the time of sale. The embedded derivative is adjusted to fair value through *Revenue* each period until the date of final metal settlement.

Income per share

Basic net income per share is calculated by dividing the net income or loss attributable to common stockholders of the Company by the weighted average number of common shares outstanding during the period. Diluted net income per share is determined by including the basic weighted average number of common shares outstanding adjusted for the effects of all potential dilutive shares of common stock, unless their effect would be anti-dilutive.

3. ACQUISITIONS AND DIVESTITURES

Acquisition of Taiga Gold Corporation

On December 2, 2021, the Company announced an agreement to acquire all the issued and outstanding common shares of Taiga Gold Corporation (“Taiga Gold”) at a price of CAD $0.265 per Taiga Gold share which implies an equity value of approximately $21.0 million. Taiga Gold has announced that it intends to call a meeting of shareholders to be held on or before March 15, 2022 to seek shareholder approval for the Transaction. The transaction will require approval of (i) at least 66⅔% of the votes cast by Taiga Gold shareholders and (ii) a simple majority of the votes cast by certain Taiga Gold shareholders, which excludes votes from certain shareholders, as required under Canadian Multilateral Instrument 61-601 - *Protection of Minority Securityholders in Special Transactions*. The completion of the transaction is also subject to receipt of court, stock exchange and any other regulatory approvals, and is subject to customary closing conditions for transactions of this nature. The agreement provides for non-solicitation covenants with "fiduciary out" provisions that allow Taiga Gold to consider and accept a superior proposal, subject to a "right to match period" in favor of the Company. The agreement also provides for (i) a termination fee of $1.2 million to be paid by Taiga Gold to the Company if the agreement is terminated in certain specified circumstances; and (ii) and expense reimbursement fee of $0.3 million to be paid by the Company to Taiga Gold if the transaction fails to close as a result of specified breaches of the agreement by the Company. The transaction is expected to close in the first half of 2022.

The transaction materially expands the Company’s presence in Saskatchewan, Canada, a core jurisdiction, by adding five new properties, which provide new exploration targets stretching south from the Seabee mine to the Company’s 100%-owned Amisk property. Further, the acquisition consolidates a 100% interest in the Fisher property contiguous to the Seabee mine, currently operated under joint venture comprised of the Company's 80% and Taiga Gold's 20%. The Company will leverage its existing teams and infrastructure to advance the development of these assets.

Acquisition of Alacer Gold Corporation

On September 16, 2020 (“Acquisition Date”), the Company acquired all of the issued and outstanding common shares of Alacer Gold Corp. ("Alacer"). The acquisition of Alacer created a diversified portfolio of high quality, long-life mines across four mining-friendly jurisdictions.

The Company acquired all of the issued and outstanding common shares of Alacer, with Alacer shareholders receiving 0.3246 of the Company’s common stock for every one Alacer share (the "Exchange Ratio"). The transaction resulted in the issuance of 95,699,911 of the Company’s common stock to the former shareholders of Alacer. All outstanding RSUs, PSUs and DSUs of Alacer that were not exercised prior to the Acquisition Date were replaced with the Company units (the RSU Replacement Units, the PSU Replacement Units, and the DSU Replacement Units, respectively), with the number of such securities issued adjusted by the Exchange Ratio.

Upon closing of the transaction, the Company and former Alacer shareholders owned 57% and 43%, respectively, of the shares of the combined entity. Upon the completion of the transaction, Alacer became a wholly-owned subsidiary of the Company. Alacer holds an 80% interest in Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi ("Anagold"), the owner and operator of Çöpler, a large-scale open pit gold mine in east-central Turkey. The 20% non-controlling interest in Anagold is held by Lidya Madencilik Sanayi ve Ticaret Anonim Şirketi ("Lidya Mining").

Based upon the September 15, 2020 closing stock price of the Company's common stock, the total purchase price consideration of the acquisition was $2.2 billion. The Company incurred transaction and integration costs of $6.9 million and $20.8 million, which included $11.0 million for severance and termination payments to executives, for the years ended December 31, 2021 and 2020, respectively. These costs were recognized in *Transaction, integration and SEC conversion expense* in the Consolidated Statements of Operations.

The acquisition of Alacer was accounted for as a business combination which requires the measurement of acquired assets and liabilities assumed at their respective fair values at the date of acquisition. The Acquisition Date fair value of the consideration transferred consists of the following (in thousands):

Share consideration [1]	$	2,127,284
RSU, PSU and DSU consideration [2]		52,363
Total consideration	$	2,179,647

(1) The fair value of 95,699,911 common shares issued to Alacer shareholders was determined using the Company's common share price of $22.22 per share on September 15, 2020.

(2) The fair value of 3,570,261 RSU, 3,463,023 PSU and 1,158,071 DSU consideration units issued was determined using the Alacer share price of $7.21 on September 15, 2020, adjusted for the Exchange Ratio. Of the amount relating to the RSU, PSU and DSU consideration, $15.4 million was recognized in equity and $23.8 million and $13.2 million were recognized in Accrued liabilities and other and Other non-current liabilities, respectively.

The table below presents the fair values of the assets acquired and liabilities assumed at the Acquisition Date (in thousands):

ASSETS		
Cash and cash equivalents	$	270,445
Trade and other receivables		17,218
Inventories		224,992
Prepaids and other current assets		6,039
Mineral properties, plant and equipment		2,789,832
Inventories		124,775
Restricted cash		32,943
Equity method investments		9,148
Other non-current assets		9,575
Total assets	$	3,484,967
LIABILITIES		
Accounts payable and accrued liabilities	$	71,861
Current portion of debt		70,000
Debt		175,000
Reclamation liabilities[1]		26,154
Lease liabilities - non-current		114,820
Deferred income tax liabilities [2]		337,752
Other non-current liabilities		3,081
Non-controlling interest [3]		506,652
Total liabilities		1,305,320
Total net assets	$	2,179,647

(1) The fair value of reclamation costs is based on the expected amounts and timing of cash flows for closure activities and discounted to present value using a credit-adjusted risk-free rate as of the Acquisition Date. Key assumptions include the costs and timing of key closure activities based on the life of mine plans.

(2) Deferred income tax liabilities are net of a deferred income tax asset of $182.9 million relating to investment incentive tax credits at Çöpler and includes a deferred income tax liability of $29.2 million for withholding tax on distributable earnings of the Turkish entities.

(3) The fair value of non-controlling interest is measured based on a discounted cash flow model.

The fair values of inventories were determined based on an NRV approach, whereby the future estimated cash flows from sales of payable metal produced are adjusted for costs to complete. The fair values of mineral properties have been estimated using discounted cash flow models and the fair values of plant and equipment have been estimated using a depreciated replacement cost approach. A market approach was used to estimate the fair values of certain exploration assets with reference to a public company comparable analysis. Expected future cash flows are based on estimates of future metal prices, production based on current estimates of mineral reserves and recoverable mineral resources, future operating costs and capital expenditures, and discount rates. The valuation of net deferred tax liabilities includes an amount recognized for deferred tax assets relating to investment incentive tax credits for which the Company has determined it is more likely than not to be accepted as eligible spend occurs and it is more likely than not that taxable profits will be available to utilize against those credits.

Consolidated revenue for the year ended December 31, 2020 includes revenue from the assets acquired in the acquisition of Alacer of $205.5 million. Consolidated net income for the year ended December 31, 2020 includes net income attributable to SSR Mining shareholders from Alacer of $24.1 million.

Pro forma financial information

The following table provides unaudited pro forma financial information for the years ended December 31, 2020 and 2019, as if Alacer had been acquired as of January 1, 2019 (in thousands):

	Years Ended December 31,	
	2020	2019
Revenue	$ 1,215,145	$ 1,077,093
Net income attributable to SSR Mining shareholders	$ 264,390	$ 219,068

Acquisition of non-controlling interest in Puna

On September 18, 2019, the Company acquired a 25% interest in Puna from Golden Arrow Resources Corporation ("Golden Arrow") for aggregate consideration of $32.4 million, consisting of $2.3 million of cash, the extinguishment of the loan to Golden Arrow and related interest of $11.4 million, the issuance of $18.2 million of the Company's common shares, and the transfer of shares in Golden Arrow held by the Company, with a fair value of $0.5 million, for cancellation.

As the acquisition did not result in a change of control, the acquisition was accounted for as an equity transaction whereby the carrying amount of the non-controlling interest of $33.9 million in Puna prior to the acquisition was adjusted to zero in the Consolidated Balance Sheets. Further, the difference of $1.5 million between the carrying amount of the non-controlling interest in Puna at the time of acquisition and the fair value of the consideration paid to Golden Arrow of $32.4 million was recognized in equity. Transaction costs incurred in connection with the transaction of $0.2 million were recognized as a reduction of equity.

Divestiture of royalty assets

On October 21, 2021, the Company completed the sale of a portfolio of royalty interests and deferred consideration (the "Royalty Portfolio") to EMX Royalty Corporation ("EMX") with a carrying value of $83.9 million. The total consideration received included cash, EMX common shares, and deferred consideration in the form of contingent payments of cash payable upon completion of certain project milestones related to one of the royalties totaling approximately $87.9 million. The fair value of the deferred consideration was estimated based on the present value of the projected future cash inflows using a discount rate of 12.5%. The projected future cash inflows are affected by assumptions related to the achievement of the development milestones. At June 30, 2021, following the negotiation of the Royalty Portfolio sale, the Company recorded an impairment loss of $22.3 million on the Royalty Portfolio, calculated based on the difference between the estimated fair value of the Royalty Portfolio and its carrying amount prior to the impairment. The impairment loss was recognized in the Company's Exploration, evaluation and development properties segment. The Company recognized a gain on closing of the Royalty Portfolio sale to EMX of $2.1 million, net of $0.3 million of transaction costs, which has been recorded against the impairment loss.

4. OPERATING SEGMENTS

The Company currently has four producing mines and a portfolio of precious metal dominant projects. Each individual operating mine site along with the Company's exploration, evaluation and development properties are considered reportable segments. Operating results of operating segments are reviewed by the Company's chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segments and to assess their performance. The Company's business activities that not included within the reportable segments are included in Corporate and other. Although they are not required to be included in this footnote, they are provided for reconciliation purposes.

In connection with the acquisition of Alacer, the Company added Çöpler as a new operating mine site for the year ended December 31, 2020. Çöpler is an operating mine site, therefore it is considered a reportable segment.

The following tables provide a summary of financial information related to the Company's segments (in thousands):

	Year Ended December 31, 2021						
	Çöpler	Marigold	Seabee	Puna	Exploration, evaluation and development properties	Corporate and other [1]	Total
Revenue	$ 607,887	$ 426,391	$ 213,860	$ 226,061	$ —	$ —	$1,474,199
Production costs	$ 264,889	$ 219,035	$ 66,354	$ 121,096	$ —	$ —	$ 671,374
Depletion, depreciation and amortization	$ 125,220	$ 35,410	$ 45,334	$ 21,995	$ —	$ —	$ 227,959
Exploration, evaluation and reclamation costs	$ 10,868	$ 2,979	$ 11,867	$ 1,764	$ 13,027	$ 1,877	$ 42,382
Care and maintenance expense [1]	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Transaction, integration and SEC conversion expense	$ —	$ —	$ —	$ —	$ —	$ 11,240	$ 11,240
Impairment of long-lived and other assets	$ —	$ —	$ —	$ —	$ 20,275	$ —	$ 20,275
Operating income	$ 201,302	$ 169,070	$ 90,332	$ 79,043	$ (33,302)	$ (62,070)	$ 444,375
Capital expenditures	$ 34,699	$ 55,861	$ 40,553	$ 10,458	$ —	$ —	$ 141,571
Total assets as of December 31, 2021	$2,290,367	$ 566,015	$ 479,370	$ 293,470	$ 923,204	$ 659,012	$5,211,438

(1) Care and maintenance expense consists of operating costs and depreciation incurred while a site is placed into care and maintenance or operating at reduced levels in response to the COVID-19 pandemic.

	Year Ended December 31, 2020						
	Çöpler	Marigold	Seabee	Puna	Exploration, evaluation and development properties	Corporate and other [1]	Total
Revenue	$ 205,535	$ 409,799	$135,230	$102,525	$ —	$ —	$ 853,089
Production costs	$ 121,614	$ 216,358	$ 40,575	$ 65,991	$ —	$ —	$ 444,538
Depletion, depreciation and amortization	$ 33,793	$ 34,619	$ 28,341	$ 12,505	$ —	$ —	$ 109,258
Exploration. evaluation, and reclamation costs	$ 3,560	$ 3,742	$ 6,390	$ (373)	$ 13,186	$ 538	$ 27,043
Care and maintenance expense [1]	$ —	$ —	$ 13,644	$ 15,949	$ —	$ —	$ 29,593
Transaction, integration and SEC conversion expense	$ —	$ —	$ —	$ —	$ —	$ 20,813	$ 20,813
Impairment of long-lived and other assets	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Operating income	$ 46,546	$ 154,645	$ 46,152	$ 6,937	$ (13,186)	$ (52,819)	$ 188,275
Capital expenditures	$ 22,883	$ 55,567	$ 32,782	$ 10,962	$ —	$ —	$ 122,194
Total assets as of December 31, 2020	$2,254,320	$ 601,804	$454,484	$225,033	$ 1,018,801	$ 622,902	$ 5,177,344

(1) Care and maintenance expense consists of operating costs and depreciation incurred while a site is placed into care and maintenance or operating at reduced levels in response to the COVID-19 pandemic.

	Year Ended December 31, 2019 [1]					
	Marigold	Seabee	Puna	Exploration, evaluation and development properties	Corporate and other [1]	Total
Revenue	$ 315,413	$146,059	$145,378	$ —	$ —	$ 606,850
Production costs	$ 192,032	$ 46,627	$110,960	$ —	$ —	$ 349,619
Depletion, depreciation and amortization	$ 34,372	$ 36,345	$ 14,927	$ —	$ —	$ 85,644
Exploration, evaluation and reclamation costs	$ 2,672	$ 8,763	$ 2,840	$ 7,130	$ 679	$ 22,084
Care and maintenance expense [2]	$ —	$ —	$ —	$ —	$ —	$ —
Transaction, integration and SEC conversion expense	$ —	$ —	$ —	$ —	$ —	$ —
Impairment of long-lived and other assets	$ —	$ —	$ —	$ —	$ —	$ —
Operating income	$ 85,519	$ 54,077	$ 15,457	$ (7,130)	$ (29,528)	$ 118,395
Capital expenditures	$ 46,390	$ 34,010	$ 16,721	$ —	$ —	$ 97,121
Total assets as of December 31, 2019	$ 487,958	$482,085	$253,835	$ 111,227	$ 356,413	$ 1,691,518

(1) The operating data presented in this table present results for the year ended December 31, 2019. As the Company was not entitled to the economic benefits of Çöpler prior to the acquisition, financial data for the periods prior to September 16, 2020 are not provided.

(2) Care and maintenance expense consists of operating costs and depreciation incurred while a site is placed into care and maintenance or operating at reduced levels in response to the COVID-19 pandemic.

Geographic area

The following are non-current assets, excluding *Goodwill*, *Restricted cash* and *Deferred income taxes*, by location as of December 31 (in thousands):

	December 31,	
	2021	2020
Turkey	$ 2,744,707	$ 2,899,724
Canada	292,264	306,253
United States	307,857	271,894
Argentina	123,834	126,386
Mexico	48,345	48,619
Peru	527	527
Total	$ 3,517,534	$ 3,653,403

The following is revenue information by geographic area based on the location of production as of December 31 (in thousands):

	Years Ended December 31		
	2021	2020	2019
Turkey	$ 607,887	$ 205,535	$ —
Canada	213,860	135,230	146,059
United States	426,391	409,799	315,413
Argentina	226,061	102,525	145,378
Total	$ 1,474,199	$ 853,089	$ 606,850

5. REVENUE

The following table represents revenues by product (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Gold doré sales			
Copler	$ 600,790	$ 205,535	$ —
Marigold	426,288	409,746	315,350
Seabee	213,766	135,177	146,016
Concentrate sales			
Puna	229,959	105,350	144,839
Other [(1)]			
Copler	7,097	—	—
Marigold	103	53	69
Seabee	94	53	49
Puna	(3,898)	(2,825)	527
Total	$ 1,474,199	$ 853,089	$ 606,850

(1) Other revenue includes: changes in the fair value of concentrate trade receivables due to changes in silver and base metal prices; and silver and copper by-product revenue arising from the production and sale of gold doré.

Revenue by metal

Revenue by metal type for the years ended December 31, 2021, 2020 and 2019 are as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Gold	$ 1,240,844	$ 750,458	$ 461,366
Silver	183,378	92,260	115,640
Lead	33,070	8,815	19,541
Zinc	13,511	4,275	9,658
Other	3,396	(2,719)	645
Total	$ 1,474,199	$ 853,089	$ 606,850

Çöpler, Marigold and Seabee produce gold doré. During 2021, sales to Istanbul Gold Refinery and CIBC accounted for 41% and 30% of the Company's total revenues, respectively. During 2020, sales to CIBC, Istanbul Gold Refinery, and Bank of Montreal accounted for 45%, 24%, and 14%, of the Company's total revenues, respectively. During 2019, sales to CIBC, Bank of Nova Scotia, and Bank of Montreal accounted for 37%, 22%, and 17% of the Company's total revenues, respectively.

Puna sells lead and zinc concentrate with high silver content to smelters and traders located in Asia and Europe. The concentrates are sold under supply contracts updated annually or as needed through spot sales, with processing fees based on the demand for these concentrates in the global marketplace.

Provisional metal sales

For the years ending December 31, 2021 and 2020, changes in the fair value of the Company's embedded derivatives relating to provisional concentrate metal sales was an increase (decrease) of $(1.0) million $(1.5) million, respectively, which has been recorded in *Revenue*.

At December 31, 2021, the Company had silver sales of 3.90 million ounces at an average price of $23.49 per ounces, zinc sales of 6.33 million pounds at an average price of $1.46 per pound, and lead sales of 19.23 million pounds at an average price of $1.02 per pound, subject to final pricing over the next several months.

6. RECLAMATION LIABILITIES

The Company is subject to various domestic and international laws and regulations governing the protection of the environment. These laws and regulations are continually changing and are generally becoming more restrictive. Estimated future reclamation costs are based principally on current legal and regulatory requirements.

Changes in *Reclamation liabilities* during the years ended December 31 were as follows (in thousands):

	2021	2020
Balance, beginning of year	$ 104,744	$ 80,838
Liabilities assumed on the acquisition of Alacer [(1)]	—	26,154
Reclamation expenditures	(243)	(2,447)
Accretion expense	4,821	3,815
Additions, changes in estimate and other	15,722	(3,616)
Balance, end of year	$ 125,044	$ 104,744
Less: current portion	(2,384)	(2,023)
Non-current reclamation liabilities	$ 122,660	$ 102,721

(1) On September 16, 2020, the Company acquired Alacer, including Çöpler. Please refer to Note 3 for further details. The consideration included the assumption of reclamation liabilities of $26.2 million.

7. STOCK-BASED COMPENSATION

The Company has awards outstanding under its 2017, 2020 and 2021 Share Compensation Plans which include stock options, DSUs, RSUs and PSUs up to an aggregate total of 4.5% of the Company's issued and outstanding common stock. There are 8,137,941 shares available for issuance under the Share Compensation Plans.

Stock-based compensation expense

Stock-based compensation expense has been recognized as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Production costs	$ 1,105	$ 2,164	$ 1,451
General and administrative expense	11,867	8,500	12,814
Exploration, evaluation and reclamation expense	105	169	159
Transaction and integration expense	1,722	5,018	—
Income tax benefits recognized	—	—	—
	$ 14,799	$ 15,851	$ 14,424

Stock options

The Company grants stock options to executives and eligible employees. Stock options issued under the Company's incentive plans vest over three years and are exercisable over a period of time not to exceed the earlier of seven years after the grant date and the latest date permitted under the rules of the regulatory authorities. The exercise price of each option is set at the date of grant and shall not be less than the closing market price of the Company's common stock at the date of grant. New shares from treasury are issued on the exercise of stock options.

The following table summarizes the changes in stock options outstanding during the year ended December 31, 2021 (in thousands except per share amounts):

	Number of Options	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Balance at January 1, 2021	1,405	$ 13.54		
Granted	—	—		
Exercised	(818)	10.14		
Forfeited	(318)	20.12		
Expired	(8)	8.57		
Balance at December 31, 2021	261	16.32	4.1	$ 774
Vested and exercisable at December 31, 2021	200	15.59	3.9	$ 677

There were no stock options granted in 2021. The fair value of stock options granted during the years ended December 31. 2020 and 2019 were determined using the Black-Scholes option pricing model. The following table includes the assumptions used and other information related to stock options during the years ended December 31:

	2021	2020	2019
Expected dividend yield (%)	N/A	—	—
Risk-free interest rate (%)	N/A	1.31	1.78
Expected life (years)	N/A	4.20	4.20
Expected volatility (%)	N/A	45.80	45.80
Weighted-average grant-date fair value (per option)	N/A	$ 17.76	$ 11.75
Intrinsic value of options exercised (in thousands)	$ 4,814	$ 9,780	$ 8,382
Fair value of options vested (in thousands)	$ 1,430	$ 5,006	$ 1,828

As of December 31, 2021, there was $0.1 million of unrecognized compensation cost related to unvested stock options expected to be recognized over a weighted average period of approximately 0.9 years. During the year ended December 31, 2021, the amount of cash received from stock option exercises was $8.8 million and the tax benefit from stock options exercised was $1.3 million.

Deferred Share Units

Non-executive directors may elect to receive all or a portion of their annual compensation in the form of DSUs which are linked to the value of the Company's common stock. DSUs are issued on a quarterly basis at the market value of the Company's common stock at the date of grant. DSUs vest immediately and are redeemable in cash. 50% of a director's DSUs will be automatically redeemed on each of the following dates: (i) three months following the date the eligible director ceases to be a director of the Company and (ii) the earlier of fifteen months following, or December 31 of the calendar year following the date the eligible director ceases to be a director of the Company. In connection with the acquisition of Alacer, the Company issued DSU Replacement Units to replace the outstanding DSUs of Alacer. Each DSU Replacement Unit entitles the director to receive a payment in cash for the equivalent value of one common share on the date the director ceases to be a director.

The fair value of the outstanding DSUs and DSU Replacement Units at the end of each reporting period was recognized as a liability and included in *Accrued liabilities and other*.

During the years ended December 31, 2021, 2020, and 2019 total cash paid to settle DSUs and DSU Replacement Units was $2.7 million, $3.1 million, and $— million, respectively. As of December 31, 2021, 2020, and 2019, the fair value of DSUs and DSU Replacement Units granted and vested was $1.4 million, $10.7 million and $1.9 million, respectively.

The following table summarizes the changes in DSUs and DSU Replacement Units outstanding during the year ended December 31, 2021 (in thousands except per share amounts):

	Number of Shares	Weighted Grant Date Fair Value Per Share	Aggregate Intrinsic Value
Balance at January 1, 2021	748	$ 21.76	
Granted	89	15.75	
Exercised/Released	(165)	9.07	
Canceled/Forfeited	—	—	
Reinvested	10	14.51	
Balance at December 31, 2021	682	23.95	$ 12,072

Restricted Share Units

The Company grants RSUs to executives and eligible employees which vest over a period of three years. In connection with the acquisition of Alacer, the Company issued RSU Replacement Units, with terms similar to RSUs, to replace the outstanding unexercised RSUs of Alacer which vest over a period of three years.

As of December 31, 2020, RSUs and RSU Replacement Units vesting in 2022 and 2023 were classified as liabilities and included in *Accrued liabilities and other* and *Other non-current liabilities*. RSU Replacement Units vesting in 2021 were classified as equity and presented in *Contingently Redeemable Shares* due to certain provisions included in the 2017 and 2020 Share Compensation plans that specifies the termination of an employee within 12 months after a change of control event would result in all RSU Replacement Units issued under the plans to immediately vest and become redeemable in either cash or shares at the option of the award holder.

On February 10, 2021, the Company's Board of Directors indicated its intention to settle all RSUs and RSU Replacement Units in common shares when vested. As of December 31, 2021, RSUs and RSU Replacement Units are classified as equity and presented in *Common shares*.

During the years ended December 31, 2021, 2020 and 2019, total cash paid to settle RSUs and RSU Replacement Units was $— million, $4.6 million and $0.9 million, respectively. The fair value of RSUs and RSU Replacement Units granted was $7.2 million, $25.4 million and $2.7 million for the years ended December 31, 2021, 2020 and 2019, respectively. The fair value of RSUs and RSU Replacement Units vested was $3.3 million, $14.1 million, and $1.6 million during the years ended December 31, 2021, 2020, and 2019, respectively. As of December 31, 2021, there was $2.9 million of total unrecognized compensation cost related to unvested RSUs and RSU Replacement Units expected to be recognized over approximately 2.9 years.

The following table summarizes the changes in RSUs and RSU Replacement Units outstanding during the year ended December 31, 2021 (in thousands except per share amounts):

	Number of Shares	Weighted Average Grant Date Fair Value	Aggregate intrinsic value
Balance at January 1, 2021	749	$ 23.42	
Granted	388	18.63	
Exercised/Released	(197)	16.81	
Canceled/Forfeited	(82)	19.82	
Reinvested	11	21.34	
Balance at December 31, 2021	869	23.10	$ 15,370

Performance Share Units

PSUs are granted to senior executives and vest after a performance period of three years. The vesting of these awards is based on the Company's total shareholder return in comparison to its peer group and awards vested range from 0% to 200% of initial PSUs granted. In connection with the acquisition of Alacer, the Company issued PSU Replacement Units to replace the outstanding unexercised PSUs of Alacer. Each PSU Replacement Unit entitles the participant, at the end of the applicable performance period, to receive a payment in cash for the equivalent value of common shares earned, provided: (i) the participant continues to be employed or engaged by the Company or any of its affiliates; and (ii) all other terms and conditions of the grant have been satisfied, including the performance metrics associated with each PSU Replacement Unit. The vesting of these awards is based on actual production and costs against budget, and the performance of the Company's share price relative to its peer group. Awards vested range from 0% to 200% of initial PSU Replacement Units granted.

As of December 31, 2020, PSUs vesting in 2021 were classified as equity and presented in *Contingently Redeemable Shares* due to certain provisions included in the 2017 and 2020 Share Compensation Plans. PSUs and PSU Replacement Units vesting in 2022 and 2023 were classified as liabilities and included in O*ther non-current liabilities*.

As of December 31, 2021, PSUs and PSU Replacement Units were classified as liabilities. On February 10, 2021, the Company's Board of Directors indicated its intention to settle all PSUs and PSU Replacement Units issued under the Company's plans in cash when vested.

During the years ended December 31, 2021, 2020 and 2019, total cash paid to settle PSUs and PSU Replacement Units was $14.3 million, $12.0 million, and $4.1 million, respectively. The fair value of PSUs and PSU Replacement Units granted was $11.5 million, $24.8 million and $2.4 million for the years ended December 31, 2021, 2020, and 2019, respectively. The fair value of PSUs and PSU Replacement Units vested was $17.4 million, $4.4 million, and $2.0 million during the years ended December 31, 2021, 2020, and 2019, respectively. As of December 31, 2021, there was $4.9 million of total unrecognized compensation cost related to unvested PSUs and PSU Replacement Units expected to be recognized over approximately 2.3 years.

The following table summarizes the changes in PSUs and PSU Replacement Units outstanding during the year ended December 31, 2021:

	Number of Shares	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Balance at January 1, 2021	1,114	$ 24.69	
Granted	560	20.52	
Exercised/Released	(813)	21.34	
Canceled/Forfeited	(71)	22.35	
Reinvested	10	21.70	
Balance at December 31, 2021	800	25.34	$ 14,169

8. INCOME AND MINING TAXES

The following tables represent the major components of *Income before taxes* and *Income and mining tax benefit (expense)* recognized in the Consolidated Statements of Operations (in thousands):

	Years ended December 31,		
	2021	2020	2019
Income before income and mining taxes components:			
United States	$ 138,230	$ 119,654	$ 61,198
Canada	26,752	26,207	71,537
Turkey	186,971	41,385	—
Other Foreign	62,805	14,545	3,922
Total income before incomes taxes	$ 414,758	$ 201,791	$ 136,657

	Years Ended December 31,		
	2021	2020	2019
Current income tax provision:			
United States	$ 15,603	$ 13,945	$ 6,003
Canada	27,672	5,720	18,367
Turkey	49,851	1,805	—
Other Foreign	23,328	1,074	426
Total current income tax provision	116,454	22,544	24,796
Deferred income tax provision (benefit):			
United States	13,288	8,265	7,145
Canada	(230)	765	520
Turkey	(131,456)	19,205	—
Other foreign	(12,172)	(7,576)	2,978
Total deferred income tax provision (benefit)	(130,570)	20,659	10,643
Total income tax provision (benefit)	$ (14,116)	$ 43,203	$ 35,439

Income and mining tax expense differs from the amount that would be computed by applying the Canadian statutory rate of 27%, 27%, and 27% for the years ended December 31, 2021, 2020 and 2019, respectively, to income before income and mining taxes. The reasons for the differences are as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Income before income and mining taxes	$ 414,758	$ 201,791	$ 136,657
Statutory tax rate	27 %	27 %	27 %
Expected income and mining tax expense	111,985	54,484	36,897
Increase (decrease) attributable to:			
Non-taxable items	(4,379)	(22,236)	(7,518)
Foreign exchange and inflation	(124,946)	(676)	1,650
Differences in foreign and future tax rates	738	(10,641)	(8,699)
Investment incentive tax credits	(14,082)	1,983	—
Mining taxes and overseas withholding tax	17,528	17,006	10,207
Expired losses	1,455	1,129	738
Change in estimates in respect of prior years	(2,046)	(1,616)	(2,316)
Changes in recognition of deferred tax assets	1,086	3,550	4,074
Other	(1,455)	220	406
Total income and mining tax expense	$ (14,116)	$ 43,203	$ 35,439

The significant components of *Deferred income tax assets* and *Deferred income tax liabilities* were (in thousands):

	December 31,	
	2021	2020
Deferred income tax assets		
Deductible temporary differences relating to:		
Marketable securities	$ 634	$ —
Inventories	—	3,245
Reclamation liabilities	27,608	20,117
Lease liabilities	23,895	24,307
Deductibility of other taxes	9,299	10,770
Stock-based compensation	7,247	11,410
Other items	16,595	7,873
	85,278	77,722
Investment incentive tax credits [(1)]	46,354	168,447
Tax loss carryforwards	25,395	22,597
Less: Valuation allowance	(38,496)	(37,410)
Total deferred income tax assets	$ 118,531	$ 231,356
Deferred income tax liabilities		
Taxable temporary differences relating to:		
Marketable securities	$ (270)	$ (2,041)
Inventories	(17,768)	(47,484)
Mineral properties, plant and equipment	(365,793)	(566,922)
Convertible notes	(359)	(414)
Mineral tax	(38,452)	(39,575)
Foreign withholding tax	(17,080)	(32,875)
Other items	(9,096)	—
Total deferred income tax liabilities	$ (448,818)	$ (689,311)
Balance sheet presentation		
Deferred income tax assets	$ 8,501	$ 15,072
Deferred income tax liabilities	(338,788)	(473,027)
Deferred income tax liabilities, net	$ (330,287)	$ (457,955)

(1) The Company receives investment incentive tax credits for qualifying capital expenditures at Çöpler. The application of these tax credits, which are denominated in Turkish Lira, reduced income and mining tax expense and cash tax payments for the year ended December 31, 2021 and are expected to offset future cash tax payments. Reviews of eligible expenditures for tax credits by local tax authorities occur periodically and can result in adjustments to the recognition of investment incentive tax credits.

As of December 31, 2021 and 2020, an aggregate deferred tax liability of $10.7 million and $14.1 million, respectively, for temporary differences of $35.6 million and $47.0 million, respectively, related to investments in subsidiaries was not recognized as the Company controls the dividend policy of its subsidiaries (i.e., the Company controls the timing of reversal of the related taxable temporary differences and is satisfied that they will not reverse in the foreseeable future).

Valuation of deferred tax assets

The Company recognizes tax benefits on losses or other deductible amounts generated in countries where it determines that it is more likely than not that taxable profits will be available to be utilized against those temporary differences. The Company's deferred tax valuation allowance related primarily to tax losses in foreign jurisdictions which do not meet the “more-likely-than-not” standard under current accounting guidance due to insufficient positive taxable income to utilize available tax losses.

When there is a change in judgment concerning the recovery of deferred tax assets in future periods, a valuation allowance is recorded into earnings during the quarter in which the change in judgment occurs. During 2021, the Company made adjustments to its deferred tax assets and corresponding valuation allowances. The net change to the valuation allowance consisted of a $1.1 million increase related to reclamation liabilities with no future tax benefit and the generation of losses.

Tax loss carryforwards

As of December 31, 2021, the Company had the following estimated tax operating losses available to reduce future taxable income, including both losses for which deferred tax assets are utilized to offset applicable deferred tax liabilities and losses for which deferred tax assets are not recognized as listed in the table above. Losses expire at various dates and amounts between 2022 and 2041. There were no operating losses generated in Turkey.

	December 31, 2021		Expiration Year
Mexico	$	34,695	2022 - 2031
Canada	$	42,632	2040 - 2041
U.S.A.	$	7,797	Indefinite
Argentina	$	5,146	2026

Unrecognized tax benefits

The Company records uncertain tax positions on the basis on a two-step process in which (1) the Company determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (2) for those tax positions meeting the “more-likely-than-not” recognition threshold, the Company recognizes the largest amount of tax benefit that is more than 50% likely to be realized upon ultimate settlement with the related tax authority.

The Company determined that no liability for unrecognized tax benefits for uncertain tax positions was required as of December 31, 2021. In addition, the Company does not believe that it has any tax positions for which it is reasonably possible that it will be required to record a significant liability for previously recognized tax benefits within the next twelve months. If the Company were to record an unrecognized tax benefit, the Company will recognize applicable interest and penalties related to income tax matters in income and mining tax expense.

The Company files income tax returns in the U.S. federal jurisdiction, Canada, Turkey, Argentina and various state, provincial and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. Federal, state and local, and non-US income tax examinations for years before 2016. The Company is currently litigating with Turkey for the years 2016 through 2020 related to withholding tax on distributions from its Turkish operation.

9. OTHER INCOME (EXPENSE)

The following table includes the components of *Other income (expense)*:

	Years Ended December 31,		
	2021	2020	2019
Interest income	$ 1,939	$ 6,545	$ 11,882
Gain (loss) on marketable securities	(10,741)	21,368	34,630
Gain (loss) on derivative instruments	(12)	383	1,486
Gain (loss) on sale of mineral properties, plant, and equipment	412	(2,804)	(863)
Other	(5,747)	5,632	(7,939)
Total	$ (14,149)	$ 31,124	$ 39,196

10. INCOME PER SHARE

The Company calculates basic net income per share using, as the denominator, the weighted average number of common shares outstanding during the period. Diluted net income per share uses, as its denominator, the weighted average number of common shares outstanding during the period plus the effect of potential dilutive shares during the period.

Potential dilutive common shares include stock options, PSUs and PSU Replacement Units, RSUs and RSU Replacement Units, and convertible notes for periods in which the Company has reported net income.

The calculations of basic and diluted net income per share attributable to stockholders of SSR Mining for the years ended December 31 were based on the following (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Net Income	$ 425,922	$ 157,162	$ 101,218
Net (income) loss attributable to non-controlling interest	(57,846)	(5,627)	1,558
Net income attributable to stockholders of SSR Mining	368,076	151,535	102,776
Interest saving on convertible notes, net of tax	4,889	4,883	3,392
Net income used in the calculation of diluted net income per share	$ 372,965	$ 156,418	$ 106,168
Weighted average number of common shares issued	215,993	151,144	121,769
Adjustments for dilutive instruments:			
Stock options	38	453	1,224
PSUs and PSU Replacement Units	—	—	5
RSUs and RSU Replacement Units	58	1	—
Convertible notes	12,152	12,101	12,445
Diluted weighted average number of shares outstanding	228,241	163,699	135,443
Net income per share attributable to common stockholders			
Basic	$ 1.70	$ 1.00	$ 0.84
Diluted	$ 1.63	$ 0.96	$ 0.78

11. FAIR VALUE MEASUREMENTS AND FINANCIAL INSTRUMENTS

Fair value accounting establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1 - Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

Level 2 - Quoted prices in markets that are not active, quoted prices for similar assets or liabilities in active markets, quoted prices or inputs that are observable, either directly or indirectly, for substantially the full term of the asset or liability and model-based valuation techniques (e.g. the Black-Scholes model) for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and

Level 3 - Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity).

As required by accounting guidance, assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The following tables set forth the Company's assets and liabilities measured at fair value on a recurring (at least annually) and nonrecurring basis by level within the fair value hierarchy (in thousands).

	Fair value at December 31, 2021			
	Level 1 [1]	Level 2 [2]	Level 3 [3]	Total
Assets:				
Cash	$ 1,017,562	$ —	$ —	$ 1,017,562
Restricted cash	35,303	—	—	35,303
Marketable securities	46,923	—	—	46,923
Trade receivables	—	72,634	—	72,634
Derivative asset	—	987	—	987
Deferred consideration	—	—	22,610	22,610
	$ 1,099,788	$ 73,621	$ 22,610	$ 1,196,019

	Fair value at December 31, 2020			
	Level 1 [1]	Level 2 [2]	Level 3 [3]	Total
Assets:				
Cash	$ 860,633	$ —	$ —	$ 860,633
Restricted cash	35,288	—	—	35,288
Marketable securities	26,748	—	—	26,748
Trade receivables	—	36,856	—	36,856
Derivative asset	—	1,243	—	1,243
Deferred consideration	—	—	21,460	21,460
	$ 922,669	$ 38,099	$ 21,460	$ 982,228
Liabilities:				
Derivative liabilities	$ —	$ (3,881)	$ —	$ (3,881)
	$ —	$ (3,881)	$ —	$ (3,881)

1) Marketable securities of publicly quoted companies, consisting of investments, are valued using a market approach based upon unadjusted quoted prices in an active market obtained from securities exchanges.

2) The Company manages its exposure to fluctuation in diesel prices and foreign currency exchange rates through hedges. The Company's derivative asset and liabilities are valued using pricing models with inputs derived from observable market data, including quoted prices in active markets. The Company's provisional metal sales contracts, included in *Trade and other receivables* in the Consolidated Balance Sheets, are valued using inputs derived from observable market data, including quoted commodity forward prices. The inputs do not involve significant management judgment. Such instruments are classified within Level 2 of the fair value hierarchy.

3) Certain items of deferred consideration related to the sale of of exploration and evaluation assets and the EMX divestiture are included in Level 3, as certain assumptions used in the calculation of the fair value are not based on observable market data. Deferred consideration is included in Other non-current assets in the Consolidated Balance Sheets.

The following table reconciles the beginning and ending balances for financial instruments that are recognized at fair value using significant unobservable inputs (Level 3) in the consolidated financial statements (in thousands):

	2021	2020
Beginning Balance as of January 1	$ 21,460	$ 13,984
Revaluations	930	(1,059)
Receipt of deferred consideration	20,911	8,535
Disposition of deferred consideration	(20,691)	—
Ending balance as of December 31	$ 22,610	$ 21,460

The fair value of the deferred consideration was estimated using the discounted cash flow method. The discount rate used to calculate the Company's deferred consideration assets was between 8.0% and 12.5% at December 31, 2021 and between 8.0% and 20.0% at December 31, 2020. Increases to the discount rate will cause a decrease in the the estimated value of the deferred consideration. The timing of achievement of development milestones were considered in determining the fair value of the deferred consideration.

Fair values of financial assets and liabilities not already measured at fair value

The fair value of the 2019 Notes and Term Loan as compared to the carrying amounts were as follows:

		December 31,			
		2021		2020	
	Level	Carrying amount	Fair value	Carrying amount	Fair value
2019 Notes [1]	1	$ 225,534	$ 286,207	$ 224,586	$ 317,538
Term Loan [2]	2	140,000	144,871	210,000	221,943
Total borrowings		$ 365,534	$ 431,078	$ 434,586	$ 539,481

(1) The fair value disclosed for the Company's 2019 Notes is included in Level 1 as the basis of valuation uses a quoted price in an active market.

(2) The fair value disclosed for the Company's Term Loan is included in Level 2 as the fair value is determined by an independent third-party pricing source.

12. TRADE AND OTHER RECEIVABLES

Trade and other receivables was composed of the following (in thousands):

	December 31,	
	2021	2020
Trade receivables	$ 86,124	$ 38,456
Value added tax receivables	20,723	24,189
Income tax receivable	9,374	14,130
Other taxes receivable	1,866	4,249
Other	3,269	2,194
Total	$ 121,356	$ 83,218

No provision for credit loss was recognized as of December 31, 2021 or 2020. All trade receivables are expected to be settled within twelve months.

13. INVENTORIES

The components of *Inventories* were as follows (in thousands):

	December 31,	
	2021	2020
Materials and supplies	$ 79,372	$ 85,766
Stockpiled ore	27,589	25,582
Leach pad inventory	243,627	282,793
Work-in-process	4,951	4,368
Finished goods	33,877	38,525
Total current inventories	$ 389,416	$ 437,034
Stockpiled ore	220,324	133,500
Materials and supplies	1,293	1,700
Total non-current inventories	$ 221,617	$ 135,200

As of December 31, 2021 and 2020, the Company has recognized a reserve of $8.1 million and $7.2 million for obsolete materials and supplies inventory, respectively.

During the year ended December 31, 2021, 2020 and 2019, the Company recognized write-downs of stockpiled ore inventories of $— million, $12.1 million, and $11.8 million respectively, classified as components of *Production Costs* and *Depreciation, depletion and amortization*.

14. MINERAL PROPERTIES, PLANT AND EQUIPMENT, NET

The components of *Mineral properties, plant and equipment, net* were as follows (in thousands):

	December 31,	
	2021	2020
Plant and equipment [1]	$ 1,762,833	$ 1,640,705
Construction in process	36,841	40,290
Mineral properties subject to depletion	1,331,615	1,282,208
Mineral properties not yet subject to depletion	141,629	222,938
Exploration and evaluation assets	927,176	930,606
Total mineral properties, plant, and equipment	4,200,094	4,116,747
Accumulated depreciation, plant and equipment	(529,635)	(423,326)
Accumulated depreciation, mineral properties	(420,695)	(223,682)
Mineral properties, plant, and equipment, net	$ 3,249,764	$ 3,469,739

(1) As of December 31, 2021 and 2020, plant and equipment includes finance lease right-of-use assets with a carrying amount of $114.9 million and $112.8 million, respectively.

15. GOODWILL

The excess of the fair value of consideration paid over the fair value of the identifiable net assets acquired is recognized as goodwill and allocated to the reporting units. The Company has goodwill which arose from the acquisition of Seabee in 2016.

Balance of *Goodwill* recorded at Seabee (in thousands):

	December 31,	
	2021	2020
Goodwill	$ 49,786	$ 49,786

16. ACCRUED LIABILITIES AND OTHER

Accrued liabilities and other are comprised of the following items (in thousands):

	December 31,	
	2021	2020
Accrued liabilities	$ 51,544	$ 44,503
Royalties payable	32,383	36,019
Stock-based compensation liabilities	22,652	30,050
Derivative liabilities	—	3,764
Income taxes payable	52,206	9,194
Lease liabilities	2,238	1,954
Other	4,085	6,297
Total accrued liabilities and other	$ 165,108	$ 131,781

17. DEBT

The following tables summarize the Company's debt balances (in thousands):

	December 31,	
	2021	2020
2019 Notes [1]	$ 225,534	$ 224,586
Term Loan	140,000	210,000
Other	1,450	3,051
Total carrying amount	$ 366,984	$ 437,637
Current portion	$ 71,491	$ 71,025
Non-current portion	$ 295,493	$ 366,612

(1) Amount is net of discount and debt issuance costs of $4.5 million and $5.4 million, respectively.

Convertible debt

2013 Notes

On January 16, 2013 the Company issued $265.0 million of its 2.875% senior convertible notes due 2033 (the "2013 Notes").

On March 19, 2019, the Company repurchased $150.0 million of its 2.875% senior convertible notes due in 2033 for a cash payment of $152.2 million. The redemption amount was based on the fair value of the debt of $148.0 million, estimated using a discounted cash flow model and a discount rate of 4.95%. The difference of $3.0 million between the $149.2 million amortized value and the cash paid was recognized in *Loss on redemption of convertible debt* in the Consolidated Statements of Operations along with the related tax recovery of $0.4 million.

On January 31, 2020, pursuant to the put option under the terms of the 2013 Notes, $49.0 thousand aggregate principal amount of the 2013 Notes was redeemed at the option of the holders and $4.0 thousand of debt was converted to equity.

On March 30, 2020, pursuant to the call option under the terms of the 2013 Notes, the Company redeemed all of its remaining outstanding 2013 Notes consisting of an aggregate principal amount plus accrued interest in exchange for a cash payment of $115.5 million and equity of $2.0 thousand.

2019 Notes

On March 19, 2019, the Company issued $230.0 million of 2.50% convertible senior notes due in 2039 (the "2019 Notes") for net proceeds of $222.9 million after payment of commissions and expenses related to the offering of $7.1 million. The 2019 Notes mature on April 1, 2039 and bear an interest rate of 2.50% per annum, payable semi-annually in arrears on April 1 and October 1 of each year. The 2019 Notes are convertible into the Company's common shares at a fixed conversion rate, subject to certain anti-dilution adjustments. In addition, if certain fundamental changes occur, holders of the 2019 Notes may be entitled to an increased conversion rate. The 2019 Notes are convertible into the Company's common shares at an initial conversion rate of 54.1082 common shares per $1,000 principal amount of 2019 Notes converted, representing an initial conversion price of $18.48 per common share.

Prior to April 1, 2023, the Company may not redeem the 2019 Notes, except in the event of certain changes in Canadian tax law. On or after April 1, 2023 and prior to April 1, 2026, the Company may redeem all or part of the 2019 Notes for cash, but only if the last reported sales price of its common stock for 20 or more trading days in a period of 30 consecutive trading days exceeds 130% of the conversion price in effect on each such trading day. On or after April 1, 2026, the Company may redeem the 2019 Notes in full or in part, for cash.

Holders of the 2019 Notes have the right to require the Company to repurchase all or part of their 2019 Notes on April 1 of each of 2026, 2029 and 2034, or upon certain fundamental corporate changes. The repurchase price will be equal to par plus accrued and unpaid interest.

Term Loan

In connection with the acquisition of Alacer (see Note 3), the Company assumed a term loan (the "Term Loan"), with a fair value of $245.0 million at the date of acquisition, with a syndicate of lenders (BNP Paribas (Suisse) SA, ING Bank NV, Societe Generale Corporate & Investment Banking and UniCredit S.P.A.). The Term Loan bears interest at the London Inter-bank Offered Rate ("LIBOR") plus a fixed interest rate margin in the range of 3.50% to 3.70% depending on the tranche. On October 12, 2021, the Company amended its existing agreement and agreed to replacement of the LIBOR screen rate with an alternative screen rate when LIBOR ceases to exist. The Term Loan has no mandatory hedging or cash sweep requirements, no prepayment penalties, and final repayment is scheduled in the fourth quarter of 2023.

In addition to the Term Loan, the Company assumed LIBOR interest rate swap contracts with underlying notional amounts of approximately 37% of the outstanding Term Loan balance as of December 31, 2020 through the duration of the interest rate management program, which ended in 2021.

Restricted cash accounts must be maintained while the Term Loan is outstanding. As of December 31, 2021 and 2020, $32.9 million and $32.9 million of restricted cash relates to the Term Loan, respectively. Restricted cash is not available for use within one year and is classified as *Restricted cash* in the Consolidated Balance Sheets.

Under the terms of the Term Loan, the Company is required to comply with the following financial covenants:

- historic and forecast debt service cover ratio greater than or equal to 1.20:1;
- loan life cover ratio greater than or equal to 1.30:1; and
- minimum tail reserves as a percentage of total reserves greater than or equal to 30%.

As of December 31, 2021, the Company was in compliance with its externally imposed financial covenants in relation to the Term Loan and Credit Facility. The Company does not have any financial covenants in relation to the 2019 Notes.

Credit Facility

On August 4, 2015, the Company entered into a $75.0 million senior secured revolving credit facility (the "Credit Facility") with a syndicate of banks. The Credit Facility may be used for reclamation bonding, working capital and other general corporate purposes but can only be used to fund activities of entities that were in the SSR Mining group prior to the acquisition of Alacer (see Note 3). During 2017, the Company extended the maturity of the Credit Facility to June 8, 2020, and concurrently reduced applicable margins, increased covenant flexibility and added a $25.0 million accordion feature.

On June 7, 2021, the Company amended its existing Credit Facility to extend its maturity to June 8, 2025 and increase the Credit Facility to $200.0 million with a $100.0 million accordion feature (the "Amended Credit Facility"). Amounts drawn under the Amended Credit Facility are subject to variable interest rates at LIBOR plus an applicable margin ranging from 2.0% to 3.0%, based on the Company's net leverage ratio. The Amended Credit Facility contains fallback language that replaces LIBOR with an alternative benchmark rate based on either SOFR or another alternative benchmark rate when LIBOR ceases to exist. Undrawn amounts are subject to a standby fee ranging from 0.4% to 0.6%, based on the Company's net leverage ratio.

The Amended Credit Facility also provides for financial letters of credit at 66.0% of the applicable margin, undrawn fees are subject to a utilization fee of 0.25%, and standby fees are calculated as 25% of the drawn applicable margin plus a utilization fee ranging from 0.25% to 0.75%.

All debts, liabilities and obligations under the Credit Facility are guaranteed by the Company's material subsidiaries and secured by certain of the Company's assets and material subsidiaries, and pledges of the securities of the Company's material subsidiaries, excluding Alacer entities. In connection with the Credit Facility, the Company must also maintain certain net tangible worth and ratios for interest coverage and net leverage. As of December 31, 2021, the Company was in compliance with these covenants.

As of December 31, 2021 and 2020, the amount outstanding on the Credit Facility, included in *Accrued liabilities and other*, was $0.9 million and $0.7 million, respectively.

Scheduled minimum debt repayments are as follows (in thousands):

2022	$	71,093
2023	$	70,918
2024	$	—
2025	$	—
2026	$	—
Thereafter	$	230,000

18. LEASES

The Company’s operating leases consist primarily of leases for office space, vehicles, and plant and mining equipment. These leases have a range of terms between three months to twenty years with renewal terms included in the contracts. Some are automatic renewals, and some are at the option of the Company. There are no restrictions placed upon the lessee by entering into these leases. The Company’s finance leases consist primarily of equipment.

The Company's principal lease relates to its right to use the oxygen plant supplied by Air Liquide Gaz Sanayi ve Ticaret A.S. (the "Air Liquide Plant") at Çöpler which was assumed on the acquisition of Alacer (see Note 3). The Air Liquide Plant is used for the production, transportation and delivery of oxygen and liquid oxygen to support mining operations at Çöpler. Under the terms of the Air Liquide Plant lease, the Company pays variable monthly lease payments that depend on an index. In addition, the Company is subject to variable payments based on consumption and use which have been accounted for as non-lease components and included in *Production costs*. The Air Liquide Plant lease contains a non-cancellable period of 15 years ending in 2033 with options to extend for consecutive 2-year periods. The lease term used in the measurement of the Company's lease liability and right-of-use asset includes four consecutive 2-year extension periods ending in 2041 for which the Company is reasonably certain to exercise its option in line with the Çöpler LOM.

The Company uses its incremental borrowing rate as the discount rate to determine the present value of the lease payments, as the leases do not have readily determinable implicit discount rates. The Company’s incremental borrowing rate is the rate of interest that it would have to borrow on a collateralized basis over a similar term and amount in a similar economic environment to pay its lease obligations. The Company determines the incremental borrowing rates for its leases by adjusting the local risk-free interest rate with a credit risk premium corresponding to its credit rating. From time to time, the Company may enter into arrangements for the construction or purchase of an asset and then enter into a financing arrangement to lease the asset. The Company recognizes leased assets and liabilities under these arrangements when it obtain control of the asset.

The components of the Company's leases presented in the Consolidated Balance Sheets were as follows (in thousands):

	December 31,	
	2021	2020
Finance lease right-of-use assets, net (included in *Mineral properties, plant and equipment, net*)	$ 114,882	$ 112,808
Operating lease right-of-use assets (included in *Other non-current assets*)	7,530	9,362
Total lease right-of-use-assets	$ 122,412	$ 122,170
Short-term finance lease liabilities (included in *Finance lease liabilities*)	$ 12,439	$ 3,568
Short-term operating lease liabilities (included in *Accrued liabilities and other*)	2,238	1,954
Long-term finance lease liabilities (included in *Finance Lease liabilities*)	105,965	109,544
Long-term operating lease liabilities (included in *Other non-current liabilities*)	5,525	7,530
Total lease liabilities	$ 126,167	$ 122,596

The components of the Company's leases presented in the Consolidated Statements of Operations for the years ended December 31 were as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Operating leases	$ 2,986	$ 1,260	$ 521
Finance leases:			
Amortization of lease cost	2,517	92	70
Interest expense on lease liabilities	274	12	14
Variable and short-term leases	10,661	3,615	—
Total	$ 16,438	$ 4,979	$ 605

For finance leases, amortization and interest expense is included in *Interest expense*. For operating leases, lease expense is included in *Production costs* for entities with production and *General and administrative expense* for entities without production.

The components of the Company's leases presented in the statements of cash flows for the years ended December 31 were as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Operating leases within cash flows from operating activities	$ 2,986	$ 1,260	$ 521
Finance leases within cash flows from financing activities	$ 10,441	$ 3,623	$ 554

The following is a schedule of weighted-average discount rates used to determine lease liabilities and remaining lease terms for the years ended December 31:

	Years Ended December 31,	
	2021	2020
Weighted-average remaining lease term - operating leases (in years)	5.5	5.9
Weighted-average remaining lease term - finance leases (in years)	19.1	20.7
Weighted-average discount rate - operating leases	8.6 %	9.4 %
Weighted-average discount rate - finance leases	4.5 %	4.6 %

The following is a schedule of future minimum lease payments under noncancellable finance and operating leases as of December 31, 2021 (in thousands):

	Operating Leases	Finance Leases
2022	$ 2,950	$ 16,907
2023	1,520	8,532
2024	1,374	8,532
2025	1,218	8,532
2026	1,234	8,532
Thereafter	1,548	122,023
Total minimum lease payments	$ 9,844	$ 173,058
Less: amounts representing interest	2,081	54,654
Present value of net minimum lease payments	7,763	118,404
Less: current portion of lease liabilities	2,238	12,439
Long-term lease liabilities	$ 5,525	$ 105,965

19. SUPPLEMENTAL CASH FLOW INFORMATION

Net change in operating assets and liabilities during the years ended December 31 were as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Decrease (increase) in operating assets:			
Trade and other receivables	$ (38,138)	$ 5,132	$ (44,465)
Inventories	(20,848)	(21,660)	(11,368)
Other operating assets	(1,516)	17,781	1,375
Increase (decrease) in operating liabilities:			
Accounts payable	(6,882)	7,761	16,732
Accrued liabilities	38,761	(1,574)	(401)
Reclamation liabilities	(243)	(2,447)	(3,568)
Other operating liabilities	(429)	(45,585)	(24,474)
	$ (29,295)	$ (40,592)	$ (66,169)

Other cash information during the years ended December 31 were as follows (in thousands):

	Years Ended December 31,		
	2021	2020	2019
Interest paid	$ (12,512)	$ (13,638)	$ (11,646)
Interest received	$ 5,315	$ 3,665	$ 9,697
Income taxes paid	$ (58,000)	$ (43,744)	$ (20,850)

20. COMMITMENTS AND CONTINGENCIES

General

Estimated losses from loss contingencies are accrued by a charge to income when information is available prior to the issuance of the financial statements that indicates it is probable that a liability could be incurred, and the amount of the loss can be reasonably estimated. Legal expenses associated with the loss contingency are expensed as incurred. If a loss contingency is not probable or reasonably estimable, disclosure of the loss contingency is made in the financial statements when it is at least reasonably possible that a material loss could be incurred.

Environmental matters

The Company uses surety bonds to support certain environmental bonding obligations. As of December 31, 2021 and 2020, the Company had surety bonds totaling $117.0 million and $117.5 million outstanding, respectively.

Other commitments and contingencies

The Company is involved in legal proceedings related to its course of business. Management does not believe that these legal cases will have a material effect on the Company’s financial condition or results of the operation.

21. SUBSEQUENT EVENTS

Disposal

On January 12, 2022, the Company entered into an agreement with Endeavour Silver Corp. ("Endeavour Silver") to sell its Pitarrilla project in Durango, Mexico, included in the Company's Exploration, evaluation and development properties segment, in exchange for consideration including $35.0 million in common shares of Endeavour Silver, $35.0 million in cash, and a 1.25% net smelter returns royalty on the Pitarrilla property. The transaction is expected to close in the first half of 2022.

Dividend

On February 22, 2022, the Company declared a quarterly cash dividend of $0.07 per common share, payable on April 4, 2022 to holders of record at the close of business on March 7, 2022.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The Management of the Company is responsible for establishing and maintaining adequate internal controls over financial reporting. Internal controls over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) under the Securities Exchange Act of 1934 as a process designed by, or under the supervision of, the Company's principal executive and principal financial officers and effected by the Company's Board of Directors, Management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles (GAAP) and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the Company's assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of Management and directors of the Company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Definition and Limitations of Internal Control Over Financial Reporting

Because of its inherent limitations, internal controls over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management's Report on Internal Control Over Financial Reporting

The Company's Management assessed the effectiveness of the Company's internal controls over financial reporting as of December 31, 2021. In making this assessment, the Company's Management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control-Integrated Framework 2013. Based upon its assessment, Management concluded that, at December 31, 2021, the Company's internal controls over financial reporting were effective.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited our financial statements included in this Annual Report and issued its attestation report on the effectiveness of our internal control over financial reporting as of December 31, 2021, which is included herein.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as such term is defined in Rules 13a–15(f) and 15d–15(f) under the Exchange Act) that occurred during our most recent quarter, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information concerning this item is contained in the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A or, if such definitive Proxy Statement is not filed with the Securities and Exchange Commission within 120 days after the close of the Company's fiscal year, an amendment to this Annual Report filed under cover of Form 10-K/A.

ITEM 11. EXECUTIVE COMPENSATION

Information concerning this item is contained in the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A or, if such definitive Proxy Statement is not filed with the Securities and Exchange Commission within 120 days after the close of the Company's fiscal year, an amendment to this Annual Report filed under cover of Form 10-K/A.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information concerning this item is contained in the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A or, if such definitive Proxy Statement is not filed with the Securities and Exchange Commission within 120 days after the close of the Company's fiscal year, an amendment to this Annual Report filed under cover of Form 10-K/A.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information concerning this item is contained in the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A or, if such definitive Proxy Statement is not filed with the Securities and Exchange Commission within 120 days after the close of the Company's fiscal year, an amendment to this Annual Report filed under cover of Form 10-K/A.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information concerning this item is contained in the Company's definitive Proxy Statement for its Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A or, if such definitive Proxy Statement is not filed with the Securities and Exchange Commission within 120 days after the close of the Company's fiscal year, an amendment to this Annual Report filed under cover of Form 10-K/A.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as a part of this Annual Report:

1. Consolidated financial statements: the consolidated financial statements and the Report of Independent Registered Public Accounting Firm (PCAOB ID 271) are included in Item 8. Financial Statements and Supplementary Data, of this Annual Report on Form 10-K.

2. Financial statement schedules: All schedules have been omitted because they are inapplicable, not required, or the information is included in the above referenced consolidated financial statements or the notes thereto.

3. Exhibits furnished pursuant to the requirements of Form 10-K:

Exhibit Number	
2.1	SSR Mining Inc. and Alacer Gold Corp. Arrangement Agreement dated May 10, 2020 (incorporated by reference to SSR Mining Inc.'s Current Report on Form 6-K filed with the SEC on May 21, 2020).
3.1	Memorandum, Articles and Certificate of Incorporation (incorporated by reference to Exhibit 1.1 to the Registrant's Registration Statement on Form 20-F (File No. 0-26424), filed on July 13, 1995).
3.2	Notice of Articles and Articles filed under the Business Corporations Act (British Columbia) dated August 1, 2017 (incorporated by reference to SSR Mining Inc.'s Registration Statement on Form 8-A/A filed with the SEC on September 26, 2018).
4.1	Indenture, dated as of March 19, 2019, among SSR Mining Inc. and The Bank of New York Mellon, as trustee (incorporated by reference to SSR Mining Inc.'s Current Report on Form 6-K filed with the SEC on March 27, 2019).
4.2	Form of Global 2.50% Convertible Senior Note due 2039 (incorporated by reference to SSR Mining Inc.'s Current Report on Form 6-K filed with the SEC on March 27, 2019).
4.3 +	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
4.4	Amended and Restated Shareholder Rights Plan Agreement, dated as of March 21, 2018, between SSR Mining and Computershare Investor Services Inc. (incorporated by reference to SSR Mining Inc.'s Registration Statement on Form 8-A/A filed with the SEC on September 26, 2018).
10.1 +	Credit Agreement, dated August 4, 2015, among Silver Standard Resources Inc., as the Borrower, and The Canadian Imperial Bank of Commerce, as the Sole Lead Arranger, Sole Bookrunner and Administrative Agent, Bank of Montreal and The Bank of Nova Scotia, as Lenders.
10.2 +	Amending Agreement No. 1 to Credit Agreement, dated May 31, 2016, among SSR Mining, as the Borrower, and The Canadian Imperial Bank of Commerce, as the Sole Lead Arranger, Sole Bookrunner and Administrative Agent, Bank of Montreal and The Bank of Nova Scotia, as Co-Syndication Agents, and Royal Bank of Canada and ING Capital LLC, as Lenders.
10.3 +	Amending Agreement No. 2 to Credit Agreement, dated June 8, 2017, among SSR Mining, as the Borrower, and The Canadian Imperial Bank of Commerce, as the Sole Lead Arranger, Sole Bookrunner and Administrative Agent, Bank of Montreal and The Bank of Nova Scotia, as Co-Syndication Agents, and Royal Bank of Canada and ING Capital LLC, as Lenders.

10.4 +	Amending Agreement No. 3 to Credit Agreement, dated January 21, 2020, among SSR Mining, as the Borrower, and The Canadian Imperial Bank of Commerce, as the Sole Lead Arranger, Sole Bookrunner and Administrative Agent, Bank of Montreal and The Bank of Nova Scotia, as Co-Syndication Agents, and Royal Bank of Canada and ING Capital LLC, as Lenders.
10.5 +	Amending Agreement No. 4 to Credit Agreement, dated June 3, 2020, among SSR Mining, as the Borrower, and The Canadian Imperial Bank of Commerce, as the Sole Lead Arranger, Sole Bookrunner and Administrative Agent, Bank of Montreal and The Bank of Nova Scotia, as Co-Syndication Agents, and Royal Bank of Canada and ING Capital LLC, as Lenders.
10.6 +	Amended and Restated Facility Agreement, dated Jun 16, 2016, among Anagold Madencilik Sanayi ve Ticaret A.S., as the Borrower, Alacer Gold Corp., Lidya Madencilik Sanayi ve Ticaret A.S., Alacer Gold Madencilik A.S., Banka Kombetare Tregtare SHA, Societe Generale, London Branch, BNP Paribas (Suisse) SA, ING Bank N.V. and Unicredit Bank Austria AG, each as a Mandated Lead Arranger, ING Bank N.V., as the Facility Agent and Security Holder, BNP Paribas (Suisse) SA, as Technical Agent, Societe Generale, London Branch, as Documentation Agent, the Financial Institutions party thereto as Hedge Providers, and the Financial Institutions party thereto as Financial Institutions.
10.7	SSR Mining Inc. 2021 Share Compensation Plan (incorporated by reference to SSR Mining Inc.'s Registration Statement on Form S-8 filed with the SEC on September 3, 2021).
10.8 *	SSR Mining Inc. Non-Employee Director's Deferred Share Unit Plan.
10.9 *	SSR Mining Inc. 2020 Share Compensation Plan.
10.10 *	SSR Mining Inc. 2017 Share Compensation Plan.
10.11 *	Alacer Gold Corp. 2017 Restricted Stock Unit Plan.
10.12 *	Alacer Gold Corp. 2017 Performance Share Unit Plan.
10.13 +	Employment Agreement, dated October 1, 2020, between SSR Mining Inc. and Gregory Martin.
10.14 +	Termination of Employment Letter, dated February 26, 2021, between SSR Mining Inc. and Gregory Martin.
10.15 +	Employment Agreement, dated October 1, 2020, between SSR Mining Inc. and Rodney P. Antal.
10.16 +	Employment Agreement, dated October 1, 2020, between SSR Mining Inc. and Stewart Beckman.
10.17 +	Employment Agreement, dated October 1, 2020, between SSR Mining Inc. and F. Edward Farid.
10.18 +	Employment Agreement, dated October 1, 2020, between SSR Mining Inc. and Michael J. Sparks.
10.19 +	Employment Agreement, dated February 26, 2021, between SSR Mining Inc. and Alison White.
10.20 *	SSR Mining Inc. 2020 Share Compensation Plan Form Agreement for Restricted Share Units.
10.21 *	SSR Mining Inc. 2020 Share Compensation Plan Form Agreement for Performance Share Units.
10.22 *	Alacer Gold Corp. 2017 Restricted Stock Unit Plan Form Award Letter.
10.23 *	Alacer Gold Corp. 2017 Performance Share Unit Plan Form Award Letter.

21 +	Subsidiaries of SSR Mining Inc.
23.1 +	Consent of PricewaterhouseCoopers LLP.
23.2 +	Consent of Cengiz Demirci.
23.3 +	Consent of Gregory Gibson.
23.4 +	Consent of Bernard Peters.
23.5 +	Consent of Karthik Rathnam.
23.6 +	Consent of Sharron Sylvester.
23.7 +	Consent of OreWin Pty Ltd.
31.1 +	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a)/15d-14(a) as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2 +	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a)/15d-14(a) as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1++	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2++	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
95 +	Mine Safety Information Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act.
96.1 +	Çöpler District Master Plan 2021 Technical Report Summary.
96.2 +	Marigold 2021 Technical Report Summary.
96.3 +	Seabee 2021 Technical Report Summary.
96.4 +	Puna 2021 Technical Report Summary.
101 +	The following materials from the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 formatted in Inline XBRL: (i) the Consolidated Balance Sheets; (ii) the Consolidated Statements of Operations; (iii) the Consolidated Statements of Comprehensive Income; (iv) the Consolidated Statements of Shareholders' Equity; (v) the Consolidated Statements of Cash Flows; and (vi) the Notes to the Consolidated Financial Statements.
104 +	Cover Page Interactive Data File (embedded within the Inline XBRL document).

+	Filed herewith
++	Furnished herewith
*	Indicates a management contract or compensatory plan or arrangement.

ITEM 16. FORM 10-K SUMMARY.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SSR MINING INC.
Registrant

Date: February 23, 2022

/s/ Rodney P. Antal

Name: Rodney P. Antal
Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Name	Position	Date
/s/ Rodney P. Antal Rodney P. Antal	President, Chief Executive Officer and Director (Principal Executive Officer)	February 23, 2022
/s/ Alison White Alison White	Executive Vice President, Chief Financial Officer (Principal Financial Officer)	February 23, 2022
/s/ Russell Farnsworth Russell Farnsworth	Vice President, Controller (Principal Accounting Officer)	February 23, 2022
/s/ A.E. Michael Anglin A.E. Michael Anglin	Chairman of the Board of Directors	February 23, 2022
/s/ Thomas Bates, Jr. Thomas Bates, Jr.	Director	February 23, 2022
/s/ Brian R. Booth Brian R. Booth	Director	February 23, 2022
/s/ Edward Dowling Jr. Edward Dowling Jr.	Director	February 23, 2022
/s/ Simon A. Fish Simon A. Fish	Director	February 23, 2022
/s/ Alan P. Krusi Alan P. Krusi	Director	February 23, 2022
/s/ Kay Priestly Kay Priestly	Director	February 23, 2022

Exhibit 4.3

Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934

As of December 31, 2021, SSR Mining Inc.'s ("we," "us," or the "Company") common shares without par value and common share purchase rights, respectively, are registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Description of Common Shares

The following description of our common shares is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to the Company's Certificate of Incorporation, Notice of Articles and Articles, each filed under the Business Corporations Act (British Columbia), each of which are incorporated by reference as an exhibit to the Company's Form 10-K of which this Exhibit 4.3 is a part. We encourage you to read our Certificate of Incorporation, Notice of Articles and Articles filed under the Business Corporations Act (British Columbia), and the applicable provisions of the Business Corporations Act (British Columbia), for additional information.

The Company's authorized share capital consists of an unlimited number of common shares, without par value, of which 212,380,004 common shares were issued and outstanding as of January 31, 2022. In addition, the Company has 20,510,429 CHESS depository interests outstanding as of January 31, 2021.

All of the Company's common shares rank equally as to voting rights, participation in a distribution of the Company's assets on a liquidation, dissolution or winding-up and the entitlement to dividends. The holders of the Company's common shares are entitled to receive notice of, and to attend and vote at, all meetings of shareholders (other than meetings at which only holders of another class or series of shares are entitled to vote). Each common share carries with it the right to one vote.

In the event of the Company's liquidation, dissolution or winding-up or other distribution of the Company's assets, the holders of the Company's common shares will be entitled to receive, on a pro rata basis, all of the assets remaining after the Company has paid out the Company's liabilities. Distributions in the form of dividends, if any, will be set by the Company's Board of Directors.

Any alteration of the rights attached to the Company's common shares must be approved by at least two-thirds of the common shares voted at a meeting of the Company's shareholders.

CREDIT AGREEMENT

dated as of

AUGUST 4, 2015

among

SILVER STANDARD RESOURCES INC.

as Borrower and
THE LENDERS FROM TIME TO TIME PARTIES HERETO

as Lenders and
CANADIAN IMPERIAL BANK OF COMMERCE

as Administrative Agent, Sole Lead Arranger, Sole Bookrunner and Issuing Bank

TABLE OF CONTENTS

		Page
ARTICLE 1 DEFINITIONS		1
1.1	Definitions	1
1.2	Classification of Loans and Borrowings	34
1.3	Terms Generally	34
1.4	Accounting Terms; GAAP	35
1.5	Time	35
1.6	Permitted Liens	35
ARTICLE 2 THE CREDITS		35
2.1	Commitments	35
2.2	Loans and Borrowings	35
2.3	Requests for Borrowings	36
2.4	Funding of Borrowings	37
2.5	Interest and Acceptance Fees	38
2.6	Termination and Reduction of Commitments; Extensions	40
2.7	Repayment of Loans	41
2.8	Evidence of Debt	41
2.9	Prepayments	42
2.10	Fees	42
2.11	Bankers' Acceptances	43
2.12	Alternate Rate of Interest	46
2.13	Increased Costs; Illegality	46
2.14	Break Funding Payments	48
2.15	Taxes	48
2.16	Payments Generally; Pro Rata Treatment; Sharing of Set-offs	49
2.17	Currency Indemnity	51
2.18	Mitigation Obligations; Replacement of Lenders	52
2.19	Letters of Credit	52
2.20	Swingline Loans	56
2.21	Defaulting Lenders	57
ARTICLE 3 REPRESENTATIONS AND WARRANTIES		59
3.1	Representations and Warranties of the Borrower	59
ARTICLE 4 CONDITIONS		69
4.1	Effective Date	69
4.2	Each Credit Event	71
ARTICLE 5 AFFIRMATIVE COVENANTS		72
5.1	Covenants	72

TABLE OF CONTENTS
(continued)

	Page
ARTICLE 6 NEGATIVE COVENANTS	80
6.1 Negative Covenants	80
ARTICLE 7 EVENTS OF DEFAULT	86
7.1 Events of Default	86
ARTICLE 8 THE ADMINISTRATIVE AGENT	90
8.1 Appointment of Administrative Agent	90
8.2 Secured Parties	90
8.3 Limitation of Duties of Administrative Agent	91
8.4 Lack of Reliance on the Administrative Agent	91
8.5 Certain Rights of the Administrative Agent	92
8.6 Reliance by Administrative Agent	92
8.7 Indemnification of Administrative Agent	92
8.8 The Administrative Agent in its Individual Capacity	92
8.9 May Treat Lender as Owner	93
8.10 Successor Administrative Agent	93
8.11 No Independent Legal Action	93
8.12 Arranger	94
ARTICLE 9 MISCELLANEOUS	94
9.1 Notices	94
9.2 Waivers; Amendments	96
9.3 Expenses; Indemnity; Damage Waiver	97
9.4 Successors and Assigns	99
9.5 Anti-Money Laundering Legislation	101
9.6 Survival	102
9.7 Counterparts	102
9.8 Entire Agreement	102
9.9 Severability	102
9.10 Right of Set Off	102
9.11 Governing Law	103
9.12 Attornment	103
9.13 Service of Process	103
9.14 WAIVER OF JURY TRIAL	103
9.15 Confidentiality	103
9.16 Application under the CCAA	104
9.17 No Strict Construction	104
9.18 Paramountcy	104
9.19 Excluded Swap Obligations	105

		Page
9.20	LIMITATION OF LIABILITY	105

TABLE OF CONTENTS
(continued)

Page

Exhibits:

Exhibit A	-	Form of Borrowing Request
Exhibit B	-	Form of Compliance Certificate
Exhibit C	-	Form of Assignment and Assumption
Exhibit D	-	Form of UNR Consent

Schedules:

Schedule 1.1(A)	-	Initial Security Documents
Schedule 2.1	-	Lenders and Commitments
Schedule 3.1(3)	-	Governmental Approvals; No Conflicts
Schedule 3.1(5)	-	Litigation
Schedule 3.1(9)	-	Real Property
Schedule 3.1(10)	-	Permitted Lien Registrations
Schedule 3.1(11)	-	Pension Plans
Schedule 3.1(13)	-	Subsidiaries
Schedule 3.1(16)	-	Environmental Matters
Schedule 3.1(17)	-	Employee Matters
Schedule 3.1(19)	-	Intellectual Property Rights
Schedule 3.1(21)	-	Bank Accounts
Schedule 3.1(26)	-	Marigold Project Real Property
Schedule 3.1(27)	-	Marigold Project Leases
Schedule 3.1(28)	-	Marigold Project Authorizations
Schedule 3.1(32)	-	Existing Royalty Agreements
Schedule 3.1(34)	-	Mine Safety
Schedule 5.1(8)	-	Post-Closing Requirements
Schedule 5.1(11)	-	Security Principles
Schedule 9.1	-	Lender and Issuing Bank Contact Information

CREDIT AGREEMENT

THIS CREDIT AGREEMENT dated as of August 4, 2015 is made among Silver Standard Resources Inc., as Borrower, the Lenders from time to time parties hereto, as Lenders, Canadian Imperial Bank of Commerce, as Administrative Agent, Arranger, and as Issuing Bank.

RECITALS

A. The Lenders have agreed to provide certain credit facilities to the Borrower.

B. The Guarantors have agreed to guarantee the obligations of the Borrower in connection herewith.

For good and valuable consideration, the receipt and adequacy of which are hereby acknowledged by each party hereto, the parties hereto agree as follows:

ARTICLE 1
DEFINITIONS

1.1 Definitions.

In this Agreement:

"**Aboriginal Claim**" means any action, cause of action, suit, litigation, proceeding, demand, claim, complaint, or grievance made by any Aboriginal Group to any Credit Party, or, to the Borrower's knowledge, to a Governmental Authority, in respect of aboriginal rights, aboriginal title, treaty rights or any other aboriginal interest in or to all or related to any portion of the Marigold Project.

"**Aboriginal Group**" means any first nations, Métis or indigenous or aboriginal person(s), tribe(s) or band(s) of Canada or the United States, or any Person or group identifying themselves as such.

"**Acceptance Fee**" means a fee payable by the Borrower to the Administrative Agent for the account of a Lender in Canadian Dollars with respect to the acceptance of a B/A or the making of a B/A Equivalent Loan, calculated on the face amount of the B/A or the B/A Equivalent Loan at a rate per annum equal to the Applicable Margin from time to time in effect on the basis of the actual number of days in the applicable Contract Period (including the date of acceptance and excluding the date of maturity) and a year of 365 days, (it being agreed that the Applicable Margin in respect of a B/A Equivalent Loan is equivalent to the Applicable Margin otherwise applicable to the B/A Borrowing which has been replaced by the making of such B/A Equivalent Loan pursuant to Section 2.11(8).

"**Acquisition**" means any transaction, or any series of related transactions, consummated after the Closing Date, by which any Credit Party directly or indirectly, by means of a takeover bid, tender offer, amalgamation, merger, purchase of assets or otherwise:

(a) acquires any business (including any division of a business) or all or substantially all of the assets of any Person engaged in any business;

(b) acquires control of securities of a Person engaged in a business representing more than 50% of the ordinary voting power for the election of directors or other governing position

if the business affairs of such Person are managed by a board of directors or other governing body;

(c) acquires control of more than 50% of the ownership interest in any Person engaged in any business that is not managed by a board of directors or other governing body; or

(d) otherwise acquires Control of a Person engaged in a business.

"**Adjusted Net Income**" means, with respect to any period, an amount equal to Net Income for such period plus, to the extent deducted from such Net Income, the accretion expense with respect to the Permitted Notes for such period; provided that, notwithstanding GAAP, expenses on account of:

(a) export taxes and duties, and

(b) reclamation work,

shall be recognized on a cash (and not accrual) basis.

"**Administrative Agent**" means Canadian Imperial Bank of Commerce, in its capacity as administrative agent for the Lenders hereunder, or any successor Administrative Agent appointed pursuant to Section 8.10.

"**Administrative Questionnaire**" means an administrative questionnaire in a form supplied by the Administrative Agent.

"**Affiliate**" means, with respect to any Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with, such Person.

"**Affiliate Postponement Agreement**" means a postponement agreement in favour of the Administrative Agent, for the benefit of the Secured Parties, that *inter alia* prohibits any payment of Intercompany Indebtedness while a Default or Event of Default has occurred and is continuing.

"**Agreement**" means this credit agreement and all the Exhibits and the Schedules attached hereto.

"**AML Legislation**" means the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (Canada) the U.S. Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (Title III of Pub. L. 107-56) (the "USA PATRIOT Act"), the U.S. Currency and Foreign Transactions Reporting Act (31 U.S.C. §§ 5311-5330 and 12 U.S.C. §§ 1818(s), 1820(b) and 1951-1959) (also known as the "Bank Secrecy Act"), the U.S. Trading With the Enemy Act (50 U.S.C. § 1 et seq.), U.S. Presidential Executive Order 13224 (effective September 24, 2001), and other applicable anti-money laundering, anti-terrorist financing, government sanction and "know your client" applicable Laws, whether within Canada, the United States or elsewhere, including any regulations, guidelines or orders thereunder.

"**Anti-Corruption Laws**" means all laws, rules, and regulations of any jurisdiction applicable to the Borrower or its Subsidiaries from time to time concerning or relating to bribery or corruption, including without limitation the *Corruption of Foreign Public Officials Acts* (Canada) and the *U.S. Foreign Corrupt Practices Act*.

"**Applicable Margin**" means the applicable rate per annum, expressed as a percentage, set out in the relevant column and row of the table below, based on the Net Leverage Ratio as at the most recent Quarterly Date with respect to which the Borrower has delivered financial information to the Administrative Agent pursuant to Section 5.1(1).

Net Leverage Ratio	B/A Borrowing, LIBO Rate Loan or Financial Letter of Credit	Canadian Prime Loan or Base Rate Loan	Non-Financial Letter of Credit	Standby Fee
< 1.0x	275 bps	175 bps	183.33 bps	68.75 bps
≥1.0x and < 1.5x	300 bps	200 bps	200 bps	75 bps
≥1.5x and < 2.5x	325 bps	225 bps	217.67 bps	81.25 bps
≥2.5x	375 bps	275 bps	250 bps	93.75 bps

The initial Applicable Margin shall be the highest margins provided for in the above grid until delivery of the Compliance Certificate required by Section 4.1(10), following which the Applicable Margin shall be based upon the information set out therein. Thereafter, the Applicable Margin shall change (to the extent necessary, if any) on the first Business Day following the next last date on which the financial statements and Compliance Certificate of the Borrower are required to be delivered to the Administrative Agent pursuant to Section 5.1(1) to reflect any change in the Net Leverage Ratio effective as of the date of such financial statements, based upon the financial statements for the immediately preceding Rolling Period, or if such day is not a Business Day, then the first Business Day thereafter. Notwithstanding the foregoing, if at any time the Borrower fails to deliver financial statements and the certificate of the Borrower as required by Section 5.1(1) on or before the date required pursuant to Section 5.1(1) (without regard to grace periods), the Applicable Margin shall be the highest margins provided for in the above grid from the date such financial statements are due pursuant to Section 5.1(1) (without regard to grace periods) through the date the Administrative Agent receives all financial statements and certificates that are then due pursuant to Section 5.1(1), at which time the Applicable Margin shall again be set out in accordance with the above grid.

"**Applicable Percentage**" means, at any time with respect to any Lender, the percentage of the total Commitments represented by such Lender's Commitment at such time; provided that with respect to any Borrowing the Applicable Percentage of each Lender shall be determined net of the Swingline Cap (both with respect to the aggregate Commitments and the Commitment of the Lender that is the Swingline Lender). If the Commitments have terminated or expired, the Applicable Percentages shall be determined based upon the Commitments most recently in effect (prior to their termination or expiry), giving effect to any assignments.

"**Arranger**" means Canadian Imperial Bank of Commerce in its capacity as sole lead arranger of the Credit.

"**Asset Disposition**" means, with respect to any Person, the sale, lease, license, transfer, assignment or other disposition of, or the expropriation, condemnation, destruction or other loss of, all or any portion of its business, assets, rights, revenues or property, real, personal or mixed, tangible or intangible, whether in one transaction or a series of transactions, other than:

(a) inventory sold in the ordinary course of business upon customary credit terms;

(b) sales of worn-out, scrap or obsolete material or equipment which are not material in the aggregate;

(c) sales or other dispositions of Unencumbered Equity Securities;

(d) sales or other dispositions to the Borrower or a Domestic Material Subsidiary;

(e) sales or other dispositions between Foreign Material Subsidiaries;

(f) sales of equipment to the extent that the proceeds thereof are applied against the purchase of replacement equipment;

(g) transactions permitted by Section 6.1(3);

(h) any lease, sublease or licence granted in connection with a contract mining agreement entered into in the ordinary course of business of such Person; or

(i) expenditures, redemptions or other dispositions of Cash Equivalents in the ordinary course of business.

"**Assignment and Assumption**" means an assignment and assumption entered into by a Lender and an assignee (with the consent of any party whose consent is required by Section 9.4), and accepted by the Administrative Agent, in the form of Exhibit C or any other form approved by the Administrative Agent.

"**Authorization**" means, with respect to any Person, any authorization, order, permit, approval, grant, licence, consent, right, franchise, privilege, certificate, judgment, writ, injunction, award, determination, direction, decree, by-law, rule or regulation of any Governmental Authority having jurisdiction over such Person; provided that, for the avoidance of doubt, Mining Rights shall not constitute Authorizations.

"**B/A Borrowing**" means a Borrowing comprised of one or more Bankers' Acceptances or, as applicable, B/A Equivalent Loans. For greater certainty, unless the context requires otherwise, all provisions of this Agreement which are applicable to Bankers' Acceptances are also applicable, *mutatis mutandis*, to B/A Equivalent Loans.

"**B/A Equivalent Loan**" has the meaning set out in Section 2.11(8).

"**Bankers' Acceptance**" and "**B/A**" mean an instrument denominated in Canadian Dollars, drawn by the Borrower and accepted by a Lender in accordance with this Agreement, and includes a "depository note" within the meaning of the *Depository Bills and Notes Act* (Canada) and a bill of exchange within the meaning of the *Bills of Exchange Act* (Canada).

"**Bankruptcy Code**" means Title 11 of the United States Code or any similar federal or state law for the relief of debtors.

"**Bankruptcy Laws**" means the BIA, the Bankruptcy Code and all other Laws pertaining or applicable to bankruptcy, insolvency, debtor relief, debtor protection, liquidation, reorganization,

arrangement, receivership, moratorium, assignment for the benefit of creditors or other similar Laws.

"**Base Rate**" means, on any day, the annual rate of interest equal to the greater of (a) the annual rate of interest announced by the Administrative Agent and in effect as its base rate at its principal office in Toronto, Ontario on such day for determining interest rates on U.S. Dollar-denominated commercial loans made in Canada, and (b) the Federal Funds Effective Rate plus 0.50%.

"**Base Rate Borrowing**" means a Borrowing comprised of one or more Base Rate Loans.

"**Base Rate Loan**" means a Loan denominated in U.S. Dollars which bears interest at a rate based upon the Base Rate.

"**Benefit Plans**" means any retirement, savings, profit sharing, health, medical, dental, disability, life insurance, welfare or other employee benefit plan, program, policy or practice, whether written or oral, funded or unfunded, registered or unregistered, which is sponsored, maintained or contributed to or required to be contributed to by any Credit Party or under which any Credit Party has any actual or potential liability, other than a Pension Plan.

"**BIA**" means the *Bankruptcy and Insolvency Act* (Canada).

"**Borrower**" means Silver Standard Resources Inc., a British Columbia corporation.

"**Borrowing**" means any availment of the Credit, and includes any Loan, the issuance of a Letter of Credit (or any amendment thereto or renewal or extension thereof) and a rollover or conversion of any outstanding Loan.

"**Borrowing Request**" has the meaning set out in Section 2.3(1).

"**Business Day**" means any day that is not (a) a Saturday, Sunday or holiday (as defined in the *Interpretation Act* (Canada)) in Toronto, Ontario or Vancouver, British Columbia, or (b) in the case of any U.S. Dollar-denominated Borrowing, any other statutory holiday in New York, New York, or (c) in the case of any LIBO Rate Loan any other statutory holiday in London, England.

"**Canadian Dollars**" and "**Cdn.$**" refer to lawful money of Canada.

"**Canadian Prime Borrowing**" means a Borrowing comprised of one or more Canadian Prime Loans.

"**Canadian Prime Loan**" means a Loan denominated in Canadian Dollars which bears interest at a rate based upon the Canadian Prime Rate.

"**Canadian Prime Rate**" means, on any day, the annual rate of interest equal to the greater of (a) the annual rate of interest announced by the Administrative Agent and in effect as its prime rate at its principal office in Toronto, Ontario on such day for determining interest rates on Canadian Dollar-denominated commercial loans in Canada, and (b) the annual rate of interest equal to the sum of (i) the one-month CDOR Rate in effect on such day, plus (ii) 1.00%.

"**Capital Adequacy Guideline**" means the capital adequacy requirements from time to time specified by the Office of the Superintendent of Financial Institutions (or any successor Canadian

Governmental Authority performing the functions and exercising the powers performed and exercised by the Office of the Superintendent of Financial Institutions) and published by it as one or more guidelines for Canadian banks.

"**Capital Expenditures**" means, with respect to any Person for any period, all expenditures (whether paid in cash or accrued as a liability, including the portion of Capital Lease Obligations originally incurred during such period that are capitalized) of such Person during such period that, in conformity with GAAP, are included in "capital expenditures", "additions to property, plant or equipment" or comparable items.

"**Capital Lease Obligations**" of any Person means the obligations of such Person to pay rent or other amounts under any lease of (or other arrangement conveying the right to use) real or personal property, or a combination thereof, which obligations are required to be classified and accounted for as capital leases on a balance sheet of such Person under GAAP, and the amount of such obligations shall be the capitalized amount thereof determined in accordance with GAAP.

"**Cash Balance**" means, at any time, the aggregate amount of cash and Cash Equivalents held by the Borrower at such time, determined on a Consolidated basis; provided that any cash and Cash Equivalents that are subject to any Lien by any Person, other than:

(a) Liens created under the Security Documents; or

(b) inchoate Liens which arise by statue or operation of law, in each case, on an involuntary basis,

shall not constitute Cash Balance. For the avoidance of doubt, any deposit lodged with a third party as cash collateral shall not be included within the Cash Balance.

"**Cash Equivalents**" means any of the following:

(a) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed or insured by, government of any member state of the Organisation for Economic Co-operation and Development or agency or instrumentality thereof, in each case maturing within one year from the date of acquisition thereof;

(b) investments in certificates of deposit, bankers' acceptances, time deposits maturing within one year from the date of acquisition thereof, and demand bank deposits issued or guaranteed by or placed with, and money market deposit accounts issued or offered by, any domestic office of any commercial bank organized under the laws of Canada, the United States, any Canadian province or any American state which has a rating from Moody's of A1 or from S&P of A+ (or, in each case, better);

(c) investments in certificates of deposit, bankers' acceptances, time deposits maturing within one year from the date of acquisition thereof, and demand bank deposits issued or guaranteed by or placed with, and money market deposit accounts issued or offered by, any office of a commercial bank located outside of Canada and the United States which has a rating from Moody's of A3 or from S&P of A- (or, in each case, better) or having combined capital and surplus in excess of $500,000,000; or

(d) direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed or insured by, any province of Canada or state of the United

States of America having, at the date of acquisition, a rating from Moody's of Aa1or from S&P of AA+ (or, in each case, better), in each case maturing within two years from the date of acquisition thereof.

"**Cash Interest Expense**" means, with respect to any period, the amount paid in cash during such period on account of Interest Expense.

"**Cash Management Services**" means any one or more of the following types of services or facilities provided to any Credit Party by a Lender or any Lender Affiliate (a) ACH transactions, (b) cash management services, including controlled disbursement services, treasury, depository, overdraft, and electronic funds transfer services, (c) foreign exchange facilities, (d) credit card processing services, (e) credit or debit cards, and (f) purchase cards (but only to the extent that, prior to the occurrence and continuance of any Default or Event of Default, the Borrower and the Credit Party issuing such purchase cards notify the Administrative Agent in writing that such purchase cards are to be deemed Cash Management Services hereunder).

"**CDOR Rate**" means, on any day and for any period, an annual rate of interest equal to the average rate applicable to Canadian Dollar bankers' acceptances for the applicable period appearing on the Reuters Screen CDOR Page, rounded to the nearest $1/100^{th}$ of 1% (with .005% being rounded up), at approximately 10:00 a.m., on such day, or if such day is not a Business Day, then on the immediately preceding Business Day, provided that if such rate does not appear on the Reuters Screen CDOR Page on such day as contemplated, then the CDOR Rate on such day shall be calculated as the average of the rates for such period applicable to Canadian Dollar bankers' acceptances quoted by the banks listed in Schedule I of the *Bank Act* (Canada) which are also Lenders under this Agreement as of 10:00 a.m., on such day or, if such day is not a Business Day, then on the immediately preceding Business Day. In either case, if that rate is less than zero, the CDOR Rate shall be deemed to be zero.

"**Change in Control**" means (a) the acquisition of ownership, directly or indirectly, beneficially or of record, by any Person or group of Persons acting jointly or otherwise in concert, of Equity Securities of the Borrower representing more than 50% of the aggregate ordinary voting power represented by the issued and outstanding Equity Securities of the Borrower, (b) the occupation of a majority of the seats (other than vacant seats) on the board of directors of the Borrower by Persons who were neither (i) nominated by the board of directors of the Borrower nor (ii) appointed by directors so nominated, or (c) the acquisition of direct or indirect Control of the Borrower by any Person or group of Persons acting jointly or otherwise in concert.

"**Change in Law**" means (i) the adoption or taking effect of any new Law after the date of this Agreement, (ii) any change in any existing Law or in the administration, interpretation, implementation or application thereof by any Governmental Authority after the date of this Agreement, or (iii) the making or issuance of any request, rule, guideline or directive (whether or not having the force of law) by any Governmental Authority made or issued after the date of this Agreement.

"**Closing Date**" means August 4, 2015, being the date on which this Agreement is executed and delivered by the parties hereto.

"**Collateral**" means the property described in and subject to the Liens, privileges, priorities and security interests purported to be created by any Security Document.

"**Commitment**" means, with respect to each Lender, the commitment of such Lender to make Loans hereunder pursuant to Section 2.1, as such commitment may be reduced from time to time pursuant to Section 2.6, and as such commitment may be reduced or increased from time to time pursuant to assignments by or to such Lender pursuant to Section 9.4. The initial amount of each Lender's Commitment is set out in Schedule 2.1, or in the Assignment and Assumption pursuant to which such Lender shall have assumed its Commitment(s), as applicable. The initial aggregate amount of the Commitments is U.S.$75,000,000.

"**Commodity Exchange Act**" means the Commodity Exchange Act (7 U.S.C. § 1 et seq.), as amended from time to time, and any successor statute.2

"**Compliance Certificate**" means a certificate of the Borrower in the form attached hereto as Exhibit B, signed by a Responsible Officer of the Borrower.

"**Consolidated**" means, when used with respect to any financial term, financial covenant, financial ratio or financial statement, such financial term, financial covenant, financial ratio or financial statement calculated, prepared or determined, as applicable, for the Borrower on a consolidated basis in accordance with GAAP consistently applied.

"**Contract Period**" means the term of a B/A Borrowing selected by the Borrower in accordance with Section 2.3(1)(iv) commencing on the date of such B/A Borrowing and expiring on a Business Day which shall be either one month, two months, three months or, if available, as determined by the Administrative Agent in good faith, six months thereafter (or such other terms as may be requested by the Borrower and approved unanimously by the Lenders); provided that (a) subject to clause (b) of this definition, each such period shall be subject to such extensions or reductions as may be determined by the Administrative Agent to ensure that each Contract Period will expire on a Business Day, and (b) no Contract Period shall extend beyond the Maturity Date.

"**Control**" means, in respect of a particular Person, the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such Person, whether through the ability to exercise voting power, by contract or otherwise. "**Controlling**" and "**Controlled**" have meanings correlative thereto.

"**Cover**", when required by this Agreement for LC Exposure, shall be effected by paying to the Administrative Agent in immediately available funds, to be held by the Administrative Agent in a collateral account maintained by the Administrative Agent at its Payment Office and collaterally assigned as security, an amount equal to, as applicable, the maximum amount of LC Exposure available for drawing at such time. Such amount shall be retained by the Administrative Agent in such collateral account until such time as the applicable Letters of Credit shall have expired or matured and Reimbursement Obligations, if any, with respect thereto shall have been fully satisfied; provided that if any such Reimbursement Obligations are not satisfied when due hereunder, the Administrative Agent may apply any amounts in such collateral account against such Reimbursement Obligations.

"**Credit**" means the U.S.$75,000,000 revolving credit facility established pursuant to the Commitments of the Lenders.

"**Credit Exposure**" means, with respect to any Lender at any time, the sum of (a) the US $ Amount of the outstanding principal amount of such Lender's Loans at such time, and (b) such Lender's LC Exposure and Swingline Exposure at such time.

"**Credit Parties**" means, collectively, the Borrowers and the Guarantors, and "**Credit Party**" means any one of them.

"**Currency Excess Amount**" has the meaning set out in Section 2.9(1).

"**Decker Lease**" means the mineral lease agreement, made and entered into as of June 20, 1986 by and between Donald J. Decker and Suzanne R. Decker, as lessors, Nevada North Resources (U.S.A.) Inc., as lessee, and Nevada North Resources Inc., as amended by an amendment to mineral lease agreement dated January 7, 2002.

"**Default**" means any event or condition that constitutes an Event of Default or that, upon notice, lapse of time or both, would, unless cured or waived, become an Event of Default.

"**Defaulting Lender**" means any Lender (as reasonably determined by the Administrative Agent) that (a) has failed to fund any portion of the Loans or participations in Letters of Credit required to be funded by it hereunder within one Business Day of the date required to be funded by it hereunder, or has notified the Administrative Agent that it intends not to fund any of the foregoing, (b) has otherwise failed to pay over to the Administrative Agent or any other Lender any other amount required to be paid by it hereunder within one Business Day of the date when due, (c) has failed, within three (3) Business Days after request by the Administrative Agent, to confirm that it will comply with the terms of this Agreement relating to its Commitment, provided that such Lender shall cease to be a Defaulting Lender under this clause (c) upon the Administrative Agent's receipt of such confirmation, (d) has defaulted under its funding obligations under any other lending commitment with any other Person (other than as a result of a good faith dispute thereunder), or (e) has been declared insolvent by any Governmental Authority pursuant to a court order or become the subject of a bankruptcy or insolvency proceeding, and such proceeding is not dismissed or stayed within 30 days after the commencement thereof; provided that a Lender shall cease to be a Defaulting Lender when the aforementioned criteria no longer apply to it.

"**Defined Benefit Plan**" means any Pension Plan which contains a "defined benefit provision", as defined in Section 147.1(1) of the Income Tax Act, other than any Pension Plan that qualifies as a member-funded pension plan as defined in Sections 65 and 66 of the *Regulation respecting the exemption of certain categories of pension plans from the application of provisions of the Supplemental Pension Plans Act* (Quebec).

"**Depreciation Expense**" means, with respect to any period, the collective depreciation, depletion impairment and amortization expense of the Borrower for such period, determined on a Consolidated basis.

"**Discount Proceeds**" means, for any B/A (or, as applicable, any B/A Equivalent Loan), an amount (rounded to the nearest whole cent, and with one-half of one cent being rounded up) calculated on the applicable date of Borrowing by multiplying:

(a) the face amount of the B/A (or, as applicable, the undiscounted amount of the B/A Equivalent Loan); by

(b) the quotient of one divided by the sum of one plus the product of:

  (i) the Discount Rate (expressed as a decimal) applicable to such B/A (or as applicable, such B/A Equivalent Loan); multiplied by

(ii) a fraction, the numerator of which is the Contract Period of the B/A (or, as applicable, the B/A Equivalent Loan) and the denominator of which is 365,

with such quotient being rounded up or down to the nearest fifth decimal place, and with .000005 being rounded up.

"**Discount Rate**" means, with respect to either a B/A for a particular Contract Period being purchased by a Lender on any day or a B/A Equivalent Loan being made by a Lender on any day, (a) for any Lender which is a Schedule I bank under the *Bank Act* (Canada), the CDOR Rate on such day for such Contract Period, and (b) for any other Lender, the lesser of:

(i) the CDOR Rate on such day for such Contract Period, plus 0.10%; and

(ii) the percentage discount rate quoted by such Lender as the percentage discount rate at which such Lender would, in accordance with its normal practices, at or about 10:00 a.m. on such date, be prepared to purchase Bankers' Acceptances or make B/A Equivalent Loans having a face amount and term comparable to the face amount and term of such B/A or B/A Equivalent Loan.

"**Domestic Material Subsidiary**" means any Material Subsidiary organized under the laws of Canada or the United States of America or any province, territory or state thereof.

"**EBITDA**" means, for any period, an amount equal to Adjusted Net Income for such period minus, to the extent included in such Adjusted Net Income (but without duplication):

(a) non-cash income and gains;

(b) interest income;

(c) capital gains;

(d) extraordinary or non-recurring income and gains and unrealized gains;

(e) unrealized gains incurred in connection with Hedging Arrangements;

(f) foreign exchange gains;

plus, to the extent deducted from such Net Income (but without duplication):

(g) capital losses;

(h) expenses incurred in respect of mineral exploration activities;

(i) Interest Expense;

(j) Income Tax Expense;

(k) Depreciation Expense;

(l) unrealized losses incurred in connection with Hedging Arrangements;

(m) extraordinary or non-recurring charges, expenses or losses and unrealized losses;

(n) foreign exchange losses;

(o) any other non-cash expenses and losses, including non-cash stock expenses relating to stock based compensation; and

(p) expenses incurred in connection with the Transactions on or prior to the Closing Date up to an aggregate amount of U.S.$1,200,000;

all determined on a Consolidated basis. It is agreed that EBITDA for the Fiscal Quarter ended (i) June 30, 2015 shall be U.S.$30,472,961, (ii) March 31, 2015 shall be U.S.$45,374,206, (iii) December 31, 2014 shall be U.S.$35,919,423, and (iv) September 30, 2014 shall be U.S. $11,327,849.

"**Environmental and Social Laws and Standards**" means:

(a) all Environmental Laws with respect to the Marigold Project; and

(b) all Social Laws with respect to the Marigold Project.

"**Environmental Laws**" means all Laws relating in any way to the environment, preservation or reclamation of natural resources, the generation, use, handling, collection, treatment, storage, transportation, recovery, recycling, release, threatened release or disposal of any Hazardous Material, or to health and safety matters.

"**Environmental Liability**" means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities) of any Credit Party directly or indirectly resulting from or based upon (a) the violation of any Environmental Laws, (b) the generation, use, handling, collection, treatment, storage, transportation, recovery, recycling or disposal of any Hazardous Materials, (c) exposure to any Hazardous Materials, (d) the Release or threatened Release of any Hazardous Materials into the environment, or (e) any contract, agreement or other consensual arrangement pursuant to which liability is assumed or imposed with respect to any of the foregoing.

"**Equity Securities**" means, with respect to any Person, any and all shares, interests, participations, rights in, or other equivalents (however designated and whether voting and non-voting) of, such Person's capital, whether outstanding on the date hereof or issued after the date hereof, including any interest in a partnership, limited partnership or other similar Person and any beneficial interest in a trust, and any and all rights, warrants, debt securities, options or other rights exchangeable for or convertible into any of the foregoing.

"**Events of Default**" has the meaning set out in Section 7.1.

"Excluded Swap Obligation" means, with respect to any Guarantor, any Swap Obligation if, and to the extent that a court of competent jurisdiction determines that, all or a portion of a Guarantee of such Guarantor of, or the grant by such Guarantor of a Lien to secure, such Swap Obligation (or any Guarantee thereof) is or has become illegal as a result of the extra-territorial application to the Guarantor of the Commodity Exchange Act or any rule, regulation or order of the Commodity Futures Trading Commission (or the application or official interpretation of any thereof) and by virtue of such Guarantor's failure for any reason to constitute an "eligible contract participant" as defined in the Commodity Exchange Act and the regulations thereunder at the time such Guarantee or Lien becomes effective with respect to such Swap Obligation. If a Swap

Obligation arises under a master agreement governing more than one swap, such exclusion shall apply only to the portion of such Swap Obligation that is attributable to swaps for which such Guarantee or Lien is or becomes illegal.

"**Excluded Taxes**" means, with respect to the Administrative Agent, any Lender or any other recipient of any payment to be made by or on account of any obligation of the Borrower hereunder, (i) income or franchise Taxes imposed by a jurisdiction on (or measured by) such recipient's net income , or (ii) capital Taxes imposed by a jurisdiction on (or measured by) such recipient's taxable capital, in each case by reason of the recipient being organized under the Laws of, or having its principal office located in, such jurisdiction.

"**Existing Letter of Credit**" means standby letter of credit no. OSB7984VAN dated August 6, 2014, as amended, issued by The Bank of Nova Scotia for the account of Silver Standard Resources Inc. in favour of Industrial and Commercial Bank of China (Argentina) S.A. in the amount of U.S.$7,500,000 and expiring on August 4, 2016.

"**Existing Royalty Agreements**" means those royalty agreements and other instruments by which royalties on or attributable to the Marigold Project are payable, as set forth on Schedule 3.1(32)

"**Extension Date**" has the meaning set out in Section 2.6(3).

"**Extension Request**" has the meaning set out in Section 2.6(3).

"**Fair Market Value**" means (a) with respect to any asset or group of assets (other than a marketable security) at any date, the value of the consideration obtainable in a sale of such asset at such date assuming a sale by a willing seller to a willing purchaser dealing at arm's length and arranged in an orderly manner over a reasonable period of time having regard to the nature and characteristics of such asset, or, if such asset shall have been the subject of a relatively contemporaneous appraisal by an independent third party appraiser, the basic assumptions underlying which have not materially changed since its date, the value set out in such appraisal, and (b) with respect to any marketable security at any date, the closing sale price of such marketable security on the Business Day next preceding such date, as appearing in any securities exchange publication or, if there is no such closing sale price of such marketable security, the final price for the purchase of such marketable security at face value quoted on such Business Day by a financial institution of recognized standing selected by the Administrative Agent which regularly deals in securities of such type.

"**Federal Funds Effective Rate**" means, for any day, the per annum rate equal to the weighted average of the rates on overnight Federal funds transactions with members of the Federal Reserve System of the United States of America arranged by federal funds brokers, as published for such day (or, if such day is not a Business Day, for the next preceding Business Day) by the Federal Reserve Board of New York, or, if such rate is not so published for any day which is a Business Day, the average of the quotations for such day on such transactions received by the Administrative Agent from three Federal funds brokers of recognized standing selected by it.

"**Fee Letter**" means the letter dated as of May 15, 2015 among Canadian Imperial Bank of Commerce and the Borrower relating to the payment of certain arrangement, syndication and other fees.

"**Financial Letter of Credit**" means a Letter of Credit that serves as a payment guarantee of a Credit Party's financial obligations and is treated as a direct credit substitute for the purposes of

the Capital Adequacy Guideline. For the avoidance of doubt, any Letter of Credit which serves as a guarantee of a Credit Party's performance obligations (other than financial obligations) and is treated as a transaction-related contingency for purposes of the Capital Adequacy Guideline shall not be a Financial Letter of Credit.

"**Fiscal Quarter**" means any fiscal quarter of the Borrower.

"**Fiscal Year**" means any fiscal year of the Borrower.

"**Foreign Material Subsidiary**" means any Material Subsidiary this is not a Domestic Material Subsidiary.

"**Future Project**" means any mining project that is not a producing mining project as at the Closing Date.

"**Future Project Marigold Authorizations**" means, at any time, those Project Marigold Authorizations which as at such time are not then:

(a) necessary or required for the development, construction, operation or maintenance of the Marigold Project in accordance with, and as then contemplated by, the Life of Mine Plan; or

(b) otherwise required to be in effect under the terms of applicable Law or the Loan Documents.

"**GAAP**" means, with respect to any Person, generally accepted accounting principles in Canada as in effect from time to time with respect to such Person, including International Financial Reporting Standards.

"**Good Industry Practice**" means the degree of care and skill, diligence, prudence (financial and operational), foresight and operating practice which would reasonably and ordinarily be expected from a skilled operator engaging in the same type of undertaking as the Marigold Project, under similar circumstances.

"**Governmental Authority**" means the government of Canada, the United States of America, any other nation or any political subdivision thereof, whether provincial, state, territorial or local, and any agency, authority, instrumentality, regulatory body, court, central bank, fiscal or monetary authority or other authority regulating financial institutions, and any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government, including the Bank Committee on Banking Regulation and Supervisory Practices of the Bank of International Settlements.

"**Group Guarantee**" means the British Columbia law unlimited multi-party guarantee dated as of the date hereof in favour of the Administrative Agent with respect to the debts, liabilities and obligations of the Credit Parties under the Loan Documents.

"**GSA**" means the British Columbia law multi-party general security agreement dated as of the date hereof between each Credit Party from time to time party thereto and the Administrative Agent for the benefit of the Secured Parties constituting a first-priority Lien (subject to Permitted Liens) over all present and future property (both real and personal) of each grantor, including all Material Subsidiary Equity Securities in which each grantor has any right, title or interest.

"**Guarantee**" of or by any Person (in this definition, the "**guarantor**") means any obligation, contingent or otherwise, of the guarantor guaranteeing or having the economic effect of guaranteeing any Indebtedness or other obligation of any other Person (in this definition, the "**primary credit party**") in any manner, whether directly or indirectly, and including any obligation of the guarantor, direct or indirect:

(a) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation;

(b) to purchase or lease property, securities or services for the purpose of assuring the owner of such Indebtedness or other obligation of the payment thereof;

(c) to maintain working capital, equity capital solvency, or any other balance sheet, income statement or other financial statement condition or liquidity of the primary credit party so as to enable the primary credit party to pay such Indebtedness or other obligation; or

(d) as an account party in respect of any letter of credit or letter of guarantee issued to support such Indebtedness or other obligation.

The term Guarantee shall not include endorsements of instruments for deposit or collection in the ordinary course of business. The amount of any Guarantee in respect of Indebtedness shall be deemed to be an amount equal to the stated or determinable amount of the related Indebtedness (unless the Guarantee is limited by its terms to a lesser amount, in which case to the extent of such amount) or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof. The amount of any other Guarantee shall be deemed to be zero unless and until the amount thereof has been (or in accordance with GAAP should be) quantified and reflected or disclosed in the Consolidated financial statements (or notes thereto)) of the guarantor.

"**Guarantor**" means any Person that has entered into, or acceded to, the Group Guarantee.

"**Hazardous Materials**" means any substance, product, liquid, waste, pollutant, chemical, contaminant, insecticide, pesticide, gaseous or solid matter, organic or inorganic matter, fuel, micro-organism, ray, odour, radiation, energy, vector, plasma, constituent or material which (a) is or becomes listed, regulated or addressed under any Environmental Laws, or (b) is, or is deemed to be, alone or in any combination, hazardous, hazardous waste, toxic, a pollutant, a deleterious substance, a contaminant or a source of pollution or contamination under any Environmental Laws, including asbestos, petroleum and polychlorinated biphenyls, including petroleum or petroleum distillates, asbestos or asbestos containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other substances or wastes of any nature regulated pursuant to any Environmental Laws.

"**Hedge Arrangement**" means any arrangement which is a swap transaction, basis swap, forward rate transaction, interest rate option, forward foreign exchange transaction, cap transaction, floor transaction, collar transaction, currency swap transaction, cross-currency rate swap transaction, currency option or any similar transaction (including any option with respect to any of such transactions or arrangements) designed and entered into to protect or mitigate against risks in interest, securities price, currency exchange or commodity price fluctuations. For the avoidance of doubt, a master ISDA agreement and the schedules thereto shall not in and of itself constitute a Hedge Arrangement, but each confirmation entered into thereunder shall, collectively therewith, constitute a Hedge Arrangement.

"**Hostile Acquisition**" means a proposed Acquisition by any Credit Party in circumstances in which the Target shall not have, as of the date of such Acquisition, evidenced its agreement or agreement in principle to such Acquisition by means of (a) a definitive agreement of purchase and sale, (b) a letter of intent in respect thereof, or (c) any other document, instrument, opinion or other writing satisfactory to the Lenders.

"**ICE Benchmark Administration Interest Settlement Rate**" means, with respect to any period, the London interbank offered rate for U.S. Dollar deposits with maturities comparable to such period administered by ICE Benchmark Administration Limited (or any other person which takes over the administration of that rate).

"**Income Tax Act**" means the *Income Tax Act* (Canada), as amended from time to time.

"**Income Tax Expense**" means, with respect to any period, the aggregate of all taxes on income of the Borrower for such period, whether current or deferred and net of any incentive or similar tax credits, determined on a Consolidated basis.

"**Indebtedness**" of any Person means, without duplication:

(a) all obligations of such Person for borrowed money or with respect to deposits or advances of any kind;

(b) all obligations of such Person evidenced by bonds, debentures, notes or similar instruments;

(c) all obligations of such Person upon which interest charges are customarily paid;

(d) all obligations of such Person under conditional sale or other title retention agreements relating to property acquired by such Person;

(e) all obligations of such Person in respect of the deferred purchase price of property or services (excluding current accounts payable incurred in the ordinary course of business);

(f) all Indebtedness of others secured by (or for which the holder of such Indebtedness has an existing right, contingent or otherwise, to be secured by) any Lien on property owned or acquired by such Person, whether or not the Indebtedness secured thereby has been assumed;

(g) all Guarantees by such Person of Indebtedness of others;

(h) all Capital Lease Obligations of such Person;

(i) all obligations, contingent or otherwise, of such Person as an account party in respect of letters of credit and letters of guarantee (other than letters of credit and letters of guarantee issued in support of current accounts payable incurred in the ordinary course of business);

(j) all obligations, contingent or otherwise, of such Person in respect of bankers' acceptances;

(k) all obligations due and owing by (and not the Mark-to Market Exposure of) such Person under Hedge Arrangements calculated on an aggregate net basis after taking into account all amounts owed by the counterparty to such Person in accordance with normal market practices;

(l) all Secured Cash Management Obligations; and

(m) all obligations of such Person to purchase, redeem, retire, defease or otherwise acquire for value (other than for other Equity Securities) any Equity Securities of such Person where such action must be performed on or before the Termination Date, valued, in the case of redeemable Equity Securities, at the greater of voluntary or involuntary redemption price, plus accrued and unpaid dividends.

The Indebtedness of any Person shall include the Indebtedness of any other entity (including any partnership in which such Person is a partner, general partner or limited partner) to the extent such Person is liable therefor as a result of such Person's ownership interest in or other relationship with such entity, except to the extent the terms of such Indebtedness provide that such Person is not liable therefor.

"**Indemnified Taxes**" means all Taxes other than Excluded Taxes.

"**Indemnitee**" has the meaning specified in Section 9.3(2).

"**Initial Security Documents**" means the materials described in Schedule 1.1(A).

"**Insolvent Defaulting Lender**" means any Defaulting Lender that (a) has been adjudicated as, or determined by an Governmental Authority having regulatory authority over such Person or its assets to be, insolvent, (b) becomes the subject of an insolvency, bankruptcy, dissolution, liquidation or reorganization proceeding, or (c) becomes the subject of an appointment of a receiver, receiver and manager, monitor, trustee or liquidator under the *Bank Act* (Canada) or any applicable bankruptcy, insolvency or similar law now existing or hereafter enacted; provided that a Lender shall not be an Insolvent Defaulting Lender solely by virtue of the ownership or acquisition by a Governmental Authority of an instrumentality thereof of any Equity Securities in such Lender or a parent company thereof.

"**Intercompany Indebtedness**" means Indebtedness owing from a Credit Party to the Borrower or a Subsidiary.

"**Interest Coverage Ratio**" means, with respect to any Rolling Period, the ratio of (a) EBITDA for such Rolling Period, to (b) Cash Interest Expense for such Rolling Period.

"**Interest Expense**" means, with respect to any period, the interest expense of the Borrower for such period, determined on a Consolidated basis.

"**Interest Payment Date**" means, (a) in the case of any Canadian Prime Loan or Base Rate Loan, the first Business Day of each month, and (b) in the case of a LIBO Rate Loan, the last day of each Interest Period relating to such LIBO Rate Loan, provided that if an Interest Period for any LIBO Rate Loan is of a duration exceeding 90 days, then "**Interest Payment Date**" shall also include each date which occurs at each 90-day interval during such Interest

"**Interest Period**" means, with respect to a LIBO Rate Borrowing, the period commencing on the date of such Borrowing and ending on the numerically corresponding day in the calendar month that is 1, 2, or 3 months (or, subject to availability from all Lenders, 6, 9 or 12 months) thereafter, as the Borrower may elect; provided that (a) if any Interest Period would end on a day other than a Business Day, such Interest Period shall be extended to the immediately succeeding Business Day unless such next succeeding Business Day would fall in the next calendar month, in which case such Interest Period shall end on the next preceding Business Day, (b) any Interest Period that commences on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the last calendar month of such Interest Period) shall end on the last Business Day of the last calendar month of such Interest Period, (c) no Interest Period shall extend beyond any date that any principal payment or prepayment is scheduled to be due unless the aggregate principal amount of (i) Canadian Prime Borrowings and Base Rate Borrowings, and (ii) B/A Borrowings and LIBO Rate Borrowings which have Interest Periods or Contract Periods which will expire on or before such date, minus the aggregate amount of any other principal payments or prepayments due during such Interest Period, is equal to or in excess of the amount of such principal payment or prepayment, and (d) no Interest Period shall extend beyond the Maturity Date. For purposes hereof, the date of a Borrowing initially shall be the date on which such Borrowing is made and, in the case of a converted or continued Borrowing, thereafter shall be the effective date of the most recent conversion or rollover of such Borrowing.

"**Investment**" means, as applied to any Person (the "**investor**"), any direct or indirect:

(a) purchase or other acquisition by the investor of Equity Securities of any other Person or any beneficial interest therein;

(b) purchase or other acquisition by the investor of bonds, notes, debentures or other debt securities of any other Person or any beneficial interest therein;

(c) loan or advance to any other Person, other than (i) advances to directors, officers, employees for expenses incurred in the ordinary course of business, and (ii) accounts receivable arising from sales or services rendered to such other Person in the ordinary course of the investor's business; and

(d) capital contribution by the investor to any other Person;

provided that an Acquisition shall not constitute an Investment.

"**Issuing Bank**" means Canadian Imperial Bank of Commerce, in its capacity as the issuer of Letters of Credit hereunder, and its successors in such capacity as provided in Section 2.19(9). The Issuing Bank may, in its discretion, arrange for one or more Letters of Credit to be issued by Affiliates of the Issuing Bank, in which case the term "**Issuing Bank**" shall include any such Affiliate with respect to Letters of Credit issued by such Affiliate.

"**Laws**" means all federal, provincial, municipal, foreign and international statutes, acts, codes, ordinances, decrees, treaties, rules, regulations, municipal by-laws, judicial or arbitral or administrative or ministerial or departmental or regulatory judgments, orders, decisions, rulings or awards or any provisions of the foregoing, including general principles of common and civil law and equity, and all policies, practices and guidelines of any Governmental Authority binding on or affecting the Person referred to in the context in which such word is used (including, in the case of tax matters, any accepted practice or application or official interpretation of any relevant taxation authority); and "**Law**" means any one or more of the foregoing.

"**LC Disbursement**" means a payment made by the Issuing Bank pursuant to a Letter of Credit; provided that, for the purposes of Section 2.19(5), an LC Disbursement shall be deemed to be made by the Issuing Bank with respect to a Letter of Credit at the time that it receives a valid draw request thereunder.

"**LC Exposure**" means, at any time, the sum of (a) the US $ Amount of the aggregate undrawn amount of all outstanding Letters of Credit at such time, plus (b) the US $ Amount of the aggregate amount of all LC Disbursements that have not yet been reimbursed by or on behalf of the Borrower at such time. The LC Exposure of any Lender at any time shall be its Applicable Percentage of the total LC Exposure at such time.

"**Lender Affiliate**" means, (a) with respect to any Lender, (i) an Affiliate of such Lender, or (ii) any Person that is engaged in making, purchasing, holding or otherwise investing in bank loans and similar extensions of credit in the ordinary course of its business and is administered or managed by a Lender or an Affiliate of such Lender, and (b) with respect to any Lender that is a fund which invests in bank loans and similar extensions of credit, any other fund that invests in bank loans and similar extensions of credit and is managed by the same investment advisor as such Lender or by an Affiliate of such investment advisor.

"**Lenders**" means the Persons listed as lenders on Schedule 2.1 and any other Person that shall have become a party hereto pursuant to an Assignment and Assumption in accordance with the terms of this Agreement, other than any such Person that ceases to be a party hereto pursuant to an Assignment and Assumption. Unless the context otherwise requires, the term "**Lenders**" includes the Swingline Lender and the Issuing Bank.

"**Lender Termination Date**" means the first date on which:

(a) all Commitments have expired or been terminated;

(b) the principal of and interest on each Loan and all fees, indemnities and other amounts payable hereunder shall have been paid in full; and

(c) all Letters of Credit shall have either (x) expired or terminated and all LC Disbursements shall have been reimbursed or (y) in the case of contingent reimbursement obligations with respect to Letters of Credit, Letter of Credit Collateralization shall have been provided.

"**Letter of Credit**" means any standby or documentary letter of credit or letter of guarantee issued pursuant to this Agreement.

"**Letter of Credit Collateralization**" means either (a) providing cash collateral (pursuant to documentation reasonably satisfactory to the Administrative Agent, to be held by the Administrative Agent for the benefit of the Lenders in an amount equal to 100% of the then existing LC Exposure, (b) delivering to Administrative Agent documentation executed by all beneficiaries under the Letters of Credit, in form and substance reasonably satisfactory to Administrative Agent and Issuing Bank, terminating all of such beneficiaries' rights under the Letters of Credit, or (c) providing Administrative Agent with a standby letter of credit, in form and substance reasonably satisfactory to Administrative Agent, from a commercial bank reasonably acceptable to Administrative Agent in an amount equal to 100% of the then existing LC Exposure.

"**LIBO Rate Borrowing**" means a Borrowing comprised of one or more LIBO Rate Loans.

"**LIBO Rate Loan**" means a Loan denominated in U.S. Dollars which bears interest at a rate based upon the LIBO Rate.

"**LIBO Rate**" means, with respect to any LIBO Loan for any Interest Period, either

(a) the applicable ICE Benchmark Administration Interest Settlement Rate as at 11:45 a.m. London, England time (subject to any intra-day refixing and republication) two Business Days prior to the first day of such Interest Period; or

(b) if the rate in paragraph (a) of this definition is not available for any particular day, the interest rate per annum offered to the Administrative Agent for London interbank deposits of U.S. Dollars, for delivery in immediately available funds on the first day of such Interest Period, of amounts comparable to the principal amount of the LIBO Loan to which such LIBO Rate is to apply with maturities comparable to the Interest Period for which such LIBO Rate will apply as of approximately 11:45 a.m. (London, England time) two Business Days prior to the first day of such Interest Period,

and if, in either case, that rate is less than zero, the LIBO Rate shall be deemed to be zero.

"**Lien**" means, (a) with respect to any asset, any mortgage, deed of trust, lien (statutory or otherwise), deemed trust, pledge, hypothec, hypothecation, encumbrance, charge, security interest, royalty interest, adverse claim, defect of title or right of set off in, on or of such asset, (b) the interest of a vendor or a lessor under any conditional sale agreement, capital lease, title retention agreement or consignment agreement (or any financing lease having substantially the same economic effect as any of the foregoing) relating to any asset, (c) any purchase option, call or similar right of a third party with respect to such assets, (d) any netting arrangement, defeasance arrangement or reciprocal fee arrangement, and (e) any other arrangement having the effect of providing security that in each case secures the payment of any indebtedness or liability or observance or performance of any obligation.

"**Life of Mine Plan**" means, at any time, the most recent consolidated financial model containing annual cash flow projections (inclusive of income statement and cash flow statements for the Borrower) and, at any time with respect to any mining project, a forecast of the development (if any), operation and maintenance of each mining project, and shall:

(a) cover Capital Expenditure schedules, a detailed mine plan and schedule for ore tonnes and grade, waste movements, treatment schedule, mineral production, capital and operating costs, and reclamation costs, together with reasonable estimates of cash flows and other costs and expenses; and

(b) be satisfactory in form and substance to the Administrative Agent, acting reasonably.

For the avoidance of doubt, the form of Life of Mine Plan, including the Marigold and Pirquitas operations, provided to the Arranger prior to the Closing Date is satisfactory in form and substance.

"**Loan**" means any loan made by the Lenders to the Borrower pursuant to this Agreement, and includes any B/A accepted (and any B/A Equivalent Loan advanced) by any Lender hereunder.

"**Loan Documents**" means this Agreement, the Security Documents, the Borrowing Requests and the Fee Letter, together with any other document, instrument or agreement (other than participation, agency or similar agreements among the Lenders or between any Lender and any other bank or creditor with respect to any indebtedness or obligations of any Credit Party (as applicable) hereunder or thereunder) now or hereafter entered into by a Credit Party in connection with this Agreement (including any document, instrument or agreement with respect to any Secured Hedge Arrangement and Secured Cash Management Services), as such documents, instruments or agreements may be amended, modified or supplemented from time to time.

"**Marigold Project**" means the gold mine complex of Marigold Mining Company located in eastern Humboldt County, Nevada commonly known as the Marigold mine, and all assets, property and undertaking used, intended for use in, or forming part of, such complex.

"**Marigold Project Approvals**" means, at any time, all Marigold Project Authorizations and Marigold Project Mining Rights as at such time.

"**Marigold Project Assets**" means all assets, property and undertaking (whether real or personal, tangible or intangible) which are used or intended for use in, forming part of, or attributable to, the Marigold Project**.** For the avoidance of doubt, the Marigold Project Assets shall include: (i) the Marigold Project Real Property and the mineral deposits covered thereby; (ii) all Marigold Project Saleable Product; (iii) all associated beneficiation facilities, together with all plant sites, waste dumps, ore dumps, crushing circuits, power supply systems and ancillary and infrastructure facilities; (iv) all required insurance with respect to the Marigold Project; (v) all plant and mobile equipment; (vi) the Marigold Project Approvals, and (vii) all proceeds derived from the Marigold Project.

"**Marigold Project Authorizations**" means, at any time, all Authorizations necessary for the development, operation and maintenance of the Marigold Project in accordance with, and as then contemplated by, the Life of Mine Plan.

"**Marigold Project Leases**" means all surface and mineral leases and leasehold interests constituting part of the Marigold Project.

"**Marigold Project Mining Rights**" means, at any time, all Mining Rights necessary for the development, operation and maintenance of the Marigold Project in accordance with, and as then contemplated by, the Life of Mine Plan, including the Marigold Project Leases.

"**Marigold Project Real Property**" means means all lands and real property owned, held or used with respect to or in connection with the Marigold Project, including all patented mining claims, patented millsite claims, fee interests, unpatented mining claims (whether lode or placer), unpatented millsite claims, tunnel sites and rights, amended claims, relocated claims, leasehold interests (including the Marigold Project Leases), mineral interests, option rights, rights of use, easements, water rights and other real property interests (whether surface, underground, mineral, or other).

"**Marigold Project Saleable Product**" means all present and future gold (including without limitation gold bearing material, dore bullion and refined gold) mined, extracted, and derived from the Marigold Project.

"**Mark-to-Market Exposure**" means, in relation to any Person on any date, the net amount payable by such Person under a Hedge Arrangement if such day were an "Early Termination

Date" and the "Transaction" were a "Terminal Transaction" in accordance with the payment measure provided for in the 2002 ISDA Master Agreement (Multicurrency-Cross Border) as published by the International Swaps and Derivatives Association, Inc., as amended or replaced from time to time;

"**Material Adverse Change**" means any event, development or circumstance that has had or could reasonably be expected to have a Material Adverse Effect.

"**Material Adverse Effect**" means a material adverse effect on (a) the business, assets, operations or financial condition of the Credit Parties taken as a whole, or (b) the validity or enforceability of any of the Loan Documents, the priority of the Liens created thereby or the rights and remedies of the Administrative Agent and the Lenders thereunder.

"**Material Indebtedness**" means any Indebtedness (other than the Loans) of any one or more Credit Parties in an aggregate principal amount exceeding U.S.$5,000,000.

"**Material Leasehold Interest**" means any leasehold interest of a Credit Party in real property that is material to, or necessary in, the operation of the business of such Credit Party which such Credit Party cannot promptly replace with an alternative lease having comparable commercial terms.

"**Material Subsidiary**" means:

(a) Silver Standard Canada Holdings Ltd., Silver Standard US Holdings Inc., Silver Standard Marigold Inc., Intertrade Metals Limited Partnership, Intertrade Metals Corp., Silver Standard Ventures Inc., Silver Standard Durango, S.A. de C.V., Marigold Mining Company and Mina Pirquitas, LLC;

(b) each other present and future Subsidiary that at any time:

  (i) has consolidated net tangible assets in excess of an amount equal to 5% of the net tangible assets of the Borrower at such time, determined on a Consolidated basis; or

  (ii) has a subsidiary that is a Material Subsidiary; and

(c) any other Subsidiary designated as such in writing by the Borrower to the Administrative Agent;

provided that once a Subsidiary satisfies any of the tests set out in this definition, such Person shall at all times thereafter be a Material Subsidiary, regardless of whether it subsequently satisfies any of such tests. For the avoidance of doubt, Mina Pirquitas, LLC Sucursal Argentina (i.e., the Argentinian branch of Mina Pirquita, LLC) is not a separate Person. Accordingly, it shall not be considered an independent Material Subsidiary or required to execute and deliver the Group Guarantee, but its assets shall be subject to all provisions of the Loan Documents affecting Credit Parties.

"**Maturity Date**" means the August 4, 2018, as such date may be extended from time to time pursuant to Section 2.6.

"**Mining Rights**" means all patented and unpatented mining claims, mineral licences, mining concessions, mining leases, prospecting permits, surface leases, rights-of-way or other authorities which, directly or indirectly, confer or may confer a right to prospect or explore for, develop, or mine, any minerals or ores.

"**Moody's**" means Moody's Investors Service, Inc.

"**Net Income**" means, with respect to any period, the net income of the Borrower for such period, determined on a Consolidated basis.

"**Net Indebtedness**" means, at any time, an amount equal to the aggregate amount of Indebtedness of the Borrower less:

(a) the amount of any Indebtedness secured by cash collateral that is a Permitted Lien; and

(b) the Cash Balance,

in each case determined as at such time on a Consolidated basis.

"**Net Leverage Ratio**" means, at any time, the ratio of (a) Net Indebtedness at such time to (b) EBITDA for the most recently completed Rolling Period. By way of example and for the avoidance of doubt, the Net Leverage Ratio on February 5, 2015 shall be equal to the ratio of Net Indebtedness on February 5, 2015 to EBITDA for the Rolling Period ended on December 31, 2014.

"Non-Consenting Lender" means a Lender that has not provided its consent to a waiver of, or amendment to, any provision of the Loan Documents where requested to do so by Borrower or the Administrative Agent if (a) such waiver or amendment requires the consent of all the Lenders, and (b) the Required Lenders have consented to such waiver or amendment.

"**Non-Extending Lender**" has the meaning set out in Section 2.6(3).

"**Non-Financial Letter of Credit**" means any Letter of Credit other than a Financial Letter of Credit.

"**Non-Recourse Project Indebtedness**" of any Person means any Indebtedness of such Person with respect to which recourse for payment is limited to project assets (other than Marigold Project Assets) encumbered by a Lien securing such Indebtedness (including, for the avoidance of doubt, project inventory and receivables) and the traceable proceeds thereof; provided, however, that personal recourse of a holder of Indebtedness against any obligor with respect thereto for fraud, misrepresentation, misapplication of cash, waste and other circumstances customarily excluded from non-recourse provisions in non-recourse financing shall not, by itself, prevent any Indebtedness from being characterized as Non-Recourse Project Indebtedness, provided further, that if a recourse claim is made in connection therewith, such claim shall no longer constitute Non-Recourse Project Indebtedness for the purposes of this Agreement.

"**Participant**" has the meaning set out in Section 9.4(5).

"Party" means a party to this Agreement and reference to a Party includes its successors and permitted assigns and "Parties" means every Party.

"**Payment Office**" means the Administrative Agent's office located at 40 Dundas Street West, 5th Floor, Toronto, Ontario, M5L 1A2, Attention: Julia Ballantyne, Administrative Officer (or such other office or individual as the Administrative Agent may hereafter designate in writing to the other parties hereto).

"**Pension Plan**" means a pension plan which is or was sponsored, administered or contributed to, or required to be contributed to by, any Credit Party or under which any Credit Party has any actual or potential liability, other than a pension plan administered by a Governmental Authority.

"**Permitted Acquisition**" means any Acquisition by any Credit Party:

(a) where no Default or Event of Default has occurred and is continuing or would be caused thereby;

(b) which is of a Person carrying on a business in, or relating to, the mining sector (or if an asset Acquisition, is of assets used or useful in, or relating to, the mining sector);

(c) in respect of which the Administrative Agent will have a first-priority Lien over the assets to be acquired, subject to the Security Principles and Permitted Liens;

(d) where, if such Acquisition is an Acquisition of Equity Securities and:

  (i) the acquiring Credit Party acquires less than 100% of the Equity Securities of the Target, then all other shareholders of the Target will provide an unconditional consent to the security set out in (ii) and (iii) below, as applicable, in form and substance satisfactory to the Administrative Agent;

  (ii) the Target will be a Domestic Material Subsidiary following its Acquisition, then within 30 days of such Acquisition the Target will become a Guarantor and the Administrative Agent will have a first-priority Lien over the assets of the Target, subject to the Security Principles and Permitted Liens; and

  (iii) the Target will be a Foreign Material Subsidiary following its Acquisition, then within 30 days of such Acquisition the Target will become a Guarantor and the Administrative Agent will have a first-priority Lien over such Equity Securities;

(e) in respect of which the Borrower has demonstrated to the Lenders' satisfaction, acting reasonably, that after giving effect to such Acquisition (assuming maximum earn-out obligations), the Borrower will be in compliance with the financial covenants in Section 5.1(12) calculated on a *pro forma* basis and based on the financial results of Target for the most recent Rolling Period; and

(f) where the Target is not a Sanctioned Person or the subject assets are not otherwise located in a Sanctioned Country;

provided that, notwithstanding the foregoing, a Hostile Acquisition shall not be a Permitted Acquisition.

"**Permitted Equity Hedge Arrangement**" means any equity pricing hedge with respect to publicly traded securities which are legally and beneficially owned by a Credit Party.

"**Permitted Equity Hedge Lien**" means any Lien securing a Permitted Equity Hedge Arrangement over the publicly traded securities to which it relates.

"**Permitted Intercompany Indebtedness**" means unsecured Intercompany Indebtedness that is:

(a) owing to a Credit Party; or

(b) owing to a Subsidiary that is not a Credit Party and subject to an Affiliate Postponement Agreement.

"**Permitted Intercompany Investments**" means an Investment by a Credit Party in any of the following:

(a) Equity Securities of any Affiliates;

(b) any Subsidiary by way of a capital contribution; or

(c) Loans or advances to any Affiliate.

"**Permitted Liens**" means:

(a) Liens in favour of the Administrative Agent for the benefit of the Secured Parties for the obligations of any Credit Party under or pursuant to the Loan Documents;

(b) Purchase Money Liens securing Indebtedness to the extent permitted by Section 6.1(1)(b) and Liens to secure Capital Lease Obligations to the extent permitted by Section 6.1(1)(b);

(c) Liens imposed by any Governmental Authority for Taxes not yet due and delinquent or which are being contested in good faith and by appropriate proceedings in compliance with Section 5.1(3), and, during such period during which such Liens are being so contested, such Liens shall not be executed on or enforced against any of the assets of any Credit Party, provided that such Credit Party shall have set aside on its books reserves deemed adequate therefor and not resulting in qualification by auditors;

(d) carrier's, warehousemen's, mechanics', materialmen's, repairmen's, construction and other like Liens arising by operation of applicable Law, arising in the ordinary course of business and securing amounts (i) which are not overdue for a period of more than 30 days, or (ii) which are being contested in good faith and by appropriate proceedings and, during such period during which amounts are being so contested, such Liens shall not be executed on or enforced against any of the assets of any Credit Party, provided that such Credit Party shall have set aside on its books reserves deemed adequate therefor and not resulting in qualification by auditors;

(e) statutory Liens incurred, or pledges or deposits made, under worker's compensation, employment insurance and other social security legislation;

(f) undetermined or inchoate Liens and charges arising or potentially arising under statutory provisions which have not at the time been filed or registered in accordance with applicable Law or of which written notice has not been duly given in accordance with

applicable Law or which although filed or registered, relate to obligations not due or delinquent;

(g) Liens over Cash or Cash Equivalents to secure the performance of bids, tenders, trade contracts, leases, statutory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature (other than for borrowed money) incurred in the ordinary course of business;

(h) servitudes, easements, rights-of-way, restrictions and other similar encumbrances on real property imposed by applicable Law or incurred in the ordinary course of business and encumbrances consisting of zoning or building restrictions, easements, licenses, restrictions on the use of property or minor imperfections in title thereto which, in the aggregate, are not material, and which do not in any case materially detract from the value of the property subject thereto or interfere with the ordinary conduct of the business of any Credit Party;

(i) Liens of or resulting from any judgment or award, in excess of U.S.$5,000,000, the time for the appeal or petition for rehearing of which shall not have expired, or in respect of which the applicable Credit Party be prosecuting an appeal or proceeding for review in good faith and by appropriate proceedings and in respect of which a stay of execution pending such appeal or proceeding for review shall have been secured;

(j) Liens of or resulting from any judgment or award which is less U.S.$5,000,000 provided that no enforcement, collection, execution, levy or foreclosure proceeding shall have been commenced;

(k) the rights reserved to or vested in Governmental Authorities by statutory provisions or by the terms of leases, licenses, franchises, grants or permits, which affect any land, to terminate the leases, licenses, franchises, grants or permits or to require annual or other periodic payments as a condition of the continuance thereof;

(l) securities to public utilities or to any municipalities or Governmental Authorities or other public authority when required by the utility, municipality or Governmental Authorities or other public authority in connection with the supply of services or utilities to the Credit Parties;

(m) Liens or covenants restricting or prohibiting access to or from lands abutting on controlled access highways or covenants affecting the use to which lands may be put; provided that such Liens or covenants do not materially and adversely affect the use of the lands by any Credit Party;

(n) Liens consisting of royalties payable with respect to any asset or property of the Credit Parties pursuant to the Existing Royalty Agreements;

(o) statutory Liens incurred or pledges or deposits made in favour of a Governmental Authority to secure the performance of obligations of any Credit Party under Environmental Laws to which any assets of such Credit Party are subject;

(p) customary rights of set-off or combination of accounts in favour of a financial institution with respect to deposits maintained by it;

(q) any Permitted Equity Hedge Lien;

(r) Liens over Unencumbered Project Assets securing Non-Recourse Project Indebtedness;

(s) Liens existing on any property or asset prior to the acquisition thereof by an Credit Party or existing on any property or asset of any Person that becomes a Credit Party by way of a Permitted Acquisition after the date hereof prior to the time such Person becomes a Credit Party, provided that (i) such Lien is not created in contemplation of or in connection with such acquisition or such Person becoming a Credit Party, as the case may be, (ii) such Lien shall not apply to any other property or assets of any Credit Party, and (iii) such Lien shall secure only those obligations which it secures on the date of such acquisition or the date such Person becomes a Credit Party, as the case may be;

(t) Liens arising from financing statement filings regarding operating leases entered into in the ordinary course of business;

(u) statutory and common law landlords' liens under leases to which the Borrower or any of its Subsidiaries is a party;

(v) Liens in respect of supply, sales, surface use and other operational agreements entered into consistent with normal practices in the mining industry, in each case to the extent such agreements are entered into in the ordinary course of business and such Liens do not secure any obligation for borrowed money;

(w) Liens in favour of The Bank of Nova Scotia over cash and Cash Equivalents securing the Indebtedness under the Existing Letter of Credit;

(x) any extension, renewal or replacement of any of the foregoing;

provided, however, that the Liens permitted hereunder shall not be extended to cover any additional Indebtedness of the Credit Parties or their property (other than a substitution of like property), except Liens in respect of Capital Lease Obligations and Purchase Money Liens as permitted by clause (c) of this definition.

"**Permitted Note Indebtedness**" means all Indebtedness under, pursuant to, or in connection with Permitted Notes.

"**Permitted Notes**" means, collectively,

(a) the 2.875% convertible senior notes due 2033 issued by the Borrower pursuant to the indenture dated as of January 16, 2013; and

(b) any other unsecured notes constituting securities under applicable Law issued by the Borrower after the Closing Date under one or more indentures where the maturity date or mandatory redemption date thereof is no earlier than six months following the Maturity Date and there are no scheduled principal repayments prior thereto.

"**Person**" includes any natural person, corporation, company, limited liability company, trust, joint venture, association, incorporated organization, partnership, Governmental Authority or other entity.

"**Pirquitas Project**" means the silver mine complex of Mina Pirquitas, LLC located in Jujuy Province, northern Argentina, commonly known as the Pirquitas mine, and all assets, property and undertaking used, intended for use in, or forming part of, such complex.

"**Post-Closing Requirements**" has the meaning set out in Section 5.1(8).

"**Proven and Probable Reserves**" means, at any time, "Proven Mineral Reserves" and "Probable Mineral Reserves" of gold at the Marigold Project, as determined and calculated in accordance with the standards set forth in National Instrument 43-101 (*Standards of Disclosure for Mineral Projects*) issued by the Canadian Securities Administrators (including its Companion Policy 43-101 CP and Form 101F1Technical Report).

"**Purchase Money Lien**" means a Lien taken or reserved in personal property to secure payment of all or part of its purchase price (or to secure financing to fund such purchase price), provided that such Lien (a) secures an amount not exceeding the lesser of the purchase price of such personal property and the Fair Market Value of such personal property at the time such Lien is taken or reserved, (b) extends only to such personal property and its proceeds, and (c) is granted prior to or within 30 days after the purchase of such personal property.

"**Quarterly Date**" means each of the last day of each of March, June, September, and December in each calendar year.

"**Reduction Date**" means the date falling one year prior to the Maturity Date.

"**Register**" has the meaning set out in Section 9.4(3).

"**Reimbursement Obligations**" means, at any date, the obligations of the Borrower then outstanding in respect of the Letters of Credit to reimburse the Administrative Agent for the account of the Issuing Bank for the amount paid by the Issuing Bank in respect of any drawings under the Letters of Credit.

"**Related Parties**" means, with respect to any Person, such Person's Affiliates and the respective directors, officers, employees, agents and advisors of such Person and of such Person's Affiliates.

"**Release**" is to be broadly interpreted and shall include an actual or potential discharge, deposit, spill, leak, pumping, pouring, emission, emptying, injection, escape, leaching, seepage or disposal of a Hazardous Materials which is or may be in breach of any Environmental Laws.

"**Required Lenders**" means, at any time, Lenders having Credit Exposures and unused and uncancelled Commitments representing at least 66⅔% of the aggregate amount of all Credit Exposures and unused and uncancelled Commitments; provided that (a) from and after the Lender Termination Date, "Required Lenders" means Secured Hedge Counterparties and Secured Cash Management Providers holding Secured Hedge Obligations and Secured Cash Management Obligations representing at least 66⅔% of the sum of all Secured Hedge Obligations and Secured Cash Management Obligations, and (b) if there are only two Lenders having Credit Exposures and unused and uncancelled Commitments at such time, "Required Lenders" shall mean both such Lenders.

"**Responsible Officer**" means, with respect to any Person, the chairman, the president, any vice president, the chief executive officer or the chief operating officer, and, in respect of financial or

accounting matters, any chief financial officer, principal accounting officer, treasurer or controller of such Person.

"**Restricted Payment**" means, with respect to any Person, any payment by such Person (whether in cash or in kind, and whether by way of actual payment, set-off, counterclaim or otherwise):

(a) of any dividend, distribution or return of capital with respect to its Equity Securities;

(b) on account of the purchase, redemption, retirement or other acquisition of any of its Equity Securities or any warrants, options or similar rights with respect to its Equity Securities; or

(c) of any principal of, or interest or premium on, any Permitted Note Indebtedness; or

(d) of any principal of, or interest or premium on, any Intercompany Indebtedness.

"**Reuters Screen CDOR Page**" means the display designated as page "CDOR" on the Reuters Monitor Money Rates Service (or such other page which replaces the CDOR page on that service) for purposes of displaying Canadian dollar bankers' acceptance rates.

"**Rolling Period**" means each Fiscal Quarter taken together with the three immediately preceding Fiscal Quarters.

"**S&P**" means Standard & Poor's Ratings Services, a division of the McGraw-Hill Companies, Inc.

"**Sanctioned Country**" means, at any time, a country, region, or territory which is itself the subject of any Sanctions.

"**Sanctions**" means economic or financial sanctions or trade embargoes imposed, administered or enforced from time to time by any Governmental Authority having jurisdiction over the Borrower or any Subsidiaries (including, to the extent applicable to the Borrower or any of its Subsidiaries, the U.S. government, including those administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State).

"**Sanctioned Person**" means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by any Governmental Authority having jurisdiction over the Borrower or any Subsidiaries (including, to the extent applicable to the Borrower or any of its Subsidiaries, the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State, the United Nations Security Council, the European Union or any EU member state), (b) any Person operating, organized or resident in a Sanctioned Country or (c) any Person owned or controlled by any such Person or Persons described in the foregoing clauses (a) or (b).

"**Secured Cash Management Obligations**" means all indebtedness arising under or in connection with any Secured Cash Management Services.

"**Secured Cash Management Provider**" means any Lender in its capacity as a provider of Cash Management Services. For the avoidance of doubt, a Person that ceases to be a Lender (other than upon a Lender Termination Date) shall cease to be a Secured Cash Management Provider.

"**Secured Cash Management Service**" means any Cash Management Service provided by a Secured Cash Management Provider to a Credit Party.

"**Secured Financial Product Collateralization**" means either (a) providing cash collateral (pursuant to documentation reasonably satisfactory to Administrative Agent) to be held by Administrative Agent for the benefit of providers of the Secured Cash Management Services and Secured Hedge Counterparties in an amount equal to 100% of the then existing Secured Cash Management Obligations and Secured Hedge Obligations (after taking into account all amounts owed by the counterparty to such Person in accordance with normal market practices (using the mark-to-market method whenever applicable)) or (b) providing Administrative Agent with a standby letter of credit, in form and substance reasonably satisfactory to Administrative Agent, from a commercial bank reasonably acceptable to Administrative Agent in an amount equal to 100% of the then existing Secured Cash Management Obligations and Secured Hedge Obligations (after taking into account all amounts owed by the counterparty to such Person in accordance with normal market practices (using the mark-to-market method whenever applicable)).

"**Secured Hedge Arrangement**" means any Hedge Arrangement between a Credit Party and Person that is a Lender or Lender Affiliate at the time such Hedge Arrangement is entered into, other than a Permitted Equity Hedge Arrangement. For the avoidance of doubt, any Hedge Arrangement entered into by a Credit Party with a Person (a) prior to such Person becoming a Lender or Lender Affiliate, or (b) after such Person ceases to be a Lender or Lender Affiliate, shall not be a Secured Hedge Arrangement.

"**Secured Hedge Counterparty**" means any Person party to Secured Hedge Arrangement other than a Credit Party, in such Person's capacity as a party thereto. For the avoidance of doubt, a Person shall remain a Secured Hedge Counterparty with respect to a Secured Hedge Arrangement if it ceases to be a Lender or a Lender Affiliate.

"**Secured Hedge Obligations**" means all indebtedness arising under or in connection with any Secured Hedge Arrangement. The Secured Hedge Obligations owing to a Secured Hedge Counterparty shall be calculated on an aggregate net basis after taking into account all amounts owed by such Secured Hedge Counterparty to the Credit Parties under its Secured Hedge Arrangements in accordance with normal market practices (using the mark-to-market method whenever applicable). For the avoidance of doubt, amounts owing to or from a Person under Hedge Arrangements that are not Secured Hedge Arrangements (including under Permitted Equity Hedge Arrangements) shall not be taken into account in calculating Secured Hedge Obligations.

"**Secured Liabilities**" means all present and future indebtedness, liabilities and obligations of any and every kind, nature and description (whether direct or indirect, joint or several, absolute or contingent, mature or unmatured) of the Credit Parties to the Secured Parties under, in connection with or with respect to the Loan Documents (including Secured Cash Management Obligations and Secured Hedge Obligations), and any unpaid balance thereof.

"**Secured Parties**" means the Administrative Agent, the Lenders, the Secured Hedge Counterparties and the Secured Cash Management Providers.

"**Security Documents**" means the agreements or instruments described or referred to in Schedule 1.1(A) or, Section 5.1(11) (including, to the extent such Section describes an amendment, the agreement or instrument amended thereby) and any and all other agreements or instruments now

or hereafter executed and delivered by any Credit Party as security (including by way of guarantee) for the payment or performance of all or part of the Secured Liabilities, as any of the foregoing may have been, or may hereafter be, amended, modified or supplemented.

"**Security Principles**" means the security principles set out in Schedule 5.1(11).

"**SFP Minerals Lease**" means the minerals lease dated and effective June 17, 1988, by and between SFP Minerals Corporation, a Delaware corporation, as lessor, and Santa Fe Pacific Mining, Inc., a Kansas corporation, as lessee.

"**Social Laws**" means all Laws relating in any way to:

(a) labour;

(b) social security;

(c) the regulation of industrial relations (between government, employers and employees);

(d) the protection of occupational and public health and safety;

(e) the regulation of public participation;

(f) the protection and regulation of ownership of land rights (both formal and traditional), immovable goods and intellectual and cultural property rights;

(g) the protection and empowerment of Aboriginal Groups, indigenous peoples or ethnic groups;

(h) the projection, restoration and promotion of cultural or historical resources or heritage; and

(i) the resettlement or economic displacement of persons.

"**Solvent**" means, with respect to any Person as of any date of determination, that on such date, (a) the present fair salable value of the property and assets of such Person exceeds the debts and liabilities, including contingent liabilities, of such Person, (b) the present fair salable value of the property and assets of the such Person is greater than the amount that will be required to pay the probable liability of such Person on its debts and other liabilities, including contingent liabilities, as such debts and other liabilities become absolute and matured, (c) such Person does not intend to incur, or believe (nor should it reasonably believe) that it will incur, debts and liabilities, including contingent liabilities, beyond its ability to pay such debts and liabilities as they become absolute and matured, and (d) such Person does not have unreasonably small capital with which to conduct the business in which it is engaged as such business is now conducted and is proposed to be conducted. The amount of contingent liabilities at any time shall be computed as the amount that, in the light of all the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability.

"**subsidiary**" means, with respect to any Person (the "**parent**") at any date, any other Person(a) of which securities or other ownership interests representing more than 50% of the equity or more than 50% of the ordinary voting power or, in the case of a partnership, more than 50% of the general partnership interests are, as of such date, owned, controlled or held, or (b) that is, as of

such date, otherwise Controlled, by the parent or one or more subsidiaries of the parent or by the parent and one or more subsidiaries of the parent.

"**Subsidiary**" means any subsidiary of the Borrower.

"**Swap Obligation**" means any obligation to pay or perform under any agreement, contract or transaction that constitutes a "swap" within the meaning of section 1a(47) of the Commodity Exchange Act.

"**Swingline Cap**" means U.S.$5,000,000.

"**Swingline Exposure**" means, at any time, the US $ Amount of the aggregate principal amount of all Swingline Loans outstanding at such time. The Swingline Exposure of any Lender at any time shall be its Applicable Percentage of the total Swingline Exposure at such time.

"**Swingline Lender**" means Canadian Imperial Bank of Commerce, in its capacity as lender of Swingline Loans hereunder.

"**Swingline Loan**" has the meaning set out in Section 2.20.

"**Tangible Net Worth**" means, at any time, the excess of the Borrower's total assets over the Borrower's total liabilities; provided that the determination of such total assets shall exclude:

(a) all goodwill (without taking into account any future income tax assets that may be classified as goodwill),

(b) organizational expenses, research and development expenses, trade marks, trade mark applications, trade names, copyrights, patents, patent applications, licenses and rights in any thereof;

(b) all prepaid expenses, deferred charges or unamortized debt discount and expense;

(c) all reserves carried and not deducted from consolidated assets;

(d) Equity Securities of, obligations or other securities of, or capital contributions to, or investments in, any Subsidiary;

(e) securities which are not readily marketable (provided that any shares in a publicly traded issuer shall be considered as readily marketable absent a stop-trade order);

(f) cash held in a sinking fund or other analogous fund established for the purpose of redemption, retirement or prepayment of Equity Securities or Indebtedness;

(g) any write-up in the book value of any asset resulting from a revaluation thereof except to the extent that such asset was subject to a previous write-down;

(h) accumulated other comprehensive income; and

(i) any items not included in clauses (a) through (h) of this definition which are treated as intangibles under GAAP,

in each case as at such time and determined on a Consolidated basis.

"**Tangible Net Worth Floor**" means, at any time, an amount equal to the sum of:

(a) 75% of the Tangible Net Worth as at July 31, 2015, as evidenced in the Compliance Certificate delivered on or about such time; plus

(b) an amount equal to 50% of Net Income calculated on a cumulative basis from and after August 1, 2015 until the most recent Quarterly Date.

In calculating cumulative Net Income for the purposes of this definition, no deduction shall be made in respect of Net Income for any Fiscal Quarter which is less than nil.

"**Target**" means, with respect to any Acquisition, the Person whose shares or assets (or both) are proposed to be acquired.

"**Taxes**" means all taxes, charges, fees, levies, imposts and other assessments, including all income, sales, use, goods and services, harmonized sales, value added, capital, capital gains, alternative, net worth, transfer, profits, withholding, payroll, employer health, excise, real property and personal property taxes, and any other taxes, customs duties, fees, assessments, or similar charges in the nature of a tax, including Canada Pension Plan and provincial pension plan contributions, unemployment insurance payments and workers' compensation premiums, together with any instalments with respect thereto, and any interest, fines and penalties with respect thereto, imposed by any Governmental Authority (including federal, state, provincial, municipal and foreign Governmental Authorities), and whether disputed or not.

"**Termination Date**" means the first date on which:

(a) the Lender Termination Date shall have occurred;

(b) subject to clause (d)(ii) below, in the case of Secured Cash Management Obligations and Secured Hedge Obligations, Secured Financial Product Collateralization shall have been provided,

(c) the Administrative Agent shall have received cash collateral in order to secure any other contingent Secured Liabilities for which a claim or demand for payment has been made on or prior to such time or in respect of matters or circumstances known to Administrative Agent or a Lender at such time that are reasonably expected to result in any loss, cost, damage, or expense (including legal fees and expenses), such cash collateral to be in such amount as Administrative Agent reasonably determines is appropriate to secure such contingent Secured Liabilities; and

(d) the payment or repayment in full in immediately available funds of all other outstanding Secured Liabilities (including the payment of any termination amount then applicable (or which would or could become applicable as a result of the repayment of the other Secured Liabilities) under Secured Hedge Arrangements) other than (i) unasserted contingent indemnification Secured Liabilities, and (ii) any Secured Cash Management Obligations and Secured Hedge Obligations, that, at such time, are allowed by the provider to remain outstanding without being required to be repaid or collateralized under Secured Financial Product Collateralization.

"**Transactions**" means the execution, delivery and performance by the Credit Parties of the Loan Documents, the borrowing of Loans and the use of the proceeds thereof, and the issuance of Letters of Credit.

"**Transitory Account**" means any deposit account located in the United States maintained by a Credit Party with a financial institution that serves primarily as an intercompany flow-through account and at which no material balances are kept on an overnight basis.

"**Type**", when used in reference to any Loan or Borrowing, refers to whether the rate of interest on such Loan, or on the Loans comprising such Borrowing, is determined by reference to the Canadian Prime Rate, the Base Rate, the LIBO Rate**,** or the CDOR Rate or whether such Borrowing takes the form of a Letter of Credit.

"**Unencumbered Equity Securities**" means, at any time, Equity Securities that are not subject to a Lien under the Security Documents at such time.

"**Unencumbered Project Assets**" means, at any time, assets, property and undertaking (whether real or personal, tangible or intangible) which are used or intended for use in, forming part of, or attributable to a Future Project that are not subject to a Lien under the Security Documents at such time.

"**UNR Consent**" means a consent agreement with respect to the UNR Lease substantially in the form set out in Exhibit D hereto.

"**UNR Lease**" means the lease agreement made and entered into as of August 1, 1988, by and between the Board of Regents of the University of Nevada System, as lessor, and Donald J. Decker, Suzanne Decker, Nevada North Resources (U.S.A.) Inc., and Rayrock Mines, Inc., a Nevada corporation, doing business as Cordex Exploration Co., as lessee.

"**U.S. Dollars**" and "**U.S.$**" refer to lawful money of the United States of America.

"**US $ Amount**" means, on any day, in relation to any Loans or Letters of Credit, the sum of (a) the amount of all such Loans and Letters of Credit that are denominated in U.S. Dollars, and (b) the U.S.$ Equivalent of all such Loans and Letters of Credit that are expressed in Canadian Dollars.

"**U.S.$ Equivalent**" means, on any day, the amount of U.S. Dollars that the Administrative Agent could purchase, in accordance with its normal practice, with a specified amount of Canadian Dollars based on the Bank of Canada noon spot rate on such day.

"**Vek and Andrus Lease**" means the lease agreement made and entered into as of September 15, 1985, by and between, Vek/Andrus Associates, a general partnership composed of Vek Associates, a Nevada corporation, and Andrus Resources Corporation, a Texas corporation, as lessor, and Rayrock Mines, Inc., a Nevada corporation, doing business as Cordex Exploration Co., as lessee, as amended by a first amendment to lease agreement dated February 21, 1986, a second amendment to lease agreement dated May 1, 1986, a third amendment to lease agreement dated June 1, 1988, a fourth amendment to lease agreement dated June 17, 1992, a fifth amendment to lease agreement dated April 28, 1996 and a sixth amendment to lease agreement dated September 13, 2000 (collectively, the "**Vek and Andrus Lease**").

"**Wholly-Owned Subsidiary**" of a Person means any subsidiary of such Person of which securities (except for directors' qualifying shares) or other ownership interests representing 100% of the equity or 100% of the ordinary voting power or 100% of the general partnership or membership interests are, at the time any determination is being made, owned, controlled or held by such Person or one or more subsidiaries of such Person or by such Person and one or more subsidiaries of such Person.

1.2 Classification of Loans and Borrowings.

For purposes of this Agreement, Loans may be classified and referred to by class (*e.g.*, a "Loan") or by Type (*e.g.*, a "LIBO Rate Loan") or by class and Type (*e.g.*, a "LIBO Loan"). Borrowings also may be classified and referred to by class (*e.g.*, a "Borrowing") or by Type (*e.g.*, a "LIBO Rate Borrowing") or by class and Type (*e.g.*, a "LIBO Rate Borrowing").

1.3 Terms Generally.

The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation". The word "or" is disjunctive; the word "and" is conjunctive. The words "to the knowledge of" means, when modifying a representation, warranty or other statement of any Person, that the fact or situation described therein is known by such Person (or, in the case or a Person other than a natural Person, known by the Responsible Officer of such Person) making the representation, warranty or other statement, or with the exercise of reasonable due diligence under the circumstances (in accordance with the standard of what a reasonable Person in similar circumstances would have done) would have been known by such Person (or, in the case of a Person other than a natural Person, would have been known by such Responsible Officer of such Person). For the purposes of determining compliance with or measuring status under any cap, threshold or basket hereunder denominated in United States Dollars, reference shall be had to the U.S.$ Equivalent of any portion of the underlying component that is not denominated in United States Dollars. Unless the context requires otherwise (a) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented, restated or replaced (subject to any restrictions on such modifications set out herein), (b) any reference herein to any statute or any section thereof shall, unless otherwise expressly stated, be deemed to be a reference to such statute or section as amended, restated or re-enacted from time to time, (c) any reference herein to any Person shall be construed to include such Person's successors and permitted assigns, (d) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (e) all references herein to Articles, Sections, Exhibits and Schedules shall be construed to refer to Articles and Sections of, and Exhibits and Schedules to, this Agreement, and (f) the words "asset" and "property" shall be construed to have the same meaning and effect and to refer to any and all tangible and intangible assets and properties, including cash, securities, accounts and contract rights. Article and Section headings and the Table of Contents used herein are for convenience of reference only, are not part of this Agreement and shall not affect the construction of, or be taken into consideration in interpreting, this Agreement. Any reference herein to an action, document or other matter or thing being "satisfactory to the Lenders", "to the Lenders' satisfaction" or similar phrases, shall mean that such action, document, matter or thing must be satisfactory to Lenders constituting the Required Lenders, unless it is described in Section 9.2(2)(a-h), hereof, in which case it must be satisfactory to each Lender whose consent is required under the applicable clause.

1.4. Accounting Terms; GAAP.

Except as otherwise expressly provided herein, all terms of an accounting or financial nature shall be construed in accordance with GAAP. Except as otherwise expressly provided herein, all calculations of the components of the financial information for the purposes of determining compliance with the financial ratios and financial covenants contained herein shall be made on a basis consistent with GAAP in existence as at the Closing Date and used in the preparation of the Consolidated financial statements of the Borrower referred to in Section 5.1(1). In the event of a change in GAAP, the Borrower and the Administrative Agent shall negotiate in good faith to revise (if appropriate) such ratios and covenants to give effect to the intention of the parties under this Agreement as at the Closing Date, and any new financial ratio or financial covenant shall be subject to approval by the Required Lenders. Until the successful conclusion of any such negotiation and approval by the Required Lenders, (a) all calculations made for the purpose of determining compliance with the financial ratios and financial covenants contained herein shall be made on a basis consistent with GAAP in existence immediately prior to such adoption or change, and (b) financial statements delivered pursuant to Section 5.1(1) shall be accompanied by a reconciliation showing the adjustments made to calculate such financial ratios and financial covenants. Any financial ratios required to be maintained by the Borrower pursuant to this Agreement shall be calculated by dividing the appropriate component by the other component, carrying the result to one place more than the number of places by which such ratio is expressed in this Agreement and rounding the result up or down to the nearest number (with a round-up if there is no nearest number) to the number of places by which such ratio is expressed in this Agreement. The Borrower shall not change the framework adopted under International Financial Reporting Standards.

1.5. Time.

All time references herein shall, unless otherwise specified, be references to local time in Toronto, Ontario. Time is of the essence of this Agreement and the other Loan Documents.

1.6. Permitted Liens.

Any reference in any of the Loan Documents to a Permitted Lien is not intended to subordinate or postpone, and shall not be interpreted as subordinating or postponing, or as any agreement to subordinate or postpone, any Lien created by any of the Loan Documents to any Permitted Lien.

ARTICLE 2
THE CREDITS

2.1 Commitments. Subject to the terms and conditions set forth herein, each Lender commits to make Loans to the Borrower from time to time during the period commencing on the Closing Date and ending on the Maturity Date in an aggregate outstanding principal amount equal to the amount set forth beside such Lender's name in Schedule 2.1 under the heading "Commitment", provided that a Lender shall not be required to extend further credit hereunder if such extension would result in (a) such Lender's Credit Exposure exceeding such Lender's Commitment, or (b) the aggregate Credit Exposures exceeding the aggregate Commitments. Within the foregoing limits and subject to the terms and conditions set forth herein, the Borrower may borrow, repay and reborrow Loans.

2.2 Loans and Borrowings.

(1) *Loans*. Each Loan shall be made as part of a Borrowing consisting of Loans made by the Lenders rateably based upon their Applicable Percentages. Each Swingline Loan shall be made in accordance with the procedures set forth in Section 2.20. The failure of any Lender to make any Loan

required to be made by it shall not relieve any other Lender of its obligations hereunder; provided that the Commitments of the Lenders are several and no Lender shall be responsible for any other Lender's failure to make Loans as required.

(2) *Composition of Borrowings.* Subject to Section 2.20, each Borrowing shall be comprised entirely of Canadian Prime Loans, Bankers' Acceptances, B/A Equivalent Loans, Base Rate Loans, LIBO Rate Loans or Letters of Credit as the Borrower may request in accordance herewith. Each Lender may at its option make any LIBO Rate Loan by causing any domestic or foreign branch or Lender Affiliate of such Lender to make such Loan; provided that any exercise of such option shall not result in any increased costs for the Borrower or affect the obligation of the Borrower to repay such Loan in accordance with the terms of this Agreement.

(3) *Amount of Borrowings.* At the commencement of each Interest Period for any LIBO Rate Borrowing, such Borrowing shall be in an aggregate amount that is an integral multiple of U.S.$100,000 and not less than U.S.$5,000,000. At the time that each Canadian Prime Borrowing or Base Rate Borrowing is made, such Borrowing shall be in an aggregate amount that is an integral multiple of Cdn. $100,000 and not less than Cdn. $5,000,000. Notwithstanding the foregoing, (a) a Canadian Prime Borrowing or a Base Rate Borrowing may be in an aggregate amount that is equal to the entire unused balance of the total applicable Commitments or that is required to finance the reimbursement of an LC Disbursement, and (b) the Administrative Agent shall have discretion to round Lender allocations to the nearest U.S.$1,000 or Cdn.$1,000, as applicable. Borrowings of more than one Type and class may be outstanding at the same time; provided that there shall not at any time be more than a total of five B/A Borrowings or five LIBO Rate Borrowings outstanding.

2.3 Requests for Borrowings.

(1) *Requesting a Borrowing.* To request a Borrowing (other than a Swingline Loan), the Borrower shall notify the Administrative Agent of such request in writing substantially in the form of Exhibit A (each, a "**Borrowing Request**") (a) in the case of a LIBO Rate Borrowing, not later than 11:00 a.m. three Business Days before the date of the proposed Borrowing, (b) in the case of a B/A Borrowing, not later than 11:00 a.m. two Business Days before the date of the proposed Borrowing, or (c) in the case of a Canadian Prime Borrowing or a Base Rate Borrowing, not later than 11:00 a.m. time, one Business Day before the date of the proposed Borrowing. Each Borrowing Request shall be irrevocable. The Administrative Agent and each Lender are entitled to rely and act upon any Borrowing Request given or purportedly given by the Borrower, and the Borrower hereby waives the right to dispute the authenticity and validity of any such request or resulting transaction once the Administrative Agent or any Lender has advanced funds, accepted a B/A or made a B/A Equivalent Loan based on such Borrowing Request. Each Borrowing Request shall specify the following information:

(i) the aggregate amount of each requested Borrowing;

(ii) the date of such Borrowing, which shall be a Business Day;

(iii) whether such Borrowing is to be a Canadian Prime Borrowing, a B/A Borrowing, a Base Rate Borrowing, a LIBO Rate Borrowing or a Letter of Credit;

(iv) in the case of a LIBO Rate Borrowing, the initial Interest Period to be applicable thereto, which shall be a period contemplated by the definition of the term "**Interest Period**", and in the case of a B/A Borrowing, the initial Contract Period to be applicable thereto, which shall be a period contemplated by the definition of the term "**Contract Period**"; and

(v) the location and number of the Borrower's account to which funds are to be disbursed, which shall comply herewith.

(2) *Default Terms*. If no election as to the Type of Borrowing is specified, then the requested Borrowing shall be a Canadian Prime Borrowing (if denominated in Canadian Dollars) or a Base Rate Borrowing (if denominated in U. S. Dollars). If no currency is specified, the Borrowing shall be denominated in United States Dollars. If no Interest Period is specified with respect to any requested LIBO Rate Borrowing, then the Borrower shall be deemed to have selected an Interest Period of one month's duration. If no Contract Period is specified with respect to any requested B/A Borrowing, then the Borrower shall be deemed to have selected a Contract Period of 30 days' duration. Promptly following receipt of a Borrowing Request in accordance with Section 2.3, the Administrative Agent shall advise each Lender of the details thereof and of the amount of such Lender's Loan to be made as part of the requested Borrowing.

(3) *Conversion or Rollover of Borrowings*. Each Borrowing initially shall be of the Type specified in the applicable Borrowing Request. Thereafter, the Borrower may elect to convert a Borrowing to a different Type or to rollover such Borrowing and, in the case of (a) a LIBO Rate Borrowing, may elect a new Interest Period therefor, or (b) a B/A Borrowing, may elect a new Contract Period therefor, all as provided in this Section 2.3(3). The Borrower may elect different options with respect to different portions of the affected Borrowing, in which case each such portion shall be allocated rateably among the Lenders holding the Loans comprising such Borrowing, and the Loans comprising each such portion shall be considered a separate Borrowing. This Section 2.3(3) shall not apply to Swingline Borrowings, which may not be converted or continued. To make an election pursuant to this Section 2.3(3), the Borrower shall notify the Administrative Agent of such election by the time that a Borrowing Request would be required under Section 2.3(1) if the Borrower were requesting a Borrowing of the Type resulting from such election to be made on the effective date of such election. Each such request shall be irrevocable. In addition to the information specified in Section 2.3(1), each Borrowing Request shall specify the Borrowing to which such request applies and, if different options are being elected with respect to different portions thereof, the portions thereof to be allocated to each resulting Borrowing. Notwithstanding the foregoing, the Borrower is not entitled to elect a new Contract Period in respect of a B/A Borrowing or a new Interest Period in respect of a LIBO Borrowing, or to convert a Borrowing of any Type into a LIBO Borrowing, a B/A or B/A Equivalent Loan, if a Default has occurred and is continuing.

(4) *Deemed Election to Convert.* In the absence of a timely and proper election with regard to (a) LIBO Rate Borrowings, the Borrower shall be deemed to have elected to convert such LIBO Rate Borrowings to Base Rate Borrowings on the last day of the Interest Period of the relevant LIBO Rate Borrowings, and (b) B/A Borrowings, the Borrower shall be deemed to have elected to convert such B/A Borrowings to Canadian Prime Borrowings on the last day of the Contract Period of the relevant B/A Borrowings.

2.4 Funding of Borrowings.

(1) *Funding.* Each Lender shall make each Loan to be made by it hereunder on the proposed date thereof by wire transfer of immediately available funds by 12:00 noon, to the account of the Administrative Agent most recently designated by it for such purpose by notice to the Lenders; provided that Swingline Loans shall be made as provided in Section 2.20. The Administrative Agent shall make such Loans available to the Borrower by promptly crediting the amounts so received, in like funds, to an account of the Borrower maintained with the Administrative Agent in Toronto and designated by the Borrower in the applicable Borrowing Request; provided that Loans made to finance the reimbursement

of an LC Disbursement as provided in Section 2.19 shall be remitted by the Administrative Agent to the Issuing Bank.

(2) *Each Lender's Share of Borrowing.* Unless the Administrative Agent has received written notice from a Lender prior to the proposed date of any Borrowing that such Lender will not make available to the Administrative Agent such Lender's share of such Borrowing, the Administrative Agent may assume that such Lender has made such share available on such date in accordance with Section 2.4(1) and may, in reliance upon such assumption, make available to the Borrower a corresponding amount. In such event, if a Lender has not in fact made its share of the applicable Borrowing available to the Administrative Agent, then the Administrative Agent shall seek repayment of such corresponding amount, firstly, from the applicable Lender and, secondly, from the Borrower, if the applicable Lender does not immediately repay such corresponding amount. The applicable Lender and the Borrower severally agree to pay to the Administrative Agent forthwith on demand such corresponding amount with interest thereon, for each day from and including the date such amount is made available to the Borrower to but excluding the date of payment to the Administrative Agent, at the default interest rate applicable to Canadian Prime Loans (if the unpaid amount is denominated in Canadian Dollars) or to Base Rate Loans (if the unpaid amount is denominated in U.S. Dollars). If such Lender pays such amount to the Administrative Agent, then such amount shall constitute such Lender's Loan included in such Borrowing. Any payment by a Borrower shall be made without prejudice to any claim the Borrower may have against a Defaulting Lender.

2.5 Interest and Acceptance Fees.

(1) *Interest.* The Loans comprising each Canadian Prime Borrowing shall bear interest (computed on the basis of the actual number of days elapsed over a year of 365 days or 366 days, as the case may be) at a rate per annum equal to the Canadian Prime Rate plus the Applicable Margin from time to time in effect. The Loans comprising each Base Rate Borrowing shall bear interest (computed on the basis of the actual number of days elapsed over a year of 365 days or 366 days, as the case may be) at a rate per annum equal to the Base Rate plus the Applicable Margin from time to time in effect. The Loans comprising each LIBO Rate Borrowing shall bear interest (computed on the basis of the actual number of days in the relevant Interest Period over a year of 360 days) at the LIBO Rate for the Interest Period in effect for such LIBO Rate Borrowing plus the Applicable Margin.

(2) *Acceptance Fee.* The Loans comprising each B/A Borrowing shall be subject to the Acceptance Fee which shall be payable as set out in Section 2.11.

(3) *Before and After Judgment Interest.* Notwithstanding the foregoing, if an Event of Default shall have occurred and be continuing and the Required Lenders have passed a resolution initiating the default rate, the Loans shall bear interest, after as well as before judgment:

(a) subject to Section 2.5(3)(b) at a rate per annum equal to 2% plus the rate otherwise applicable to such Loan or, in the case of any amount not constituting principal or interest on a Loan, at a rate equal to 2% plus the rate otherwise applicable to, in the case of Canadian Dollar amounts, Canadian Prime Loans, or in the case of U.S. Dollar amounts, Base Rate Loans;

(b) if (i) a Security Document creates a mortgage on real property or a hypothec on immovables, or (ii) the rate provided for in Section 2.5(3)(a) is otherwise determined to be unenforceable, then, in either case, at a rate per annum equal to the rate otherwise applicable to such Loan or, in the case of any amount not constituting principal or interest on a Loan, at a rate equal to the rate otherwise applicable to, in the case of Canadian

Dollar amounts, Canadian Prime Loans, or in the case of U.S. Dollar amounts, Base Rate Loans;

provided that, without limiting the effect of Section 2.5(3)(b)(ii), nothing in Section 2.5(3)(b)(ii) shall preclude the operation of Section 2.5(3) where:

(c) a Security Document that creates a mortgage on real property or a hypothec on immovables also creates a Lien on other property and assets; or

(d) the principal of or interest on any Loan or any fee or other amount payable by the Borrower hereunder is also secured by a Lien other than a mortgage on real property or a hypothec on immovable.

For the avoidance of doubt, if the Required Lenders do not pass a resolution initiating the default rate, the Loans shall continue to bear interest at the rates set out in Section 2.5(1).

(4) *Accrued Interest.* Accrued interest on each Loan (other than B/A Borrowings) shall be payable in arrears (a) on each applicable Interest Payment Date, and (b) upon termination of the Commitments. In addition, in the event of any repayment or prepayment of any Loan, accrued interest on the principal amount repaid or prepaid shall be payable on the date of such repayment or prepayment. Interest on overdue amounts shall be payable upon demand.

(5) *Days Interest Payable.* All interest hereunder shall be payable for the actual number of days elapsed (including the first day but excluding the last day). Any Loan that is repaid on the same day on which it is made shall bear interest for one day. The applicable Canadian Prime Rate, Base Rate, LIBO Rate or Discount Rate shall be determined by the Administrative Agent, and such determination shall be conclusive absent manifest error.

(6) *Yearly Rate of Interest.* For the purposes of the *Interest Act* (Canada) and disclosure thereunder, whenever any interest or any fee to be paid hereunder or in connection herewith is to be calculated on the basis of a 360-day or 365-day year, the yearly rate of interest to which the rate used in such calculation is equivalent is the rate so used multiplied by the actual number of days in the calendar year in which the same is to be ascertained and divided by 360 or 365, as applicable. The rates of interest under this Agreement are nominal rates, and not effective rates or yields. The principle of deemed reinvestment of interest does not apply to any interest calculation under this Agreement.

(7) *Criminal Interest.* If any provision of this Agreement would oblige the Borrower to make any payment of interest or other amount payable to any Lender in an amount or calculated at a rate which would be prohibited by applicable Law or would result in a receipt by that Lender of "interest" at a "criminal rate" (as such terms are construed under the *Criminal Code* (Canada)), then, notwithstanding such provision, such amount or rate shall be deemed to have been adjusted with retroactive effect to the maximum amount or rate of interest, as the case may be, as would not be so prohibited by Law or so result in a receipt by that Lender of "interest" at a "criminal rate", such adjustment to be effected, to the extent necessary (but only to the extent necessary), as follows:

(a) first, by reducing the amount or rate of interest or the amount or rate of any Acceptance Fee required to be paid to the affected Lender under Section 2.5; and

(b) thereafter, by reducing any fees, commissions, costs, expenses, premiums and other amounts required to be paid to the affected Lender which would constitute interest for purposes of section 347 of the *Criminal Code* (Canada).

(8) *Reconciliation for Additional Interest and Fees.* Notwithstanding anything to the contrary contained in this Agreement, if, as a result of any restatement or other adjustment to the financial statements delivered under this Agreement (including any adjustment to unaudited financial statements as a result of subsequent audited financial statements) or for any other reason, the Borrower or the Lenders determine that the Net Leverage Ratio as of any applicable date was inaccurate and, as a result of such occurrence the Applicable Margins applicable to any Loans or any fees for any period were lower than would otherwise be the case, then the Borrower shall immediately and retroactively be obligated to pay to the Administrative Agent for the account of the applicable Lenders, promptly on demand by the Administrative Agent (or, if an Event of Default pursuant to Sections 7.1(f) and (g) shall have occurred and be continuing, automatically and without further action by the Administrative Agent), an amount equal to the excess of the amount of interest and fees that should have been paid by the Borrower for such period over the amount of interest and fees actually paid by the Borrower for such period, plus interest on such amount at the rate otherwise applicable herein. The Borrower's obligations under this Section 2.5(8) shall survive the termination of the Commitments and the repayment of all Indebtedness hereunder.

2.6 Termination and Reduction of Commitments; Extensions.

(1) *Maturity Dates.* Unless previously terminated, the Commitments shall terminate on the Maturity Date.

(2) *Cancellation of Unused Credit.* The Borrower may, upon five Business Days prior written notice to the Administrative Agent, permanently cancel any unused portion of the Credit, without penalty. The Administrative Agent shall promptly notify each Lender of the receipt by the Administrative Agent of any such notice. Any such cancellation shall be applied rateably in respect of the Commitments of each Lender. Each notice delivered by the Borrower pursuant to this Section 2.6(2) shall be irrevocable.

(3) *Extension.* No earlier than 90 days and no later than 60 days prior to the Maturity Date (the unextended Maturity Date, as applicable, being referred to in Section 2.6 as, an "**Extension Date**"), the Borrower may, subject to satisfaction of the conditions precedent for a Borrowing set forth in Sections 4.2(a) and 4.2(b), deliver to the Administrative Agent a request for an extension of the Extension Date for a period of up to 365 days after the then applicable Extension Date (the "**Extension Request**"); provided that the Borrower may withdraw an Extension Request, even if the Required Lenders have already consented to such Extension Request, by notice in writing delivered to the Administrative Agent not later than the close of business on the third Business day prior to the Extension Date. The Administrative Agent shall promptly notify the Lenders of its receipt of any Extension Request, with particulars thereof. Within 30 days after the Administrative Agent has notified a Lender of its receipt of an Extension Request, such Lender shall notify the Borrower and the Administrative Agent of its election to extend or not extend the Extension Date as requested in such Extension Request (which election to extend or not extend shall be made by each such Lender in its sole and absolute discretion). Any failure by any Lender to notify the Borrower and the Administrative Agent of its election to extend or not extend the Extension Date as requested in such Extension Request shall be deemed to be a refusal to extend the Extension Date. Unless the Extension Request has been withdrawn by the Borrower in accordance with the proviso above, if the Required Lenders approve in writing the extension of the Extension Date requested in such Extension Request, the Extension Date shall automatically and without any further action by any Person be extended for the period specified in such Extension Request; provided that each such extension shall be for a maximum of 365 days, and if an Extension Request has been made, but there are one or more Lenders which do not consent in writing to the Extension Request within 35 days after receipt of the notice of the Extension Request from the Administrative Agent (a "**Non-Extending Lender**"), then the Borrower shall be entitled to choose one of the following options, and the Borrower shall notify the Administrative Agent of its choice not later than 10 days prior to the Extension Date:

(a) the Loans of any Non-Extending Lender shall be repaid on the Extension Date (without giving effect to the extension requested in such Extension Request, with respect to the Non-Extending Lender only);

(b) at the sole expense of the Borrower, upon notice to such Lender and the Administrative Agent, the Commitments of any Non-Extending Lender shall be assigned to (and assumed by) an assignee permitted hereunder upon payment by the assignee to the Non-Extending Lender of an amount equal to the outstanding principal of the Loans and participation in LC Disbursements and Swingline Loans thereunder, if any, accrued interest thereon, accrued fees and all other amounts payable to the Non-Extending Lender hereunder in respect of such Credit, provided that (i) such assignment does not conflict with any applicable Law, and (ii) any assignee which becomes a Lender as a result of such an assignment shall be deemed to have consented to the applicable Extension Request and, therefore, shall not be a Non-Extending Lender; or

(c) the Borrower may withdraw the applicable Extension Request.

(4) *Non-Extending Lenders.* Any Non-Extending Lender shall provide to the Borrower its full co-operation in facilitating the assignment of its Commitment to an assignee permitted hereunder (which assignee may be another Lender, if such assignee Lender accepts such assignment) identified by the Borrower that is ready, willing and able to be an assignee with respect thereto. If an Extension Request has been made and if, within 35 days after receipt by the Lenders of the notice of the Extension Request from the Administrative Agent, the Required Lenders have not approved in writing the extension of the Extension Date requested in an Extension Request, then the Extension Date shall not be extended pursuant to such Extension Request. The Administrative Agent shall promptly notify the Lenders and the Borrower of (a) any extension of the Extension Date pursuant to Section 2.6, and (b) of any Lender which becomes a Non-Extending Lender.

2.7 Repayment of Loans.

(1) *Reduction Date*. Unless previously cancelled to below such level, the aggregate Commitments shall be reduced to U.S.$55,000,000 on the Reduction Date, with such reduction to be applied *pro rata* among the Commitments of the Lenders. If as a result of such reduction the aggregate Credit Exposure of the Lenders exceeds the aggregate Commitments, then the Borrower shall immediately pay to the Administrative Agent, for the account of the Lenders, the amount of such excess to be applied (a) as a prepayment of the Loans and Reimbursement Obligations outstanding, and thereafter as Cover for any LC Exposure in an amount of such remaining excess.

(2) *Repayment of Revolving Credit.* The Borrower hereby unconditionally promises to pay to the Administrative Agent for the account of the Lenders the outstanding principal amount of the Loans on the Maturity Date.

2.8 Evidence of Debt.

(1) *Accounts of Indebtedness.* Each Lender shall maintain in accordance with its usual practice an account or accounts evidencing the Indebtedness of the Borrower to such Lender resulting from each Borrowing made by such Lender hereunder, including the amounts of principal and interest payable and paid to such Lender from time to time hereunder.

(2) *Account Details.* The Administrative Agent shall maintain accounts in which it shall record (a) the amount of each Borrowing made hereunder, the class and Type thereof and, in the cases of

Bankers' Acceptances and LIBO Rate Loans, the relevant Contract Period or Interest Period, applicable thereto, (b) the amount of any principal or interest due and payable or to become due and payable from the Borrower to each Lender hereunder, and (c) the amount of any sum received by the Administrative Agent hereunder for the account of the Lenders and each Lender's share thereof.

(3) *Accounts Conclusive.* The entries made in the accounts maintained pursuant to Sections 2.8(1) and (2) shall be conclusive evidence (absent manifest error) of the existence and amounts of the obligations recorded therein; provided that the failure of any Lender or the Administrative Agent to maintain such accounts or any error therein shall not in any manner affect the obligation of the Borrower to repay the Borrowings in accordance with the terms of this Agreement. In the event of a conflict between the records maintained by the Administrative Agent and any Lender, the records maintained by the Administrative Agent shall govern.

(4) *Promissory Notes.* Any Lender may request that Loans (other than B/As) made by it be evidenced by a promissory note. In such event, the Borrower shall prepare, execute and deliver to such Lender a promissory note payable to the order of such Lender (or, if requested by such Lender, to such Lender and its registered assigns) and in a form approved by the Administrative Agent. Thereafter, the Loans evidenced by such promissory note and interest thereon shall at all times (including after assignment pursuant to Section 9.4) be represented by one or more promissory notes in such form payable to the order of the payee named therein (or, if such promissory note is a registered note, to such payee and its registered assigns).

2.9 Prepayments.

(1) *Currency Fluctuations*. If at any time the Credit Exposure of any Lender exceeds its Commitment (any such excess being referred to in this Section 2.9(1) as a "**Currency Excess Amount**"), then the Borrower shall pay to the Administrative Agent, for the account of such Lender, an amount equal to the Currency Excess Amount with respect to such Lender to be applied (a) as a prepayment of the Loans and Reimbursement Obligations outstanding to such Lender, and (b) thereafter as Cover to such Lender for its LC Exposure under the Credit in an amount of such remaining Currency Excess Amount. To the extent that Prime Rate Loans, Base Rate Loans or Reimbursement Obligations are outstanding, then the repayment of the Currency Excess Amount shall be made by the Borrower within three Business Days after the Administrative Agent requests such repayment. To the extent that B/As or LIBO Rate Loans are outstanding, then the repayment of the Currency Excess Amount shall be made on expiration of the next Contract Period or Interest Period, as applicable. If only Letters of Credit are outstanding, then Cover for the Currency Excess Amount shall be provided by the Borrower on the next Quarterly Date.

(2) *General*. Any amount required to be prepaid on a date pursuant to Section 2.9(1) shall be (a) due and payable together with any amount payable pursuant to Section 2.14 and accrued interest to such date on such amount in accordance with Section 2.5(4), and (b) applied first to Canadian Prime Rate Loans or Base Rate Loans, second to LIBO Rate Loans, and third to B/A's or B/A Equivalent Loans. For the avoidance of doubt, any prepayment of a B/A (or B/A Equivalent Loan) shall be applied against the face amount (or undiscounted amount) thereof

2.10 Fees.

(1) *Standby Fees.* The Borrower shall pay to the Administrative Agent for the account of and distribution to each Lender in accordance with its Applicable Percentage a standby fee for the period commencing on the Closing Date to and including the Maturity Date (or such earlier date as the Commitments shall have been terminated entirely) computed at a rate per annum equal to the Applicable Margin on the excess amount of the aggregate Commitments over the aggregate Credit Exposure. Such

standby fee shall be (a) payable in arrears on the first Business Day following each Quarterly Date and on any the date on which the Commitments terminate or are reduced pursuant hereto, and (b) accrue daily on the basis of a year of 365 or 366 days, as the case may be, and shall be payable for the actual number of days elapsed (including the first day but excluding the last day).

(2) *Participation and Fronting Fees.* The Borrower shall pay:

(a) to the Administrative Agent for the account of each Lender a participation fee with respect to its participations in Letters of Credit, which shall accrue at the Applicable Margin for Letters of Credit on the average daily amount of such Lender's LC Exposure (excluding any portion thereof attributable to unreimbursed LC Disbursements) during the period from and including the Closing Date to but excluding the later of the date on which such Lender's Commitment terminates and the date on which such Lender ceases to have any LC Exposure; and

(b) to the Issuing Bank a fronting fee, which shall accrue at the rate of 0.20% per annum on the daily amount of the LC Exposure (excluding any portion thereof attributable to unreimbursed LC Disbursements) during the period from and including the Closing Date to but excluding the later of the date of termination of the Commitments and the date on which there ceases to be any LC Exposure, as well as the Issuing Bank's standard fees with respect to the issuance, amendment, renewal or extension of any Letter of Credit or processing of drawings thereunder.

Participation fees and fronting fees shall be (a) payable quarterly in arrears on the first Business Day of each calendar quarter and on the date on which the Commitments terminate, and (b) computed daily on the basis of a year of 365 days or 366 days, as the case may be, and shall be payable for the actual number of days elapsed (including the first day but excluding the last day). Participation and fronting fees accruing after the date on which the Commitments terminate shall be payable on demand.

(3) *Fees to Administrative Agent.* The Borrower shall pay to the Administrative Agent, for its own account, fees payable in the amounts and at the times separately agreed upon in the Fee Letter.

(4) *Payment of Fees.* All fees payable hereunder shall be paid on the dates due, in immediately available funds, to the Administrative Agent (or to the Issuing Bank, in the case of fees payable to it) for distribution, in the case of standby and participation fees, to the Lenders. Fees paid shall not be refundable except in the case of manifest error in the calculation of any fee payment.

2.11 Bankers' Acceptances.

(1) *Request for B/A Borrowings.* Subject to the terms and conditions of this Agreement, the Borrower may request a Borrowing by presenting drafts for acceptance and purchase as B/As by the Lenders. The Borrower shall not be entitled to obtain or roll over any B/A Borrowings or B/A Equivalent Loans at any time that a Default or an Event of Default has occurred and is continuing.

(2) *Contract Period.* No Contract Period with respect to a B/A to be accepted and purchased hereunder shall extend beyond the Maturity Date.

(3) *Lender as Power of Attorney.* To facilitate availment of B/A Borrowings, the Borrower hereby appoints each Lender as its attorney to sign and endorse on its behalf (in accordance with a Borrowing Request relating to a B/A Borrowing), in handwriting or by facsimile or mechanical signature as and when deemed necessary by such Lender, blank forms of B/As in the form requested by such

Lender. Each Lender shall maintain an adequate supply of blank forms of B/As for acceptance under this Agreement. The Borrower recognizes and agrees that all B/As signed or endorsed by a Lender on behalf of the Borrower shall bind the Borrower as fully and effectually as if signed in the handwriting of and duly issued by the proper signing officers of the Borrower. Each Lender is hereby authorized (in accordance with a Borrowing Request relating to a B/A Borrowing) to issue such B/As endorsed in blank in such face amounts as may be determined by such Lender; provided that the aggregate amount thereof is equal to the aggregate amount of B/As required to be accepted and purchased by such Lender. No Lender shall be liable for any damage, loss or other claim arising by reason of any loss or improper use of any such instrument except the gross negligence or wilful misconduct of the Lender or its officers, employees, agents or representatives. Each Lender shall maintain a record with respect to B/As (a) received by it in blank hereunder, (b) voided by it for any reason, (c) accepted and purchased by it hereunder, and (d) cancelled at their respective maturities. On request by or on behalf of the Borrower, a Lender shall cancel all forms of B/A which have been pre-signed or pre-endorsed on behalf of the Borrower and which are held by such Lender and are not required to be issued in accordance with the Borrower's irrevocable notice. Alternatively, the Borrower agrees that, at the request of the Administrative Agent, the Borrower shall deliver to the Administrative Agent a "depository note" which complies with the requirements of the *Depository Bills and Notes Act* (Canada), and consents to the deposit of any such depository note in the book-based debt clearance system maintained by the Canadian Depository for Securities.

(4) *B/A Signatory*. Drafts of the Borrower to be accepted as B/As hereunder shall be signed as set out in Section 2.11. Notwithstanding that any person whose signature appears on any B/A may no longer be an authorized signatory for any Lender or the Borrower at the date of issuance of a B/A, such signature shall nevertheless be valid and sufficient for all purposes as if such authority had remained in force at the time of such issuance and any such B/A so signed shall be binding on the Borrower.

(5) *B/A Amounts*. Promptly following receipt of a Borrowing Request specifying a Borrowing by way of B/As, the Administrative Agent shall so advise the Lenders and shall advise each Lender of the aggregate face amount of the B/As to be accepted by it and the applicable Contract Period (which shall be identical for all Lenders). With respect to each B/A Borrowings the aggregate face amount of the B/As to be accepted by the Lenders shall be in a minimum aggregate amount of Cdn. $1,000,000 and shall be a whole multiple of Cdn.$100,000, and such face amount shall be in the Lenders' pro rata portions of such B/A Borrowing, provided that the Administrative Agent may, in its sole discretion, increase or reduce any Lender's portion of such B/A Borrowing to the nearest Cdn.$100,000 without reducing the overall Commitments.

(6) *Acceptance of B/A*. Upon acceptance of a B/A by a Lender, such Lender shall purchase, or arrange for the purchase of, each B/A from the Borrower at the Discount Rate for such Lender applicable to such B/A accepted by it and provide to the Administrative Agent the Discount Proceeds therefor for the account of the Borrower. The Acceptance Fee payable by the Borrower to a Lender under Section 2.5 in respect of each B/A accepted by such Lender shall be set off against the Discount Proceeds payable by such Lender under Section 2.11.

(7) *Lender's Rights Re B/A*. Each Lender may at any time and from time to time hold, sell, rediscount or otherwise dispose of any or all B/As accepted and purchased by it.

(8) *B/A Equivalent Loans*. If a Lender notifies the Administrative Agent in writing that it is unable or unwilling to accept Bankers' Acceptances, such Lender shall, instead of accepting and purchasing Bankers' Acceptances, make a Loan (a "**B/A Equivalent Loan**") to the Borrower in the amount and for the same term as the draft which such Lender would otherwise have been required to accept and purchase hereunder. Each such Lender shall provide to the Administrative Agent the Discount Proceeds of such B/A Equivalent Loan for the account of the Borrower. Each such B/A Equivalent Loan

shall bear interest at the same rate which would result if such Lender had accepted (and been paid an Acceptance Fee) and purchased (on a discounted basis) a Bankers' Acceptance for the relevant Contract Period (it being the intention of the parties that each such B/A Equivalent Loan shall have the same economic consequences for the Lenders and the Borrower as the Bankers' Acceptance which such B/A Equivalent Loan replaces). All such interest shall be paid in advance on the date such B/A Equivalent Loan is made, and shall be deducted from the principal amount of such B/A Equivalent Loan in the same manner in which the Discount Proceeds of a Bankers' Acceptance would be deducted from the face amount of the Bankers' Acceptance. Subject to repayment requirements, on the last day of the relevant Contract Period for such B/A Equivalent Loan, the Borrower shall be entitled to convert each such B/A Equivalent Loan into another type of Loan, or to roll over each such B/A Equivalent Loan into another B/A Equivalent Loan, all in accordance with the applicable provisions of this Agreement.

(9) *Notice of Intention to Issue B/As.* With respect to each B/A Borrowing, at or before 10:00 a.m. two Business Days before the last day of the Contract Period of such B/A Borrowing, the Borrower shall notify the Administrative Agent by irrevocable telephone notice, followed by a Borrowing Request on the same day giving notice of rollover, if the Borrower intends to issue B/As on such last day of the Contract Period to provide for the payment of such maturing B/A Borrowing. If the Borrower fails to notify the Administrative Agent of its intention to issue B/As on such last day of the Contract Period, the Borrower shall provide payment to the Administrative Agent on behalf of the Lenders of an amount equal to the aggregate face amount of such B/A Borrowing on the last day of the Contract Period of thereof. If the Borrower fails to make such payment, such maturing B/As shall be deemed to have been converted on the last day of the Contract Period into a Canadian Prime Loan in an amount equal to the face amount of such B/As.

(10) *Upon Maturity of B/As.* The Borrower waives presentment for payment and any other defence to payment of any amounts due to a Lender in respect of a B/A accepted and purchased by it pursuant to this Agreement which might exist solely by reason of such B/A being held, at the maturity thereof, by such Lender in its own right, and the Borrower shall not claim any days of grace if such Lender, as holder, sues the Borrower on the B/A for payment of the amount payable by the Borrower thereunder. On the last day of the Contract Period of a B/A, or such earlier date as may be required or permitted pursuant to the provisions of this Agreement, the Borrower shall pay the Lender that has accepted and purchased such B/A the full face amount of such B/A and, after such payment, the Borrower shall have no further liability in respect of such B/A and such Lender shall be entitled to all benefits of, and be responsible for all payments due to third parties under, such B/A.

(11) *Participation.* If a Lender grants a participation in a portion of its rights under this Agreement to a Participant under Section 9.4(5), then, in respect of any B/A Borrowing, a portion thereof may, at the option of such Lender, be by way of Bankers' Acceptance accepted by such Participant. In such event, the Borrower shall upon request of the Administrative Agent or the Lender granting the participation execute and deliver a form of Bankers' Acceptance undertaking in favour of such Participant for delivery to such participant.

(12) *Repayment of B/As.* Any B/A Borrowing may be repaid by the Borrower in whole or in part prior to the expiry date of the Contract Period. For the avoidance of doubt, the amount owing by the Borrower with respect to any B/A Borrowing shall unconditionally be the face amount of the B/As and/or undiscounted amount of the B/A Equivalent Loans in question, such that any prepayment shall not serve to reduce the prepaid interest cost of such B/A Borrowing.

2.12 Alternate Rate of Interest.

If prior to the commencement of any Interest Period for a LIBO Rate Borrowing or the commencement of any Contract Period for a B/A Borrowing:

(a) the Administrative Agent determines (which determination shall be conclusive absent manifest error) that:

(i) adequate and reasonable means do not exist for ascertaining the LIBO Rate for such Interest Period; or

(ii) there is no market for B/As; or

(b) the Administrative Agent is advised by a Lender that:

(i) the LIBO Rate for such Interest Period will not adequately and fairly reflect the cost to such Lender of making or maintaining its LIBO Rate Loans included in such Borrowing for such Interest Period; or

(ii) the Discount Rate for such Contract Period will not adequately and fairly reflect the cost to such Lender of issuing or maintaining its B/As included in such Borrowing for such Contract Period,

then the Administrative Agent shall give written notice thereof to the Borrower and the Lenders as promptly as practicable thereafter and, until the Administrative Agent notifies the Borrower and the Lenders that the circumstances giving rise to such notice no longer exist, (A) any Borrowing Request that requests the conversion of any Borrowing to, or continuation of any Borrowing as, a LIBO Rate Borrowing or B/A Borrowing, as applicable, shall be ineffective, and (B) if any Borrowing Request requests a LIBO Rate Borrowing or B/A Borrowing, as applicable, such Borrowing shall be made as a Base Rate Borrowing or Canadian Prime Borrowing, as applicable; provided that if the circumstances giving rise to such notice do not affect all the Lenders, then requests by the Borrower for LIBO Rate Borrowings or B/A Borrowings, as applicable, may be made to Lenders that are not affected thereby.

2.13 Increased Costs; Illegality.

(1) *Compensation for Increased Costs.* If any Change in Law shall:

(a) impose, modify or deem applicable any reserve, special deposit or similar requirement against assets of, deposits with or for the account of, or credit extended by, any Lender; or

(b) impose on any Lender or the Issuing Bank or the London interbank market any other condition affecting this Agreement (including the imposition on any Lender of, or any change to, any Tax or other charge with respect to its Loans or any Letter of Credit or participation therein, or its obligation to make Loans or issue or participate in any Letter of Credit),

and the result of any of the foregoing is to increase the cost to such Lender of making or maintaining any Loan (or of maintaining its obligation to make any such Loan) or to increase the cost to such Lender or the Issuing Bank of participating in, issuing or maintaining any Letter of Credit or to reduce the amount of any sum received or receivable by such Lender or the Issuing Bank hereunder (whether of principal,

interest or otherwise), then, upon request of such Lender or Issuing Bank, the Borrower shall pay to such Lender or the Issuing Bank, as the case may be, such additional amount or amounts as will compensate such Lender or the Issuing Bank, as the case may be, for such additional costs incurred or reduction suffered.

(2) *Compensation for Reduced Rate of Return.* If any Lender or the Issuing Bank determines that any Change in Law regarding capital requirements has or would have the effect of reducing the rate of return on such Lender's or the Issuing Bank's capital or on the capital of such Lender's holding company or the Issuing Bank's holding company, if any, as a consequence of this Agreement or the Loans made by, or participations in Letters of Credit held by such Lender, or the Letters of Credit issued by the Issuing Bank, to a level below that which such Lender or the Issuing Bank or such Lender's or the Issuing Bank's holding company could have achieved but for such Change in Law (taking into consideration such Lender's or the Issuing Bank's policies and the policies of such Lender's or the Issuing Bank's holding company with respect to capital adequacy and such Lender's desired return on capital), then from time to time the Borrower shall pay to such Lender or the Issuing Bank, as the case may be, such additional amount or amounts as will compensate such Lender or the Issuing Bank or such Lender's or the Issuing Bank's holding company for any such reduction suffered. Notwithstanding anything herein to the contrary, (a) all requests, rules, guidelines, requirements and directives promulgated by the Bank for International Settlements, and Basel Committee on Banking Supervision (or any successor or similar authority) or by United States, Canadian or foreign regulatory authorities, in each case pursuant to Basel III, and (b) the *Dodd-Frank Wall Street Reform and Consumer Protection Act* (United States) and all requests, rules, guidelines, requirements and directives thereunder or issued in connection therewith or in implementation thereof, shall in each case be deemed to be a Change in Law for purposes of this Section 2.13(2) regardless of the date enacted, adopted, issued or implemented.

(3) *Certificate.* A certificate of a Lender setting forth the amount or amounts necessary to compensate such Lender as specified in Sections 2.13(1) or (2), together with a brief description of the Change of Law, shall be delivered to the Borrower by such Lender, and shall be conclusive absent manifest error. In preparing any such certificate, a Lender shall be entitled to use averages and to make reasonable estimates, and shall not be required to "match contracts" or to isolate particular transactions. The Borrower shall pay such Lender the amount shown as due on any such certificate within 10 days after receipt thereof.

(4) *Notification for Compensation.* Each Lender shall use its reasonable commercial efforts to notify the Borrower if it reasonably believes that it may require compensation from the Borrower under Section 2.13; provided that failure or delay on the part of any Lender to demand compensation pursuant to Section 2.13 shall not constitute a waiver of such Lender's right to demand such compensation; and provided further that the Borrower shall not be obligated to pay any such amount which arose more than 90 days prior to the date of such demand or is attributable to periods more than 90 days prior to the date of such demand except where the Change in Law in question had retroactive effect extending prior to such times. No Lender shall demand compensation pursuant to Section 2.13 unless such Lender is generally making corresponding demands on similar types of borrowers for similar amounts pursuant to similar provisions in other loan documents to which such Lender is a party.

(5) *Illegality.* If any Lender determines that it is unlawful, or that any Governmental Authority has asserted that it is unlawful, for any Lender or its applicable lending office to make or maintain any Loan (or to maintain its obligation to make any Loan), or to participate in, issue or maintain any Letter of Credit (or to maintain its obligation to participate in or to issue any Letter of Credit), or to determine or charge interest rates based upon any particular rate, then, on notice thereof by such Lender to the Borrower through the Administrative Agent, any obligation of such Lender with respect to the activity that is unlawful shall be suspended until such Lender notifies the Administrative Agent and the

Borrower that the circumstances giving rise to such determination no longer exist. For the avoidance of doubt, such suspension shall occur notwithstanding that the activity in question was unlawful on the Closing Date. Upon receipt of such notice, the Borrower shall, upon demand from such Lender (with a copy to the Administrative Agent), prepay (or, if conversion would avoid the activity that is unlawful, convert) any Loans, or take any necessary steps with respect to any Letter of Credit in order to avoid the activity that is unlawful. Upon any such prepayment or conversion, the Borrower shall also pay accrued interest on the amount so prepaid or converted. Each Lender agrees to designate a different lending office if such designation will avoid the need for such notice and will not, in the good faith judgment of such Lender, otherwise be materially disadvantageous to such Lender.

2.14 Break Funding Payments.

In the event of (a) the failure by the Borrower to borrow, convert, continue or prepay any Loan on the date specified in any notice delivered by the Borrower pursuant hereto, (b) the payment or conversion of any LIBO Rate Loan other than on the last day of an Interest Period (including as a result of an Event of Default), or (c) the assignment of any Loan (including the assignment of any LIBO Rate Loan) other than on the last day of the Interest Period applicable thereto as a result of a request by the Borrower pursuant to Section 2.18, then, in any such event, the Borrower shall compensate each Lender for the loss, cost and expense attributable to such event. In the case of a LIBO Rate Loan, such loss, cost or expense to any Lender shall be deemed to include an amount determined by such Lender to be the excess, if any, of (i) the amount of interest which would have accrued on the principal amount of such Loan had such event not occurred, at the LIBO Rate that would have been applicable to such Loan, for the period from the date of such event to the last day of the then current Interest Period therefor (or, in the case of a failure to borrow, convert or continue, for the period that would have been the Interest Period for such Loan), over (ii) the amount of interest which would accrue on such principal amount for such period and the interest rate which such Lender would bid were it to bid, at the commencement of such period, for U.S. Dollar deposits of a comparable amount and period from other banks in the eurodollar market. A certificate of any Lender setting forth any amount or amounts that such Lender is entitled to receive pursuant to this Section 2.14 shall be delivered to the Borrower by such Lender and shall be conclusive absent manifest error. The Borrower shall pay such Lender the amount shown as due on any such certificate within 10 days after receipt thereof.

2.15 Taxes.

(1) *Gross-up for Taxes.* Any and all payments by or on account of any obligation of the Borrower hereunder or under any Loan Document shall be made free and clear of and without deduction or withholding for any Taxes except as required by applicable Laws; provided that if the Borrower shall be required to deduct or withhold any Taxes from such payments, then (a) in the case of Indemnified Taxes, the sum payable shall be increased as necessary so that, after making all required deductions or withholdings (including deductions or withholdings applicable to additional sums payable under Section 2.15), the Administrative Agent, Lender or Issuing Bank (as the case may be) receives an amount equal to the sum it would have received had no such deduction or withholding been made, (b) the Borrower shall make such required deduction or withholding, and (c) the Borrower shall pay to the relevant Governmental Authority the full amount deducted or withheld in accordance with, and within the time limits prescribed by, applicable Law.

(2) *Stamp and Other Taxes.* In addition to the payments by the Borrower required by Section 2.15(1), the Borrower shall pay any and all present or future stamp or documentary Taxes or any other excise or property Taxes, charges or similar levies arising from any payment made hereunder or from the execution, delivery or enforcement of, or otherwise with respect to, this Agreement to the relevant Governmental Authority in accordance with applicable Law.

(3) *Indemnity for Taxes.* The Borrower shall indemnify the Administrative Agent, each Lender and the Issuing Bank, within 10 days after written demand therefor, for the full amount of any Indemnified Taxes paid by the Administrative Agent, such Lender or the Issuing Bank, as the case may be, on or with respect to any payment by or on account of any obligation of the Borrower hereunder or under any Loan Document (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under Section 2.15) and any penalties, interest and reasonable expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Borrower by a Lender or the Issuing Bank, or by the Administrative Agent on its own behalf or on behalf of a Lender or the Issuing Bank, shall be conclusive absent manifest error.

(4) *Evidence of Tax Payments.* As soon as practicable after any payment of Indemnified Taxes described in Section 2.15(1) or (2) by the Borrower to a Governmental Authority, the Borrower shall deliver to the Administrative Agent the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of the return reporting such payment or other evidence of such payment reasonably satisfactory to the Administrative Agent.

2.16 Payments Generally; Pro Rata Treatment; Sharing of Set-offs.

(1) *Payments.* The Borrower shall make each payment required to be made by it hereunder (whether of principal, interest, fees or reimbursement of LC Disbursements, amounts payable under any indemnity contained herein, or otherwise hereunder) prior to 12:00 noon, on the date when due, in immediately available funds, without set-off or counterclaim. Any amounts received after such time on any date may, in the discretion of the Administrative Agent, be deemed to have been received on the next succeeding Business Day for purposes of calculating interest thereon. All such payments shall be made to the Administrative Agent at the Payment Office, except that payments pursuant to Sections 2.10(2)(b), 2.13, 2.14, 2.15 and 9.3 shall be made directly to the Persons entitled thereto. The Administrative Agent shall distribute any such payments received by it for the account of any other Person to the appropriate recipient promptly following receipt thereof. If any payment hereunder shall be due on a day that is not a Business Day, the date for payment shall be extended to the next succeeding Business Day, and, in the case of any payment accruing interest, interest thereon shall be payable for the period of such extension, provided that, in the case of any payment with respect to a LIBO Rate Loan, the date for payment shall be advanced to the next preceding Business Day if the next succeeding Business Day is in a subsequent calendar month. All payments under Section 2.16 in respect of LIBO Rate Loans and Base Rate Loans and in respect of U.S. Dollar denominated LCs shall be made in U.S. Dollars. All other payments under Section 2.16 shall be made in Canadian Dollars. The Borrower hereby authorizes the Administrative Agent to debit the general operating bank account of the Borrower which is maintained with the Administrative Agent to effect any payment due to the Lenders or the Administrative Agent pursuant to this Agreement. Any resulting overdraft in such account shall be payable by the Borrower to the Administrative Agent in same day funds.

(2) *Allocation of Insufficient Funds.* If at any time insufficient funds are received by and available to the Administrative Agent to pay fully all amounts of principal, unreimbursed LC Disbursements, interest and fees then due hereunder, such funds shall be applied (a) first, towards payment of interest and fees then due hereunder, rateably among the parties entitled thereto in accordance with the amounts of interest and fees then due to such parties, and (b) second, towards payment of principal and unreimbursed LC Disbursements then due hereunder, rateably among the parties entitled thereto in accordance with the amounts of principal and unreimbursed LC Disbursements then due to such parties.

(3) *Allocation of Funds in Event of Default.* If an Event of Default shall have occurred and be continuing, and the maturity of the Loans shall have been accelerated pursuant to Section 7.1, all payments or proceeds received by the Administrative Agent hereunder or under any other Loan Document in respect of any of the Secured Liabilities (including, but not limited to, Secured Cash Management Obligations and Secured Hedging Arrangements that are owing to any Secured Cash Management Provider or Secured Hedge Counterparty, as applicable), including, but not limited to all proceeds received by the Administrative Agent in respect of any sale of, any collection from, or other realization upon, all or any part of the Collateral, shall be applied as follows:

(a) first, to the payment of all reasonable and documented costs and expenses of such sale, collection or other realization, including reasonable and documented compensation to the Administrative Agent and its agents and outside counsel, and all other reasonable and documented expenses, liabilities and advances made or incurred by the Administrative Agent in connection therewith, and all amounts for which the Administrative Agent is entitled to indemnification hereunder or under any other Loan Document (in its capacity as Administrative Agent and not as a Lender), and to the payment of all reasonable and documented costs and expenses paid or incurred by the Administrative Agent in connection with the exercise of any right or remedy hereunder or under any other Loan Document, all in accordance with the terms hereof or thereof;

(b) second, to the extent of any excess of such payments or proceeds, to the rateable payment of any accrued interest, fee or commission due but unpaid under this Agreement;

(c) third, to the extent of any excess of such payments or proceeds, to the rateable payment of the Loans, Cover for Letters of Credit, the Secured Hedge Obligations, and Secured Cash Management Obligations;

(d) fourth, to the extent of any excess of such payments or proceeds, to the payment of any other amount due but unpaid under the Loan Documents; and

(e) fifth, to the extent of any excess of such payments or proceeds, to the payment to or upon the order of the Borrower or to whosoever may be lawfully entitled to receive the same or as a court of competent jurisdiction may direct.

Notwithstanding the foregoing, in no event shall payments or proceeds received by the Administrative Agent from a Guarantor or in respect of its Collateral be applied against Excluded Swap Obligations of such Guarantor.

(4) *Sharing of Set-Offs.* If any Secured Party shall, by exercising any right of set-off or counterclaim or otherwise, obtain payment in respect of any of its Secured Liabilities resulting in such Secured Party receiving payment of a greater proportion of the aggregate amount of its Secured Liabilities than the proportion received by any other Secured Party on its Secured Liabilities, then the Secured Party receiving such greater proportion shall purchase (for cash at face value) participations in the Secured Liabilities owed to other Secured Parties (as applicable) to the extent necessary so that the benefit of all such payments shall be shared by the Secured Parties rateably in accordance with the aggregate amount of their respective Secured Liabilities; provided that (a) if any such participations are purchased and all or any portion of the payment giving rise thereto is recovered, such participations shall be rescinded and the purchase price restored to the extent of such recovery, without interest, and (b) this Section 2.16(4) shall not apply to (i) any payment made by the Borrower pursuant to and in accordance with the express terms of this Agreement or any payment obtained by a Lender as consideration for the assignment of or sale of a participation in any of its Loans or participations in LC Disbursements to any assignee or participant,

other than to the Borrower or any Subsidiary or Affiliate thereof (as to which the provisions of Section 2.16(4) shall apply), (ii) any payment made by the Borrower under or in connection with any Secured Cash Management Services when no Event of Default has occurred and is continuing, (iii) netting under or as between Secured Hedge Arrangements, or (iv) any payment under or in connection with any Secured Hedge Arrangement made when no Event of Default has occurred and is continuing unless, in the case of a termination payment only, an Event of Default shall occur within six months thereafter. The Borrower hereby consents to the foregoing and agrees, to the extent it may effectively do so under applicable Law, that any Lender acquiring a participation pursuant to the foregoing arrangements may exercise against the Borrower rights of set-off and counterclaim with respect to such participation as fully as if such Lender were a direct creditor of the Borrower in the amount of such participation.

(5) *Assumption of Payment; Reimbursement of Agent.* Unless the Administrative Agent shall have received written notice from the Borrower prior to the date on which any payment is due to the Administrative Agent for the account of the Lenders or the Issuing Bank hereunder that the Borrower will not make such payment, the Administrative Agent may assume that the Borrower has made such payment on such date in accordance herewith and may, in reliance upon such assumption, distribute to the Lenders or the Issuing Bank, as the case may be, the amount due. In such event, if the Borrower has not in fact made such payment, then each of the Lenders or the Issuing Bank, as the case may be, severally agrees to repay to the Administrative Agent forthwith on demand the amount so distributed to such Lender or Issuing Bank with interest thereon, for each day from and including the date such amount is distributed to it to but excluding the date of payment to the Administrative Agent, at the applicable rate for Canadian Prime Loans (if such amount is denominated in Canadian Dollars) or the applicable rate for Base Rate Loans (if such amount is denominated in U.S. Dollars).

(6) *Failure of Lender to Make Payment.* If any Lender shall fail to make any payment required to be made by it pursuant to Section 2.16(5), then the Administrative Agent may, in its discretion (notwithstanding any contrary provision hereof), apply any amounts thereafter received by the Administrative Agent for the account of such Lender to satisfy such Lender's obligations under such Section 2.16(5) until all such unsatisfied obligations are fully paid.

(7) *No Deemed Obligation for Source of Funds.* Nothing in this Agreement shall be deemed to obligate any Lender to obtain the funds for any Loan in any particular place or manner or to constitute a representation by any Lender that it has obtained or will obtain the funds for any Loan in any particular place or manner.

2.17 Currency Indemnity.

If, for the purposes of obtaining judgment in any court in any jurisdiction with respect to this Agreement or any other Loan Document, it becomes necessary to convert into a particular currency (the "**Judgment Currency**") any amount due under this Agreement or under any other Loan Document in any currency other than the Judgment Currency (the "**Currency Due**"), then conversion shall be made at the rate of exchange prevailing on the Business Day before the day on which judgment is given. For this purpose "rate of exchange" means the rate at which the Administrative Agent is able, on the relevant date, to purchase the Currency Due with the Judgment Currency in accordance with its normal practice at its head office in Toronto, Ontario. In the event that there is a change in the rate of exchange prevailing between the Business Day immediately preceding the day on which the judgment is given and the date of receipt by the Administrative Agent of the amount due, the Borrower shall, on the date of receipt by the Administrative Agent, pay such additional amounts, if any, or be entitled to receive reimbursement of such amount, if any, as may be necessary to ensure that the amount received by the Administrative Agent on such date is the amount in the Judgment Currency which when converted at the rate of exchange prevailing on the date of receipt by the Administrative Agent is the amount then due under this

Agreement or such other Loan Document in the Currency Due. If the amount of the Currency Due which the Administrative Agent is so able to purchase is less than the amount of the Currency Due originally due to it, the Borrower shall indemnify and save the Administrative Agent and the Lenders harmless from and against all loss or damage arising as a result of such deficiency. This indemnity shall constitute an obligation separate and independent from the other obligations contained in this Agreement and the other Loan Documents, shall give rise to a separate and independent cause of action, shall apply irrespective of any indulgence granted by the Administrative Agent from time to time and shall continue in full force and effect notwithstanding any judgment or order for a liquidated sum in respect of an amount due under this Agreement or any other Loan Document or under any judgment or order.

2.18 Mitigation Obligations; Replacement of Lenders.

(1) *Mitigation.* If any Lender requests compensation under Section 2.13, or if the Borrower is required to pay any additional amount to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.15, then such Lender shall use reasonable efforts to designate a different lending office for funding or booking its Loans hereunder or to assign its rights and obligations hereunder to another of its offices, branches or Lender Affiliates, if, in the judgment of such Lender, such designation or assignment (a) would eliminate or reduce amounts payable pursuant to Section 2.13 or 2.15, as the case may be, in the future, and (b) would not subject such Lender to any unreimbursed cost or expense and would not otherwise be disadvantageous to such Lender. The Borrower shall pay all reasonable costs and expenses incurred by any Lender in connection with any such designation or assignment.

(2) *Replacement of Lender.* If any Lender requests compensation under Section 2.13, or if the Borrower is required to pay any additional amount to any Lender or any Governmental Authority for the account of any Lender pursuant to Section 2.15, or if any Lender is a Defaulting Lender , or if any Lender is a Non-Consenting Lender, then the Borrower may, at its sole expense (including the processing and recording fee contemplated by Section 9.4(2)) and effort, upon notice to such Lender and the Administrative Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in Section 9.4), all its interests, rights and obligations under this Agreement to an assignee that shall assume such obligations (which assignee may be, another Lender, if a Lender accepts such assignment); provided that (a) if such assignee is not otherwise a Lender, the Borrower shall have received the prior written consent of the Administrative Agent (and, if a Commitment is being assigned, the Issuing Bank and Swingline Lender), which consent shall not unreasonably be withheld, (b) such Lender shall have received payment of an amount equal to the outstanding principal of its Loans and participations in LC Disbursements and Swingline Loans, accrued interest thereon, accrued fees and all other amounts payable to it hereunder from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Borrower (in the case of all other amounts), and (c) in the case of any such assignment resulting from a claim for compensation under Section 2.13 or payments required to be made pursuant to Section 2.15, such assignment will result in a reduction in such compensation or payments. A Lender shall not be required to make any such assignment and delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

2.19 Letters of Credit.

(1) *General*. Subject to the terms and conditions set out herein, the Borrower may request the issuance of Letters of Credit denominated in Canadian Dollars or U.S. Dollars as an availment of the Commitment, in a form reasonably acceptable to the Administrative Agent and the Issuing Bank, at any time and from time to time up to the Maturity Date. In the event of any inconsistency between the terms and conditions of this Agreement and the terms and conditions of any form of letter of credit application

or other agreement submitted by the Borrower to, or entered into by the Borrower with, the Issuing Bank relating to any Letter of Credit, the terms and conditions of this Agreement shall govern.

(2) *Notice of Issuance, Amendment, Renewal, Extension, Certain Conditions*. To request the issuance of a Letter of Credit (or the amendment, renewal or extension of an outstanding Letter of Credit), the Borrower shall hand deliver or telecopy (or transmit by electronic communication, if arrangements for doing so have been approved by the Issuing Bank) to the Issuing Bank and the Administrative Agent (at least five Business Days in advance of the requested date of issuance, amendment, renewal or extension) a notice requesting the issuance of a Letter of Credit, or identifying the Letter of Credit to be amended, renewed or extended, and specifying the date of issuance, amendment, renewal or extension, the date on which such Letter of Credit is to expire (which shall comply with Section 2.19(3)), the amount and currency (Canadian Dollars and U.S. Dollars only) of such Letter of Credit, the name and address of the beneficiary thereof and such other information as shall be necessary to prepare, amend, renew or extend such Letter of Credit. If requested by the Issuing Bank, the Borrower also shall submit a letter of credit application on the Issuing Bank's standard form in connection with any request for a Letter of Credit. A Letter of Credit shall be issued, amended, renewed or extended only if (and upon issuance, amendment, renewal or extension of each Letter of Credit, the Borrower shall be deemed to represent and warrant that), after giving effect to such issuance, amendment, renewal or extension, the aggregate Credit Exposure shall not exceed the aggregate Commitments.

(3) *Expiration Date*. Each Letter of Credit shall expire at or prior to the close of business on the earlier of (a) the date that is one year after the date of the issuance of such Letter of Credit (or, in the case of any renewal or extension thereof, one year after such renewal or extension) and (b) the date that is five Business Days prior to the Maturity Date; provided that a Letter of Credit for which Cover has been provided may expire at any time.

(4) *Participations*. By the issuance of a Letter of Credit (or an amendment to a Letter of Credit increasing the amount thereof) and without any further action on the part of the Issuing Bank or the Lenders, the Issuing Bank hereby grants to each Lender, and each Lender hereby acquires from the Issuing Bank, a participation in such Letter of Credit equal to such Lender's Applicable Percentage of the aggregate amount available to be drawn under such Letter of Credit. In consideration and in furtherance of the foregoing, each Lender hereby absolutely and unconditionally agrees to pay to the Administrative Agent, for the account of the Issuing Bank, such Lender's Applicable Percentage of each LC Disbursement made by the Issuing Bank and not reimbursed by the Borrower on the date due as provided in Section 2.19(5), or of any reimbursement payment required to be refunded to the Borrower for any reason. Each Lender acknowledges and agrees that its obligation to acquire participations pursuant to this Section 2.19(4) in respect of Letters of Credit is absolute and unconditional and shall not be affected by any circumstance whatsoever, including any amendment, renewal or extension of any Letter of Credit or the occurrence and continuance of a Default or reduction or termination of the Commitments, and that each such payment shall be made without any offset, abatement, withholding or reduction whatsoever.

(5) *Reimbursement*. If the Issuing Bank shall make any LC Disbursement in respect of a Letter of Credit, the Borrower shall reimburse such LC Disbursement by paying to the Administrative Agent an amount equal to such LC Disbursement not later than 12:00 noon on the date that such LC Disbursement is made, if the Borrower shall have received notice of such LC Disbursement prior to 10:00 a.m. on such date, or, if such notice has not been received by the Borrower prior to 10:00 a.m. on such date, then not later than 12:00 noon on (a) the Business Day that the Borrower receives such notice, if such notice is received prior to 10:00 a.m. on the day of receipt, or (b) the Business Day immediately following the day that the Borrower receives such notice, if such notice is not received prior to 10:00 a.m. on the day of receipt; provided that the Borrower may, subject to the conditions to borrowing set out herein, request in accordance with Section 2.3 that such payment be financed with a Canadian Prime

Borrowing, a Base Rate Borrowing or a Swingline Borrowing in an equivalent amount and, to the extent so financed, the Borrower's obligation to make such payment shall be discharged and replaced by the resulting Canadian Prime Borrowing, Base Rate Borrowing or Swingline Borrowing. If the Borrower fails to make such payment when due, the Administrative Agent shall notify each Lender of the applicable LC Disbursement, the payment then due from the Borrower in respect thereof and such Lender's Applicable Percentage thereof. Promptly following receipt of such notice, each Lender shall pay to the Administrative Agent its Applicable Percentage of the payment then due from the Borrower, and the Administrative Agent shall promptly pay to the Issuing Bank the amounts so received by it from the Lenders. Promptly following receipt by the Administrative Agent of any payment from the Borrower pursuant to this Section 2.19(5), the Administrative Agent shall distribute such payment to the Issuing Bank or, to the extent that Lenders have made payments pursuant to this Section 2.19(5) to reimburse the Issuing Bank, then to such Lenders and the Issuing Bank as their interests may appear. Any payment made by a Lender pursuant to this Section 2.19(5) to reimburse the Issuing Bank for any LC Disbursement (other than the funding of Canadian Prime Borrowings, Base Rate Borrowings, or Swingline Borrowings as contemplated above) shall not constitute a Loan and shall not relieve the Borrower of its obligation to reimburse such LC Disbursement.

(6) *Obligations Absolute*. The Borrower's obligation to reimburse LC Disbursements as provided in Section 2.19(5) shall be absolute, unconditional and irrevocable, and shall be performed strictly in accordance with the terms of this Agreement under any and all circumstances whatsoever and irrespective of (a) any lack of validity or enforceability of any Letter of Credit or this Agreement, or any term or provision therein or herein, (b) any draft or other document presented under a Letter of Credit proving to be forged, fraudulent or invalid in any respect or any statement therein being untrue or inaccurate in any respect, (c) payment by the Issuing Bank under a Letter of Credit against presentation of a draft or other document that does not comply with the terms of such Letter of Credit, or (d) any other event or circumstance whatsoever, whether or not similar to any of the foregoing, that might, but for the provisions of Section 2.19, constitute a legal or equitable discharge of, or provide a right of set-off against, the Borrower's obligations hereunder. Neither the Administrative Agent, the Lenders nor the Issuing Bank, nor any of their Related Parties, shall have any liability or responsibility by reason of or in connection with the issuance or transfer of any Letter of Credit or any payment or failure to make any payment thereunder (irrespective of any of the circumstances referred to in the preceding sentence), or any error, omission, interruption, loss or delay in transmission or delivery of any draft, notice or other communication under or relating to any Letter of Credit (including any document required to make a drawing thereunder), any error in interpretation of technical terms or any consequence arising from causes beyond the control of the Issuing Bank; provided that the foregoing shall not be construed to excuse the Issuing Bank from liability to the Borrower to the extent of any direct damages (as opposed to indirect, special, punitive or consequential damages, claims in respect of which are hereby waived by the Borrower to the extent permitted by applicable Law) suffered by the Borrower that are caused by the Issuing Bank's failure to exercise care when determining whether drafts and other documents presented under a Letter of Credit comply with the terms thereof. The parties hereto expressly agree that, in the absence of gross negligence or wilful misconduct on the part of the Issuing Bank (as finally determined by a court of competent jurisdiction), the Issuing Bank shall be deemed to have exercised care in each such determination. In furtherance of the foregoing and without limiting the generality thereof, the Borrower and the Lenders agree that, with respect to documents presented which appear on their face to be in substantial compliance with the terms of a Letter of Credit, the Issuing Bank may, in its sole discretion, either accept and make payment upon such documents without responsibility for further investigation, regardless of any notice or information to the contrary, or refuse to accept and make payment upon such documents if such documents are not in strict compliance with the terms of such Letter of Credit.

(7) *Disbursement Procedures*. The Issuing Bank shall, promptly following its receipt thereof, examine all documents purporting to represent a demand for payment under a Letter of Credit.

The Issuing Bank shall promptly notify the Administrative Agent and the Borrower by telephone (confirmed in writing) of such demand for payment and whether the Issuing Bank has made or will make an LC Disbursement thereunder; provided that any failure to give or delay in giving such notice shall not relieve the Borrower of its obligation to reimburse the Issuing Bank and the Lenders with respect to any such LC Disbursement.

(8) *Interim Interest*. If the Issuing Bank shall make any LC Disbursement, then, unless the Borrower shall reimburse such LC Disbursement in full on the date such LC Disbursement is made, the unpaid amount thereof shall bear interest, for each day from and including the date such LC Disbursement is made to but excluding the date that the Borrower reimburses such LC Disbursement, at the rate then applicable to Canadian Prime Loans (if in Canadian Dollars) or Base Rate Loans (if in U.S. Dollars). Interest accrued pursuant to this Section 2.19(8) shall be for the account of the Issuing Bank, except that interest accrued on and after the date of payment by any Lender pursuant to Section 2.19(5) to reimburse the Issuing Bank shall be for the account of such Lender to the extent of such payment.

(9) *Replacement of the Issuing Bank*. The Issuing Bank may be replaced at any time by written agreement among the Borrower, the Administrative Agent, the replaced Issuing Bank and the successor Issuing Bank. The Administrative Agent shall notify the Lenders of any such replacement of the Issuing Bank. At the time any such replacement shall become effective, the Borrower shall pay all unpaid fees accrued for the account of the replaced Issuing Bank. From and after the effective date of any such replacement, (a) the successor Issuing Bank shall have all the rights and obligations of the Issuing Bank under this Agreement with respect to Letters of Credit to be issued thereafter, and (b) references herein to the term "**Issuing Bank**" shall be deemed to refer to such successor or to any previous Issuing Bank, or to such successor and all previous Issuing Banks, as the context shall require. After the replacement of an Issuing Bank hereunder, the replaced Issuing Bank shall remain a party hereto and shall continue to have all the rights and obligations of an Issuing Bank under this Agreement with respect to Letters of Credit issued by it prior to such replacement, but shall not be required to issue additional Letters of Credit.

(10) *Cash Collateralization*. If any Event of Default shall occur and be continuing, on the Business Day that the Borrower receives notice from the Administrative Agent (at the instruction of the Required Lenders) demanding the deposit of Cover, the Borrower shall deposit in an account with the Administrative Agent, in the name of the Administrative Agent and for the benefit of the Lenders, an amount in cash equal to the LC Exposure as of such date plus any accrued and unpaid interest thereon; provided that the obligation to deposit such cash collateral shall become effective immediately, and such deposit shall become immediately due and payable, without demand or other notice of any kind, upon the occurrence of any Event of Default with respect to the Borrower described in Section 7.1(g), 7.1(h), or 7.1(i). Such deposit shall be held by the Administrative Agent as collateral for the payment and performance of the obligations of the Borrower under this Agreement. The Administrative Agent shall have exclusive dominion and control, including the exclusive right of withdrawal, over such account. Other than any interest earned on the investment of such deposits, which investments shall be made at the option and sole discretion of the Administrative Agent and at the Borrower's risk and expense, such deposits shall not bear interest. Interest or profits, if any, on such investments shall accumulate in such account. Moneys in such account shall be applied by the Administrative Agent to reimburse the Issuing Bank for LC Disbursements for which it has not been reimbursed and, to the extent not so applied, shall be held for the satisfaction of the reimbursement obligations of the Borrower for the LC Exposure at such time or, if the maturity of the Loans has been accelerated be applied to satisfy other obligations of the Borrower under this Agreement. If the Borrower is required to provide an amount of cash collateral hereunder as a result of the occurrence of an Event of Default, such amount (to the extent not applied as aforesaid) shall be returned to the Borrower within three Business Days after all Events of Default have been cured or waived or the total LC Exposure is reduced to nil.

2.20 Swingline Loans.

(1) *General.* Subject to the terms and conditions set out herein, the Swingline Lender shall make Loans (each such Loan made under this Section 2.20, a "**Swingline Loan**") to the Borrower from time to time up to the Maturity Date, in an aggregate principal amount at any time outstanding that will not result in (a) the Swingline Exposure exceeding the Swingline Cap, or (b) the aggregate of the Credit Exposures exceeding the aggregate Commitments; provided that the Swingline Lender shall not be required to make a Swingline Loan to refinance an outstanding Swingline Loan. Within the foregoing limits and subject to the terms and conditions set out herein, the Borrower may borrow, prepay and reborrow Swingline Loans.

(2) *Interest/Overdrafts.* Subject to the terms and conditions set out herein, the Borrower shall be entitled to obtain Swingline Loans by way of overdraft on the Swingline Account, and at any given time the US $ Amount of the outstanding principal amount of all Swingline Loans shall be equal to the amount by which the Swingline Account is overdrawn. Swingline Loans shall bear interest at a rate per annum equal to the rate applicable to a Canadian Prime Borrowing (if in Canadian Dollars) or at a rate per annum equal to the rate applicable to a Base Rate Loan (if in U.S. Dollars). Interest shall be payable on such dates, not more frequent than monthly, as may be specified by the Swingline Lender and in any event on the Maturity Date. The Swingline Lender shall be responsible for invoicing the Borrower for such interest. The interest payable on Swingline Loans is solely for the account of the Swingline Lender (subject to Section 2.20(3) below).

(3) *Participations in Swingline Loans.* The Swingline Lender may, by written notice given to the Administrative Agent not later than 10:00 a.m. on any Business Day, require the Lenders to acquire participations on such Business Day in all of the Swingline Loans outstanding. Such notice shall specify the aggregate amount of Swingline Loans in which Lenders will participate. Promptly upon receipt of such notice, the Administrative Agent shall give notice thereof to each Lender, specifying in such notice such Lender's Applicable Percentage of such Swingline Loan or Loans. Each Lender shall upon receipt of notice as provided above, pay to the Administrative Agent, for the account of the Swingline Lender, such Lender's Applicable Percentage of such Swingline Loan or Loans; provided that a Lender shall not be required to purchase a participation in a Swingline Loan if such purchase would result in such Lender's Credit Exposure exceeding such Lender's Commitment . Each Lender acknowledges and agrees that its obligation to acquire participations in Swingline Loans pursuant to Section 2.20 is absolute and unconditional and shall not be affected by any circumstance whatsoever, including the occurrence and continuance of a Default or reduction or termination of the Commitments, and that each such payment shall be made without any offset, abatement, withholding or reduction whatsoever. Each Lender shall comply with its obligation under Section 2.20 by wire transfer of immediately available funds with respect to Loans made by such Lender, and the Administrative Agent shall promptly pay to the Swingline Lender the amounts so received by it from the Lenders. The Administrative Agent shall notify the Borrower of any participations in any Swingline Loan acquired pursuant to Section 2.20, and thereafter payments in respect of such Swingline Loan shall be made to the Administrative Agent and not to the Swingline Lender. Any amounts received by the Swingline Lender from the Borrower (or other party on behalf of the Borrower) in respect of a Swingline Loan after receipt by the Swingline Lender of the proceeds of a sale of participations therein shall be promptly remitted to the Administrative Agent. Any such amounts received by the Administrative Agent shall be promptly remitted by the Administrative Agent to the Lenders that shall have made their payments pursuant to Section 2.20 and to the Swingline Lender, as their interests may appear. The purchase of participations in a Swingline Loan pursuant to Section 2.20 shall not relieve the Borrower of any default in the payment thereof. Notwithstanding the foregoing, a Lender shall not have any obligation to acquire a participation in a Swingline Loan pursuant to this Section 2.20 if an Event of Default shall have occurred and be continuing at the time such Swingline Loan was made and such Lender shall have notified the Swingline Lender in writing, at least

one Business Day prior to the time such Swingline Loan was made, that such Event of Default has occurred and that such Lender will not acquire participations in Swingline Loans made while such Event of Default is continuing.

2.21 Defaulting Lenders.

Notwithstanding any provision of this Agreement to the contrary, if any Lender is a Defaulting Lender, then the following provisions shall apply to such Lender for so long as it remains a Defaulting Lender:

(a) fees shall cease to accrue pursuant to Section 2.10(1) on the unfunded portion of the Commitment of such Defaulting Lender;

(b) the Commitment of such Defaulting Lender shall not be included in determining whether all Lenders or the Required Lenders have taken or may take any action hereunder (including any consent to any amendment or waiver pursuant to Section 9.2); provided that any waiver or amendment which affects such Defaulting Lender differently than other Lenders generally shall require the consent of such Defaulting Lender;

(c) any amount owing by a Defaulting Lender to the Administrative Agent or another Lender that is not paid when due shall bear interest at the interest rate applicable to Canadian Prime Loans or Base Rate Loans under the Revolving Credit, as applicable;

(d) any amount payable to such Defaulting Lender hereunder (whether on account of principal, interest, fees or otherwise and including any amount that would otherwise be payable to such Defaulting Lender other than in respect of the assignment of such Defaulting Lender's Loans and Commitments) shall, in lieu of being distributed to such Defaulting Lender, be retained by the Administrative Agent in a segregated account and, subject to any applicable requirements of law, be applied at such time or times as may be determined by the Administrative Agent (i) first, to the payment of any amounts owing by such Defaulting Lender to the Administrative Agent hereunder, (ii) second, pro rata, to the payment of any amounts owing by such Defaulting Lender to the Issuing Bank or Swingline Lender hereunder, (iii) third, to the funding of any Loan in respect of which such Defaulting Lender has failed to fund its portion thereof as required by this Agreement, (iv) fourth, held in such account as cash collateral for future funding obligations of the Defaulting Lender under this Agreement (the amount of such cash collateral not to exceed the Commitment of such Defaulting Lender minus the outstanding principal amount of such Defaulting Lender's Loans), (v) fifth, to the payment of any other amounts owing to the Lenders or the Issuing Bank or the Swingline Lender hereunder, (vi) sixth, to the payment of any amounts owing to the Borrower as a result of any judgment of a court of competent jurisdiction obtained by the Borrower against such Defaulting Lender as a result of such Defaulting Lender's breach of its obligations under this Agreement, and (vii) seventh, to such Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided that if such payment is a prepayment of the principal amount of any Loans or reimbursement obligations in respect of Letters of Credit with respect to which a Defaulting Lender has funded its participation obligations, such payment shall be applied solely to prepay the Loans of, and reimbursement obligations owed to, all Lenders other than Defaulting Lenders pro rata prior to being applied to the prepayment of any Loans, or reimbursement obligations owed to, any Defaulting Lender;

(e) if a Defaulting Lender is an Insolvent Defaulting Lender, any amount payable to such Defaulting Lender hereunder may, in lieu of being distributed pursuant to Section 2.21(d), be retained by the Administrative Agent to collateralize indemnification and reimbursement obligations of such Defaulting Lender hereunder in an amount determined by the Administrative Agent, acting reasonably;

(f) If any Swingline Loans or Letters of Credit are outstanding at the time a Lender becomes a Defaulting Lender, then:

(i) all or any part of the pro rata share of such Defaulting Lender in respect of the outstanding Swingline Loans and Letters of Credit shall be reallocated among the Revolving Lenders which are not Defaulting Lenders (in this Section 2.21, "**Non-Defaulting Lenders**") in accordance with their respective Commitments, provided that any such reallocation shall not cause any Non-Defaulting Lender to exceed its Commitment;

(ii) if the reallocation described in clause (i) above cannot, or can only partially, be effected, the Borrower shall within five (5) Business Days following notice by the Agent (x) first, prepay such outstanding Swingline Loans, and (y) second, cash collateralize for the benefit of the Issuing Bank the Borrower's obligations corresponding to such Defaulting Lender's pro rata share of the outstanding Letters of Credit (after giving effect to any partial reallocation pursuant to clause above) in accordance with the procedures set forth in Section 2.21(h), for so long as such Letters of Credit are outstanding;

(iii) upon any reallocation pursuant to clause (i) above, the fees payable to the Lenders pursuant to Section 2.10(2) shall be adjusted in accordance with such Non-Defaulting Lenders' Commitment; and

(iv) if all or any portion of such Defaulting Lender's pro rata share of the outstanding Letters of Credit is cash collateralized pursuant to clause (ii) above, then, without prejudice to any rights or remedies of the Issuing Bank or any other Lender hereunder, all fees payable under Section 2.10(2) with respect to such Defaulting Lender's pro rata share of the outstanding Letters of Credit shall be payable to the Issuing Bank.

(g) So long as any Lender is a Defaulting Lender, the Swingline Lender shall not be required to fund any Swingline Loan and the Issuing Bank shall not be required to issue, amend or increase any Letter of Credit, unless it is satisfied that the related exposure and the Defaulting Lender's then outstanding pro rata share of the outstanding Letters of Credit will be 100% covered by the Commitments of the Non-Defaulting Lenders and/or cash collateral will be provided by the Borrower in accordance with Section 2.21(h), and participating interests in any such newly made Swingline Loan or any newly issued or increased Letter of Credit shall be allocated among Non-Defaulting Lenders in a manner consistent with Section 2.21(f) (and such Defaulting Lender shall not participate therein);

(h) If required by Section 2.21(f)(ii), the Borrower shall deposit in an account with the Agent, in the name of the Agent and for the benefit of the Lenders (the "**LC Collateral Account**"), an amount in cash equal to 100% of the U.S. $ Amount of the outstanding Letters of Credit as of such date (as may be reduced from time to time) plus accrued and unpaid interest thereon. Such deposit shall be held by the Administrative Agent as

collateral for the payment and performance of the Secured Liabilities of the Borrower. The Administrative Agent shall have exclusive dominion and control, including the exclusive right of withdrawal, over such account. Other than any interest earned on the investment of such deposits, which investments shall be made at the option and sole discretion of the Administrative Agent and at the Borrower's risk and expense, such deposits shall not bear interest. Interest or profits, if any, on such investments shall accumulate in such account. Moneys in such account shall be applied by the Administrative Agent to reimburse the Issuing Bank for outstanding Letters of Credit for which it has not been reimbursed and, to the extent not so applied, shall be held for the satisfaction of the reimbursement obligations of the Borrower for the outstanding Letters of Credit at such time, until the expiry date of such Letters of Credit (in which case, to the extent such Letters of Credit are undrawn when they expire, the funds shall be returned to the Borrower); and

(i) If the Administrative Agent, the Borrower, the Swingline Lender and the Issuing Bank each agrees that a Defaulting Lender has adequately remedied all matters that caused such Lender to be a Defaulting Lender, then the Swingline Exposure and Letter of Credit Exposure of the Lenders shall be readjusted to reflect the inclusion of such Lender's Commitment and on such date such Lender shall purchase at par such of the Loans of the other Lenders (other than the Swingline Loans) as the Administrative Agent shall determine may be necessary in order for such Lender to hold such Loans in accordance with its Commitment.

Except as otherwise expressly provided in this Section 2.21, no Commitment of any other Lender shall be increased or otherwise affected, and performance by a Borrower of its obligations hereunder and the other Loan Documents shall not be excused or otherwise modified as a result of any Lender becoming a Defaulting Lender. The rights and remedies against a Defaulting Lender under this Section 2.21 are in addition to other rights and remedies which a Borrower may have against such Defaulting Lender as a result of it becoming a Defaulting Lender and which the Administrative Agent or any other Lender may have against such Defaulting Lender with respect thereto.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Borrower.

In order to induce the Administrative Agent and the Lenders to enter into this Agreement, to make any Loans hereunder and to issue any Letters of Credit hereunder, the Borrower represents and warrants to the Administrative Agent and each Lender that each statement set forth in this Article 3 is true and correct on the date hereof. For the avoidance of doubt, such representations are repeated as at the date of each Borrowing and Compliance Certificate, subject to update as provided in Section 5.1(1)(f).

(1) *Organization; Powers*. Each Credit Party is duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization, has all requisite power and authority to carry on its business as now and formerly conducted and, except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect, is qualified to do business in, and is in good standing in, every jurisdiction where such qualification is required.

(2) *Authorization; Enforceability*. The Transactions are within the Credit Parties' corporate or partnership powers and have been duly authorized by all necessary corporate, partner and shareholder action, as applicable. This Agreement and the other Loan Documents have been duly executed and

delivered by each Credit Party (as applicable) and constitute legal, valid and binding obligations of each Credit Party (as applicable), enforceable in accordance with their terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other Laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

(3) *Governmental Approvals; No Conflicts*. The Transactions (a) do not require any consent or approval of, registration or filing with, or any other action by, any Governmental Authority, except as disclosed in Schedule 3.1(3), (b) will not violate any applicable Law or the charter, by-laws or other organizational documents of any Credit Party or any order of any Governmental Authority, (c) will not violate or result in a default under any material indenture, agreement or other instrument binding upon any Credit Party or their respective assets, or give rise to a right thereunder to require any payment to be made by any Credit Party, and (d) will not result in the creation or imposition of any Lien on any asset of any Credit Party, except for any Lien arising in favour of the Administrative Agent, for the benefit of the Lenders, under the Loan Documents.

(4) *Financial Condition; No Material Adverse Effect.*

(a) The Borrower has furnished to the Lenders the consolidated balance sheets and statements of income, retained earnings and changes in financial position of the Borrower (i) as of and for the Fiscal Years ended 2012, 2013 and 2014, reported on by its auditors, and (ii) as of and for the Fiscal Quarter and the portion of the Fiscal Year ended March 31, 2015, certified by a Responsible Officer of the Borrower. Such financial statements present fairly, in all material respects, the consolidated financial position and results of operations and cash flows of the Borrower as of such dates and for such periods in accordance with GAAP, subject to year-end audit adjustments and the absence of footnotes in the case of the statements referred to in Section 3.1(4)(a)(ii).

(b) Since December 31, 2014, there has been no event, development or circumstance that has had or could reasonably be expected to have a Material Adverse Effect.

(c) All information (including that disclosed in all financial statements) pertaining to the Credit Parties (other than projections) that has been or will be made available to the Lenders, the Administrative Agent or the Arranger by the Borrower or any representative of the Credit Parties, taken as a whole, is or will be, when furnished, complete and correct in all material respects and does not or will not, when furnished, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements contained therein not materially misleading in light of the circumstances under which such statements are made. The projections that have been or will be made available to the Lenders, the Administrative Agent or the Arranger by the Borrower or any representative of the Borrower have been or will be prepared in good faith based upon reasonable assumptions.

(5) *Litigation.*

(a) Except as disclosed in Schedule 3.1(5), and except for environmental-related matters (which are dealt with in Section 3.1(16)), there are no actions, suits or proceedings (including any Tax-related matter) by or before any arbitrator or Governmental Authority pending against or, to the knowledge of the Borrower, threatened against or affecting any of the Credit Parties (i) as to which there is a reasonable possibility of an adverse determination and that, if adversely determined, could reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect (other than as

described in Schedule 3.1(16)), or (ii) that involve this Agreement, any other Loan Document or the Transactions.

(b) Since the date of this Agreement, there has been no change in the status of the matters described in Schedule 3.1(16) that, individually or in the aggregate, has resulted in, or materially increased the likelihood of, a Material Adverse Effect.

(6) *Compliance with Laws*. Each Credit Party is in compliance with all Laws applicable to it or its property except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect. No Credit Party has violated or failed to obtain any Authorization necessary to the ownership of any of its property or assets or the conduct of its business, which violation or failure could reasonably be expected to have (in the event that such a violation or failure were asserted by any Person through appropriate action) a Material Adverse Effect.

(7) *Compliance with Agreements*. No Credit Party is in default, nor has any event or circumstance occurred which, but for the passage of time or the giving of notice, or both, would constitute a default in any respect that would have a Material Adverse Effect, under (a) any loan or credit agreement, indenture, mortgage, deed of trust, security agreement or other instrument or agreement evidencing or pertaining to any Indebtedness of any Credit Party, or (b) under any other agreement or instrument to which a Credit Party is a party or by which any Credit Party is bound.

(8) *Taxes*. Each Credit Party has filed or caused to be filed when due all material Tax returns and reports required to have been filed and has paid or caused to be paid when due all material Taxes required to have been paid by it (including all instalments with respect to the current period) and has made adequate provision for Taxes for the current period, except Taxes that are being contested in good faith by appropriate proceedings or other appropriate action and for which such Credit Party, as applicable, has set aside on its books adequate reserves.

(9) *Titles to Real Property*. Other than with respect to the Marigold Project Real Property, the Credit Parties have good and marketable fee simple title to their respective owned real properties, and with respect to leased real properties, valid and enforceable record title to the leasehold estate with respect thereto, pursuant to valid and enforceable leases, free and clear of all Liens except Permitted Liens. All material real property in which the Credit Parties have any right, title or interest, other than the Marigold Project Real Property, is described in Schedule 3.1(9).

(10) *Titles to Personal Property*. The Credit Parties have title to their respective owned personal properties, and with respect to leased personal properties, title to the leasehold estate with respect thereto, pursuant to valid and enforceable leases, free and clear of all Liens except Permitted Liens. All registrations listed in Schedule 3.1(10) pertain to Permitted Liens.

(11) *Pension Plans and Benefit Plans*. All Pension Plans are duly registered under the Income Tax Act, applicable pension standards legislation and any other applicable Laws which require registration and no event has occurred which could reasonably be expected to cause the loss of such registered status. Schedule 3.1(11) describes each Benefit Plan and lists the name and registration number of each Pension Plan, none of which are Defined Benefit Plans. The Pension Plans and the Benefit Plans have each been administered, funded and invested in accordance with the terms of the particular plan, all applicable Laws including, where applicable, the Income Tax Act and pension standards legislation, and the terms of all applicable collective bargaining agreements and employment contracts. All material obligations of each of the Credit Parties (including fiduciary, funding, investment and administration obligations) required to be performed in connection with the Pension Plans, the Benefit Plans and the funding agreements therefor have been performed on a timely basis. There are no

outstanding disputes concerning the assets of the Pension Plans or the Benefit Plans. No promises of material benefit improvements under the Pension Plans or the Benefit Plans have been made. All employee and employer payments, contributions (including "normal cost", "special payments" and any other payments in respect of any funding deficiencies or shortfalls) or premiums required to be withheld, made, remitted or paid to or in respect of each Pension Plan or Benefit Plan and all other amounts that are due to the pension fund of any Pension Plan from a Credit Party or an Affiliate have been withheld, made, remitted or paid on a timely basis in accordance with the terms of such plans, any applicable collective bargaining agreement or employment contract and all applicable Laws. Any assessments owed to the Pension Benefits Guarantee Fund established under the *Pension Benefits Act* (Ontario), or other assessments or payments required under similar legislation in any other jurisdiction, in respect of any Pension Plan have been paid when due. There has been no improper withdrawal or application of the assets of the Pension Plans or the Benefit Plans. No event has occurred which could reasonably be expected to give rise to a partial or full termination of any Pension Plan. No event has occurred or is reasonably expected to occur that could trigger or otherwise require immediate or accelerated funding in respect of any Benefit Plan. Each Pension Plan is fully funded on a solvency basis, going concern basis and wind-up basis (using actuarial methods and assumptions which are consistent with the actuarial valuations last filed for the particular plan with the applicable Governmental Authorities and which are consistent with GAAP) to the extent required by applicable Laws. Except as disclosed in Schedule 3.1(11), none of the Pension Plans, the Benefits Plans or the Credit Parties or any of their respective Affiliates is subject to the *United States Employee Retirement Income Security Act of 1974*, as amended. Notwithstanding the foregoing, to the extent one or more Pension Plans and Benefit Plans to which a Credit Party makes contributions but does not sponsor or administer, the aforementioned representations are to the best of the Borrower's knowledge.

(12) *Casualties; Taking of Properties*. Since December 31, 2014, neither the business nor the properties of any Credit Party have been affected in a manner that has had, or could reasonably be expected to have, a Material Adverse Effect as a result of any fire, explosion, earthquake, flood, drought, windstorm, accident, strike or other labour disturbance, embargo, requisition or taking of property or cancellation of contracts, permits or concessions by any domestic or foreign Governmental Authority, riot, activities of armed forces, or acts of God or of any public enemy.

(13) *Subsidiaries*. As of the Closing Date, Schedule 3.1(13) correctly sets forth:

(a) the legal name of each Credit Party and its form of legal entity and jurisdiction of organization;

(b) the Equity Securities issued and outstanding by each Credit Party (other than the Borrower), and the registered and beneficial owners thereof;

(c) the Equity Securities owned by each Credit Party; and

(d) a corporate organizational chart of the Borrower and its subsidiaries.

Except as described in Schedule 3.1(13), as of the Closing Date, no Credit Party owns any Equity Securities or debt securities which are convertible into, or exchangeable for, Equity Securities of any other Person. Unless otherwise indicated in Schedule 3.1(13), as of the Closing Date, there are no outstanding options, warrants or other rights to purchase Equity Securities of any Credit Party (other than the Borrower), and all such Equity Securities so owned are duly authorized, validly issued, fully paid and non-assessable, and were issued in compliance with all applicable federal, provincial or foreign securities and other Laws, and are free and clear of all Liens, except for Permitted Liens.

(14) *Insurance*. The Credit Parties maintain insurance policies and coverage in compliance with Section 5.1(9). Such insurance coverage (a) is sufficient for compliance with all requirements of applicable Law and of all agreements to which any Credit Party is a party, (b) is provided under valid, outstanding and enforceable policies, (c) provides adequate insurance coverage in at least such amounts and against at least such risks (but including in any event public liability) as are usually insured against in the same general area by Persons engaged in the same or a similar business to the assets and operations of the Credit Parties, and (d) will not in any way be affected by, or terminate or lapse by reason of, the Transactions. All such material policies are in full force and effect, all premiums with respect thereto have been paid in accordance with their respective terms, and no notice of cancellation or termination has been received with respect to any such policy. No Credit Party maintains any formalized self-insurance program with respect to its assets or operations or material risks with respect thereto in excess of U.S. $5,000,000 in the aggregate. The certificate of insurance delivered to the Administrative Agent pursuant to Section 4.1(7) contains an accurate and complete description of all material policies of insurance owned or held by each Credit Party on the Closing Date.

(15) *Solvency*. Each Credit Party is, and after giving effect to the Loans and the incurrence of all obligations hereunder will be, Solvent. For the avoidance of doubt, no Credit Party is an "insolvent person" within the meaning of the BIA.

(16) *Environmental Matters*. Except as disclosed to the Lenders in Schedule 3.1(16):

(a) *Environmental Laws, Etc*. Neither any property of the Credit Parties nor the operations conducted thereon violate any applicable order of any court or Governmental Authority or any applicable Environmental Laws, which violation could reasonably be expected to result in remedial obligations having a Material Adverse Effect, assuming disclosure to the applicable Governmental Authority of all relevant facts, conditions and circumstances, if any, pertaining to the relevant property.

(b) *Notices, Permits, Etc*. All notices, permits, licenses or similar authorizations, if any, required to be obtained or filed by the Credit Parties in connection with the operation, use or reclamation of any and all property of the Credit Parties, including but not limited to past or present treatment, transportation, storage, disposal or Release of Hazardous Materials into the environment, have been duly obtained or filed, except to the extent the failure to obtain or file such notices, permits, licenses or similar authorizations could not reasonably be expected to have a Material Adverse Effect, or which could not reasonably be expected to result in remedial obligations having a Material Adverse Effect, assuming disclosure to the applicable Governmental Authority of all relevant facts, conditions and circumstances, if any, pertaining to the relevant property.

(c) *Hazardous Substances Carriers*. All Hazardous Materials generated at any and all property of the Credit Parties have been treated, transported, stored and disposed of only in accordance with all Environmental Laws applicable to them, except to the extent the failure to have such Hazardous Materials transported, treated or disposed of by such carriers could not reasonably be expected to have a Material Adverse Effect, and only at treatment, storage and disposal facilities maintaining valid permits under applicable Environmental Laws, which carriers and facilities have been and are operating in compliance with such permits, except to the extent the failure to have such Hazardous Materials treated, transported, stored or disposed of at such facilities, or the failure of such carriers or facilities to so operate, could not reasonably be expected to have a Material Adverse Effect or which could not reasonably be expected to result in remedial obligations having a Material Adverse Effect, assuming disclosure to the applicable

Governmental Authority of all relevant facts, conditions and circumstances, if any, pertaining to the relevant property.

(d) *Hazardous Materials Disposal*. The Credit Parties have taken all reasonable steps necessary to determine and have determined that no Hazardous Materials have been disposed of or otherwise released and there has been no threatened Release of any Hazardous Materials on or to any property of the Credit Parties other than in compliance with Environmental Laws, except to the extent the failure to do so could not reasonably be expected to have a Material Adverse Effect or which could not reasonably be expected to result in remedial obligations having a Material Adverse Effect, assuming disclosure to the applicable Governmental Authority of all relevant facts, conditions and circumstances, if any, pertaining to the relevant property.

(e) *No Contingent Liability*. The Credit Parties have no material contingent liability in connection with any Release or threatened Release of any Hazardous Materials into the environment except (i) contingent liabilities which could not reasonably be expected to exceed U.S.$5,000,000 in excess of applicable insurance coverage at any one time and from time to time, and for which adequate reserves for the payment thereof as required by GAAP have been provided, and (ii) contingent liabilities which could not reasonably be expected to result in remedial obligations having a Material Adverse Effect, assuming disclosure to the applicable Governmental Authority of all relevant facts, conditions and circumstances, if any, pertaining to such Release or threatened Release.

(17) *Employee Matters*.

(a) Except as set out in Schedule 3.1(17), none of the Credit Parties, nor any of their respective employees, is subject to any collective bargaining agreement. There are no strikes, slowdowns, work stoppages or controversies pending or, to the best knowledge of the Borrower, threatened against the Credit Parties, or their respective employees, which could reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.

(b) Each of the Credit Parties has withheld from each payment to each of their respective officers, directors and employees the amount of all material Taxes, including income tax, Canada or Quebec Pension Plan contributions, as applicable, employment insurance premiums and other payments and deductions required to be withheld therefrom, and has paid the same to the proper taxation or other receiving authority in accordance with applicable Law. No Credit Party is subject to any material claim by or material liability to any of their respective officers, directors or employees for salary (including vacation pay) or benefits which would rank in whole or in part pari passu with or prior to the Liens created by the Security Documents.

(18) *Fiscal Year*. The Fiscal Year ends on December 31st of each calendar year, and the Fiscal Quarters end on the last day of each of March, June, September and December of each calendar year.

(19) *Intellectual Property Rights*. Each Credit Party is the registered and beneficial owner of, with good and marketable title, free of all licenses, franchises and Liens other than Permitted Liens, to all patents, patent applications, trade marks, trade mark applications, trade names, service marks, copyrights, industrial designs, integrated circuit topographies, or other rights with respect to the foregoing and other similar property, used in or necessary for the present and planned future conduct of its business, without any conflict with the rights of any other Person, other than as listed on Schedule 3.1(19), or other than for

such conflicts as could not reasonably be expected to have a Material Adverse Effect. All material patents, trade marks, trade names, service marks, copyrights, industrial designs, integrated circuit topographies, and other similar rights owned or licensed by any Credit Party, and all rights of each Credit Party to the use of any patents, trade marks, trade names, service marks, copyrights, industrial designs, integrated circuit topographies, or other similar rights, are described in Schedule 3.1(19). Except as set out in Schedule 3.1(19), no material claim has been asserted and is pending by any Person with respect to the use by any Credit Party of any intellectual property or challenging or questioning the validity, enforceability or effectiveness of any intellectual property necessary for the conduct of the business of any Credit Party. Except as disclosed in Schedule 3.1(19), or except as could not reasonably be expected to have a Material Adverse Effect, (a) each Credit Party has the exclusive right to use the intellectual property which such Credit Party owns, (b) all applications and registrations for such intellectual property are current, and (c) to the knowledge of the Borrower, the conduct of each Credit Party's business does not infringe the intellectual property rights of any other Person.

(20) *Residency of Borrower for Tax Purposes*. The Borrower is a resident of Canada for the purposes of the Income Tax Act.

(21) *Bank Accounts*. Schedule 3.1(21) lists all banks and other financial institutions located in Canada or the United States at which the Borrower or any Domestic Material Subsidiary maintains lock boxes, deposit or other accounts, and Schedule 3.1(21) correctly identifies the name, address and telephone number of each depository, the name in which the lock box or account is held, a description of the purpose of the lock box or account, and the complete lock box address or account number therefor.

(22) *"Know Your Customer" Information*. All materials and information provided to each of the Lenders in connection with applicable "know your customer" and AML Legislation are true and correct as at the Closing Date.

(23) *AML Legislation*. The Borrower is in compliance with AML Legislation.

(24) *No Immunity*. No Credit Party nor any of its properties has any immunity from jurisdiction of any court otherwise having valid subject matter and personal jurisdiction or from set-off or any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise). The execution, delivery and performance by each Credit Party of the Loan Documents to which it is a party are private and commercial acts performed for private and commercial purposes

(25) *Anti-Corruption Laws and Sanctions*. The Borrower, its Subsidiaries and their respective officers and employees and, to the knowledge of the Borrower, its directors and agents, are in compliance with Anti-Corruption Laws and applicable Sanctions and are not knowingly engaged in any activity that would reasonably be expected to result in the Borrower being designated as a Sanctioned Person. None of (a) the Borrower, any Subsidiary or any of their respective directors, officers or employees, or (b) to the knowledge of the Borrower, any agent of the Borrower or any Subsidiary that will act in any capacity in connection with or benefit from the credit facility established hereby, is a Sanctioned Person. No Borrowing or Letter of Credit, use of proceeds or other transaction contemplated by this Agreement violates Anti-Corruption Laws or applicable Sanctions.

The Marigold Project

(26) *Marigold Project Real Property*.

(a) Set forth in in Schedule 3.1(26) is a complete and accurate description of all Marigold Project Real Property.

(b) The Marigold Mining Company has no right, title or interest in real estate or immovable property other than the Marigold Project Real Property.

(c) Marigold Mining Company is the sole legal and beneficial holder of the Marigold Project Real Property, subject only:

(i) with respect to the unpatented mining claims and unpatented millsite claims listed on Schedule 3.1(26), to the paramount title of the United States as to such unpatented mining claims and unpatented millsite claims and the rights, if any, of third parties to and across the lands within such unpatented mining claims and unpatented millsite claims pursuant to the U.S. Multiple Mineral Development Act of 1954 and the U.S. Surface Resources and Multiple Use Act of 1955; and

(ii) with respect to the property subject to the Marigold Project Leases, the ownership rights of the respective lessors.

The interest of Marigold Mining Company in the real property interests listed on Schedule 3.1(26) has been properly registered or filed with the Humboldt County Clerk-Recorder's Office and the U.S. Bureau of Land Management, as applicable. With respect to any owned patented mining claims, owned patented millsite claims and other owned real property interests constituting Marigold Project Real Property, the Marigold Mining Company has good and marketable title thereto, free and clear of all Liens, except for Permitted Liens. With respect to any owned unpatented mining claims and unpatented millsite claims constituting Marigold Project Real Property, the Marigold Mining Company is in exclusive possession thereof and has good title thereto, subject to the paramount title of the United States, free and clear of all Liens, except for Permitted Liens. The Marigold Project Leases are valid and enforceable, in full force and effect, in good standing and free from any breach or default, and copies of the Marigold Project Leases or abstracts thereof have been filed with the Humboldt County Clerk-Recorder's Office.

(d) The Marigold Project Real Property provides all real property rights necessary for the development, operation and maintenance of the Marigold Project in accordance with, and as contemplated by the Life of Mine Plan.

(27) *Marigold Project Leases*. Set forth in Schedule 3.1(27) is a complete and accurate list of all Marigold Project Leases, and only those that are highlighted give rise to Material Leasehold Interests.

(28) *Marigold Project Authorizations*. Set forth in Schedule 3.1(27) is a complete and accurate list of all Marigold Project Authorizations.

(29) *Marigold Project Approvals*.

(a) Except as set forth in Schedule 3.1(28), all Marigold Project Approvals other than Future Marigold Project Authorizations:

(i) have been duly obtained, taken, given or made;

(ii) are valid and in full force and effect, and

(iii) are free from conditions or requirements that have not been met or complied with where the failure to so satisfy may allow for the material modification or revocation thereof.

(b) Marigold Mining Company is in compliance with all Marigold Project Approvals held by, or in favour of, Marigold Mining Company.

(c) Marigold Mining Company has no reason to believe that any of the Future Marigold Project Authorizations or any renewal of any Marigold Project Mining Rights:

(i) will not be obtained in the ordinary course as and when required under the terms of the Loan Documents, the Life of Mine Plan and applicable Laws; or

(ii) will be subject to any conditions or requirements that cannot be met or complied with.

(d) All applicable waiting periods and judicial review periods prescribed by statute in connection with any Marigold Project Approval (other than Future Marigold Project Authorizations) have expired without any action having been taken or threatened by any party that could reasonably be expected to result in the suspension, cancellation, revocation or loss of such Marigold Project Approval or any material adverse change thereto.

(e) There is no challenge to the validity of any Marigold Project Approval that has resulted in or is reasonably likely to result in such Marigold Project Approval being suspended, cancelled, revoked or materially and adversely modified, and Marigold Mining Company has not received any notification, verbal or otherwise, of the threat of any such challenge.

(f) Marigold Mining Company has not received any written notice from any Governmental Authority of any revocation or intention to revoke any interest of Marigold Mining Company in any of the Marigold Project Approvals.

(g) All Taxes, assessments, maintenance fees and other amounts required to maintain the Marigold Project Approvals (other than Future Marigold Project Authorizations) have been paid in full.

(30) *Project Assets*. The Marigold Project Assets are in reasonable condition and repair, ordinary wear and tear excepted, and are adequate for the purposes for which they are now used and for the development, construction, operation and maintenance of the Marigold Project in accordance with, and as contemplated by, the Life of Mine Plan.

(31) *Marigold Project Infrastructure and Access*. All of the services, utilities, ingress and egress roadways, means of transportation, rights of access and passage, equipment and materials or supplies necessary for the Borrower to develop, operate and maintain the Marigold Project in accordance with applicable Law, the Marigold Project Approvals and the Loan Documents and in accordance with and as contemplated by, the Life of Mine Plan are available and in place.

(32) *Royalty Agreements*. There are no royalties, net smelter return obligations, production-based Taxes or similar levies on mineral production payable with respect to the Marigold Project except

those arising under or pursuant to the Existing Royalty Agreements. A true and complete copy of the Existing Royalty Agreements has been delivered to the Administrative Agent. The Existing Royalty Agreements are unamended, there are no overdue amounts owing thereunder and the Marigold Mining Company is not in default under or in breach of, in either case in any material respect, of any term or condition thereof. There are no material disputes with respect to the calculation of royalties under the Existing Royalty Agreements.

(33) *Expropriation*. No property or asset of Marigold Mining Company (including any Marigold Project Asset) has been expropriated or seized by any Governmental Authority, nor has any notice or proceeding in respect thereof been given or commenced.

(34) *Mine Safety*. Except as set out in Schedule 3.1 (34), the Marigold Mining Company conducts, and has conducted in the twelve (12) months preceding the date of this Agreement, its activities at the Marigold Project in compliance in all material respects with all Laws specifically applicable in the United States of America and the State of Nevada to mine safety. Except as set out in Schedule 3.1(34), to the knowledge of the Borrower, there have been no reported incidents of non-compliance in any material respect with such Laws in connection with operations or activities at the Marigold Project in the twelve (12) months preceding the date of this Agreement and the list provided in Schedule 3.1(34) includes a description of all material compensable injuries or deaths sustained by employees, contractors or visitors to the Marigold Project during such twelve (12) month period.

(35) *Project Operation*. There has been no material change in the conduct or operation of the Marigold Project from that contemplated in the Life of Mine Plan. No Person has any right, title or interest in Marigold Project Assets other than Marigold Mining Company.

(36) *Aboriginal Claims*. Marigold Mining Company is complying with all applicable Laws in respect of aboriginal rights, aboriginal title, treaty rights, and aboriginal communities that relate to the operation and maintenance of the Marigold Project. There are no outstanding, pending or threatened Aboriginal Claims. No Credit Party has received notice, nor has any Credit Party been informed by any Governmental Authority of the receipt by a Governmental Authority of any notice regarding any Aboriginal Claim with respect to the Marigold Project. There are no impact and benefits agreements, memorandums of understanding, compensation or partnership agreements or any other agreements of the same nature with Aboriginal Groups affecting the Marigold Project.

(37) *Project Information*.

(a) The projections and other forward-looking statements and forecasts with respect to the Marigold Project (including those contained in the Life of Mine Plan) delivered to any Secured Party are a fair and reasonable description of what they purport to describe and were prepared in good faith on the basis of the assumptions stated therein, which assumptions were reasonable in the light of the conditions existing at the time of delivery of such projections, statements or forecasts and represented, at the time of delivery, the Borrower's best estimate of its future financial performance.

(b) The assessment of the Proven and Probable Reserves contained in the Life of Mine Plan is fair and reasonable.

(38) *Environmental and Social Laws and Standards.* The Borrower is in compliance with Section 5.1(16).

(39) *Eligible Contract Participant*. Marigold Mining Company constitutes an "eligible contract participant" as defined in the Commodity Exchange Act and the regulations thereunder.

ARTICLE 4
CONDITIONS

4.1 Effective Date.

The obligations of the Lenders to make Loans and of the Issuing Bank to issue Letters of Credit hereunder shall not become effective unless each of the conditions listed below is satisfied (or waived pursuant to Section 9.2).

(1) *Credit Agreement*. The Administrative Agent, each Lender, and the Issuing Bank shall have received from each party hereto either (a) a counterpart of this Agreement signed on behalf of each party hereto, or (b) written evidence satisfactory to the Administrative Agent (which may include a facsimile or other electronic -transmission of a signed signature page of this Agreement) that such party has signed a counterpart of this Agreement.

(2) *Initial Security Documents*. The Administrative Agent shall have received the Initial Security Documents.

(3) *Perfection of Liens*. The Initial Security Documents shall have been registered (or arrangements for registration satisfactory to the Administrative Agent shall have been made) in all offices in which, in the opinion of the Administrative Agent or its counsel, registration is necessary or of advantage to perfect or render opposable to third parties the Liens intended to be created thereby. Notwithstanding the prior sentence, for the purpose of certainty, the Deed of Trust, Security Agreement, Assignment of Production, Rents and Leasehold Interest, Financing Statement and Fixture Filing from Marigold Mining Company with respect to the Marigold Project Real Property shall have been recorded with the county recorder of Humboldt County, Nevada. The Administrative Agent shall have received and be satisfied with the results of all personal property, pending litigation, judgment, bankruptcy, bulk sale, execution and other searches conducted by the Administrative Agent and its counsel with respect to the Credit Parties in all jurisdictions selected by the Administrative Agent and its counsel.

(4) *Legal Opinions*. The Administrative Agent shall have received a favourable written opinion of Lawson Lundell LLP, Canadian counsel to the Borrower, covering such matters relating to the Credit Parties, this Agreement, the other Loan Documents, or the Transactions as the Lenders shall reasonably request (together with copies of all factual certificates and legal opinions delivered to such counsel in connection with such opinion upon which counsel has relied). The Administrative Agent shall also have received favourable written opinions of such special and local counsel to the Borrower covering such non-British Columbia matters relating to the Credit Parties, the Loan Documents or the Transactions as the Lenders shall reasonably request (together with copies of all factual certificates and legal opinions delivered to such counsel in connection with such opinion upon which such counsel has relied). If a Security Document creates a Lien over any Marigold Project Real Property, a favourable title report from U.S. counsel to the Borrower with respect to same shall be delivered to the Administrative Agent in such form as may be reasonably requested. The Borrower hereby requests each such counsel to deliver such opinions and supporting materials. All opinions and certificates referred to in this Section 4.1(4) shall be addressed to the Administrative Agent and the other Secured Parties and dated the Closing Date.

(5) *Corporate Certificates*. The Administrative Agent shall have received:

(a) certified copies of the resolutions of the board of directors, general partner, or shareholders, as applicable, of each Credit Party approving, as appropriate, the Loans, this Agreement and the other Loan Documents, and all other documents, if any, to which such Credit Party is a party and evidencing authorization with respect to such documents; and

(b) a certificate of an officer of each Credit Party, dated as of the Closing Date, and certifying (i) the name, title and true signature of each officer of such Person authorized to execute this Agreement and the other Loan Documents to which it is a party, (ii) the name, title and true signature of each officer of such Person authorized to provide the certifications required pursuant to this Agreement, including certifications required pursuant to Section 5.1(1) and Borrowing Requests, and (iii) that attached thereto is a true and complete copy of the articles of incorporation and bylaws of each Credit Party, as amended to date, and a recent certificate of status, certificate of compliance, good standing certificate or analogous certificate.

(6) *Fees*. The Administrative Agent, the Lenders, and the Arranger shall have received all fees and other amounts due and payable on or prior to the Closing Date, including, to the extent invoiced, reimbursement or payment of all legal fees and other out-of-pocket expenses required to be reimbursed or paid by the Borrower hereunder or under any other Loan Document.

(7) *Insurance*. The Administrative Agent shall have received a certificate of insurance coverage, dated not more than 30 days prior to the Closing Date, evidencing that the Credit Parties are carrying insurance in accordance with Section 5.1(9) hereof.

(8) *Regulatory Approval; Consents; Waivers*. The Administrative Agent and the Lenders shall be satisfied that:

(a) all material Authorizations (including all approvals listed in Schedule 3.1(3));

(b) all corporate, partnership, shareholder and court approvals; and

(c) all consents and waivers (the failure to obtain which would result in a breach or default under any material contract),

required to consummate the Transactions have been obtained and are in full force and effect, in each case without the imposition of any burdensome provision, and that all applicable waiting periods shall have expired without any action being taken or threatened by any Governmental Authority that would materially restrain, prevent or otherwise impose material adverse conditions on the Transactions.

(9) *Delivery of Financial Statements*. The Administrative Agent and the Lenders shall have received (a) the audited Consolidated and consolidating balance sheets, statements of income and retained earnings and statements of changes in financial position of the Borrower for the Fiscal Year ended December 31, 2014, and (b) the unaudited financial statements in respect of the Borrower for the three month period ended March 31, 2015.

(10) *Compliance Certificate*. The Administrative Agent shall have received a Compliance Certificate prepared on a *pro forma* basis as at June 30, 2015 for all calculations (other than Tangible Net Worth and Tangible Net Worth Floor, which shall be calculated as at July 31, 2015), which shall confirm compliance with the financial covenants set out in Section 5.1(12).

(11) *No Material Adverse Change*. The Administrative Agent and the Lenders shall be satisfied that, since December 31, 2014, there has not been a Material Adverse Change.

(12) *Indebtedness*. The Transactions contemplated in this Agreement and the other Loan Documents shall not have caused any event or condition to occur which has resulted, or which will result, in any Material Indebtedness (other than Indebtedness being repaid in connection with the Transactions) becoming due prior to its scheduled maturity or that permits (with or without the giving of notice, the lapse of time, or both) the holder or holders of any such Material Indebtedness or any trustee or agent on its or their behalf to cause any Material Indebtedness to become due, or to require the prepayment, repurchase, redemption or defeasance thereof, prior to its scheduled maturity, or which will result in the creation of any Liens under any Indebtedness.

(13) *"Know Your Customer" Information*. The Administrative Agent and the Lenders shall have received all documentation and other information required by bank regulatory authorities under applicable "know your customer" and anti-money laundering rules and regulations, including AML Legislation, the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) and OFAC.

(14) *Cancellation of Existing Credit Facilities*. The Credit Parties shall have repaid (or made satisfactory arrangements for the repayment of) all Indebtedness outstanding under their credit facilities (including any commercial paper back-up lines), and such credit facilities (including such commercial paper back-up lines) shall have been cancelled permanently such that no Credit Party shall have any Indebtedness (or commitment therefor) that will survive the Closing Date except Indebtedness permitted under Section 6.1(1).

(15) *Affiliate Subordination Agreement*. The Administrative Agent shall have received any Affiliate Postponement Agreement required in order for Intercompany Indebtedness to be Permitted Intercompany Indebtedness.

(16) *Execution and Delivery of Documents*. Each Credit Party shall have duly authorized, executed and delivered all documents required hereunder, all in form and substance satisfactory to the Administrative Agent. Such documents may be delivered to the Administrative Agent (or its counsel) by way of facsimile or other means of electronic transmission, provided that such number of original copies as may be reasonably requested shall be delivered by or on behalf of the Borrower to the Administrative Agent (or its counsel) within 7 days of the Closing Date.

(17) *Other Documentation*. The Administrative Agent and the Lenders shall have received such other documents and instruments as are customary for transactions of this type or as they may reasonably request.

4.2 Each Credit Event.

The obligation of each Lender to make a Loan on the occasion of any Borrowing, and of the Issuing Bank to issue, amend, renew or extend any Letter of Credit (including, in each case, on the occasion of the initial Borrowings hereunder), is subject to the satisfaction of the following conditions:

(a) the representations and warranties of the Borrower set out in this Agreement shall be true and correct on and as of the date of each such Borrowing as if made on such date (except where such representation or warranty is stated to be made as of a particular date), subject to update as provided in Section 5.1(1)(h);

(b) at the time of and immediately after giving effect to such Borrowing, no Default shall have occurred and be continuing; and

(c) the Administrative Agent shall have received a Borrowing Request in the manner and within the time period required by Section 2.3.

Each Borrowing shall be deemed to constitute a representation and warranty by the Borrower on the date thereof as to the accuracy of the matters specified in Sections 4.2(a) and (b). This requirement does not apply on the conversion or rollover of an existing Borrowing provided that the aggregate outstanding Borrowings will not be increased as a consequence thereof.

ARTICLE 5
AFFIRMATIVE COVENANTS

5.1 Covenants.

From (and including) the Closing Date until the Termination Date, the Borrower covenants and agrees with the Lenders as follows:

(1) *Financial Statements and Other Information*. The Borrower shall furnish to the Administrative Agent for distribution to each Lender (the filing of any of the following documents on SEDAR shall satisfy the delivery obligation in relation to such documents when the Borrower has provided written notice of such filing to the Administrative Agent):

(a) as soon as available and in any event within 90 days after the end of each Fiscal Year, the audited Consolidated balance sheet and related statements of income, retained earnings and changes in financial position of the Borrower as of the end of and for such Fiscal Year, setting forth in each case in comparative form the figures for the previous Fiscal Year, all reported on by PriceWaterhouseCoopers LLP or other independent auditors of recognized national standing (without a "going concern" qualification and without any qualification or exception as to the scope of such audit) to the effect that such consolidated financial statements present fairly in all material respects the financial condition and results of operations of the Borrower on a Consolidated basis;

(b) as soon as available and in any event within 60 days after the end of each of the first three Fiscal Quarters of each Fiscal Year, the unaudited Consolidated balance sheet and related statements of income, retained earnings and changes in financial position of the Borrower as of the end of and for such Fiscal Quarter and the then elapsed portion of the Fiscal Year which includes such Fiscal Quarter, setting forth in each case in comparative form the figures for the corresponding period or periods of (or, in the case of the balance sheet, as of the end of) the previous Fiscal Year, all certified by a Responsible Officer of the Borrower as presenting fairly in all material respects the financial condition and results of operations of the Borrower on a Consolidated basis, subject to normal year-end audit adjustments;

(c) concurrently with the financial statements required pursuant to Sections 5.1(1)(a) and (b), a Compliance Certificate;

(d) promptly after the Borrower learns of the receipt or occurrence of any of the following, a certificate of the Borrower, signed by a Responsible Officer of the Borrower, specifying (i) any event which constitutes a Default or Event of Default, together with a detailed

statement specifying the nature thereof and the steps being taken to cure such Default or Event of Default, (ii) the receipt of any notice from, or the taking of any other action by, the holder of any promissory note, debenture or other evidence of Indebtedness of any Credit Party in an amount in excess of U.S.$5,000,000 with respect to an actual or alleged default, together with a detailed statement specifying the notice given or other action taken by such holder and the nature of the claimed default and what action the relevant Credit Party is taking or proposes to take with respect thereto, (iii) the creation, dissolution, merger, amalgamation or acquisition of any Credit Party or subsidiary thereof, and (iv) any other event, development or condition which may reasonably be expected to have a Material Adverse Effect;

(e) promptly after the occurrence thereof, notice of the institution of or any material adverse development in any action, suit or proceeding or any governmental investigation or any arbitration before any court or arbitrator or any Governmental Authority or official against any Credit Party or any material property thereof which could reasonably be expected to have a Material Adverse Effect;

(f) concurrently with any delivery of financial statements under Section 5.1(1)(a) or (b) a certificate of a Responsible Officer of the Borrower identifying (i) any change in GAAP or in the application thereof has occurred since the date of the audited financial statements referred to in Section 5.1(1)(a) and specifying the effect of such change on the financial statements accompanying such certificate, (ii) any entry into, material amendment to, termination of, or material default under, any collective bargaining agreement to which a Credit Party is a party, (iii) any changes of the type described in Section 5.1(13)) that have not been previously reported by the Borrower, and (iv) any Permitted Acquisitions that have been consummated since the end of the previous Fiscal Quarter, including the date on which each such Permitted Acquisition was consummated and the consideration therefor;

(g) if, at any time after the Closing Date, the Borrower enters into a new Hedge Arrangement with a Person that is a Lender or Lender Affiliate at such time, then the Borrower shall so notify the Administrative Agent by delivery to the Administrative Agent of written notice of the details thereof; provided that, in the event of any failure to do so, such Hedge Arrangement shall nonetheless be a Secured Hedge Arrangement and receive the benefit of the Security Documents, and such Lender or Lender Affiliate shall nonetheless be a Secured Hedge Counterparty with respect thereto;

(h) concurrently with the delivery of the financial statements under Section 5.1(1)(a) or (b) a supplement to any Schedule hereto, or any representation herein or in any other Loan Document, with respect to any matter hereafter arising that, if existing or occurring at the date of this Agreement, would have been required to be set forth or described in such Schedule or as an exception to such representation or that is necessary to correct any information in such Schedule or representation which has been rendered inaccurate thereby (and, in the case of any supplements to any Schedule, such Schedule shall be appropriately marked to show the changes made therein); provided that (i) no such supplement to any such Schedule or representation shall amend, supplement or otherwise modify any Schedule or representation, or be or be deemed a waiver of any Default or Event of Default resulting from the matters disclosed therein, except as consented to by the Administrative Agent and the Required Lenders in writing, and (ii) no supplement shall be required or permitted as to representations and warranties that relate solely to the Closing Date;

(i) concurrently with any delivery of financial statements under Sections 5.1(1)(a) or (b), an operating report with respect to the Marigold Project, the Pirquitas Project, and any other producing and material mining project owned by a Credit Party, such operating reports to be consistent with the forms delivered to the Arranger prior to the Closing Date;

(j) on or before the 90th day after the end of each Fiscal Year, an updated Life of Mine Plan with respect to the Marigold Project, the Pirquitas Project, and any other material producing mining project owned by a Credit Party; and

(k) if and only if there has been construction at any mining project owned by a Credit Party during a calendar month for which the aggregate budget exceeds U.S.$10,000,000, on or before the 10th day after the end of such calendar month, a report with respect to such construction.

(2) *Existence; Conduct of Business*. The Borrower shall, and shall cause each other Credit Party to, do or cause to be done all things necessary to preserve, renew and keep in full force and effect its legal existence (subject only to Section 6.1(3)), and except to the extent that the failure to do so could not reasonably be expected to result in a Material Adverse Effect, obtain, preserve, renew and keep in full force and effect any and all rights, licenses, permits, privileges and franchises material to the conduct of its business.

(3) *Payment of Obligations*. The Borrower shall, and shall cause each other Credit Party to, pay its obligations, including Tax liabilities, as they become due and payable (or, where payment is not made at such time due to inadvertence, as soon as reasonably practicable following knowledge of such non-payment by the applicable Credit Party), except where (a) the validity or amount thereof is being contested in good faith by appropriate proceedings or other appropriate action, and (b) the Borrower or such Credit Party has set aside on its books adequate reserves with respect thereto in accordance with GAAP.

(4) *Maintenance of Properties*. The Borrower shall, and shall cause each other Credit Party to, keep and maintain all property material to the conduct of its business in good working order and condition, ordinary wear and tear excepted, except to the extent that the failure to do so could not reasonably be expected to have a Material Adverse Effect.

(5) *Books and Records; Inspection Rights*. The Borrower shall, and shall cause each other Credit Party to, keep proper books of record and account in which full, true and correct entries are made of all dealings and transactions in relation to its business and activities.

(6) *Compliance with Laws and Contracts*. The Borrower shall, and shall cause each other Credit Party to, comply with all Laws and orders of any Governmental Authority applicable to it or its property and with all of its contractual obligations, except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(7) *Use of Proceeds and Letters of Credit*. The proceeds of the Loans shall be used for working capital and other general corporate purposes of the Borrower, including permitted Investments and Permitted Acquisitions. Letters of Credit shall be issued only to support ordinary course business operations of the Borrower and its Subsidiaries.

(8) *Further Assurances.*

(a) The Borrower shall, and shall cause each other Credit Party to, cure promptly any defects in the execution and delivery of the Loan Documents, including this Agreement. Upon request, the Borrower shall, at its expense, as promptly as practical, execute and deliver to the Administrative Agent, all such other and further documents, agreements and instruments (and cause each other Credit Party to take such action) in compliance with or performance of the covenants and agreements of the Borrower or any other Credit Party in any of the Loan Documents, including this Agreement, or to further evidence and more fully describe the Collateral, or to correct any omissions in any of the Loan Documents, or more fully to state the security obligations set out herein or in any of the Loan Documents, or to perfect, protect or preserve any Liens created pursuant to any of the Loan Documents, or to make any recordings, to file any notices, or obtain any consents, all as may be necessary or appropriate in connection therewith, in the judgment of the Administrative Agent, acting reasonably.

(b) The Borrower shall, and shall cause each of the other Credit Parties to, perform and satisfy to the satisfaction of the Administrative Agent and its counsel each of the requirements (the "Post-Closing Requirements") listed in Schedule 5.1(8) on or before the date by which such Post-Closing Requirement is to be required to be performed pursuant thereto. For greater certainty, the Borrower acknowledges and agrees that the Post-Closing Requirements expressly include the obligation of the Borrower to, and to cause each of the other Credit Parties to, co-operate fully and promptly with the Administrative Agent and its counsel with respect to the completion of each of the Post-Closing Requirements and the provision of all information, documents, matters and things as the Administrative Agent or its counsel, acting reasonably, may deem necessary or advisable (i) to determine what actions must be taken to fulfil each of the Post-Closing Requirements, (ii) to complete and fulfil each of the Post-Closing Requirements, and (iii) to confirm and assess whether all actions necessary to fulfil each of the Post-Closing Requirements have been taken. The Administrative Agent, by instrument in writing and without any consent from any of the Lenders, may, in its sole and absolute discretion, extend any deadline for completion of a Post-Closing Requirement if the Administrative Agent, acting in good faith, believes that the extension will enable the Borrower and the Credit Parties to comply with such Post-Closing Requirement and such extension will not have a material adverse effect upon the Lenders.

(9) *Insurance.*

(a) The Borrower shall, and shall cause each other Credit Party to, maintain or cause to be maintained, with financially sound and reputable insurers, insurance with respect to their respective properties and business against such liabilities, casualties, risks and contingencies and in such types (including business interruption insurance and flood insurance) and amounts and with deductibles as are customary in the case of Persons engaged in the same or similar businesses and similarly situated and in accordance with any requirement of any Governmental Authority.

(b) In the case of any fire, accident or other casualty causing loss or damage to any property of any Credit Party used in generating cash flow or required by applicable Law, all proceeds of such policies shall be used to promptly repair or replace any such damaged property.

(c) The Borrower shall obtain endorsements to the policies pertaining to all physical properties in which the Administrative Agent shall have a Lien under the Loan

Documents, naming the Administrative Agent as an additional insured (with respect to liability insurance only) and a loss payee and containing (i) provisions that such policies will not be cancelled without 30 days prior written notice having been given by the insurance company to the Administrative Agent, and (ii) a standard non contributory "mortgagee", "lender" or "secured party" clause, as well as such other provisions as the Administrative Agent may require to fully protect the Administrative Agent's interest in the Collateral and to any payments to be made under such policies. All original policies or true copies thereof are to be delivered to the Administrative Agent, premium prepaid.

(d) In the event the Borrower fails to provide the Administrative Agent with timely evidence, acceptable to the Administrative Agent, of the maintenance of insurance coverage required pursuant to Section 5.1(9), or in the event that any Credit Party fails to maintain such insurance, the Administrative Agent may, upon prior written notice to the Borrower, purchase or otherwise arrange for such insurance, but at the Borrower's expense and without any responsibility on the Administrative Agent's part for: (i) obtaining the insurance; (ii) the solvency of the insurance companies; (iii) the adequacy of the coverage; or (iv) the collection of claims. The insurance acquired by the Administrative Agent may, but need not, protect any Credit Party's interest in the Collateral, and therefore such insurance may not pay claims which a Credit Party may have with respect to the Collateral or pay any claim which may be made against a Credit Party in connection with the Collateral. In the event the Administrative Agent purchases, obtains or acquires insurance covering all or any portion of the Collateral, the Borrower shall be responsible for all of the applicable costs of such insurance, including premiums, interest (at the applicable interest rate for Loans set forth in Section 2.5), fees and any other charges with respect thereto, until the effective date of the cancellation or the expiration of such insurance. The Administrative Agent may charge all of such premiums, fees, costs, interest and other charges to the Borrower's Loan account. The Borrower hereby acknowledges that the costs of the premiums of any insurance acquired by the Administrative Agent may exceed the costs of insurance which the Borrower may be able to purchase on its own. In the event that the Administrative Agent purchases such insurance, the Administrative Agent shall promptly, and in any event within 15 days, notify the Borrower of said purchase.

(e) Upon the occurrence and continuance of an Event of Default (and without limiting any other rights of the Administrative Agent or the Lenders hereunder or under any other Loan Document), (i) the Administrative Agent shall, subject to the rights of any holders of Permitted Liens holding claims senior to the Administrative Agent, have the sole right, in the name of the Administrative Agent or any applicable Credit Party, to file claims under any insurance policies, to receive, receipt and give acquittance for any payments that may be payable thereunder, and to execute any and all endorsements, receipts, releases, assignments, reassignments or other documents that may be necessary to effect the collection, compromise or settlement of any claims under any such insurance policies, and (ii) all insurance proceeds in respect of any Collateral shall be paid to the Administrative Agent for application against the Secured Liabilities in accordance with this Agreement.

(10) *Operation and Maintenance of Property*. The Borrower shall, and shall cause each other Credit Party to, manage and operate its business or cause its business to be managed and operated (a) in accordance with prudent industry practice in all material respects and in compliance in all material respects with the terms and provisions of all applicable licenses, leases, contracts and agreements, and (b) in compliance with all applicable Laws of the jurisdiction in which such businesses are carried on, and

all applicable Laws of every other Governmental Authority from time to time constituted to regulate the ownership, management and operation of such businesses, except where a failure to so manage and operate would not have a Material Adverse Effect.

(11) *Security Package.*

(a) *Group Guarantee*. In accordance with and subject to the Security Principles, the Borrower shall cause each present and future Material Subsidiary to enter into, or accede to, the Group Guarantee, such that such Person guarantees in favour of the Administrative Agent, for the benefit of the Secured Parties, all Secured Liabilities of the Borrower. The obligation of a Person to accede to the Group Guarantee shall arise as soon as reasonably practicable (but no later than 30 days) after such Person becomes a Material Subsidiary.

(b) *Liens*. In accordance with and subject to the Security Principles, the Borrower shall, and shall cause each present and future Domestic Material Subsidiary to, provide at all times in favour of the Administrative Agent, for the benefit of the Secured Parties, a first-priority Lien (subject only to Permitted Liens) over all present and future personal property and real property of such Credit Party as security for its Secured Liabilities, together with such supporting materials as may be required to ensure the perfection or priority of such Lien. The obligation of a Credit Party to provide any such Lien shall arise as soon as is reasonably practicable (but no later than 30 days) following such Person (i) becoming a Credit Party, or (ii) acquiring assets, property or undertaking that are not already subject to a Lien that complies with the Security Principles.

(c) *Supporting Materials*. In connection with the execution and delivery of any Security Document pursuant to Section 5.1(11), the Borrower shall, or shall cause the relevant other Credit Party to, deliver to the Administrative Agent such corporate resolutions, certificates, legal opinions and such other related documents as shall be reasonably requested by the Administrative Agent and consistent with the relevant forms and types thereof delivered on the Closing Date or as shall be otherwise reasonably acceptable to the Administrative Agent.

(12) *Financial Covenants*. The Borrower shall:

(a) *Interest Coverage Ratio*. Maintain an Interest Coverage Ratio with respect to each Rolling Period of not less than 4.00 to 1.00.

(b) *Net Leverage Ratio*. Maintain a Net Leverage Ratio at all times of not more than 3.50 to 1.00, such ratio to be reported in the Compliance Certificate.

(c) *Tangible Net Worth*. Maintain a Tangible Net Worth as at each Quarterly Date of not less than the Tangible Net Worth Floor as at such time.

(13) *Registrations.* The Borrower shall record, file or register, at its own expense, applications for registration or financing statements (and continuation or financing change statements when applicable), and make any other registrations or filings, including where required, the registration of each of the Security Documents (collectively, "**Registrations**") with respect to the Collateral now existing and hereafter created or arising and the creation of Liens therein under and as contemplated by the Security Documents, meeting the requirements of applicable Law, in such manner and in such jurisdictions as are necessary or desirable to protect, perfect and maintain the protection and perfection of,

such Liens, and to deliver a file stamped copy of each such Registration or other evidence of such Registration to the Administrative Agent on or prior to the Closing Date. If any Credit Party (a) makes any change in its name, jurisdiction or organization or corporate structure, (b) changes its place of domicile, registered head office or chief executive office, or (c) takes any other action, which in any such case would, under the applicable Law, require the amendment of any Registration recorded, registered and filed in accordance with the provisions hereof, the Borrower shall within 10 days after a change referred to in Section 5.1(13)(a) or prior to the taking of any action referred to in Section 5.1(13)(b) or (c), give the Administrative Agent notice of any such change or other action and shall promptly file such Registrations as may be necessary or desirable to continue the perfection of the Liens in the Collateral intended under the Security Documents. The Administrative Agent shall be under no obligation whatsoever to record, file or register any Registration, or to make any other recording, filing or registration in connection herewith.

Marigold Project

(14) *Conduct of Project*. The Borrower shall ensure that the Marigold Project is diligently operated and maintained in accordance with (a) the Life of Mine Plan, (b) Good Industry Practice, and (c) in all material respects, applicable Law.

(15) *Project Approvals.* The Borrower shall cause Marigold Mining Company to:

(a) upon request, produce to the Administrative Agent a copy of each Marigold Project Approval (other than Future Marigold Project Authorizations);

(b) be and remain the sole legal and beneficial owner of all Marigold Project Approvals;

(c) maintain as valid and in full force and effect each Marigold Project Approval (other than Future Marigold Project Authorizations) and, where applicable, procure the renewal thereof prior to its expiration;

(d) comply with the terms and conditions of each Marigold Project Approval and do all things required of a holder thereof by applicable Law;

(e) with due diligence and in a reasonable manner, enforce the materials rights granted to it under and in connection with each Marigold Project Approval;

(f) not undertake or permit any voluntary Asset Disposition with respect to any Marigold Project Assets (provided that nothing in this Agreement shall prohibit (i) the disposition or abandonment of Marigold Project Mining Rights that are immaterial, not viable or otherwise not useful to the Marigold Project, (ii) the sale of unreplaced equipment which is not material to the Marigold Project in the aggregate, or (iii) the residential apartment buildings located near the Marigold Project); and

(g) apply for and obtain each Future Marigold Project Authorization on or before such time as it shall be required by applicable Law as it pertains to the Marigold Project.

(16) *Environmental and Social Compliance.* The Borrower shall cause Marigold Mining Company to comply in all material respects with all applicable Environmental and Social Laws and Standards.

(17) *Marigold Project Taxes, Claim Maintenance Fees, etc.* The Borrower shall cause Marigold Mining Company to timely pay all Taxes, assessments, maintenance fees and other amounts required to be paid to maintain the Marigold Project Mining Rights. Specifically, with respect to:

(a) any unpatented mining claims and unpatented millsite claims included in the Marigold Project Real Property, the Borrower shall cause the Marigold Mining Company to timely and properly pay all claim maintenance fees, to timely make all filings and recordings, including affidavits of payment and intentions to hold, and to otherwise timely take all other actions and pay such amounts necessary for the preservation, maintenance, continuance and validity of such unpatented mining claims and unpatented millsite claims as may be required by any Governmental Authority. The Borrower shall cause Marigold Mining Company to pay such fees and complete such filings and recordings, including payment of claim maintenance fees to the U.S. Bureau of Land Management, on or before August 1st of each year. The Borrower shall deliver to the Administrative Agent proof of performance of such acts and payments by no later than August 15th of each year. In the event that the Administrative Agent has not received notice and evidence of payment and performance by such date, the Administrative Agent may, on behalf of Marigold Mining Company, make and pay such claim maintenance fees and to treat such amounts, and all costs and expenses incurred in connection therewith, as Secured Liabilities for which the Borrower is liable under this Agreement and the other Loan Documents.

(b) the Marigold Project Leases, the Borrower shall cause the Marigold Mining Company to timely and properly pay all rental and lease payments, advance payments and other amounts that may be due and payable pursuant to the terms of each such Marigold Project Lease.

(18) *No Royalties*. Except as may arise under or pursuant to the Existing Royalty Agreements, the Borrower will not allow Marigold Mining Company to, create or suffer to exist any royalty, overriding royalty, production payment or other interest with respect to the Marigold Project.

(19) *Inspections*. The Borrower shall cause Marigold Mining Company to, up to once per Fiscal Year (provided that such limitation shall not apply during the continuance of an Event of Default), permit any representatives designated by the Administrative Agent, upon reasonable prior notice and during business hours, at the Lenders' own cost and expense, to visit and inspect the Project, to examine and make extracts from its books and records, and to discuss its affairs, finances and condition with its officers and independent accountants, all at such reasonable times and as often as the Administrative Agent may reasonably request. In addition, the Lenders and their appointed representatives shall be entitled to conduct technical reviews of the Marigold Project upon reasonable notice and during business hours, at the Lenders' own cost and expense. Notwithstanding the foregoing, the Borrower agrees to pay the cost of any such visit, inspection or technical review conducted during the continuance of an Event of Default.

(20) *Eligible Contract Participant*. The Borrower shall cause Marigold Mining Company to at all times remains an "eligible contract participant" as defined in the Commodity Exchange Act and the regulations thereunder.

(21) *Marigold Information*. The Borrower shall furnish to the Administrative Agent for distribution to each Lender:

(a) promptly after receipt thereof, a copy of:

(i) any enforcement notice issued to a Credit Party by a Governmental Authority pursuant to any Environmental Law with respect to the Marigold Project or the Marigold Project Assets;

(ii) any document from a Governmental Authority indicating that such entity is prosecuting a Credit Party for a violation (or investigating a possible violation) of any Environmental Law with respect to the Marigold Project or the Marigold Project Assets;

(iii) any written claim of material violation of any Environmental Law relating to or arising from any activity undertaken by a Credit Party with respect to the Marigold Project;

(iv) any document indicating that a Release exists on, or emanates from, the Marigold Project or the Marigold Project Assets in a manner that is in material breach of any Environmental Law; and

(v) any document sent by it to any Governmental Authority which states or indicates, with respect to the Marigold Project or the Marigold Project Assets, that it is in breach of any Environmental Law or that there is or has been a Release of Hazardous Materials or that otherwise may result in any material Environmental Liability;

(b) promptly after the Borrower learns of the receipt or occurrence of any of the following, a certificate of the Borrower, signed by a Responsible Officer of the Borrower, specifying:

(i) the occurrence of any stoppage of, or disruption to, mining or production activities at the Marigold Project (except any stoppage or disruption which relates to planned maintenance of any Marigold Project Asset) which continues for a period of more than ten consecutive days, together with details of the reasons for such occurrence and the efforts being made to end such stoppage or disruption;

(ii) the acquisition of any Marigold Project Real Property or any other any expansion of the Marigold Project since the end of the previous Fiscal Quarter; or

(iii) any Aboriginal Claim instituted or to the knowledge of any Credit Party, threatened against the Marigold Project.

ARTICLE 6
NEGATIVE COVENANTS

6.1 Negative Covenants.

From (and including) the Closing Date until the Termination Date, the Borrower covenants and agrees with the Lenders as follows:

(1) *Indebtedness*. The Borrower shall not, and shall not permit any other Credit Party to, create, incur, assume or permit to exist any Indebtedness, except:

(a) Indebtedness created hereunder;

(b) Capital Lease Obligations and Indebtedness secured by Purchase Money Liens, provided that the aggregate principal amount of Indebtedness permitted by this Section 6.1(1)(b) shall not exceed U.S.$20,000,000 at any time;

(c) Non-Recourse Project Indebtedness;

(d) Indebtedness incurred pursuant to Hedge Arrangements permitted under Section 6.1(8);

(e) Secured Cash Management Obligations;

(f) Indebtedness in respect of performance bonds, surety bonds, appeal bonds, completion guarantees or like instruments incurred in the ordinary course of business;

(g) Permitted Note Indebtedness;

(h) Permitted Intercompany Indebtedness;

(i) other unsecured Indebtedness in an aggregate principal amount not exceeding U.S. $20,000,000 at any time outstanding;

(j) Indebtedness owing under the Existing Letter of Credit (but no renewals thereof) and any Indebtedness secured thereby;

(k) any Guarantee by a Credit Party of Indebtedness of any other Credit Party if such Indebtedness is permitted under this Agreement;

(l) Indebtedness in respect of any employee credit card program;

(m) Indebtedness for purchase price adjustments or earn-out obligations incurred in connection with Permitted Acquisitions; and

(n) Indebtedness owing by any Target or secured against any asset prior to the acquisition thereof by any Credit Party provided that such Indebtedness is not created in contemplation of or in connection with such acquisition.

(2) *Liens*. The Borrower shall not, and shall not permit any other Credit Party to, create, incur, assume or permit to exist any Lien on any property or asset now owned or hereafter acquired by the Borrower or any other Credit Party except Permitted Liens.

(3) *Corporate Changes*. The Borrower shall not, and shall not permit any other Credit Party to, merge into or amalgamate or consolidate with any other Person, or permit any other Person to merge into or amalgamate or consolidate with it, or liquidate or dissolve, except that, if at the time thereof and immediately after giving effect thereto no Default shall have occurred and be continuing:

(a) any Credit Party may merge into, amalgamate or consolidate with any other Credit Party);

(b) any Guarantor may liquidate or dissolve if it is a Wholly-Owned Subsidiary of another Credit Party and all of its property passes to such Credit Party;

(c) any Credit Party may merge into, amalgamate or consolidate with any other Person where the Borrower has provided an officer's certificate in form and substance satisfactory to the Administrative Agent confirming pro forma compliance with the terms and conditions of this Credit Agreement, such certificate to be supported by a search report from counsel to the Borrower in favour of the Administrative Agent confirming to its satisfaction that its security position shall not be prejudiced by such merger, amalgamation or consolidation,

provided that any transaction pursuant to Section 6.1(3)(a) or (c) shall not be permitted unless the merged, amalgamated or continuing corporation provides written confirmation satisfactory to the Administrative Agent, acting reasonably, that it is liable for the obligations of the relevant Credit Party under the Loan Documents. For the avoidance of doubt, nothing in this Section 6.1(3) shall serve to allow any Acquisition other than a Permitted Acquisition.

(4) *Permitted Business*. The Borrower shall not, and shall not permit any other Credit Party to, engage to any material extent in any business other than (a) the business of exploration, extraction and processing of minerals, and (b) any business that is the same, similar or otherwise reasonably related, ancillary or complementary thereto.

(5) *Asset Dispositions*. The Borrower shall not, and shall not permit any other Credit Party to, make any Asset Disposition, except where the aggregate book value of the subject matter of all Asset Dispositions in any Fiscal Year would not exceed an amount equal to 5% of the Tangible Net Worth as at the beginning of such Fiscal Year.

(6) *Investments*. The Borrower shall not, and shall not permit any other Credit Party to, make or permit to exist any Investment other than:

(a) Investments in Cash Equivalents;

(b) Investments held as at the Closing Date (including any appreciation or dividends thereon);

(c) Permitted Intercompany Investments;

(d) investments (including debt obligations) received in connection with the bankruptcy or reorganization of suppliers and customers and in good faith settlement of delinquent obligations of, and other disputes with, customers and suppliers arising in the ordinary course of business;

(e) advances in the form of a prepayment of expenses to vendors, suppliers and trade creditors consistent with their past practices, so long as such expenses were incurred in the ordinary course of business of the Credit Parties; or

(f) other Investments in Equity Securities or joint ventures, in each case where the issuer or business is in the mining sector, not exceeding U.S.$10,000,000 in the aggregate from and after the Closing Date.

(7) *Acquisitions*. The Borrower shall not, and shall not permit any other Credit Party to, make or enter into any Acquisition other than Permitted Acquisitions.

(8) *Hedge Arrangements*. The Borrower shall not, and shall not permit any other Credit Party to, enter into any Hedge Arrangement, except:

(a) Permitted Equity Hedge Arrangements;

(b) Hedge Arrangements entered into in order to hedge or mitigate commodity risks to which any Credit Party has actual output exposure; provided that:

(i) the amount of any commodity hedged in any Fiscal Quarter shall not exceed 70% of the Borrower's projected production of such commodity during such Fiscal Quarter, determined on a Consolidated basis; and

(ii) the aggregate amount of any commodity hedged at any time shall not exceed 70% of the Borrower's Proven and Probable Reserves of such metal at such time, determined on a Consolidated basis;

(c) Hedge Arrangements entered into in order to hedge or mitigate commodity risks to which any Credit Party has actual input exposure;

(d) Hedge Arrangements entered into in order to effectively cap, collar or exchange interest rates (from fixed to floating rates, from one floating rate to another floating rate or otherwise) with respect to any interest-bearing liability or investment of any Credit Party; and

(e) Hedge Arrangements entered into to hedge or mitigate foreign exchange risk to which any Credit Party has actual exposure.

For the avoidance of doubt, no Hedge Arrangements shall be entered into for speculative purposes. The aggregate Mark-to-Market Exposure of all Hedge Arrangements under which the Hedge Counterparty is not a Lender or a Lender Affiliate (other than Permitted Equity Hedge Arrangements) shall not at any time exceed U.S.$3,000,000.

(9) *Restricted Payments*. The Borrower shall not, and shall not permit any other Credit Party to, declare, pay or make, or agree to pay or make, directly or indirectly, any Restricted Payment, except that, so long as no Default or Event of Default is continuing or would be caused thereby:

(a) the Borrower may declare and pay any dividend, distribution or return of capital with respect to its Equity Securities payable solely in additional Equity Securities of the Borrower;

(b) a Credit Party may declare and pay any dividend, distribution or return of capital with respect to its Equity Securities to any other Credit Party;

(c) a Credit Party (other than the Borrower) may purchase, redeem, retire or acquire any of its Equity Securities or any warrants, options or similar rights with respect to its Equity Securities from a Credit Party;

(d) the Borrower may purchase, redeem, retire or acquire any of its Equity Securities or any warrants, options or similar rights with respect to its Equity Securities with the proceeds received from the concurrent issue of new Equity Securities;

(e) a Credit Party may pay interest and principal with respect to Intercompany Indebtedness; and

(f) the Borrower may pay scheduled interest with respect to Permitted Note Indebtedness.

(10) *Transactions with Affiliates*. The Borrower shall not, and shall not permit any other Credit Party to, sell, lease or otherwise transfer any property or assets to, or purchase, lease or otherwise acquire any property or assets from, or otherwise engage in any other transactions with, any of their Affiliates, except:

(a) in the ordinary course of business at prices and on terms and conditions not less favourable to the Borrower or such other Credit Party than could be obtained on an arm's-length basis from unrelated third parties;

(b) transactions between or among Credit Parties not involving any of their other Affiliates;

(c) any Permitted Intercompany Investment; and

(d) any Restricted Payment permitted by Section 6.1(9).

(11) *Sales and Leasebacks*. The Borrower shall not, and shall not enter into, or permit any other Credit Party to, enter into any arrangement, directly or indirectly, with any Person whereby the Borrower or any such other Credit Party shall sell or transfer any property, whether now owned or hereafter acquired, and whereby the Borrower or any such other Credit Party shall then or thereafter rent or lease as lessee such property or any part thereof or other property which the Borrower or any such other Credit Party intends to use for substantially the same purpose or purposes as the property sold or transferred.

(12) *Pension Plan Compliance*. The Borrower shall not, and shall not permit any other Credit Party to:

(a) establish or terminate, or permit any other Credit Party to establish or terminate, any Pension Plan or Benefit Plan (other than a Defined Benefit Plan) or take any other action with respect to any Pension Plan or Benefit Plan (other than a Defined Benefit Plan), which could reasonably be expected to result in any material liability of a Credit Party;

(b) sponsor, maintain, contribute to, or otherwise incur liability under any Defined Benefit Plan;

(c) fail to withhold, make, remit or pay when due or permit any other Credit Party to fail to withhold, make, remit or pay when due any employee or employer payments, contributions (including "normal cost", "special payments" and any other payments in respect of any funding deficiencies or shortfalls) or premiums to or in respect of any Pension Plan or Benefit Plan pursuant to the terms of the particular plan, any applicable collective bargaining agreement or applicable Law;

(d) permit to exist, or allow any other Credit Party to permit to exist, any solvency or wind-up funding deficiency with respect to any Pension Plan or Benefit Plan which results in or could reasonably be expected to result in a funding obligation on the part of any Credit Party which could reasonably be expected to result in a material liability of a Credit Party; or

(e) contribute to or assume an obligation to contribute to any "multi-employer pension plan" as such term is defined in the *Pension Benefits Act* (Ontario) or any similar plan under pension standards legislation in another jurisdiction unless the Required Lenders have approved the participation in such plan.

(13) *Sale or Discount of Receivables*. The Borrower shall not, and shall not permit any other Credit Party to, discount or sell (with or without recourse), any of its receivables, or rights in respect thereof, other than ordinary course discounts provided to customers.

(14) *Issuance of Shares*. The Borrower shall not, and shall not permit any other Credit Party to, authorize or issue:

(a) any Equity Securities (other than Equity Securities of the Borrower) to any Person other than another Credit Party; or

(b) any preferred shares or other Equity Securities having a mandatory redemption right existing with regard thereto which could become operative on or before the Termination Date.

(15) *No Amendments to Constating Documents, etc*. The Borrower shall not, and shall not permit any other Credit Party to, amend, its constating documents, by-laws, partnership agreement or operating agreement, as applicable, in a manner that would have a material adverse impact on the Administrative Agent or the Lenders or such Credit Party's duty or ability to repay the Secured Liabilities.

(16) *Cash Management*. The Borrower shall not, and shall not permit any other Credit Party (other than a Foreign Material Subsidiary) to, open or maintain any bank or deposit account with any Person that is not a Lender, unless such Person, the applicable Credit Party and the Administrative Agent enter into a blocked account agreement in form and substance satisfactory to the Administrative Agent.

(17) *Use of Proceeds*. The Borrower will not request any Borrowing or Letter of Credit, and the Borrower shall not use, and shall procure that its Subsidiaries and its or their respective directors, officers, employees and agents shall not use, the proceeds of any Borrowing or Letter of Credit

(a) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any Anti-Corruption Laws;

(b) for the purpose of funding, financing or facilitating any activities, business or transaction of or with any Sanctioned Person, or in any Sanctioned Country;

(c) in any manner that would result in the violation of any Sanctions applicable to any party hereto.

Marigold Project

(18) *Marigold Project Operation*. The Borrower shall cause Marigold Mining Company not to engage in any business other than the business of the Marigold Project.

(19) *Marigold Project Assets*. No Person shall have any right, title or interest in Marigold Project Assets (other than Permitted Liens and, with respect to the owned unpatented mining claims and

owned unpatented millsite claims constituting part of the Marigold Project Real Property, the paramount title of the United States, and with respect to the property subject to the Marigold Project Leases, the respective lessors) other than Marigold Mining Company.

(20) *Royalty Agreements*. The Borrower shall not permit Marigold Mining Company to amend or modify the Existing Royalty Agreements in any manner that increases or accelerates (or may potentially increase or accelerate) its liabilities thereunder.

ARTICLE 7
EVENTS OF DEFAULT

7.1 Events of Default.

If any of the following events ("**Events of Default**") shall occur:

(a) the Borrower shall fail to pay any principal of any Loan or any reimbursement obligation in respect of any LC Disbursement when and as the same shall become due and payable, whether at the due date thereof or at a date fixed for prepayment thereof or otherwise and such failure shall continue unremedied for a period of 3 Business Days after the due date;

(b) the Borrower shall fail to pay any interest on any Loan or any fee or any other amount (other than an amount referred to in Section 7.1(a)) payable under any Loan Document, when and as the same shall become due and payable and such failure shall continue unremedied for a period of 5 Business Days after written notice from the Administrative Agent;

(c) any representation or warranty made or deemed made by or on behalf of any Credit Party in or in connection with any Loan Document or any amendment or modification thereof or waiver thereunder, or in any report, certificate, financial statement or other document furnished pursuant to or in connection with any Loan Document or any amendment or modification thereof or waiver thereunder, shall prove to have been incorrect in any material respect when made or deemed to be made;

(d) the Borrower shall fail to observe or perform any covenant, condition or agreement contained in Section 5.1(1)(d)(i) (notice of Default or Event of Default), Section 5.1(2) (Existence; Conduct of Business), Section 5.1(7) (Use of Proceeds and Letters of Credit), Section 5.1(12) (Financial Covenants) or in Article 6 (or any negative covenant in any other Loan Document);

(e) any Credit Party shall fail to observe or perform any covenant, condition or agreement contained in this Agreement (other than those specified in Section 7.1(a), (b) or (d)) or any other Loan Document), and such failure shall continue unremedied for a period of 30 days after the earlier of (i) knowledge thereof by any Credit Party, or (ii) notice thereof from the Administrative Agent to the Borrower (which notice shall be given at the request of any Lender);

(f) any event or condition occurs that results in any Material Indebtedness becoming due prior to its scheduled maturity or that enables or permits (with or without the giving of notice, the lapse of time or both) the holder or holders of any Material Indebtedness or any trustee or agent on its or their behalf to cause any Material Indebtedness to become

due, or to require the prepayment, repurchase, redemption or defeasance thereof, prior to its scheduled maturity; provided that this Section 7.1(f) shall not apply to secured Indebtedness that becomes due as a result of the voluntary sale or transfer of the property or assets securing such Indebtedness so long as the proceeds of such sale or transfer are sufficient to, and are applied to, reduce such secured Indebtedness to nil;

(g) any Credit Party:

(i) becomes insolvent, or generally does not or becomes unable to pay its debts or meet its liabilities as the same become due, or admits in writing its inability to pay its debts generally, or declares any general moratorium on its indebtedness, or proposes a compromise or arrangement between it and any class of its creditors;

(ii) commits an act of bankruptcy under Bankruptcy Laws, or makes an assignment of its property for the general benefit of its creditors under Bankruptcy Laws, or makes a proposal (or files a notice of its intention to do so) under Bankruptcy Laws;

(iii) institutes any proceeding seeking to adjudicate it an insolvent, or seeking liquidation, dissolution, winding-up, reorganization, compromise, arrangement, adjustment, protection, moratorium, relief, stay of proceedings of creditors generally (or any class of creditors), or composition of it or its debts or any other relief, under any federal, provincial or foreign Law now or hereafter in effect relating to bankruptcy, winding-up, insolvency, reorganization, receivership, plans of arrangement or relief or protection of debtors (including the BIA, the *Companies' Creditors Arrangement Act* (Canada), the Bankruptcy Code and any applicable corporations legislation) or at common law or in equity, or files an answer admitting the material allegations of a petition filed against it in any such proceeding;

(iv) applies for the appointment of, or the taking of possession by, a receiver, interim receiver, receiver/manager, sequestrator, conservator, custodian, administrator, trustee, liquidator or other similar official for it or any substantial part of its property; or

(v) threatens to do any of the foregoing, or takes any action, corporate or otherwise, to approve, effect, consent to or authorize any of the actions described in Section 7.1(g) or in Section 7.1(h), or otherwise acts in furtherance thereof or fails to act in a timely and appropriate manner in defense thereof;

(h) any petition is filed, application made or other proceeding instituted against or in respect of any Credit Party:

(i) seeking to adjudicate such Credit Party an insolvent;

(ii) seeking a receiving order or other similar order against such Credit Party under Bankruptcy Laws;

(iii) seeking liquidation, dissolution, winding-up, reorganization, compromise, arrangement, adjustment, protection, moratorium, relief, stay of proceedings of

creditors generally (or any class of creditors), or composition of such Credit Party or its debts or any other relief under any federal, provincial or foreign Law now or hereafter in effect relating to bankruptcy, winding-up, insolvency, reorganization, receivership, plans of arrangement or relief or protection of debtors (including the BIA, the *Companies' Creditors Arrangement Act* (Canada), the Bankruptcy Code and any applicable corporations legislation) or at common law or in equity; or

(iv) seeking the entry of an order for relief or the appointment of, or the taking of possession by, a receiver, interim receiver, receiver/manager, sequestrator, conservator, custodian, administrator, trustee, liquidator or other similar official for such Credit Party or any substantial part of its property,

and such petition, application or proceeding continues undismissed, or unstayed and in effect, for a period of 45 days after the institution thereof, provided that if an order, decree or judgment is granted or entered (whether or not entered or subject to appeal) against such Credit Party thereunder in the interim, such grace period shall cease to apply, and provided further that if such Credit Party files an answer admitting the material allegations of a petition filed against it in any such proceeding, such grace period shall cease to apply;

(i) any other event occurs which, under the Laws of any applicable jurisdiction, has an effect equivalent to any of the events referred to in either of Sections 7.1(g) or (h);

(j) one or more judgments for the payment of money in a cumulative amount in excess of U.S.$5,000,000 (or its then equivalent in any other currency) in the aggregate is rendered against any one or more of the Credit Parties and they have not (i) provided for its discharge in accordance with its terms within 45 days from the date of entry thereof, or (ii) procured a stay of execution thereof within 45 days from the date of entry thereof and within such period, or such longer period during which execution of such judgment has not been stayed, appealed such judgment and caused the execution thereof to be stayed during such appeal, provided that if enforcement or realization proceedings are lawfully commenced in respect thereof in the interim, such grace period shall cease to apply;

(k) any property of any Credit Party having a Fair Market Value in excess of U.S.$5,000,000 (or its then equivalent in any other currency) in the aggregate is seized (including by way of execution, attachment, garnishment, levy or distraint), or any Lien thereon securing Indebtedness in excess of U.S.$5,000,000 (or its then equivalent in any other currency) is enforced, or such property has become subject to any charging order or equitable execution of a Governmental Authority, or any writ of execution or distress warrant exists in respect of any Credit Party or the property of any of them, or any sheriff or other Person becomes lawfully entitled by operation of law or otherwise to seize or distrain upon such property and in any case such seizure, enforcement, execution, attachment, garnishment, distraint, charging order or equitable execution, or other seizure or right, continues in effect and is not released or discharged for more than 45 days or such longer period during which entitlement to the use of such property continues with the such Credit Party, and such Credit Party is contesting the same in good faith and by appropriate proceedings, provided that if the property is removed from the use of such Credit Party, or is sold, in the interim, such grace period shall cease to apply;

(l) one or more final judgments, not involving the payment of money and not otherwise specified in this Section 7.1, has been rendered against any Credit Party, the result of which could reasonably be expected to result in a Material Adverse Effect, so long as such Credit Party has not (i) provided for its discharge in accordance with its terms within 45 days from the date of entry thereof, or (ii) procured a stay of execution thereof within 45 days from the date of entry thereof and within such period, or such longer period during which execution of such judgment has been stayed, appealed such judgment and caused the execution thereof to be stayed during such appeal, provided that if enforcement or realization proceedings are lawfully commenced in respect thereof in the interim, such grace period shall cease to apply;

(m) this Agreement, any other Loan Document or any material obligation or other provision hereof or thereof at any time for any reason terminates or ceases to be in full force and effect and a legally valid, binding and enforceable obligation of any Credit Party, is declared to be void or voidable or is repudiated, or the validity, binding effect, legality or enforceability hereof or thereof is at any time contested by any Credit Party, or any Credit Party denies that it has any or any further liability or obligation hereunder or thereunder or any action or proceeding is commenced to enjoin or restrain the performance or observance by any Credit Party of any material terms hereof or thereof or to question the validity or enforceability hereof or thereof, or at any time it is unlawful or impossible for any Credit Party to perform any of its material obligations hereunder or thereunder;

(n) any Lien purported to be created by any Security Document shall cease to be, or shall be asserted by any Credit Party not to be, a valid, perfected, first priority (except as otherwise expressly provided in this Agreement or such Security Document) Lien in Collateral with a Fair Market Value or book value (whichever is greater) in excess, individually or in the aggregate, of $5,000,000, except to the extent that any such loss of perfection or priority results from the failure of the Administrative Agent to maintain possession of certificates representing securities pledged under the Loan Documents or otherwise take any action within its control (including the filing of financing change statements to renew any financing statement filed under applicable personal property security laws);

(o) a Material Adverse Change shall occur;

(p) a Change in Control shall occur;

(q) Marigold Mining Company shall abandon or otherwise lose, whether voluntarily or involuntarily, all or any material portion of its interest in the Marigold Project or the Marigold Project Assets or surrender, cancel or release, or suffer any termination or cancellation of any of its material rights, right or interest in the Marigold Project or the Marigold Project Assets;

(r) any Person other than Marigold Mining Company shall acquire Mining Rights in respect of all or any material portion of the Marigold Project Real Property;

(s) any Governmental Authority:

(i) condemns, nationalises, seizes or otherwise expropriates all or any material portion of the Marigold Project or Marigold Project Assets; or

(ii) assumes custody or control of all or any material portion of the Marigold Project or Marigold Project Assets;

then, (A) and in every such event other than those described in (B), , and at any time thereafter during the continuance of such event or any other such event, the Administrative Agent may, and at the request of the Required Lenders shall, by notice to the Borrower, take either or both of the following actions, at the same or different times: (x) terminate the Commitments, and thereupon the Commitments shall terminate immediately, and (y) declare the Loans then outstanding to be due and payable in whole (or in part, in which case any principal not so declared to be due and payable may thereafter be declared to be due and payable), and thereupon the principal of the Loans so declared to be due and payable, together with accrued interest thereon and all fees and other obligations of the Borrower accrued hereunder, shall become due and payable immediately, without presentment, demand, protest or other notice of any kind except as set out earlier in this paragraph, all of which are hereby waived by the Borrower, and (B) in the case of any event with respect to the Borrower described in Section 7.1(g), (h) or (i), the Commitments shall automatically terminate and the principal of the Loans then outstanding, together with accrued interest thereon and all fees and other obligations of the Borrower accrued hereunder, and Cover for any outstanding Letters of Credit, shall automatically become due and payable, without presentment, demand, protest or other notice of any kind, all of which are hereby waived by the Borrower.

ARTICLE 8
THE ADMINISTRATIVE AGENT

8.1 Appointment of Administrative Agent.

Each Lender hereby designates Canadian Imperial Bank of Commerce as Administrative Agent to act as herein specified and as specified in the other Loan Documents. Each Lender hereby irrevocably authorizes the Administrative Agent to take such action on its behalf under the provisions of the Loan Documents and to exercise such powers and to perform such duties thereunder as are specifically delegated to or required of the Administrative Agent by the terms thereof and such other powers as are reasonably incidental thereto. The Administrative Agent may perform any of its duties hereunder by or through its agents or employees. Each Secured Party hereby irrevocably authorizes and directs the Administrative Agent to execute and deliver any Affiliate Postponement Agreement on behalf of such Secured Party.

8.2 Secured Parties.

(a) The Security Documents shall be in favour of the Administrative Agent for the benefit of the Secured Parties.

(b) The Secured Hedge Obligations shall be secured by the Liens granted under the Security Documents and rank *pari passu* with the obligations of the Borrower under this Agreement.

(c) The Secured Cash Management Obligations shall be secured by the Liens granted under the Security Documents and rank *pari passu* with the obligations of the Borrower under this Agreement.

(d) Notwithstanding such common security and prior to the Lender Termination Date, all decisions regarding the administration and enforcement of the Security Documents shall

be made by the Lenders alone, and no Secured Hedge Counterparty or Secured Cash Management Provider shall have any voting rights under this Agreement or any other right whatsoever to participate in the administration or enforcement of the Security Documents. For the avoidance of doubt but without limitation, prior to the Lender Termination Date any or all of the Security Documents or any rights contained therein may be amended or released by the Administrative Agent without the consent of any Secured Hedge Counterparty or Secured Cash Management Provider.

(e) Each Lender or Lender Affiliate that is or becomes a Secured Hedge Counterparty or Secured Cash Management Provider shall be bound as such by virtue of its execution and delivery of this Credit Agreement or an Assignment and Assumption, as applicable, notwithstanding that such capacity as Secured Hedge Counterparty or Secured Cash Management Provider may not be identified on its signature line.

(f) For the avoidance of doubt, nothing herein shall prevent a Lender or Lender Affiliate from entering into a Permitted Equity Hedge Arrangement or taking a Permitted Equity Hedge Lien, and any indebtedness thereunder shall not constitute Secured Liabilities.

8.3 Limitation of Duties of Administrative Agent.

The Administrative Agent shall have no duties or responsibilities except those expressly set out with respect to the Administrative Agent in this Agreement and as specified in the other Loan Documents. None of the Administrative Agent, nor any of its Related Parties shall be liable for any action taken or omitted by it as such hereunder or in connection herewith, unless caused by its or their gross negligence or willful misconduct. The duties of the Administrative Agent shall be mechanical and administrative in nature; the Administrative Agent shall not have, by reason of this Agreement or the other Loan Documents, a fiduciary relationship in respect of any Secured Party. Nothing in this Agreement or the other Loan Documents, expressed or implied, is intended to or shall be so construed as to impose upon the Administrative Agent any obligations in respect of this Agreement except as expressly set out herein. The Administrative Agent shall be under no duty to take any discretionary action permitted to be taken by it pursuant to this Agreement or the other Loan Documents unless it is requested in writing to do so by the Required Lenders.

8.4 Lack of Reliance on the Administrative Agent.

(1) *Independent Investigation*. Independently, and without reliance upon the Administrative Agent, each Lender, to the extent it deems appropriate, has made and shall continue to make (a) its own independent investigation of the financial condition and affairs of the Credit Parties in connection with the taking or not taking of any action in connection herewith, and (b) its own appraisal of the creditworthiness of the Credit Parties, and, except as expressly provided in this Agreement and the other Loan Documents, the Administrative Agent shall have no duty or responsibility, either initially or on a continuing basis, to provide any Lender with any credit or other information with respect thereto, whether coming into its possession before the consummation of the Transactions or at any time or times thereafter.

(2) *Agents Not Responsible*. The Administrative Agent shall not be responsible to any Lender for any recitals, statements, information, representations or warranties herein or in any document, certificate or other writing delivered in connection herewith or for the execution, effectiveness, genuineness, validity, enforceability, collectibility, priority or sufficiency of this Agreement or the other Loan Documents or the financial condition of the Credit Parties or be required to make any inquiry concerning either the performance or observance of any of the terms, provisions or conditions of this

Agreement or the other Loan Documents, or the financial condition of the Credit Parties, or the existence or possible existence of any Default or Event of Default.

8.5 Certain Rights of the Administrative Agent.

If the Administrative Agent shall request instructions from the Lenders or the Required Lenders (as the case may be) with respect to any act or action (including the failure to act) in connection with this Agreement or the other Loan Documents, the Administrative Agent shall be entitled to refrain from such act or taking such action unless and until the Administrative Agent shall have received written instructions from the Lenders or the Required Lenders, as applicable, and the Administrative Agent shall not incur liability to any Person by reason of so refraining. Without limiting the foregoing, no Lender shall have any right of action whatsoever against the Administrative Agent as a result of the Administrative Agent acting or refraining from acting under this Agreement and the other Loan Documents in accordance with the instructions of the Required Lenders, or, to the extent required by Section 9.2, all of the Lenders.

8.6 Reliance by Administrative Agent.

The Administrative Agent shall be entitled to rely, and shall be fully protected in relying, upon any note, writing, resolution, notice, statement, certificate, telex, teletype or facsimile message, electronic mail, cablegram, radiogram, order or other documentary teletransmission or telephone message believed by it to be genuine and correct and to have been signed, sent or made by the proper Person. The Administrative Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall not incur any liability for relying thereon. In determining compliance with any condition hereunder to the making of a Loan or Borrowing that by its terms must be fulfilled to the satisfaction of a Lender, the Administrative Agent may presume that such condition is satisfactory to such Lender unless the Administrative Agent shall have received notice to the contrary from such Lender prior to the making of such Loan. The Administrative Agent may consult with legal counsel (including counsel for the Borrower), independent public accountants and other experts selected by it and shall not be liable for any action taken or omitted to be taken by it in good faith in accordance with the advice of such counsel, accountants or experts.

8.7 Indemnification of Administrative Agent.

To the extent the Administrative Agent is not reimbursed and indemnified by the Borrower, each Lender shall reimburse and indemnify the Administrative Agent, in proportion to its aggregate Applicable Percentage, for and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses (including reasonable counsel fees and disbursements) or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Administrative Agent in performing its duties hereunder, in any way relating to or arising out of this Agreement or any other Loan Document; provided that no Lender shall be liable to the Administrative Agent for any portion of such liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements resulting from the Administrative Agent's gross negligence (it being acknowledged that ordinary negligence does not necessarily constitute gross negligence) or willful misconduct.

8.8 The Administrative Agent in its Individual Capacity.

With respect to its obligations under this Agreement and the Loans made by it, Canadian Imperial Bank of Commerce, in its capacity as a Lender hereunder, shall have the same rights and powers hereunder as any other Lender and may exercise the same as though it were not performing the duties, if

any, specified herein; and the terms "Lenders", "Required Lenders" and any similar terms shall, unless the context clearly otherwise indicates, include Canadian Imperial Bank of Commerce in its capacity as a Lender hereunder. The Administrative Agent and the Arranger may accept deposits from, lend money to, and generally engage in any kind of banking, trust, financial advisory or other business with the Borrower or any Affiliate of the Borrower as if it were not performing the duties, if any, specified herein, and may accept fees and other consideration from the Borrower for services in connection with this Agreement and otherwise without having to account for the same to the Lenders.

8.9 May Treat Lender as Owner.

The Borrower, the Administrative Agent and the Issuing Bank may deem and treat each Lender as the owner of the Loans recorded on the Register maintained pursuant to Section 9.4(3) for all purposes hereof until a written notice of the assignment or transfer thereof shall have been filed with the Administrative Agent. Any request, authority or consent of any Person who at the time of making such request or giving such authority or consent is the owner of a Loan shall be conclusive and binding on any subsequent owner, transferee or assignee of such Loan.

8.10 Successor Administrative Agent.

(1) *Replacement of Administrative Agent*. The Administrative Agent may resign at any time by giving written notice thereof to the Lenders, the Issuing Banks and the Borrower, and may be removed at any time, with or without cause, by the Required Lenders. Upon any such resignation or removal, the Required Lenders shall have the right, upon five Business Days' notice to the Borrower, to appoint a successor Administrative Agent (who shall not be a non-resident of Canada within the meaning of the Income Tax Act), subject to the approval of the Borrower, such approval not to be unreasonably withheld. If no successor Administrative Agent shall have been so appointed by the Required Lenders, and shall have accepted such appointment, within 30 days after the retiring Administrative Agent's giving of notice of resignation or the Required Lenders' removal of the retiring Administrative Agent, then, upon five Business Days' notice to the Borrower, the retiring Administrative Agent may, on behalf of the Lenders, appoint a successor Administrative Agent (subject to approval of the Borrower, such approval not to be unreasonably withheld), which shall be a financial institution organized under the laws of Canada having a combined capital and surplus of at least Cdn.$1,000,000,000 or having a parent company with combined capital and surplus of at least Cdn.$1,000,000,000.

(2) *Rights, Powers, etc*. Upon the acceptance of any appointment as Administrative Agent hereunder by a successor Administrative Agent, such successor Administrative Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Administrative Agent, and the retiring Administrative Agent shall be discharged from its duties and obligations under this Agreement. After any retiring Administrative Agent's resignation or removal hereunder as Administrative Agent, the provisions of this Article 8 shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Administrative Agent under this Agreement.

8.11 No Independent Legal Action.

No Lender may take any independent legal action to enforce any obligation of the Borrower hereunder. Each Lender hereby acknowledges that, to the extent permitted by applicable Law, the Security Documents and the remedies provided thereunder to the Secured Parties are for the benefit of the Secured Parties collectively and acting together and not severally, and further acknowledges that each Lender's rights hereunder and under the Security Documents are to be exercised collectively, not severally, by the Administrative Agent upon the decision of the Required Lenders. Accordingly, notwithstanding any of the provisions contained herein or in the Security Documents, each of the Lenders

hereby covenants and agrees that it shall not be entitled to take any action hereunder or thereunder, including any declaration of default hereunder or thereunder, but that any such action shall be taken only by the Administrative Agent with the prior written agreement of the Required Lenders, provided that, notwithstanding the foregoing, in the absence of instructions from the Lenders (or the Required Lenders) and where in the sole opinion of the Administrative Agent the exigencies of the situation so warrant such action, the Administrative Agent may without notice to or consent of the Lenders (or the Required Lenders) take such action on behalf of the Lenders as it deems appropriate or desirable in the interests of the Lenders. Each Lender hereby further covenants and agrees that upon any such written consent being given by the Required Lenders (or, to the extent required by Section 9.2, the Lenders), it shall co-operate fully with the Administrative Agent to the extent requested by the Administrative Agent, and each Lender further covenants and agrees that all proceeds from the realization of the Security Documents, to the extent permitted by applicable Law, are held for the benefit of all of the Secured Parties and shall be shared among them in accordance with this Agreement, and each Lender acknowledges that all costs of any such realization (including all amounts for which the Administrative Agent is required to be indemnified under the provisions hereof) shall be shared among the Secured Parties in accordance with this Agreement. Each Lender covenants and agrees to do all acts and things and to make, execute and deliver all agreements and other instruments, so as to fully carry out the intent and purpose of this Section 8.11 and each Lender hereby covenants and agrees that it shall not seek, take, accept or receive any security for any of the obligations and liabilities of the Borrower hereunder or under the other Loan Documents, or any other document, instrument, writing or agreement ancillary hereto or thereto, other than such security as is provided hereunder or thereunder, and that it shall not enter into any agreement with any of the parties hereto or thereto relating in any manner whatsoever to the Credit(s), unless all of the Secured Parties shall at the same time obtain the benefit of any such security or agreement, as the case may be.

8.11 Arranger.

The Arranger has no duties, liabilities or obligations hereunder.

ARTICLE 9
MISCELLANEOUS

9.1 Notices.

(1) *Method and Contact Information.* Except in the case of notices and other communications expressly permitted to be given by telephone (and subject to Section 9.1(2)), all notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by facsimile or e-mail in each case to the addressee, as follows:

(i) if to the Borrower or any other Credit Party:

Silver Standard Resources Inc.
Suite 800 – 1055 Dunsmuir Street
Vancouver, BC V7X 1G4
Attention: Chief Financial Officer, Vice President, Legal & Corporate Affairs
Facsimile: +1 604.689.3847

with a copy to:

Lawson Lundell LLP
1600 – 925 West Georgia Street,
Vancouver, BC V6C 3L2
Attention: Mandeep R. Dhaliwal
E-mail: mdhaliwal@lawsonlundell.com
Facsimile: +1 604.669.1620

(ii) if to the Administrative Agent:

Canadian Imperial Bank of Commerce
5th Floor Atrium on Bay
595 Bay Street
Toronto, Ontario
M5G 2C2

Attention: Leanne Third
Neermala Hurry
Wilma Sevilleja
E-mail: Leanne.Third@cibc.ca
Neermala.Hurry@cibc.ca
Wilma.Sevilleja@cibc.ca
Facsimile: (416) 956-3830

with a copy to:

Canadian Imperial Bank of Commerce
Legal Department
199 Bay Street
11th Floor
Toronto, ON M5L 1A2
Attention: Tim Meadowcroft, Vice-President and Associate General Counsel
Fax: (416) 304-4573
Email: tim.meadowcroft@cibc.com

(iii) if to any Lender or any Issuing Bank, to it at its address, facsimile number or e-mail address set out opposite its name on Schedule 9.1 or in the Assignment and Assumption by which it becomes a Lender.

(2) *Electronic Communications.* Notices and other communications to the Lenders hereunder may be delivered or furnished by electronic communications pursuant to procedures approved by the Administrative Agent; provided that the foregoing shall not apply to notices pursuant to Article 2 unless otherwise agreed by the Administrative Agent and the applicable Lender. The Administrative Agent or the Borrower may, in its discretion, agree to accept notices and other communication to it hereunder by electronic communications pursuant to procedures approved by it; provided that approval of such procedures may be limited to particular notices or communications.

(3) *Change of Address; When Notice Deemed Given.* Any party hereto may change its address, facsimile number or e-mail address for notices and other communications hereunder by notice to the other parties hereto in the manner provided in Section 9.1. All notices and other communications given to any party hereto in accordance with the provisions of this Agreement shall be deemed to have been given on the date of receipt.

9.2 Waivers; Amendments.

(1) *Waiver*. No failure or delay by the Administrative Agent or any Lender in exercising any right or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The rights and remedies of the Administrative Agent and the Lenders hereunder are cumulative and are not exclusive of any rights or remedies that they would otherwise have. No waiver of any provision of this Agreement or consent to any departure by the Borrower therefrom shall in any event be effective unless the same shall be permitted by Section 9.2(2), and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. Without limiting the generality of the foregoing, the making of a Loan or issuance of a Letter of Credit shall not be construed as a waiver of any Default, regardless of whether the Administrative Agent or any Lender may have had notice or knowledge of such Default at the time.

(2) *Amendments*. Neither this Agreement nor any other Loan Document (or any provision hereof or thereof) may be waived, amended or modified except pursuant to an agreement or agreements in writing entered into by the Borrower and the Required Lenders or by the Borrower and the Administrative Agent with the consent of the Required Lenders (and for greater certainty, any such waiver, amendment or modification shall not require any consent or other agreement of any Credit Party other than the Borrower, notwithstanding that any such Credit Party may be a party to this Agreement or any other Loan Document); provided that no such agreement shall:

(a) increase the amount of any Commitment of any Lender;

(b) extend the expiry date of any Commitment of any Lender;

(c) reduce the principal amount of any Loan or reduce the rate of interest or any fee applicable to any Loan or Letter of Credit (provided that the Required Lenders may amend the definition of Net Leverage Ratio or any component thereof notwithstanding any effect on the Applicable Margin);

(d) postpone the scheduled date of payment of the principal amount of any Loan, or any interest thereon, or any fees payable in respect thereof, or reduce the amount of, waive or excuse any such payment, or postpone the scheduled date of expiration of any Commitment;

(e) change Section 2.16 in a manner that would alter the sharing of payments required thereby;

(f) change any of the provisions of Section 9.2 or the definition of "**Required Lenders**" or any other provision hereof specifying the number or percentage of Lenders required to waive, amend or modify any rights hereunder or make any determination or grant any consent hereunder;

(g) waive any Event of Default under Section 7.1(g), (h), or (i) (it being understood that any other Event of Default may be waived by the Required Lenders, notwithstanding that the Loans would otherwise bear a default rate of interest and be capable of falling due and payable); or

(h) release any Credit Party from any material obligations under the Security Documents and other instruments contemplated by this Agreement, release or discharge any of the Liens arising under the Security Documents, permit the creation of any Liens, other than Permitted Liens, on any of the assets subject to the Liens arising under the Security Documents, lower the priority of any Lien arising under any of the Security Documents, or lower the priority of any payment obligation of any Credit Party under any of the Loan Documents,

in each case without the prior written consent of each Lender, or in the case of the matters referred to in Section 9.2(2), (b), (c), (d) and (e), without the prior written consent of each Lender directly affected thereby and provided further that no such agreement shall amend, modify or otherwise affect the rights or duties of the Administrative Agent, the Issuing Bank or the Swingline Lender hereunder, as the case may be, without the prior written consent of the Administrative Agent, Issuing Bank or Swingline Lender (as applicable). For greater certainty, the Administrative Agent may release and discharge the Liens constituted by the Security Documents or a Guarantor from the Group Guarantee to the extent necessary to enable a Credit Party to complete any Asset Disposition which is not prohibited by this Agreement or the other Loan Documents. The Administrative Agent may also subordinate the Liens constituted by the Security Documents to any Lien permitted by Section 6.1(2).

9.3 Expenses; Indemnity; Damage Waiver.

(1) *Expenses*. The Borrower shall pay (a) all reasonable out-of-pocket expenses incurred by the Administrative Agent and its Affiliates, including the reasonable fees, charges and disbursements of counsel for the Administrative Agent and all applicable Taxes, in connection with the syndication of the credit facilities provided for herein and the preparation and administration of this Agreement and the other Loan Documents, (b) all reasonable out-of-pocket expenses incurred by the Administrative Agent and its Affiliates, including the reasonable fees, charges and disbursements of counsel for the Administrative Agent and applicable Taxes, in connection with any amendments, modifications or waivers of the provisions hereof or of any of the other Loan Documents, (whether or not the transactions contemplated hereby or thereby shall be consummated), and (c) all out-of-pocket expenses incurred by the Administrative Agent, the Arranger or any Lender, including the fees, charges and disbursements of any counsel for the Administrative Agent or any Lender and all applicable Taxes, in connection with the assessment, enforcement or protection of their rights in connection with this Agreement, including its rights under Section 9.3, or in connection with the Loans made hereunder, including all such out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such Loans.

(2) *Indemnity*. The Borrower shall indemnify the Arranger and each Secured Party, as well as each Related Party and each assignee of any of the foregoing Persons (each such Person and each such assignee being called an "**Indemnitee**") against, and hold each Indemnitee harmless from, any and all losses, claims, cost recovery actions, damages, expenses and liabilities of whatsoever nature or kind and all reasonable out-of-pocket expenses and all applicable Taxes (other than Excluded Taxes) to which any Indemnitee may become subject arising out of or in connection with (a) the execution or delivery of the Loan Documents or any agreement or instrument contemplated thereby, the performance by the parties thereto of their respective obligations thereunder, and the consummation of the Transactions or any other transactions thereunder, (b) any Loan or Letter of Credit or any actual or proposed use of the proceeds therefrom, including any refusal by the Issuing Bank to honour a demand for payment under a Letter of Credit if the documents presented in connection with such demand do not strictly comply with the terms of such Letter of Credit, (c) any actual or alleged presence or release of Hazardous Materials on or from any property owned or operated by a Credit Party, or any Environmental Liability related in any way to a Credit Party, (d) any actual or prospective claim, litigation, investigation or proceeding relating to any of the foregoing, whether based on contract, tort or any other theory and regardless of whether any

Indemnitee is a party thereto, (e) any other aspect of this Agreement and the other Loan Documents, or (f) the enforcement of any Indemnitee's rights hereunder and any related assessment, investigation, defence, preparation of defence, litigation and enquiries; provided that such indemnity shall not, as to any Indemnitee, be available to the extent that such losses, claims, damages, liabilities or related expenses are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the gross negligence (it being acknowledged that ordinary negligence does not necessarily constitute gross negligence) wilful misconduct of, or material breach of this Agreement by such Indemnitee.

(3) *Lender Responsibility for Unpaid Expenses and Indemnity.* To the extent that the Borrower fails to pay any amount required to be paid under Sections 9.3(1) or (2), each Lender severally agrees to pay to the Administrative Agent, the Issuing Bank or the Swingline Lender (as applicable) such Lender's Applicable Percentage (determined as of the time that the applicable unreimbursed expense or indemnity payment is sought) of such unpaid amount; provided that the unreimbursed expense or indemnified loss, claim, damage, liability or related expense, as the case may be, was incurred by or asserted against the Administrative Agent, the Issuing Bank or the Swingline Lender, in its capacity as such.

(4) *Inspections for Administration.* Any inspection of any property of any Credit Party made by or through the Administrative Agent or any Lender shall be for purposes of administration of the Credits only, and no Credit Party shall be entitled to rely upon the same (whether or not such inspections are at the expense of the Borrower).

(5) *No Representation.* By accepting or approving anything required to be observed, performed, fulfilled or given to the Administrative Agent or the Lenders pursuant to the Loan Documents, neither the Administrative Agent nor the Lenders shall be deemed to have warranted or represented the sufficiency, legality, effectiveness or legal effect of the same, or of any term, provision or condition thereof, and such acceptance or approval thereof shall not constitute a warranty or representation to anyone with respect thereto by the Administrative Agent or the Lenders.

(6) *Relationship Between Parties.* The relationship between the Borrower and the Administrative Agent and the Lenders is, and shall at all times remain, solely that of borrower and lenders. Neither the Administrative Agent nor the Lenders shall under any circumstances be construed to be partners or joint venturers of the Borrower or its Affiliates. Neither the Administrative Agent nor the Lenders shall under any circumstances be deemed to be in a relationship of confidence or trust or a fiduciary relationship with the Borrower or its Affiliates, or to owe any fiduciary duty to the Borrower or its Affiliates. Neither the Administrative Agent nor the Lenders undertake or assume any responsibility or duty to the Borrower or its Affiliates to select, review, inspect, supervise, pass judgment upon or inform the Borrower or its Affiliates of any matter in connection with their property or the operations of the Borrower or its Affiliates. The Borrower and its Affiliates shall rely entirely upon their own judgment with respect to such matters, and any review, inspection, supervision, exercise of judgment or supply of information undertaken or assumed by the Administrative Agent or the Lenders in connection with such matters shall be solely for the protection of the Administrative Agent and the Lenders, and neither the Borrower nor any other Person shall be entitled to rely thereon.

(7) *Limitation of Liability.* The Administrative Agent and the Lenders shall not be responsible or liable to any Person for any loss, damage, liability or claim of any kind relating to injury or death to Persons or damage to property caused by the actions, inaction or negligence of any Credit Party or its Affiliates, and the Borrower hereby indemnifies and holds the Administrative Agent and the Lenders harmless on the terms set out in Section 9.3(2) from any such loss, damage, liability or claim.

(8) *Agreement Between Parties.* The parties agree that this Agreement is made for the purpose of defining and setting forth certain obligations, rights and duties of the Borrower, the Administrative Agent and the Lenders in connection with the Loans, and is made for the sole benefit of the Borrower, the Administrative Agent and the Lenders, and the Administrative Agent's and each Lender's successors and assigns. Except as provided in Sections 9.3(2) and 9.4, no other Person shall have any rights of any nature hereunder or by reason hereof.

(9) *Payment of Expenses and Indemnity.* All amounts due under Section 9.3 shall be payable not later than ten Business Days after written demand therefor.

9.4 Successors and Assigns.

(1) *Successors and Assigns*. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns permitted hereby (including any Affiliate of the Issuing Bank that issues any Letter of Credit), except that (a) the Borrower shall not assign or otherwise transfer any of its rights or obligations hereunder without the prior written consent of each Lender (and any attempted assignment or transfer by the Borrower without such consent shall be null and void), and (b) no Lender may assign or otherwise transfer its rights or obligations hereunder except in accordance with Section 9.4. Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby (including any Affiliate of the Issuing Bank that issues any Letter of Credit) and, to the extent expressly contemplated hereby, the Related Parties of each of the Administrative Agent and the Lenders) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(2) *Assignment by Lenders*. Any Lender may assign to one or more assignees (treating any fund that invests in bank loans and any other fund that invests in bank loans and is managed by the same investment advisor of such fund or by an Affiliate of such investment advisor as a single assignee) all or a portion of its rights and obligations under this Agreement and the other Loan Documents (including all or a portion of its Commitments and the Loans at the time owing to it); provided that (a) except in the case of an assignment to a Lender or a Lender Affiliate (which does not give rise to increased payments under Sections 2.13, 2.14 or 2.15), the Borrower and, in the case of an assignment of all or a portion of a Commitment or any Lender's obligations in respect of its LC Exposure or Swingline Exposure, the Issuing Bank and the Swingline Lender must give its prior written consent to such assignment, and (b) except in the case of an assignment of any Commitment to an assignee that is a Lender with a Commitment immediately prior to giving effect to such assignment, the Administrative Agent must give its prior written consent to such assignment; (c) the Borrower's consent shall not be required with respect to any assignment made at any time after the occurrence and during the continuance of an Event of Default, (d) except in the case of an assignment to a Lender or a Lender Affiliate or an assignment of the entire remaining amount of the assigning Lender's Commitment, the amount of the Commitment of the assigning Lender subject to each such assignment (determined as of the date on which the Assignment and Assumption relating to such assignment is delivered to the Administrative Agent) shall not be less than U.S.$1,000,000, unless each of the Borrower and the Administrative Agent otherwise consent in writing and the amount held by each Lender after each such assignment shall not be less than U.S. $1,000,000, unless each of the Borrower and the Administrative Agent otherwise consent in writing, (e) each partial assignment in respect of a Commitment and the related Loans shall be made as an assignment of a proportionate part of all the assigning Lender's rights and obligations under this Agreement in respect of such Commitment and the related Loans, (f) the parties to each assignment shall execute and deliver to the Administrative Agent an Assignment and Assumption, together with (except in the case of an assignment to a Lender or a Lender Affiliate) a processing and recordation fee of U.S. $5,000, payable by the assigning Lender, (g) the assignee, if it shall not be a Lender, shall deliver to the Administrative Agent an Administrative Questionnaire, and (h) no assignment may be made to any

Credit Party, any Affiliate of a Credit Party, or a Defaulting Lender. The Administrative Agent shall provide the Borrower and each Lender with written notice of any change in (or new) address of a Lender disclosed in an Administrative Questionnaire. Subject to acceptance and recording thereof pursuant to Section 9.4(4), from and after the effective date specified in each Assignment and Assumption, the assignee thereunder shall be a party hereto and, to the extent of the interest assigned by such Assignment and Assumption, shall have all of the rights and obligations of a Lender under this Agreement, and the assigning Lender thereunder shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the assigning Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto but shall continue to be entitled to the benefits of Sections 2.13, 2.14, and 2.15 and 9.3). Any assignment or transfer by a Lender of rights or obligations under this Agreement that does not comply with Section 9.4 shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with Section 9.4(5).

(3) *Register.* The Administrative Agent, acting for this purpose as an agent of the Borrower, shall maintain at one of its offices in Toronto, Ontario a copy of each Assignment and Assumption delivered to it and a register for the recordation of the names and addresses of the Lenders, and the Commitment of, and principal amount of the Loans and LC Disbursements owing to, each Lender pursuant to the terms hereof from time to time (the "**Register**"). The entries in the Register shall be conclusive, and the Borrower, the Administrative Agent, the Issuing Bank, and the Lenders may treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by the Borrower, the Issuing Bank and any Lender at any reasonable time and from time to time upon reasonable prior notice.

(4) *Acceptance and Recording of Assignments.* Upon its receipt of a duly completed Assignment and Assumption executed by an assigning Lender and an assignee, the assignee's completed Administrative Questionnaire (unless the assignee shall already be a Lender hereunder), the processing and recordation fee referred to in Section 9.4(2) and any written consent to such assignment required by Section 9.4(2), the Administrative Agent shall accept such Assignment and Assumption and record the information contained therein in the Register. No assignment shall be effective for purposes of this Agreement unless it has been recorded in the Register as provided in this Section 9.4(4).

(5) *Participations.* Any Lender may, without notice to the Borrower or the consent of the Borrower, the Administrative Agent, the Issuing Bank or the Swingline Lender, sell participations to one or more Persons (a "**Participant**") in all or a portion of such Lender's rights and obligations under this Agreement and the other Loan Documents (including all or a portion of its Commitment and the Loans owing to it); provided that (a) such Lender's obligations under this Agreement shall remain unchanged, (b) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations, and (c) the Borrower, the Administrative Agent, the Issuing Bank and the other Lenders shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. Any agreement or instrument pursuant to which a Lender sells such a participation shall provide that (d) such Lender shall retain the sole right to enforce this Agreement and to approve any amendment, modification or waiver of any provision of this Agreement; provided that such agreement or instrument may provide that such Lender shall not, without the consent of the Participant, agree to any amendment, modification or waiver described in the first proviso to Section 9.2(2) that affects such Participant, and (e) the Participant shall agree to maintain the confidentiality of Information (as defined in Section 9.15) on terms and conditions substantively similar to those contained in Section 9.15. Subject to Section 9.4(6), the Borrower agrees that each Participant shall be entitled to the benefits of Sections 2.13, 2.14, 2.15 and 9.3 to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to Section 9.4(2). To the extent permitted by Law, each Participant also shall be

entitled to the benefits of Section 9.10 as though it were a Lender, provided that such Participant agrees to be subject to Section 2.16(4) as though it were a Lender.

(6) *Rights of Participant.* A Participant shall not be entitled to receive any greater payment under Sections 2.13, 2.14, 2.15 and 9.3 than the applicable Lender would have been entitled to receive with respect to the participation sold to such Participant, unless the sale of the participation to such Participant is made with the Borrower's prior written consent.

(7) *Lender Pledge of Security.* Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under this Agreement to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank, and Section 9.4 shall not apply to any such pledge or assignment of a security interest; provided that no such pledge or assignment of a security interest shall release a Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(8) *Borrower's Obligations.* Any assignment or grant of a participation pursuant to Section 9.4 shall constitute neither a repayment by the Borrower to the assigning or granting Lender of any Loan included therein, nor a new advance of any such Loan to the Borrower by such Lender or by the assignee or Participant, as the case may be. The parties acknowledge that the Borrower's obligations hereunder with respect to any such Loans shall continue and shall not constitute new obligations as a result of such assignment or participation.

9.4 Anti-Money Laundering Legislation.

(1) Information. The Borrower acknowledges that, pursuant to AML Legislation, the Lenders and the Administrative Agent may be required to obtain, verify and record information regarding the Borrower, its directors, authorized signing officers, direct or indirect shareholders or other Persons in control of the Borrower, and the transactions contemplated hereby. The Borrower shall promptly provide all such information, including supporting documentation and other evidence, as may be reasonably requested by any Lender or the Administrative Agent, or any prospective assignee or participant of a Lender or the Administrative Agent, in order to comply with any applicable AML Legislation, whether now or hereafter in existence.

(2) Role of Agent. If the Administrative Agent has ascertained the identity of the Borrower or any authorized signatories of the Borrower for the purposes of applicable AML Legislation, then the Administrative Agent:

(a) shall be deemed to have done so as an agent for each Lender, and this Agreement shall constitute a "written agreement" in such regard between each Lender and the Administrative Agent within the meaning of applicable AML Legislation; and

(b) shall provide to each Lender copies of all information obtained in such regard without any representation or warranty as to its accuracy or completeness.

Notwithstanding the preceding sentence and except as may otherwise be agreed in writing, each of the Lenders agrees that the Administrative Agent has no obligation to ascertain the identity of the Borrower or any authorized signatories of the Borrower on behalf of any Lender, or to confirm the completeness or accuracy of any information it obtains from the Borrower or any such authorized signatory in doing so.

9.6. Survival.

All covenants, agreements, representations and warranties made by the Borrower herein and in the certificates or other instruments delivered in connection with or pursuant to this Agreement shall be considered to have been relied upon by the other parties hereto and shall survive the execution and delivery of this Agreement and the making of any Loans and issuance of any Letters of Credit, regardless of any investigation made by any such other party or on its behalf and notwithstanding that the Administrative Agent, the Issuing Bank or any Lender may have had notice or knowledge of any Default or incorrect representation or warranty at the time any credit is extended hereunder, and shall continue in full force and effect as long as the principal of or any accrued interest on any Loan or any fee or any other amount payable under this Agreement is outstanding and unpaid or any Letter of Credit is outstanding and so long as the Commitments have not expired or terminated. All indemnities contained herein and Article 8 shall survive and remain in full force and effect, regardless of the consummation of the Transactions, the repayment of the Loans, the expiration or termination of the Letters of Credit and the Commitments or the termination of this Agreement or any provision hereof.

9.7. Counterparts.

This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument. Counterparts may be executed either in original or faxed or other electronic form and the parties adopt any signatures received by a receiving fax machine or via e-mail as original signatures of the parties; provided, however, that any party providing its signature in such manner shall promptly forward to the other parties an original of the signed copy of this Agreement which was so faxed or e-mailed.

9.8. Entire Agreement.

This Agreement (together with the other Loan Documents and any separate letter agreements with respect to fees payable to the Administrative Agent), constitutes the entire agreement between the parties pertaining to the subject matter of this Agreement and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no conditions, warranties, representations or other agreements between the parties in connection with the subject matter of this Agreement (whether oral or written, express or implied, statutory or otherwise) except as specifically set out in this Agreement or in such other applicable agreements.

9.9. Severability.

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

9.10. Right of Set Off.

If an Event of Default shall have occurred and be continuing, each Secured Party is hereby authorized at any time and from time to time, to the fullest extent permitted by Law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) at any time held and other obligations at any time owing by such Secured Party to or for the credit or the account of any Credit Party against any of and all of the obligations of the Credit Parties now or hereafter existing under the Loan Documents held by such Secured Party, irrespective of whether or not such Secured Party shall have made any demand under any Loan Document and although such obligations may be unmatured and

regardless of the currency of the deposit. The rights of each Secured Party under this Section 9.10 are in addition to other rights and remedies (including other rights of set off) which such Secured Party may have.

9.11. Governing Law.

This Agreement shall be governed by and construed in accordance with the laws of the Province of British Columbia and the laws of Canada applicable in that Province and shall be treated, in all respects, as a British Columbia contract.

9.12. Attornment.

Each party hereto agrees (a) that any action or proceeding relating to this Agreement may (but need not) be brought in any court of competent jurisdiction in the Province of British Columbia, and for that purpose now irrevocably and unconditionally attorns and submits to the jurisdiction of such British Columbia court, (b) that it irrevocably waives any right to, and shall not, oppose any such British Columbia action or proceeding on any jurisdictional basis, including forum non conveniens, and (c) not to oppose the enforcement against it in any other jurisdiction of any judgment or order duly obtained from a British Columbia court as contemplated by this Section 9.12.

9.13. Service of Process.

Each party hereto irrevocably consents to service of process in the manner provided for notices in Section 9.1. Nothing in this Agreement shall affect the right of any party to this Agreement to serve process in any other manner permitted by Law.

9.14. WAIVER OF JURY TRIAL.

EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT, ANY OTHER LOAN DOCUMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (a) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (b) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 9.14.

9.15. Confidentiality.

Each of the Administrative Agent, the Issuing Bank and each Lender shall maintain the confidentiality of the Information (as defined below), except that Information may be disclosed (a) to each of their Affiliates, Lender Affiliates (in the case of a Lender) directors, officers, employees, agents and advisors, including accountants, legal counsel and other advisors (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such Information and instructed to keep such Information confidential), (b) to the extent requested by any rating agency, credit bureau, regulatory authority or other Governmental Authority, (c) to the extent required by applicable laws or regulations or by any subpoena or similar legal process, (d) to any other party to this Agreement, (e) in connection with the exercise of any remedies under any Loan Document or any suit, action or

proceeding relating to any Loan Document or the enforcement of rights thereunder, (f) subject to an agreement containing provisions substantially the same as those of this Section 9.15, to (i) any actual or prospective assignee of or Participant in any of its rights or obligations under this Agreement, or (ii) any actual or prospective counterparty (or its advisors) to any Hedge Arrangement relating to the Borrower and its obligations, (g) to their auditors in connection with any audit, (h) with the consent of the Borrower, or (i) to the extent such Information (i) becomes publicly available other than as a result of a breach of this Section 9.15, or (ii) becomes available to the Administrative Agent, the Issuing Bank, or any Lender on a non-confidential basis from a source other than the Borrower. For the purposes of this Section 9.15, "**Information**" means all information received from any Credit Party relating to any Credit Party, any of their subsidiaries or Affiliates, or their respective business, other than any such information that is available to the Administrative Agent, the Issuing Bank, the Arranger, or any Lender on a non-confidential basis prior to disclosure by such Credit Party; provided that, in the case of information received from a Credit Party after the date hereof, such information is clearly identified as confidential in writing at the time of delivery. Any Person required to maintain the confidentiality of Information as provided in this Section 9.15 shall be considered to have complied with its obligation to do so if such Person has exercised the same degree of care to maintain the confidentiality of such Information as such Person would accord to its own confidential information. Notwithstanding the foregoing, the Secured Parties and the Credit Parties agree that Blake, Cassels & Graydon LLP may inform league table services, such as Thomson Financial and Bloomberg, and make mention in its promotional publications and the media generally of its representation of the Secured Parties with respect to the Transactions. Each of the Administrative Agent and the Lenders (a) acknowledges that the Information may include material non-public information concerning the Borrower or a Subsidiary, as the case may be, and (b) represents and warrants that it has developed compliance procedures regarding the use of material non-public information in accordance with applicable Laws.

9.16 Application under the CCAA.

The Borrower acknowledges that its business and financial relationships with the Administrative Agent and Lenders are unique from its relationship with any other of its creditors. The Borrower shall not file any plan of arrangement under the *"Companies' Creditors Arrangement Act* (the "**CCAA Plan**") which provides for, or would permit, directly or indirectly, the Administrative Agent or the Lenders to be classified in the same class with any other creditor of the Credit Parties for purposes of such CCAA Plan.

9.17 No Strict Construction.

The parties hereto have participated jointly in the negotiation and drafting of this Agreement. If an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the parties hereto and no presumption or burden of proof shall arise favouring or disfavouring any party by virtue of the authorship of any provisions of this Agreement.

9.18 Paramountcy.

In the event of any conflict or inconsistency between the provisions of this Agreement and the provisions of any other Loan Document then, notwithstanding anything contained in such other Loan Document, the provisions contained in this Agreement shall prevail to the extent of such conflict or inconsistency and the provisions of such other Loan Document shall be deemed to be amended to the extent necessary to eliminate such conflict or inconsistency, it being understood that the purpose of the other Loan Documents is to add to, and not detract from, the rights granted to the Agent (for its own benefit and the benefit of the other Secured Parties) under this Agreement. If any act or omission of any

or all Credit Parties is expressly permitted under this Agreement but is expressly prohibited under any other Loan Document, such act or omission shall be permitted. If any act or omission is expressly prohibited under any other Loan Document, but this Agreement does not expressly permit such act or omission, or if any act is expressly required to be performed under any other Loan Document but this Agreement does not expressly relieve any or all Credit Parties from such performance, such circumstance shall not constitute a conflict or inconsistency between the applicable provisions of such other Loan Document and the provisions of the Credit Agreement.

9.19 Excluded Swap Obligations.

Notwithstanding anything to the contrary contained herein or in any other Loan Document, any Excluded Swap Obligations of a Guarantor shall be excluded from:

(a) the definition of "Secured Liabilities" in any Loan Document as it pertains to such Guarantor, and no Lien granted by a such Guarantor under any Loan Document shall secure any Excluded Swap Obligations; and

(b) the definition of "Debtor Liabilities" in the Group Guarantee as it pertains to such Guarantor, and no Excluded Swap Obligations shall be guaranteed or indemnified by such Guarantor under any Loan Document.

9.20 LIMITATION OF LIABILITY.

NO CLAIM MAY BE MADE BY ANY CREDIT PARTY, ANY SECURED PARTY OR ANY OTHER PERSON AGAINST ANY INDEMNITEE ON ANY THEORY OF LIABILITY, FOR SPECIAL, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES (AS OPPOSED TO DIRECT OR ACTUAL DAMAGES) ARISING OUT OF, IN CONNECTION WITH, OR AS RESULT OF, ANY LOAN DOCUMENT, THE TRANSACTIONS, OR ANY ACT, OMISSION OR EVENT OCCURRING IN CONNECTION THEREWITH, AND EACH CREDIT PARTY AND SECURED PARTY HEREBY WAIVE TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW ALL SUCH CLAIMS, WHETHER OR NOT ACCRUED AND WHETHER OR NOT KNOWN OR SUSPECTED TO EXIST IN ITS FAVOUR

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

[signatures on the next following pages]

SILVER STANDARD RESOURCES INC., as Borrower

By: */s/Gregory J. Martin*

Name: Greg J. Martin

Title: Chief Financial Officer

CANADIAN IMPERIAL BANK OF COMMERCE, as Administrative Agent, Arranger, Lender and Issuing Bank

By: */s/Peter Rawlins*
Name: Peter Rawlins
Title: Executive Director

By: */s/Kazim Mehdi*
Name: Kazim Mehdi
Title: Director

BANK OF MONTREAL, as Lender

By: */s/Jerry Kaye*
Name: Jerry Kaye
Title: Director

By: _____
Name:
Title:

THE BANK OF NOVA SCOTIA, as Lender

By: */s/Kurt R. Foellmer*
Name: Kurt R. Foellmer
Title: Director

By: */s/Stephen MacNeil*
Name: Stephen MacNeil
Title: Associate Director

EXHIBIT A

FORM OF BORROWING REQUEST

TO: Canadian Imperial Bank of Commerce

RE: Credit Agreement dated as of August 4, 2015 made between, among others, the undersigned (the **"Borrower"**), you, as Administrative Agent, and the lenders from time to time party thereto (as amended, supplemented or otherwise modified from time to time, the **"Credit Agreement"**)

We refer to the Credit constituted by the Credit Agreement and we hereby give you notice that on **[DATE]** we wish to obtain a Borrowing in the aggregate amount of **[Canadian / U.S.]$[AMOUNT]**. All capitalized terms used and not otherwise defined herein have the meanings given to them in the Credit Agreement.

The Borrowing requested hereby is to take the form of:

☐ a B/A Borrowing
☐ a Canadian Prime Borrowing
☐ a Base Rate Borrowing
☐ a LIBO Rate Borrowing

Such Borrowing is a **[rollover/conversion]** of outstanding **[Bankers' Acceptances (including any BA Equivalent Notes) having Contract Periods ending [DATE]/LIBO Rate Loans having an Interest Period ending [DATE]/Canadian Prime Loans/Base Rate Loans]** in an aggregate principal amount of **[Canadian / U.S.]$[AMOUNT].**

[The Contract Period in respect of the B/A Borrowing requested hereby is [NUMBER] days.] [The Borrower does not wish the accepting Lenders to purchase the B/As in question.]

[The Interest Period in respect of the LIBO Rate Borrowing requested hereby is [NUMBER] days.]

We hereby certify, after due and careful investigation, that:

(a) each of the representations and warranties made by the Borrower in the Credit Agreement are true and correct on and as of the date hereof except to the extent that (i) any change to the representations and warranties has been disclosed to the Administrative Agent and accepted by the Required Lenders, or (ii) any representation and warranty is stated to be made as of a particular time; and

(b) on and as of the date hereof, no Default has occurred and is continuing.

DATED: **[MONTH] [DAY], [YEAR]**

SILVER STANDARD RESOURCES INC.

By: _____
Name:
Title:

By: _____
Name:
Title:

EXHIBIT B

COMPLIANCE CERTIFICATE

TO: **[NAME OF AGENT]**, as administrative agent under the Credit Agreement (the "**Administrative Agent**")

AND TO: The Lenders

Reference is made to the credit agreement dated as of August 4, 2015 (as amended, supplemented or otherwise modified from time to time, the "**Credit Agreement**"), among Silver Standard Resources Inc., as Borrower, Canadian Imperial Bank of Commerce, as Administrative Agent, and the Lenders now or hereafter parties thereto. Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

The undersigned, the **[Chief Financial Officer]** of the Borrower, in that capacity and not personally, hereby certifies that, as of the date hereof, (a) a review of the consolidated financial statements of the Borrower and the Subsidiaries for the Fiscal Quarter ended **[LAST DAY OF FISCAL QUARTER]**, and of the activities of the Borrower and the Subsidiaries during such Fiscal Quarter has been made under the supervision of the undersigned with a view to determining whether the Borrower and the Subsidiaries have fulfilled all of their obligations under the Credit Agreement and the other Loan Documents, (b) the Credit Parties have fulfilled their obligations under the Credit Agreement and the other Loan Documents and all representations and warranties made in the Credit Agreement continue to be true and correct as if made on the date hereof, except where such representation or warranty refers to a different date, and (c) as at the end of the Fiscal Quarter ended **[LAST DAY OF FISCAL QUARTER]**, the Borrower was in compliance with each of the financial tests set forth in Article 5 of the Credit Agreement. The Borrower's compliance with each of such financial covenants as at the end of such Fiscal Quarter is demonstrated by the figures set out on the financial covenant compliance worksheet attached hereto as Schedule A.

DATED: [MONTH] [DAY], [YEAR]

_____

Name:

Title: **[Chief Financial Officer], [BORROWER]**

SCHEDULE A TO COMPLIANCE CERTIFICATE
FINANCIAL COVENANT COMPLIANCE WORKSHEET

(See attached)

CALCULATION WORKSHEET

RE: Rolling Period ended **[date]**

EBITDA

Net Income	$ _____	(A)
Permitted Note Accretion	$ _____	(B)
Adjusted Net Income (A-B)	$ _____	(C)
Non-cash income and gains	$ _____	(D)
Interest income	$ _____	(E)
Capital gains	$ _____	(F)
Extraordinary or non-recurring income and gains and unrealized gains	$ _____	(G)
Unrealized gains re Hedging Arrangements	$ _____	(H)
Foreign exchange gains	$ _____	(I)
Capital losses	$ _____	(J)
Expenses re mineral exploration activities	$ _____	(K)
Interest Expense	$ _____	(L)
Income Tax Expense	$ _____	(M)
Depreciation Expense	$ _____	(N)
Unrealized losses re Hedging Arrangements	$ _____	(O)
Extraordinary or non-recurring charges, expenses or losses and unrealized losses	$ _____	(P)
Foreign exchange losses	$ _____	(Q)
Other non-cash expenses and losses	$ _____	(R)
Transaction expenses[1]	$ _____	(S)

[1] Capped at US$1.2M

EBITDA (C-D-E-F-G-H-I+J+K+L+M+N+O+P+Q+R+S) $ _____

Interest Coverage Ratio

EBITDA $ _____ (A)

Cash Interest Expense $ _____ (B)

Interest Coverage Ratio _____ (A:B)

(Min. Permitted): 4:1

Compliance [Yes]/[No]

Net Leverage Ratio

Indebtedness $ _____ (A)

Indebtedness secured by cash collateral that is a Permitted Lien $ _____ (B)

Cash Balance (unrestricted, unpledged) $ _____ (C)

Net Indebtedness $ _____ (D)

EBITDA $ _____ (E)

Net Leverage Ratio: _____ (D:E)

(Max. Permitted): 3.5:1

Compliance [Yes]/[No]

Tangible Net Worth

Assets $ _____ (A)

Liabilities $ _____ (B)

Intangible Assets $ _____ (C)

Tangible Net Worth (A-B-C) $ _____

(required to be no less than 75% of U.S.$556,770,357 plus 50% of Net Income calculated on a cumulative basis from and after August 1, 2015 until the most recent Quarterly Date.). In calculating cumulative Net Income for the purposes of this definition, no deduction shall be made in respect of Net Income for any Fiscal Quarter which is less than nil.

Compliance [Yes]/[No]

EXHIBIT C

FORM OF
ASSIGNMENT AND ASSUMPTION AGREEMENT

This assignment and assumption agreement (the "**Assignment and Assumption**") is dated as of the Effective Date set out below and is entered into by and between **[*Insert name of Assignor*]** (the "**Assignor**") and **[*Insert name of Assignee*]** (the "**Assignee**"). Capitalized terms used but not defined herein shall have the meanings given to them in the Credit Agreement identified below (as amended, supplemented, restated or replaced from time to time, the "**Credit Agreement**"), receipt of a copy of which is hereby acknowledged by the Assignee. The Standard Terms and Conditions set out in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set out herein in full.

For good and valuable consideration, the Assignor hereby irrevocably sells and assigns to the Assignee, and the Assignee hereby irrevocably purchases and assumes from the Assignor, subject to and in accordance with the Standard Terms and Conditions and the Credit Agreement, as of the Effective Date inserted by the Administrative Agent as contemplated below (a) all of the Assignor's rights and obligations in its capacity as a Lender under the Credit Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of the Assignor under the respective facilities identified below (including any Letters of Credit and Swingline Loans included in such facilities) and (b) to the extent permitted to be assigned under applicable law, all claims, suits, causes of action and any other right of the Assignor (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to clause (a) above (the rights and obligations sold and assigned pursuant to clauses (a) and (b) above being referred to herein collectively as the "**Assigned Interest**"). Such sale and assignment is without recourse to the Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by the Assignor.

1. Assignor: _____

2. Assignee: _____

[and is an Affiliate/Approved Fund of [*identify Lender*]]

3. Borrower(s): _____

4. Administrative Agent: Canadian Imperial Bank of Commerce, as the administrative agent under the Credit Agreement

5. Credit Agreement: The credit agreement dated as of August 4, 2015 among, inter alios, Silver Standard Resources Inc., as borrower, the Lenders parties thereto, and Canadian Imperial Bank of Commerce, as Administrative Agent.

6. Assigned Interest:

Aggregate Amount of Commitment/ Loans for all Lenders	Amount of Commitment/Loans Assigned	Percentage Assigned of Commitment/Loans
$	$	%

Effective Date: , 20 **[*To be inserted by Administrative Agent and which shall be the effective date of recordation of transfer in the register therefor.*]**

The terms set out in this Assignment and Assumption are hereby agreed to:

[NAME OF ASSIGNOR]

By: _____
Name:
Title:

[NAME OF ASSIGNEE]

By: _____
Name:
Title:

[Consented to and] Accepted:

CANADIAN IMPERIAL BANK OF COMMERCE, as
Administrative Agent

By: _____
Name:
Title:

[Consented to:]

[NAME OF RELEVANT PARTY]

By: _____
Name:
Title:

ANNEX 1

[CREDIT AGREEMENT]

STANDARD TERMS AND CONDITIONS FOR ASSIGNMENT AND ASSUMPTION

1. **Assignor**. The Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim and (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby **[and]** (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents or any collateral thereunder, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document or (iv) the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or any other Person of any of their respective obligations under any Loan Document **[, and (c) attaches the Note(s) held by it evidencing the Assigned Facilities and requests that the Administrative Agent exchange such Note(s) for a replacement Note or Notes payable to the Assignee and (if the Assignor has retained any interest in the Assigned Facilities) a replacement Note or Notes payable to the Assignor in the respective amounts which reflect the assignment being made hereby (and after giving effect to any other assignments which have become effective on the Transfer Effective Date)]**. Upon request, the Assignor shall, at the expense of the Administrative Agent (for reimbursement by the Borrower), as promptly as practical, execute and deliver to the Administrative Agent, all such other and further documents, agreements and instruments as the Administrative Agent may reasonably request in order to effect the transfer of the Assigned Interest, including any materials required to discharge the Assignee's interest in and to the Collateral.

2. **Assignee**. The Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) it satisfies the requirements, if any, specified in the Credit Agreement that are required to be satisfied by it in order to acquire the Assigned Interest and become a Lender, (iii) from and after the Effective Date, it shall be bound by the provisions of the Credit Agreement as a Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of a Lender thereunder, and (iv) it has received a copy of the Credit Agreement, together with copies of the most recent financial statements delivered pursuant to Section 5.1(1) thereof, as applicable, and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest on the basis of which it has made such analysis and decision independently and without reliance on the Administrative Agent or any other Lender, and (b) agrees that (i) it shall, independently and without reliance on the Administrative Agent, the Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it shall perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

3. **Payments**. From and after the Effective Date, the Administrative Agent shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Assignee whether such amounts have accrued prior to the Effective Date or accrued subsequent to the Effective Date. The Assignor and the Assignee shall make all appropriate adjustments in payments by the

Administrative Agent for the periods prior to the Effective Date or with respect to the making of this assignment directly between themselves.

4. **General Provisions**. This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment and Assumption by telecopy shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

EXHIBIT D

FORM OF
UNR CONSENT

This Consent to Assignment (this "**Consent**") dated as of September , 2015 is entered into between the **BOARD OF REGENTS OF THE UNIVERSITY OF NEVADA SYSTEM n/k/a NEVADA SYSTEM OF HIGHER EDUCATION** on behalf of the University of Nevada, Reno (the "**Landlord**") and **CANADIAN IMPERIAL BANK OF COMMERCE**, as administrative agent for various lenders (the "**Administrative Agent**").

RECITALS

A. The Landlord is the owner of real property located in Humboldt County, Nevada as legally described in the attached Schedule A (the "**Premises**"). The Landlord has leased to **MARIGOLD MINING COMPANY**, a Nevada corporation (as successor in interest to Donald J. Decker and Suzanne Decker, Nevada North Resources (U.S.A.) Inc., and Rayrock Mines, Inc., a Nevada corporation, doing business as Cordex Exploration Co., the original lessees) (the "**Tenant**"), by the Lease Agreement made and entered into as of August 1, 1988, as amended (the "**Lease**") the whole of the Premises.

B. The Tenant proposes to grant to the Administrative Agent a security interest by way of a deed of trust encumbering, among other land and other property interests (collectively the "**Security**"), the Tenant's interest in the Lease.

AGREEMENT

NOW THEREFORE, in consideration of the foregoing recitals and for other good and valuable consideration, the receipt and adequacy of which are acknowledged, the parties agree as follows:

1. **Landlord's Consent**. The Landlord consents to the Tenant's grant of the Security in Tenant's leasehold interest under the Lease. This Consent is limited to the Tenant's encumbrance of its leasehold interest under the Lease and is not the Landlord's consent to the Tenant's present assignment of the Lease itself or, subject to Section 5 hereof, the substitution of the Lender as Lessee under the Lease. This Consent is not and shall not be construed to be the Landlord's consent to or grant of any lien or security interest in the Landlord's ownership or reversionary interest in the Premises.

2. **Lender Access**. The Landlord agrees that the Administrative Agent and its representatives may enter upon the Premises at any time before the expiration or earlier termination of the Lease (without being deemed to be in possession) to inspect the Tenant's personal property and, in the event that the Security shall become realizable, to exercise the Administrative Agent's rights against the Tenant's personal property but in all cases subject to the terms of the Lease. The Administrative Agent shall defend, indemnify and hold harmless the Landlord from and against any and all claims, losses or damage, including reasonable attorney's fees and court costs, arising from or relating to the Administrative Agent's exercise of the rights granted in this Section 2. The Administrative Agent shall comply with all applicable laws, regulations and ordinances when entering upon the Premises.

3. **Notices under Lease**. The Landlord shall simultaneously deliver copies of any notices to the Tenant with respect to an event of default or an election by the Landlord to terminate the Lease to the Administrative Agent at the same time and by electronic means (fax or e-mail) to the Administrative Agent at its address stated below or such other address that the Administrative Agent may subsequently furnish to the Landlord. Notices to the Administrative Agent shall be sent to its address at:

Canadian Imperial Bank of Commerce
5th Floor Atrium on Bay
595 Bay Street
Toronto, Ontario
M5G 2C2

Attention:	Leanne Third Neermala Hurry Wilma Sevilleja
E-mail:	Leanne.Third@cibc.ca Neermala.Hurry@cibc.ca Wilma.Sevilleja@cibc.ca
Fax:	(416) 956-3830

4. **Cure Rights**. As long as the Security remains outstanding, the Administrative Agent shall have the right (but not the obligation) to cure any default of the Tenant under the Lease, and the Landlord shall accept any timely curative acts made by or on behalf of the Administrative Agent as if they had been made by the Tenant. The cure of any such default by the Administrative Agent on any one occasion shall not obligate the Administrative Agent to cure any other default under the Lease or to cure such default on any other occasion, or otherwise be construed as an assumption by the Administrative Agent of any of the obligations, covenants or agreements of the Tenant under the Lease. The Administrative Agent shall comply with all applicable laws, regulations and ordinances when exercising its cure rights.

5. **Assumption**. In the event that the Security should become realizable, the Administrative Agent may enter into possession of the Premises under the Security or otherwise upon notice to the Landlord, provided that (a) all rent and other money due to date under the Lease has been paid and all defaults (both monetary and non-monetary) have been cured, and (b) the Administrative Agent agrees in writing to assume the Tenant's interest in and obligations under the Lease and to comply therewith from and after the date on which the Administrative Agent enters into possession of the Premises.

6. **Sale or Assignment**. In the event that the Security should become realizable, the Administrative Agent may sell or otherwise dispose of or assign the interest of the Tenant in the Lease, to the extent previously foreclosed upon or otherwise acquired by the Administrative Agent, (or interest of the Administrative Agent pursuant to Section 5) subject, in every event, to the prior written consent of the Landlord, which shall not be unreasonably withheld or delayed, provided that (a) all rent and other money due to date under the Lease has been paid, all of the Tenant's obligations under the Lease have been performed, and all of the Tenant's defaults (both monetary and non-monetary) have been cured, and (b) the successor tenant agrees in writing to assume all of the Tenant's obligations under the Lease and to continue compliance therewith. In its consideration of the Administrative Agent's request for consent, the Landlord may consider the financial condition (and market capitalization if the proposed assignee is a publicly traded entity) and the legal, operating and regulatory history of the proposed assignee. Upon the Administrative Agent's assignment, disposition or sale undertaken in accordance with this Consent or the Security, as applicable, the Landlord shall release the Administrative Agent from the liabilities and obligations, if any, under the Lease accruing after the date of such assignment, disposition or sale, provided that the Administrative Agent shall remain liable for all obligations under the Lease which accrue during the term of the Administrative Agent's possession of the Premises or assumption of the Tenant's obligations under the Lease.

7. **Lease Preservation**. The Landlord agrees that it shall not accept any termination, waiver or surrender by the Tenant of the Lease without the prior written consent of the Administrative Agent; provided that, the Landlord shall provide the Administrative Agent with written notice of any requested termination of the Lease from the Tenant (whether pursuant to Section 15 of the Lease or otherwise) and the Administrative Agent shall have 10 business days thereafter in which to assume the Lease pursuant to Section 5 hereof.

8. **Amendments**. This Consent may not be amended or terminated except in writing by the parties to it.

9. **No Release of Tenant**. Nothing in this Consent or the Administrative Agent's exercise of its rights under the Security shall release or diminish any of the obligations of the Tenant under the Lease in favor of the Landlord.

10. **Governing Law; Venue; Jurisdiction**. This Consent shall be governed by and construed in accordance with the laws of the State of Nevada. Any action or proceeding concerning the construction, or interpretation of the terms of this Consent or any claim or dispute between the parties shall be commenced and heard in the Second Judicial District Court of the State of Nevada, in and for the County of Washoe, Reno, Nevada. Each of the parties agrees that the Second Judicial District Court has jurisdiction of the subject matter of this Consent and personal jurisdiction of the parties and each of the parties agree to submit to the jurisdiction of the Second Judicial District Court.

11. **Successors**. This Consent shall enure to the benefit of and be binding upon the parties to it and their respective successors and assigns.

12. **Administrative Agent Obligations**. Notwithstanding anything to the contrary contained in the Lease, except as expressly set forth in this Consent, unless the Administrative Agent assumes the Lease pursuant to Section 5 of this Consent, acquires the Tenant's rights in the Lease pursuant to the Security or takes possession of the Premises, the Administrative Agent shall not be liable to the Landlord for any liability or obligation of the Tenant under the Lease.

13. **Counterpart and Fax**. This Consent may be executed in counterpart, each of which when taken together shall constitute one and the same Consent. This Consent may be executed and delivered by fax, portable document format (.pdf) or any other electronic method.

14. **Recording**. The parties agree that the Administrative Agent may file and record a memorandum or short form of this Consent in the official records of Humboldt County, Nevada

15. **No Release or Waiver**. The consent granted by the Landlord is without prejudice to the claims and rights of the Landlord under the Lease. This Consent is not and shall not be deemed to be (a) an amendment or modification of any of the Landlord's rights under the Lease; (b) the Landlord's consent to any further or other assignment or encumbrance of any right, title and interest in and to the Lease: (c) the Landlord's release or waiver of any of the Landlord's rights of ownership in the Premises; or (d) the Landlord's release or waiver of the Landlord's right to assert a lien in any ore mined from the Premises which is delivered to a custom mill or reduction works as provided in NRS 108.580 to the extent of the Landlord's royalty share in the production of minerals from the Premises.

16. **Reservation of Rights**. For the avoidance of doubt, the Landlord hereby confirms that nothing herein shall affect the ability of the Administrative Agent to appoint a receiver or receiver-manager with respect to the Tenant or the ability of the Landlord to make submissions in any court proceeding with respect to such appointment.

17. **Consent and Acknowledgement of Tenant**. The Tenant hereby acknowledges and consents to the terms of this Consent.

[Remainder of Page Left Intentionally Blank – Signature Page Follows]

IN WITNESS OF WHICH, the parties have duly executed and delivered this Consent as of the day and year first above-written.

BOARD OF REGENTS OF THE UNIVERSITY OF NEVADA SYSTEM n/k/a NEVADA SYSTEM OF HIGHER EDUCATION

By: _____
Name:
Title:

By: _____
Name:
Title:

I/We have the authority to bind the Board

MARIGOLD MINING COMPANY, a Nevada corporation

By: _____
Name:
Title:

By: _____
Name:
Title:

I/We have the authority to bind the corporation

CANADIAN IMPERIAL BANK OF COMMERCE, as administrative agent

By: _____
Name:
Title:

By: _____
Name:
Title:

Schedule A - Premises

SCHEDULE A

Premises

Section 19, Township 33 North, Range 43 East, MBD&M, Humboldt County, Nevada, as to both the surface and mineral estates.

SCHEDULE 1.1(A)

INITIAL SECURITY DOCUMENTS

1. The Group Guarantee from the Borrower, Silver Standard Canada Holdings Ltd., Silver Standard US Holdings Inc., Silver Standard Marigold Inc., Intertrade Metals Limited Partnership, Intertrade Metals Corp., Silver Standard Ventures Inc., Silver Standard Durango, S.A. de C.V., Marigold Mining Company and Mina Pirquitas, LLC.

2. The GSA from the Borrower, Silver Standard Canada Holdings Ltd., Silver Standard US Holdings Inc., Silver Standard Marigold Inc., Intertrade Metals Limited Partnership, Intertrade Metals Corp., Silver Standard Ventures Inc., Marigold Mining Company and Mina Pirquitas, LLC.

3. A general security agreement (Nevada law) from Mina Pirquitas, LLC, Silver Standard US Holdings Inc., Silver Standard Marigold Inc. and Marigold Mining Company

4. A securities pledge agreement (Nevada law) from the Borrower, Silver Standard Canada Holdings Ltd. , Silver Standard US Holdings Inc. and Silver Standard Marigold Inc.

5. A deed of trust (Nevada law) from Marigold Mining Company with respect to the Marigold Project Real Property.

6. Landlord acknowledgement and consent agreement between Century Gold, LLC and Franco-Nevada U.S. Corporation, collectively as landlord, Marigold Mining Company and the Administrative Agent with respect to the Decker Lease.

7. Landlord acknowledgement and consent agreement between Vek/Andrus Associates and Franco-Nevada U.S. Corporation, collectively as landlord, Marigold Mining Company and the Administrative Agent with respect to the Vek and Andrus Lease.

8. Landlord acknowledgement and consent agreement between Franco-Nevada U.S. Corporation, as landlord, Marigold Mining Company and the Administrative Agent with respect to the SFP Minerals Lease.

9. The UNR Consent.

10. Co-tenant consent to grant of security between Century Gold, LLC, Franco-Nevada U.S. Corporation, Marigold Mining Company and the Administrative Agent with respect to the UNR Lease.

11. All stock certificates, instruments and other documents required to be delivered to the Administrative Agent in connection with the Liens granted under items 2 and 4.

12. A deposit account control agreement between Wells Fargo Bank, National Association, Marigold Mining Company and the Administrative Agent

13. A deposit account control agreement between HSBC Bank, Mina Pirquitas, LLC and the Administrative Agent.

SCHEDULE 2.1

LENDERS AND COMMITMENTS

Lender	Commitment
Bank of Montreal	U.S.$15,000,000
The Bank of Nova Scotia	U.S.$25,000,000
Canadian Imperial Bank of Commerce	U.S.$35,000,000
Total	**U.S.$75,000,000**

SCHEDULE 3.1(3)

GOVERNMENTAL APPROVALS; NO CONFLICTS

Nil.

SCHEDULE 3.1(5)
LITIGATION

1. On January 27, 2015, the Borrower received a Notice of Reassessment ("**NOR**") from the Canada Revenue Agency ("**CRA**") in the amount of approximately C$41.4 million plus interest of C$6.6 million related to the tax treatment of the 2010 sale of shares of the Borrower's subsidiary that owned and operated the Snowfield and Brucejack projects. The CRA has asserted that the sale was on account of income and not capital, as the Borrower recorded it. In order to appeal the reassessment, the Borrower was required to make a minimum payment of 50% of the reassessed amount claimed by the CRA under the NOR plus interest accrued to the date of the NOR. On February 26, 2015, the Borrower paid the required C$24.1 million ($19.2 million) to the CRA. On April 20, 2015, the Borrower filed a Notice of Objection with the CRA and plans on filing, if necessary, a Notice of Appeal with the Tax Court of Canada.

2. Mina Pirquitas, LLC ("**MPLLC**") entered into a fiscal stability agreement (the "**Fiscal Agreement**") with the Federal Government of Argentina in 1998 for production from the Pirquitas mine. In December 2007, the National Customs Authority of Argentina (Dirección Nacional de Aduanas) levied an export duty of approximately 10% from concentrate for projects with fiscal stability agreements pre-dating 2002 and the Federal Government has asserted that the Pirquitas mine is subject to this duty. MPLLC has challenged the legality of the export duty applied to silver concentrate and the matter is currently under review by the Federal Court (Jujuy) in Argentina. The Federal Court (Jujuy) granted an injunction in the MPLLC's favor effective September 29, 2010 that prohibited the Federal Government from withholding the 10% export duty on silver concentrate (the "**Injunction**"), pending the decision of the courts with respect to the MPLLC's challenge of the legality of the application of the export duty. The Injunction was appealed by the Federal Government but upheld by each of the Federal Court of Appeal (Salta) on December 5, 2012 and the Federal Supreme Court of Argentina on September 17, 2013. The Federal Government also appealed the refund MPLLC claimed for the export duties paid before the Injunction, as well as matters of procedure related to the uncertainty of the amount reclaimed; however, on May 3, 2013, such appeal was dismissed by the Federal Court of Appeal (Salta). In September 2014, the Federal Tax Authority in Argentina filed an application with the Federal Court (Jujuy) to lift the Injunction and requiring payment of the export duty and payment of applied interest charges. MPLLC filed a response to such application on October 14, 2014 and a decision is pending.

In accordance with the Injunction, MPLLC has not been paying export duties on silver concentrate but the Borrower continues to accrue export duties in its consolidated financial statements. At March 31, 2015, the Borrower has accrued a liability totaling $59.2 million for export duties with no accrual for interest charges, and has recorded a corresponding increase in cost of sales in the relevant period. The application of interest charges is uncertain, but if applied from the date each duty was levied, such charges are estimated to be in the range of $4.3 million to $7.3 million as of March 31, 2015. The final amount of export duties and interest, if any, to be paid or refunded depends on a number of factors, including the outcome of litigation. Changes in the Borrower's assessment of this matter could result in material adjustments to its consolidated statement of income (loss).

SCHEDULE 3.1(9)

REAL PROPERTY

1. Pirquitas Mine

The Borrower holds a 100% interest in the Pirquitas mine through its wholly-owned subsidiary, Mina Pirquitas, LLC, which has registered a branch in Argentina (Mina Pirquitas, LLC Sucursal Argentina). The Pirquitas mine is located in the Puna de Jujeña region of northwestern Argentina in the Province of Jujuy, approximately 355 kilometres northwest of the city of San Salvador de Jujuy. The mine consists of 50 semicontiguous mineral exploitation concessions covering a total area of 3,621 hectares. It also includes surface rights covering an area of approximately 7,463 hectares, which can be used for purposes such as housing, infrastructure facilities, processing plants, waste and tailing disposal sites, and other facilities to support mining operations.

2. Seabee Gold Operation

The Borrower holds a 100% interest in the Seabee Gold Operation through its wholly-owned subsidiary, Claude Resources Inc. ("**Claude Resources**"). The Seabee Gold Operation is located in the province of Saskatchewan and consists of the following mineral claims:

	Disposition #	Type
1.	CBS 7058	Mineral Claim
2.	CBS 7076	Mineral Claim
3.	CBS 9347	Mineral Claim
4.	ML 5519	Mineral Lease
5.	ML 5520	Mineral Lease
6.	ML 5535	Mineral Lease
7.	ML 5536	Mineral Lease
8.	ML 5543	Mineral Lease
9.	ML 5551	Mineral Lease
10.	S- 97986	Mineral Claim
11.	S-101660	Mineral Claim
12.	S-101661	Mineral Claim
13.	S-102737	Mineral Claim
14.	S-102738	Mineral Claim
15.	S-102739	Mineral Claim
16.	S-105301	Mineral Claim
17.	S-106678	Mineral Claim
18.	S-106771	Mineral Claim
19.	S-106772	Mineral Claim
20.	S-106773	Mineral Claim
21.	S-110855	Mineral Claim

	Disposition #	Type
22.	S-110856	Mineral Claim
23.	S- 99942	Mineral Claim
24.	S-100748	Mineral Claim
25.	S-111431	Mineral Claim
26.	S-111432	Mineral Claim
27.	S-111694	Mineral Claim
28.	MC00000028	Mineral Claim
29.	MC00000030	Mineral Claim
30.	MC00000069	Mineral Claim
31.	MC00000070	Mineral Claim
32.	S-113993	Mineral Claim
33.	S-113994	Mineral Claim
34.	MC00003517	Mineral Claim
35.	MC00003518	Mineral Claim
36.	MC00003532	Mineral Claim
37.	MC00003551	Mineral Claim
38.	MC00003552	Mineral Claim
39.	MC00003564	Mineral Claim
40.	MC00003571	Mineral Claim
41.	MC00003573	Mineral Claim
42.	MC00003593	Mineral Claim
43.	MC00003594	Mineral Claim
44.	MC00003631	Mineral Claim
45.	MC00003716	Mineral Claim
46.	MC00003717	Mineral Claim

SCHEDULE 3.1(10)

PERMITTED LIEN REGISTRATIONS

Secured Party	Date Filed	Registration Number	Collateral Description	VIN	Term (Years)	Debtor	Other Comments
1. Xerox Canada Ltd	December 27, 2012	118747H	Equipment, other all present and future office equipment and software supplied or financed from time to time by the secured party (whether by lease, conditional sale or otherwise), whether or not manufactured by the secured party or any affiliate thereof.		5	Silver Standard Resources Inc.	

Secured Party	Date Filed	Registration Number	Collateral Description	VIN	Term (Years)	Debtor	Other Comments
2. Dell Financial Services Canada Limited	January 23, 2013	158633H	All Dell and non-Dell computer equipment and peripherals wherever located heretofore or hereafter leased to debtor by secured party pursuant to an equipment lease together with all substitutions, additions, accessions and replacements thereto and thereof now and hereafter installed in, affixed to, or used in conjunction with such equipment and proceeds thereof together with all rental or installment payments, insurance proceeds, other proceeds and payments due or to become due and arising from or relating to such equipment. Proceeds: all present and after-acquired personal property.		4	Silver Standard Resources Inc.	
3. Pitney Bowes Global Financial Services	March 20, 2013	248147H	MY5X Digital Copier - Lease 774029 - MY6X Digital Copier – Lease 774031 - PUCS Software		6	Silver Standard Resources Inc.	

Secured Party	Date Filed	Registration Number	Collateral Description	VIN	Term (Years)	Debtor	Other Comments
4. Konica Minolta Business	April 30, 2015	576310I	All goods of the debtor financed by the secured party, wherever situated, consisting of four (4) Konica Minolta copiers, together with all parts and accessories relating thereto, all attachments, accessories and accessions thereto or thereon and all replacements, substitutions, additions and improvements of all or any part of the foregoing and all proceeds in any form derived therefrom. Proceeds: all of the debtor's present and after acquired personal property which is derived, directly or indirectly, from any dealing with or disposition of the above-described collateral, including without limitation, all insurance and other payments payable as indemnity or compensation for loss or damage thereto, accounts, rents or other payments arising from the lease of the above-described collateral, goods, chattel paper, investment property, documents of title, instruments, money, cheques, deposits, securities and intangibles.		6	Silver Standard Resources Inc.	

Seabee Gold Operation – Mineral Dispositions

1. Recorded Interests

(a) a notice of royalty interest and net smelter returns royalty agreement granted by Claude Resources in favour of 8248567 Canada Limited dated March 20, 2014; and

(b) a notice of security interest and debenture granted by Claude Resources in favour of 8248567 Canada Limited dated March 20, 2014,

which were filed against the following mineral dispositions in the Disposition Files:

CBS 7058	CBS 7076	CBS 9347	MC00000028
MC00000030	MC00000069	MC00000070	ML 5519
ML 5520	ML 5535	ML 5536	ML5543
ML 5551	S-97986	S-100748	S-101660
S-101661	S-102737	S-102738	S-102739
S-106678	S-106771	S-106772	S-106773
S-110855	S-118056	S-111431	S-111432
S-111694	S-113993	S-113994	

2. Unrecorded Interests

(a) royalty agreement in favour of Red Mile No. 11 Limited Partnership in respect of the mineral dispositions ML 5519, ML 5520, S-102737, S-102738, S-102739, CBS 7058, CBS 7076, S-97986, S-101660, S-101661, S-101748, S-110856 (a restaking of S-101689) and CBS 9347;

(b) net smelter returns royalty agreement in favour of Ryan Kalt in respect of mineral dispositions MC0003571, MC00003573, MC00003716, MC00003717 MC00003518, MC00003532, MC00003631, MC00003593 and MC00003594, dated March 4, 2016; and

(c) net smelter returns royalty agreement in favour of Strategic Staking & Exploration Inc. in respect of mineral dispositions MC0003571, MC00003573, MC00003716, MC00003717, MC00003518, MC00003532, MC00003631, MC00003593 and MC00003594 dated March 4, 2016.

SCHEDULE 3.1(11)

PENSION PLANS

Silver Standard Resources Inc.

Type of Benefit	Provider/Administrator
Extended Health Group Benefit Plan (Group Policy Nos. 164327 and 164328) • Basic Life Insurance • AD&D • Long Term Disability • Health Care (prescription, paramedical, hospital) • Vision • Dental	The Great West Life Assurance Company
Employee Assistance Program	FSEAP
Group Registered Retirement Savings Plan (Group Annuity Policy 62724-G)	Sun Life Assurance Company of Canada
Employee Share Purchase Plan	Solium

Marigold Mining Company

Type of Benefit	Provider/Administrator
Life Insurance	Assurant Employee Benefits (Union Security Insurance Company)
Long Term Disability Insurance	Assurant Employee Benefits (Union Security Insurance Company)
Short Term Disability Insurance	Assurant Employee Benefits (Union Security Insurance Company)
Health and Welfare (hospital, doctors' visits, prescription, paramedical)	Cigna Health and Life Insurance Co.
Flexible Spending Account	Wageworks
401(k) Retirement & Savings Plan	The Standard (Standard Retirement Services, Inc.)
Employee Assistance Program	Mines & Associates
Employee Share Purchase Plan	Solium

Mina Pirquitas, LLC

Type of Benefit	Provider/Administrator
Life Insurance Disability Insurance	Allianz Argentina Compañía de Seguros S.A.
Employee Share Purchase Plan	Solium

Claude Resources Inc.

Type of Benefit	Provider/Administrator
Extended Health Group Benefit Plan (Group Policy Nos. 93772-001 and 93772-002) • Basic Life Insurance • AD&D • Long Term Disability • Short Term Disability (weekly indemnity) • Health Care (prescription, paramedical, hospital) • Optional life insurance, dependent life insurance, AD&D (employee paid) • Vision • Dental	Saskatchewan Blue Cross
Employee Assistance Program	Penney Murphy & Associates
Group Retirement Savings Plan No. 11821 (employee contribution only)	RBC
Employee Share Purchase Plan	Solium

SCHEDULE 3.1(13)

SUBSIDIARIES

Name of Credit Party	Legal entity	Jurisdiction of organization	Equity Securities issued and outstanding	Registered and beneficial owner of Equity Securities	Equity Securities owned
Silver Standard Resources Inc.	Corporation	British Columbia	N/A	N/A	• 16,994,726 common shares in the capital of Pretium Resources Inc. • 4,285,714 common shares in the capital of Golden Arrow Resources Corporation • 1,198,083 common shares in the capital of Endeavour Silver Corp. (subject to trading restriction before March 1, 2017) • 3,871 warrants of Coeur Mining, Inc. • 2 Class B common shares of Huayra Minerals Corp. • 202,130,522 common shares of Claude Resources Inc. • 100 units of Mina Pirquitas, LLC • 1 common share of Silver Standard Canada Holdings Ltd. • 1 common share of Intertrade Metals Corp. • 13,000,010 Limited Partner Units of Intertrade Metals Limited Partnership • 1 common share of Silver Standard Ventures Inc. • 1,448,949,874 shares of Silver Standard Durango, S.A. de C.V. (comprised of 49,999

Name of Credit Party	Legal entity	Jurisdiction of organization	Equity Securities issued and outstanding	Registered and beneficial owner of Equity Securities	Equity Securities owned
					fixed shares and 1,448,899,875 variable shares) • See organization chart for other Equity Securities holdings
Claude Resources Inc.	Corporation	Canada	202,130,522 common shares	Silver Standard Resources Inc.	• 25,000 common shares of High Frontier Resources Ltd. • 296,506 common shares of Wescan Goldfields Inc. • 100 Class A common shares of 4158849 Canada Ltd.
Intertrade Metals Limited Partnership	Limited Partnership	British Columbia	1 General Partner Unit	Intertrade Metals Corp.	None
			13,000,010 Limited Partner Units	Silver Standard Resources Inc.	
Intertrade Metals Corp.	Corporation	British Columbia	1 common share	Silver Standard Resources Inc.	• 1 General Partner Unit of Intertrade Metals Limited Partnership
Silver Standard Ventures Inc.	Corporation	British Columbia	1 common share	Silver Standard Resources Inc.	• 1 fixed share of Silver Standard Durango, S.A. de C.V. • See organization chart for other Equity Securities holdings
Silver Standard Canada Holdings Ltd.	Corporation	British Columbia	1 common share	Silver Standard Resources Inc.	• 1,000 common shares of Silver Standard US Holdings Inc.
Silver Standard US Holdings Inc.	Corporation	Delaware	1,000 common shares	Silver Standard Canada Holdings Ltd.	• 1,000 common shares of Silver Standard Marigold Inc.
Silver Standard Marigold Inc.	Corporation	Delaware	1,000 common shares	Silver Standard US Holdings Inc.	• 625 common shares of Marigold Mining Company
Marigold Mining Company	Corporation	Nevada	625 common shares	Silver Standard Marigold Inc.	None
Mina Pirquitas, LLC	LLC	Delaware	100 units	Silver Standard Resources Inc.	None

Name of Credit Party	Legal entity	Jurisdiction of organization	Equity Securities issued and outstanding	Registered and beneficial owner of Equity Securities	Equity Securities owned
Silver Standard Durango, S.A. de C.V.	Corporation	Mexico	50,000 fixed shares 1,448,899,875 variable shares	Silver Standard Resources Inc.: 1,448,949,874 shares (comprised of 49,999 fixed shares and 1,448,899,875 variable shares) Silver Standard Ventures Inc.: 1 fixed share	None

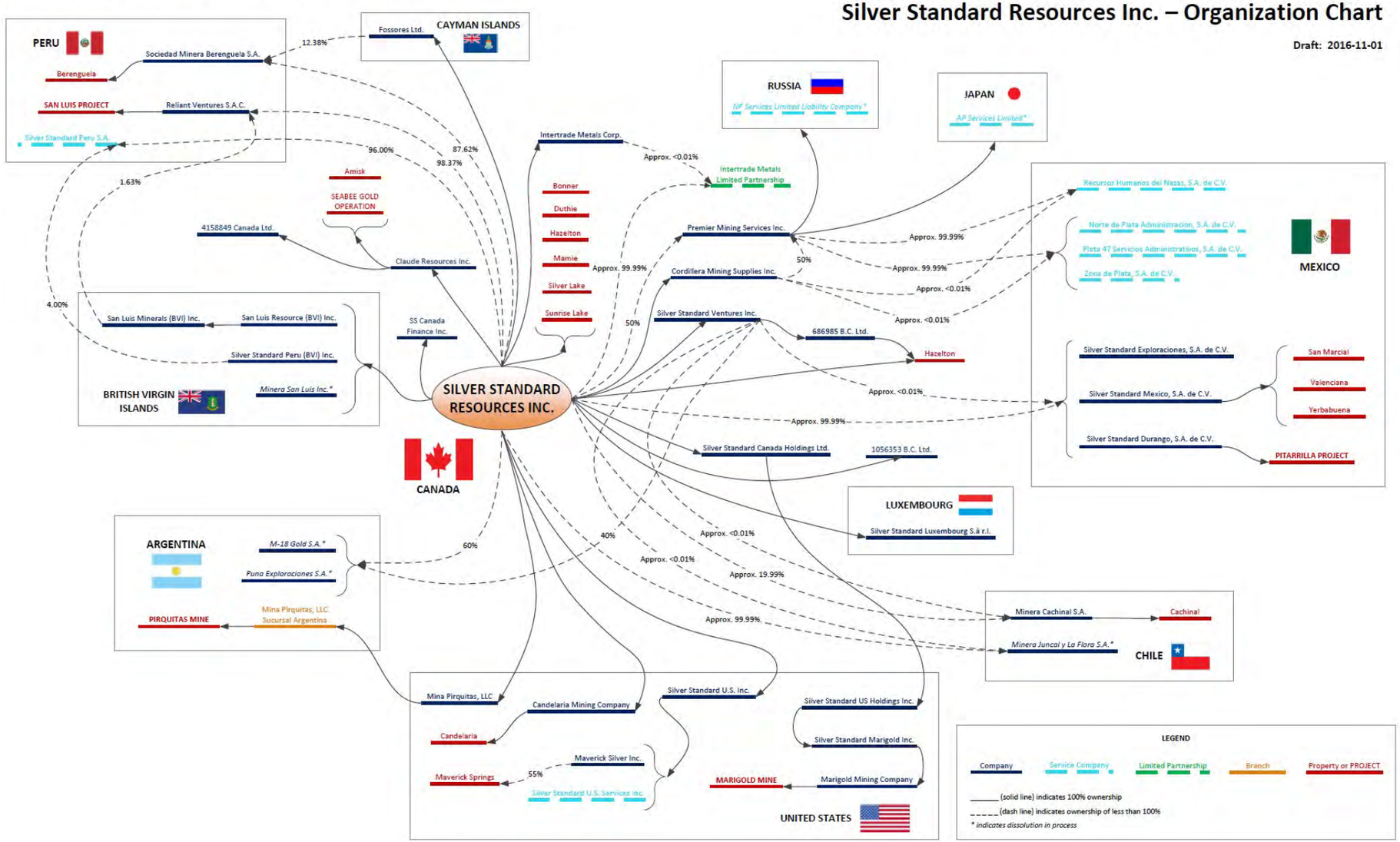
Organization Chart

See attached.

PRIVATE AND CONFIDENTIAL – FOR INTERNAL PURPOSES ONLY

Silver Standard Resources Inc. – Organization Chart

Draft: 2016-11-01



SCHEDULE 3.1(16)

ENVIRONMENTAL MATTERS

1. In December 1998, an environmental impact report ("**EIR**") was completed in respect of the Pirquitas mine for Sunshine Argentina, Inc. (now known as Mina Pirquitas, LLC) ("**Sunshine Argentina**"). The EIR contained a description and evaluation of environmental conditions that existed at the time, as well as foreseeable potential effects that development of the Pirquitas mine could have on the surrounding environment. The discussion below is either paraphrased or taken directly from the EIR.

   Remnants of historic mining activities at the Pirquitas mine included derelict buildings, mine structures as well as tin-silver jig tailings and tin placer tailings along the Río Pircas. Flotation tailings had been discharged into the Río Pircas and scattered piles of gold placer tailings were left about 150 metres above the current level of the Río Pircas on paleo-river terraces to the south of the central mine camp. These areas comprise some 107 hectares of surface disturbance that existed prior to Sunshine Argentina's acquisition of the Pirquitas property, some of which are now associated with acid rock drainage into the Pircas River watershed.

   Surface and ground waters are known to be acidic and metalliferous down gradient from the historic mines above the Río Pircas canyon at Tres Placas, which is located approximately 1.5 kilometres downstream from the Pirquitas mine open pit. In addition, acidic and metalliferous ground water is present in the abandoned underground workings and in some natural springs in the area, suggesting that natural oxidation of sulphide mineralization which is widespread in the rocks found on the property is also contributing to background surface water contamination.

   Upon its acquisition of the Pirquitas mine, Sunshine Argentina noted that documents in the bankruptcy auction files did not mention environmental liabilities against the property, but did mention that Sunshine Argentina was "grandfathered" against environmental liabilities related to historic mining activities. Furthermore, the only condition the Argentina Ministry of Mines and Energy applied to its approval of Sunshine Argentina's EIR, apart from the mandatory two-year update to the report, was the requirement that water quality monitoring be carried out.

   In 2008, a second EIR was completed following start-up of mining activities and initiation of plant construction at the Pirquitas mine. While there were no observations or restrictions placed at that time, this study began a focus on the water management plan and on conceptual plans for mine waste stockpiles. A conceptual water treatment plant for neutralization of acid waters was anticipated with a treatment capacity estimated to be as much as 150 litres per second.

   A party wishing to commence or modify any exploration or mining-related activity under Argentina's mining laws, including property abandonment or mine closure activity, must prepare and submit an environmental impact assessment ("**EIA**"), which must include a

description of the nature of the proposed work, its potential risk to the environment and the measures that will be taken to mitigate that risk. The most recent update to the EIA for the Pirquitas mining operation included engineering studies for the design of water management structures and mine closure design. Such EIA update was approved in December 2014 and is valid for a period of two years.

Argentina currently has no specific mine closure legislation or requirements. However, it is expected that closure options will eventually have to be proposed that may include passive or active neutralization features to return water to baseline conditions (acidic at the time of baseline studies) with some monitoring requirements.

2. The Borrower has certain reclamation obligations at certain mineral properties, including the Pirquitas mine in Argentina, the Marigold mine in Nevada, U.S.A., and the Duthie property and the Silver Standard mine property (Hazelton), both located in British Columbia, Canada. As at December 31, 2014:

   (a) The current closure and reclamation cost estimate, to be spent over a number of years, at the Pirquitas mine is approximately $50 million. This estimate is based on conceptual level engineering and will be updated periodically to reflect changes in the life of mine plan. The proposed reclamation work focuses on diverting water around the waste dumps and pit areas as well as capturing and passively treating impacted waters.

   (b) At the Marigold mine, the Borrower engages in concurrent reclamation practices and are bonded for all permitted features, as part of the State of Nevada permitting process. Current bonding requirements are based on third party cost estimates to reclaim all permitted features at the Marigold mine. The Bureau of Land Management ("**BLM**") and the State of Nevada both review and approve the bond estimate, and the BLM holds the financial instruments providing the bond backing. As at December 31, 2014, the Marigold mine has an approved $45.2 million reclamation bond requirement.

   (c) In 2014, the Borrower's reclamation work program at the Duthie property was carried out at a cost of approximately $130,000. The Borrower's remaining reclamation obligations beyond 2014 include the construction of a wetland for water filtration purposes and the monitoring of the results of the reclamation project in subsequent years. Estimated costs for the remaining reclamation beyond 2014 are approximately $350,000.

   (d) At the Silver Standard mine property (Hazelton), the Borrower incurred approximately $0.9 million in expenditures for reclamation work completed in 2014. Estimated costs for reclamation work programs on the Silver Standard mine property (Hazelton) beyond 2014 are approximately $1.6 million.

SCHEDULE 3.1(17)

EMPLOYEE MATTERS

The employees of Mina Pirquitas, LLC Sucursal Argentina (the Argentinian branch of Mina Pirquitas, LLC) are subject to a collective bargaining agreement.

SCHEDULE 3.1(19)

INTELLECTUAL PROPERTY RIGHTS

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
Canada	First Renewal	SILVER STANDARD	27 Sep 2027	Registered Owner: Silver Standard Resources Inc.	1305681	19 Jun 2006	832968	27 Sep 2012
United States	Aff of Use – 6 Year First Renewal	SILVER STANDARD	22 Oct 2019 22 Oct 2023	Registered Owner: Silver Standard Resources Inc.	77/066887	18 Dec 2006	4420194	22 Oct 2013
Mexico	First Renewal	SILVER STANDARD	19 Dec 2016	Registered Owner: Silver Standard Resources Inc.	826260	19 Dec 2006	1463087	18 Jun 2014

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
European Community	First Renewal	SILVER STANDARD	18 Dec 2016	Registered Owner: Silver Standard Resources Inc.	005563218	18 Dec 2006	005563218	10 Dec 2009
Australia	First Renewal	SILVER STANDARD	18 Dec 2016	Registered Owner: Silver Standard Resources Inc.	1152706	18 Dec 2006	1152706	11 Oct 2007
Japan	First Renewal	SILVER STANDARD	28 Sep 2017	Registered Owner: Silver Standard Resources Inc.	2006-117104	19 Dec 2006	5080342	28 Sep 2007
Argentina	Use Aff of Use First Renewal	SILVER STANDARD	02 Jan 2017 02 Jan 2018 02 Jan 2018	Registered Owner: Silver Standard Resources Inc.	2720158	19 Dec 2006	2205668	02 Jan 2008

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
China	First Renewal	SILVER STANDARD	20 Dec 2020	Registered Owner: Silver Standard Resources Inc.	5795062	19 Dec 2006	5795062	21 Dec 2010
India	First Renewal	SILVER STANDARD	19 Dec 2016	Registered Owner: Silver Standard Resources Inc.	1514673	19 Dec 2006	1193115	27 Nov 2014
Peru	First Renewal	SILVER STANDARD	24 Jun 2018	Registered Owner: Silver Standard Resources Inc.	300319	18 Dec 2006	51517	24 Jun 2008
Peru	First Renewal	SILVER STANDARD	15 Jul 2018	Registered Owner: Silver Standard Resources Inc.	300320	18 Dec 2006	51655	15 Jul 2008

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
Mexico	First Renewal	SILVER STANDARD	19 Dec 2016	Registered Owner: Silver Standard Resources Inc.	826265	19 Dec 2006	1237650	12 Sep 2011
Argentina	Use Aff of Use First Renewal	SILVER STANDARD	02 Jan 2017 02 Jan 2018 02 Jan 2018	Registered Owner: Silver Standard Resources Inc.	2720159	19 Dec 2006	2205669	02 Jan 2008
Argentina	Aff of Use First Renewal	SILVER STANDARD	17 Mar 2019 17 Mar 2019	Registered Owner: Silver Standard Resources Inc.	2720160	19 Dec 2006	2.277.514	17 Mar 2009
China	First Renewal	SILVER STANDARD	20 Jun 2020	Registered Owner: Silver Standard Resources Inc.	5795061	19 Dec 2006	5795061	21 Jun 2010

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
China	First Renewal	SILVER STANDARD	06 May 2020	Registered Owner: Silver Standard Resources Inc.	5795063	19 Dec 2006	5795063	07 May 2010
China	First Renewal	SILVER STANDARD	06 May 2020	Registered Owner: Silver Standard Resources Inc.	5795030	19 Dec 2006	5795030	07 May 2010
India	First Renewal	SILVER STANDARD	19 Dec 2016	Registered Owner: Silver Standard Resources Inc.	1514674	19 Dec 2006	1514674	02 Feb 2011
India		SILVER STANDARD		Published Owner: Silver Standard Resources Inc.	1514675	19 Dec 2006		

Country	Action(s) Due	Trademark	Due Date	Status	Appln No.	Appln. Date	Regn. No.	Regn. Date
Chile	First Renewal	SILVER STANDARD	12 Oct 2017	Registered Owner: Silver Standard Resources Inc.	755.980	19 Dec 2006	798782	12 Oct 2007
Chile	First Renewal	SILVER STANDARD	12 Oct 2017	Registered Owner: Silver Standard Resources Inc.	755.981	19 Dec 2006	798783	12 Oct 2007
Argentina	Aff of Use First Renewal	SILVER STANDARD	12 Aug 2020 12 Aug 2020	Registered Owner: Silver Standard Resources Inc.	2741533	25 Apr 2007	2386487	12 Aug 2010
Mexico	First Renewal	SILVER STANDARD	08 Aug 2017	Registered Owner: Silver Standard Resources Inc.	874430	08 Aug 2007	1268111	15 Feb 2012

SCHEDULE 3.1(21)

BANK ACCOUNTS

SSRI Guarantor Subsidiary	Name of Depository	Address	Phone	Account Type	Transitory Account (Y/N)	Account Number
Silver Standard Resources Inc.	CIBC	Commerce Place, 400 Burrard St. Vancouver, BC V6C 3A6	888-488-0174	Restricted Cash	N	CAD 00045-2223377
	CIBC	Commerce Place, 400 Burrard St. Vancouver, BC V6C 3A6	604-665-1816	Bank	N	CAD 67-90313 USD 03-97717
	HSBC	885 West Georgia St. Vancouver, BC V6C 3G1	604-641-2638 604-647-2753	Bank	N	CAD 020-592493-001
	Raymond James	2100 – 925 West Georgia St. Vancouver, BC V6C 3L2	604-659-8090	Bank	N	CAD 1GA3G0A0 USD 1GA3G0B0 USD 1GA3GVB0
	RBC	RBC Capital Markets Suite 2100 Park Place, 666 Burrard St. Vancouver, BC V6C 3B1	604-257-7707	Bank	N	USD 891-29579-1-0
	RBC	Royal Bank of Canada 1025 West Georgia St. Vancouver, BC V6E 3N5	604-665-8469	Bank	N	CAD 010-124-065-4 USD 010-404-170-3
	Scotiabank	Scotia Capital 1800 - 650 West Georgia St. Vancouver, BC V6V 4N9	604-630-4011	Bank	N	CAD/USD 800-49455
	Scotiabank	Suite 700 - 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	N	CAD 030200022810 USD 030201390414 USD 030203256014 CAD/USD 7161037 Standby L/C USD
	Scotiabank	Suite 700 - 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	y	USD 030208853916
	Citibank	123 Front St. West Toronto, ON M5J 2M3	416-947-5500	Bank	N	CAD 2019122008
	Citibank	399 Park Avenue New York, NY 10043	302-323-3600	Bank	N	USD 30960862
	Scotiabank	510 Burrard St. Suite 4000 Vancouver, BC V6C 3A8	604-718-1500	Deposit Box	N	1455
	RBC	Royal Bank Plaza 200 Bay Street, South Tower 2nd Floor Toronto, ON M5J 2W7	1-877-779-5367	Trading Account	N	475-33720

SSRI Guarantor Subsidiary	Name of Depository	Address	Phone	Account Type	Transitory Account (Y/N)	Account Number
Claude Resources Inc.	Scotiabank	Suite 700 - 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	N	USD 959680105511 CAD 959680062413 CAD 959680063118 CAD 959680075019
	Scotiabank	Suite 700 - 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	N	USD 030200786519
	BMO	Concourse Level, 595 Burrard Street Vancouver, BC V7X 1L7	604-665-7029	Restricted Cash	N	CAD 0004-1701-671
Silver Standard Canada Holdings Ltd.	Scotiabank	Suite 700 - 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	N	USD 030201420410
Silver Standard US Holdings Inc.	Scotiabank Houston	711 Louisiana Street Suite 1400 Houston, TX 77002	713-752-0900	Bank	Y	USD 1011332
Silver Standard Marigold Inc.	Scotiabank Houston	711 Louisiana Street Suite 1400 Houston, TX 77002	713-752-0900	Bank	Y	USD 1011235
Intertrade Metals Limited Partnership	Scotiabank	Suite 700 – 409 Granville St. Vancouver, BC V6C 1T2	1-888-855-1234	Bank	N	USD 03020 13040 11 CAD/USD 60307184
	Raymond James	2100 – 925 West Georgia St. Vancouver, BC V6C 3L2	604-659-8090	Bank	N	USD 1H4BB0B0 CAD 1H4BB0A0
Marigold Mining Company	Wells Fargo	999 3rd Ave., 12th Floor, Seattle, WA 98104	206-292-3210	Bank	N	USD 4023916836
	Wells Fargo	999 3rd Ave., 12th Floor, Seattle, WA 98104	206-292-3210	Bank	N	USD 4121986541
	Wells Fargo	999 3rd Ave., 12th Floor, Seattle, WA 98104	206-292-3210	Bank	N	USD 4121986558
	Wells Fargo	999 3rd Ave., 12th Floor, Seattle, WA 98104	206-292-3515	Bank	N	USD 1BA60648
Mina Pirquitas, LLC	HSBC	HSBC Bank USA 452 Fifth Ave, 4th Floor New York, NY 10018	212-525-0444	Bank	N	USD 048-77089-2
	HSBC	HSBC Bank USA 452 Fifth Ave, 4th Floor New York, NY 10018	212-525-0444	Bank	N	USD 724450220 USD 724450238

SCHEDULE 3.1(26)

MARIGOLD PROJECT REAL PROPERTY

Owned Real Property

Fee ownership in the following surface lands:

1. Approximately 161.33 acres within the SE1/4 § 22, T.34N., R.43E. and identified as Humboldt County Assessor's parcel number 007-401-25 for 2013-14 and 3443-22-400-001 for 2014-15.

2. Approximately 640 acres within § 9, T.33N., R.43E. and identified as Humboldt County Assessor's parcel number 007-461-09 for 2013-14 and 3443-09-100-001 for 2014-15 (surface only).[1]

3. Approximately 640 acres within § 17, T.33N., R.43E. and identified as Humboldt County Assessor's parcel number 007-461-14 for 2013-14 and 3443-17-100-001 for 2014-15 (surface only).[2]

4. Approximately 41.15 acres within Lot 12 § 33, T.34N., R.43E. and identified as Humboldt County Assessor's parcel number 007-404-06 for 2013-14 and 3443-33-400-003 for 2014-15.

In addition to fee ownership in such surface lands described above, Marigold Mining Company has obtained the properties described below:

5. The following property is listed as owned real property in Schedule 5.1(a) to the Purchase and Sale Agreement among Goldcorp USA, Inc., Goldcorp Canada Ltd., Homestake Mining Company of California, and the Borrower dated as of February 3, 2014:

    a. Five parcels of residential real property located in Winnemucca, Nevada and identified as follows:

        (i) Approximately 0.172 acres within § 20, T.36N., R.38E., M.D.B.&M., and identified as Parcel 1 of that certain Parcel Map for H&K CONSTRUCTION, recorded in the Office of the Humboldt County Recorder on October 3, 1988, under File No. 296775, and further identified as Humboldt County Assessor's parcel number 015-162-08 for 2013-14 and 3638-20-302-010 for 2014-15; with property address of 621 E. Second Street, Winnemucca, Nevada;

        (ii) Approximately 0.174 acres within § 20, T.36N., R.38E., M.D.B.&M., and identified as Parcel 2 of that certain Parcel Map for H&K CONSTRUCTION, recorded in the Office of the Humboldt County Recorder on October 3, 1988, under File No. 296775, and further identified as Humboldt County Assessor's parcel number 015-162-09 for 2013-14 and 3638-20-302-009 for 2014-15; with property address of 615 E. Second Street, Winnemucca, Nevada;

        (iii) Approximately 0.186 acres within § 20, T.36N., R.38E., M.D.B.&M., and identified as Parcel 3 of that certain Parcel Map for H&K CONSTRUCTION, recorded in the Office

[1] Minerals are leased under the SFP Minerals Lease.

[2] Minerals are leased under the SFP Minerals Lease.

of the Humboldt County Recorder on October 3, 1988, under File No. 296775, and further identified as Humboldt County Assessor's parcel number 015-162-10 for 2013-14 and 3638-20-302-008 for 2014-15; with property address of 611 E. Second Street, Winnemucca, Nevada;

(iv) Approximately 0.218 acres within § 20, T.36N., R.38E., M.D.B.&M., and identified as Parcel 4B of that certain Parcel Map for H&K CONSTRUCTION, recorded in the Office of the Humboldt County Recorder on October 12, 1988, under File No. 297139, and further identified as Humboldt County Assessor's parcel number 015-162-11 for 2013-14 and 3638-20-302-007 for 2014-15; with property address of 605 E. Second Street, Winnemucca, Nevada; and

(v) Approximately 0.304 acres within § 20, T.36N., R.38E., M.D.B.&M., and identified as Parcel 4A of that certain Parcel Map for H&K CONSTRUCTION, recorded in the Office of the Humboldt County Recorder on October 12, 1988, under File No. 297139, and further identified as Humboldt County Assessor's parcel number 015-162-12 for 2013-14 and 3638-20-302-006 for 2014-15; with property address of 601 E. Second Street, Winnemucca, Nevada.

b. Approximately 5 acres being Lot 1 within Block A of the Hilltop Estates Subdivision in NE1/4NW1/4 § 3, T.3IN., R.45E. and identified as Lander County Assessor's parcel number 011-300-009.

6. The following property was obtained by Marigold Mining Company pursuant to a Grant, Bargain and Sale Deed (with reservation of royalty), dated August 25, 2014, from Newmont USA Limited ("**Newmont**"):

a. Parcel One: the N1/2 of § 21, T.33N., R.43E. M.D.B.&M, containing 311.45 acres more or less; and

b. Parcel Two: the W1/2SW1/4, SW1/4NW1/4, W1/2NW1/4NW1/4 and the W1/2E1/2NW1/4NW1/4 of § 29, T.33N., R.43E., M.D.B.&M (excluding any portion on which an existing open pit is situated as of August 25, 2014), containing 129.36 acres more or less.

7. The following property was obtained by Marigold Mining Company pursuant to certain Grant, Bargain and Sale Deeds, dated September 24, 2014, between Arizona West Coast Corporation, a Nevada corporation (Grantor) to Marigold Mining Company, a Nevada corporation (Grantee), recorded October 1, 2014 (at Document Nos. 2014-03192, 2014-03193, 2014-03194, 2014-03195, 2014-03196 and 2014-03197, each in Humboldt County, NV):

a. Approximately 10.00 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 1 of that certain Parcel Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on November 7, 2008 under File No. 2008-9356, and further identified as Humboldt County Assessor's parcel number 007-404-13 for 2013-14 and 3443-33-200-006 for 2014-15;

b. Approximately 10.00 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 2 of that certain Parcel Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on November 7, 2008 under File No. 2008-9356, and further

identified as Humboldt County Assessor's parcel number 007-404-12 for 2013-14 and 3443-33-200-005 for 2014-15;

c. Approximately 10.00 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 3 of that certain Parcel Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on November 7, 2008 under File No. 2008-9356, and further identified as Humboldt County Assessor's parcel number 007-404-11 for 2013-14 and 3443-33-200-004 for 2014-15;

d. Approximately 10.00 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 4 of that certain Parcel Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on November 7, 2008 under File No. 2008-9356, and further identified as Humboldt County Assessor's parcel number 007-404-10 for 2013-14 and 3443-33-200-003 for 2014-15;

e. Approximately 41.15 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 15 of that certain Division into Larger Parcels Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on May 26, 2006 under File No. 2006- 3372, and further identified as Humboldt County Assessor's parcel number 007-404-09 for 2013-14 and 3443-33-200-008 for 2014-15; and

f. Approximately 40.00 acres within § 33, T.34N., R.43E., M.D.B.&M. and identified as Lot 11 of that certain Division into Larger Parcels Map for L Bar Nevada, LLC recorded in the Office of the Humboldt County Recorder on May 26, 2006 under File No. 2006- 3372, and further identified as Humboldt County Assessor's parcel number 007-404-05 for 2013-14 and 3443-33-300-004 for 2014-15.

8. The following property was obtained by Marigold Mining Company pursuant to a Grant, Bargain and Sale Deed, executed effective September 24, 2015, from Newmont, a Delaware corporation (Grantor), to Marigold Mining Company, a Nevada corporation (Grantee), recorded October 8, 2015 (at Document No. 2015-03351 in Humboldt County, NV):

a. The S2 of Section 21, T. 33 N., R. 43 E., M.D.B. & M. containing approximately 308.73 acres more or less and referred to as Assessor's Parcel Number is 3343-21-100-002, a parcel map of which has been recorded on June 16, 2014, file number 2014-1838;

b. The E2, E2W2, E2E2NW4NW4 of Section 29, T. 33 N., R. 43 E., M.D.B. & M. containing approximately 504.34 acres more or less and referred to as Assessor's Parcel Number is 3343-29-100-001, a parcel map of which has been recorded on June 16, 2014, file number 2014-1838;

c. All of Section 5, T. 32 N., R. 43 E., M.D.B. & M. containing approximately 686.8 acres more or less and referred to as Assessor's Parcel Number 3243-05-100-001; and

d. All of Section 1, T. 32 N., R. 42 E., M.D.B. & M. containing approximately 628.6 acres more or less and referred to as Assessor's Parcel Number 3242-01-100-001.

Owned Unpatented Mining Claims

The holder of record title to the following 277 unpatented mining claims:

BLM Serial Number	Claim Name
NMC371561	APRI # 1
NMC371562	APRI # 2
NMC371563	APRI # 3
NMC371564	APRI # 4
NMC371565	APRI # 5
NMC371566	APRI # 6
NMC371567	APRI # 7
NMC371568	APRI # 8
NMC371569	APRI # 9
NMC371570	APRI # 10
NMC371571	APRI # 11
NMC371572	APRI # 12
NMC371573	APRI # 13
NMC519580	APRI # 14
NMC552229	APRI # 15
NMC361136	VAL #237
NMC361137	VAL #238
NMC361138	VAL #239
NMC361139	VAL #240
NMC361140	VAL #241
NMC361141	VAL #242
NMC361142	VAL #243
NMC361143	VAL #244
NMC361144	VAL #245
NMC361145	VAL #246
NMC361146	VAL #247
NMC361147	VAL #248
NMC361148	VAL #249
NMC361149	VAL #250
NMC361150	VAL #251
NMC361151	VAL #252
NMC361152	VAL #253
NMC361153	VAL #254
NMC361154	VAL #255
NMC361155	VAL #256
NMC361156	VAL #257
NMC361157	VAL #258
NMC361158	VAL #259
NMC361159	VAL #260
NMC361160	VAL #261
NMC361161	VAL #262
NMC600391	VAL #1013
NMC600392	VAL #1014
NMC600393	VAL #1015

BLM Serial Number	Claim Name
NMC600394	VAL #1016
NMC600395	VAL #1017
NMC600396	VAL #1018
NMC600397	VAL #1019
NMC600398	VAL #1020
NMC600399	VAL #1021
NMC600400	VAL #1022
NMC600401	VAL #1023
NMC600402	VAL #1024
NMC371574	TYLER # 1
NMC371575	TYLER # 2
NMC371576	TYLER # 3
NMC371577	TYLER # 4
NMC371578	TYLER # 5
NMC371579	TYLER # 6
NMC371580	TYLER # 7
NMC371581	TYLER # 8
NMC371582	TYLER # 9
NMC371583	TYLER # 10
NMC371584	TYLER # 11
NMC371585	TYLER # 12
NMC371586	TYLER # 13
NMC371587	TYLER # 14
NMC371588	TYLER # 15
NMC371589	TYLER # 16
NMC371590	TYLER # 17
NMC371591	TYLER # 18
NMC371592	TYLER # 19
NMC371593	TYLER # 20
NMC371594	TYLER # 21
NMC371595	TYLER # 22
NMC371596	TYLER # 23
NMC371597	TYLER # 24
NMC371598	TYLER # 25
NMC371599	TYLER # 26
NMC371600	TYLER # 27
NMC371601	TYLER # 28
NMC371602	TYLER # 29
NMC371603	TYLER # 30
NMC371604	TYLER # 31
NMC371605	TYLER # 32
NMC371606	TYLER # 33
NMC371607	TYLER # 34
NMC371608	TYLER # 35
NMC371609	TYLER # 36
NMC454876	REMARY #237
NMC454877	REMARY #238
NMC454878	REMARY #239

BLM Serial Number	Claim Name
NMC454879	REMARY #240
NMC454880	REMARY #241
NMC454881	REMARY #242
NMC454882	REMARY #243
NMC454883	REMARY #244
NMC454884	REMARY #245
NMC454885	REMARY #246
NMC454886	REMARY #247
NMC454887	REMARY #248
NMC454888	REMARY #249
NMC454889	REMARY #250
NMC454890	REMARY #251
NMC454891	REMARY #252
NMC454892	REMARY #253
NMC454893	REMARY #254
NMC454894	REMARY #255
NMC454895	REMARY #256
NMC454896	REMARY #257
NMC454897	REMARY #258
NMC454898	REMARY #259
NMC454899	REMARY #260
NMC454900	REMARY #261
NMC454901	REMARY #262
NMC454902	REMARY #263
NMC454903	REMARY #264
NMC454904	REMARY #265
NMC454905	REMARY #266
NMC454906	REMARY #267
NMC454907	REMARY #268
NMC454908	REMARY #269
NMC454909	REMARY #270
NMC454910	REMARY #271
NMC454911	REMARY #272
NMC552228	REMARY FRACTION
NMC359040	MARY # 73
NMC359041	MARY # 74
NMC359042	MARY # 75
NMC359043	MARY # 76
NMC359044	MARY # 77
NMC359045	MARY # 78
NMC359046	MARY # 79
NMC359047	MARY # 80
NMC359048	MARY # 81
NMC359049	MARY # 82
NMC359050	MARY # 83
NMC359051	MARY # 84
NMC359052	MARY # 85
NMC359053	MARY # 86

BLM Serial Number	Claim Name
NMC359054	MARY # 87
NMC359055	MARY # 88
NMC359056	MARY # 89
NMC359057	MARY # 90
NMC400277	HS #123
NMC400278	HS #124
NMC400279	HS #125
NMC400280	HS #126
NMC400281	HS #127
NMC400282	HS #128
NMC400283	HS #129
NMC400284	HS #130
NMC400285	HS #131
NMC400286	HS #132
NMC400287	HS #133
NMC400288	HS #134
NMC400289	HS #134A
NMC358968	MARY# 1
NMC358969	MARY# 2
NMC358970	MARY# 3
NMC358971	MARY# 4
NMC358972	MARY# 5
NMC358973	MARY# 6
NMC358974	MARY# 7
NMC358975	MARY# 8
NMC358976	MARY# 9
NMC358977	MARY # 10
NMC358978	MARY # 11
NMC358979	MARY # 12
NMC358980	MARY # 13
NMC358981	MARY # 14
NMC358982	MARY # 15
NMC358983	MARY # 16
NMC358984	MARY # 17
NMC358985	MARY # 18
NMC358986	MARY # 19
NMC358987	MARY # 20
NMC358988	MARY # 21
NMC358889	MARY # 22
NMC358990	MARY # 23
NMC358991	MARY # 24
NMC358992	MARY # 25
NMC358993	MARY # 26
NMC358994	MARY # 27
NMC358995	MARY # 28
NMC358996	MARY # 29
NMC358997	MARY # 30
NMC358998	MARY # 31

BLM Serial Number	Claim Name
NMC358999	MARY # 32
NMC359000	MARY # 33
NMC359001	MARY # 34
NMC359002	MARY # 35
NMC359003	MARY # 36
NMC371610	BONZ # 1
NMC371612	BONZ # 3
NMC371614	BONZ # 5
NMC371616	BONZ # 7
NMC371618	BONZ # 9
NMC371619	BONZ # 10
NMC371620	BONZ # 11
NMC371621	BONZ # 12
NMC371622	BONZ # 13
NMC371623	BONZ # 14
NMC371624	BONZ # 15
NMC371625	BONZ # 16
NMC371626	BONZ # 17
NMC371627	BONZ # 18
NMC371630	BONZ # 21
NMC371631	BONZ # 22
NMC371632	BONZ # 23
NMC371633	BONZ # 24
NMC371634	BONZ # 25
NMC371635	BONZ # 26
NMC371636	BONZ # 27
NMC371637	BONZ # 28
NMC371638	BONZ # 29
NMC371639	BONZ # 30
NMC451485	BONZ # 33
NMC451486	BONZ # 34
NMC451487	BONZ # 35
NMC451488	BONZ # 36
NMC487422	REBONZ # 2
NMC487423	REBONZ # 4
NMC487424	REBONZ # 6
NMC487425	REBONZ # 8
NMC487426	REBONZ # 19
NMC487427	REBONZ # 20
NMC487428	REBONZ # 31
NMC524363	REBONZ # 32
NMC362237	LCL # 1
NMC362238	LCL # 2
NMC362239	LCL # 3
NMC362240	LCL # 4
NMC362241	LCL # 5
NMC362242	LCL # 6
NMC362243	LCL # 7

BLM Serial Number	Claim Name
NMC362244	LCL # 8
NMC362245	LCL # 9
NMC362246	LCL #10
NMC362247	LCL #11
NMC362248	LCL #12
NMC362249	LCL #13
NMC362250	LCL #14
NMC362251	LCL #15
NMC362252	LCL #16
NMC362253	LCL #17
NMC362254	LCL #18
NMC362255	LCL #19
NMC362256	LCL #20
NMC362257	LCL #21
NMC362258	LCL #22
NMC362259	LCL #23
NMC362260	LCL #24
NMC362261	LCL #25
NMC362262	LCL #26
NMC362263	LCL #27
NMC362264	LCL #28
NMC362265	LCL #29
NMC362266	LCL #30
NMC362267	LCL #31
NMC362268	LCL #32
NMC362269	LCL #33
NMC362270	LCL #34
NMC362271	LCL #35
NMC362272	LCL #36
NMC684371	EJM 1
NMC684372	EJM 2
NMC684373	EJM 3
NMC684374	EJM 4
NMC684375	EJM 5
NMC684376	EJM 6
NMC684377	EJM 7
NMC684378	EJM 8
NMC684379	EJM 9
NMC684380	EJM 10
NMC684381	EJM 11
NMC684382	EJM 12

Leased Unpatented Mining Claims

1. Decker Lease

The Decker Lease provides for the lease of the following 170 unpatented mining claims generally located in § 24, T.33N., R.42E. and §§ 6, 18, 19, 20, 30, T.33N., R.43E., Humboldt County, Nevada (noting that the E1/2NW1/4 of § 30, T.33N., R.43E. is privately owned by others):

a. Red and Kit Unpatented Mining Claims (161 claims)

BLM Serial Number	Claim Name
NMC48409	RED # 21
NMC48410	RED # 22
NMC48411	RED # 23
NMC48412	RED # 24
NMC48415	RED # 27
NMC48416	RED # 28
NMC48417	RED # 29
NMC48418	RED # 30
NMC48419	RED # 31
NMC48420	RED # 32
NMC48421	RED # 33
NMC48422	RED # 34
NMC48423	RED # 35
NMC48424	RED # 36
NMC48425	RED # 37
NMC48426	RED # 38
NMC56187	RED # 39
NMC56188	RED # 40
NMC56189	RED # 41
NMC56190	RED # 42
NMC56191	RED # 43
NMC56192	RED # 44
NMC56193	RED # 45
NMC56194	RED # 46
NMC56195	RED # 47
NMC56196	RED # 48
NMC56197	RED # 49
NMC56198	RED # 50
NMC56199	RED # 52
NMC56200	RED # 53
NMC56201	RED # 54
NMC56202	RED # 55
NMC56203	RED # 56
NMC56204	RED # 57
NMC56205	RED # 58
NMC56206	RED # 59
NMC56207	RED # 60
NMC56208	RED # 61

BLM Serial Number	Claim Name
NMC56209	RED # 62
NMC56210	RED # 63
NMC56211	RED # 64
NMC56212	RED # 65
NMC56213	RED # 66
NMC56214	RED # 67
NMC56215	RED # 68
NMC56216	RED # 69
NMC271665	RED #201
NMC271666	RED #202
NMC271667	RED #203
NMC271668	RED #204
NMC271669	RED #205
NMC271670	RED #206
NMC271671	RED #207
NMC271672	RED #208
NMC271673	RED #209
NMC271674	RED #210
NMC271675	RED #211
NMC271676	RED #212
NMC271677	RED #213
NMC271678	RED #214
NMC271679	RED #215
NMC271680	RED #216
NMC271681	RED #217
NMC271682	RED #218
NMC271683	RED #219
NMC271684	RED #220
NMC271685	RED #221
NMC271686	RED #222
NMC271687	RED #223
NMC271688	RFD #224
NMC271689	RED #601
NMC271690	RED #602
NMC271691	RED #603
NMC271692	RED #604
NMC271693	RED #605
NMC271694	RED #606
NMC271695	RED #607
NMC271696	RED #608
NMC271697	RED #609
NMC271698	RED #610
NMC271699	RED #611
NMC271700	RED #612
NMC271701	RED #613
NMC271702	RED #614
NMC271703	RED #615
NMC271704	RED #616

BLM Serial Number	Claim Name
NMC271705	RED #617
NMC271706	RED #618
NMC271707	RED #619
NMC271708	RED #620
NMC271709	RED #621
NMC271710	RED #622
NMC271711	RED #623
NMC271712	RED #624
NMC271713	RED #625
NMC271714	RED #626
NMC271715	RED #627
NMC271716	RED #628
NMC365642	KIT # 1
NMC365643	KIT # 2
NMC365644	KIT # 3
NMC365645	KIT # 4
NMC365646	KIT # 5
NMC365647	KIT # 6
NMC365648	KIT # 7
NMC365649	KIT # 8
NMC365650	KIT # 9
NMC365651	KIT # 10
NMC365652	KIT # 11
NMC365653	KIT # 12
NMC365654	KIT # 13
NMC365655	KIT # 14
NMC365656	KIT # 15
NMC365657	KIT # 16
NMC365658	KIT # 17
NMC365659	KIT # 18
NMC365660	KIT # 19
NMC365661	KIT # 20
NMC365662	KIT # 21
NMC365663	KIT # 22
NMC365664	KIT # 23
NMC365665	KIT # 24
NMC365666	KIT # 25
NMC365667	KIT # 26
NMC365668	KIT # 27
NMC365669	KIT # 28
NMC365670	KIT # 29
NMC365671	KIT # 30
NMC365672	KIT # 31
NMC365673	KIT # 32
NMC365674	KIT # 33
NMC365675	KIT # 34
NMC365676	KIT # 35
NMC365677	KIT # 36

BLM Serial Number	Claim Name
NMC678030	RED 1801A
NMC678031	RED 1802A
NMC678032	RED 1803A
NMC678033	RED 1804A
NMC678034	RED 1805A
NMC678035	RED 1806A
NMC678036	RED 1807A
NMC678037	RED 1808A
NMC678038	RED 1809A
NMC678039	RED 1810A
NMC678040	RED 1811A
NMC678041	RED 1812A
NMC678042	RED 1813A
NMC678043	RED 1814A
NMC678044	RED 1815A
NMC678045	RED 1816A
NMC678046	RED 1817A
NMC678047	RED 1818A
NMC678055	RED 1826A
NMC678056	RED 1827A
NMC678057	RED 1828A
NMC678058	RED 1829A
NMC678059	RED 1830A
NMC678060	RED 1831A
NMC678061	RED 1832A
NMC678062	RED 1833A
NMC678063	RED 1834A

b. Red #23A Unpatented Mining Claim

BLM Serial Number	Claim Name
NMC552226	RED # 23A

c. Red #24A Unpatented Mining Claim

BLM Serial Number	Claim Name
NMC552227	RED # 24A

d. Nured Unpatented Mining Claims (7 claims)

BLM Serial Number	Claim Name
NMC871541	NURED 1819
NMC871542	NURED 1820
NMC871543	NURED 1821
NMC871544	NURED 1822
NMC871545	NURED 1823
NMC871546	NURED 1824
NMC871547	NURED 1825

2. Vek and Andrus Lease

The Vek and Andrus Lease provides for the lease of the following 205 unpatented mining claims and unpatented millsite claims generally located in § 36, T.33N., R.42E.; § 6, T.32N., R.43E.; § 8, T.33N., R.43E.; and §§ 30 and 32, T.34N., R.44E, Humboldt County, Nevada:

a. COT and VAL Unpatented Mining Claims (134 claims)

BLM Serial Number	Claim Name
NMC271972	COT # 1
NMC271973	COT # 2
NMC271974	COT # 3
NMC271975	COT # 4
NMC271976	COT # 5
NMC271977	COT # 6
NMC271978	COT # 7
NMC271979	COT # 8
NMC271980	COT # 9
NMC271981	COT # 10
NMC271982	COT # 11
NMC271983	COT # 12
NMC271984	COT # 13
NMC271985	COT # 14
NMC271986	COT # 15
NMC271987	COT # 16
NMC271988	COT # 17
NMC271989	COT # 18
NMC271990	COT # 19
NMC271991	COT # 20
NMC271992	COT # 21
NMC271993	COT # 22
NMC271994	COT # 23
NMC271995	COT # 24
NMC271996	COT # 25
NMC271997	COT # 26
NMC271998	COT # 27
NMC271999	COT # 28
NMC272000	COT # 29
NMC272001	COT # 30
NMC272002	COT # 31
NMC272003	COT # 32
NMC272004	COT # 33
NMC272005	COT # 34
NMC272006	COT # 35
NMC272007	COT # 36
NMC275733	COT # 38
NMC275750	COT # 55
NMC275751	COT # 56
NMC275752	COT # 57

BLM Serial Number	Claim Name
NMC275753	COT # 58
NMC275755	COT # 60
NMC275757	COT # 62
NMC275759	COT # 64
NMC275760	COT # 65
NMC275761	COT # 66
NMC275762	COT # 67
NMC275763	COT # 68
NMC275764	COT # 69
NMC275765	COT # 70
NMC275766	COT # 71
NMC275767	COT # 72
NMC342068	COT #73
NMC342069	COT #74
NMC342070	COT #75
NMC342071	COT #76
NMC297554	VAL # 1
NMC297555	VAL # 2
NMC297556	VAL # 3
NMC297557	VAL # 4
NMC297558	VAL # 5
NMC297559	VAL # 6
NMC297560	VAL # 7
NMC297561	VAL # 8
NMC297562	VAL # 9
NMC297563	VAL # 10
NMC297564	VAL # 11
NMC297565	VAL # 12
NMC297566	VAL # 13
NMC297567	VAL # 14
NMC297568	VAL # 15
NMC297569	VAL # 16
NMC297570	VAL # 17
NMC297571	VAL # 18
NMC347463	VAL # 19
NMC347464	VAL # 20
NMC347465	VAL # 21
NMC347466	VAL # 22
NMC347467	VAL # 23
NMC347468	VAL # 24
NMC347469	VAL # 25
NMC347470	VAL # 26
NMC347471	VAL # 27
NMC347472	VAL # 28
NMC347473	VAL # 29
NMC347474	VAL # 30
NMC347475	VAL # 31
NMC297572	VAL # 37

BLM Serial Number	Claim Name
NMC297573	VAL # 38
NMC297574	VAL # 39
NMC297575	VAL # 40
NMC297576	VAL # 41
NMC297577	VAL # 42
NMC297578	VAL # 43
NMC297579	VAL # 44
NMC297580	VAL # 45
NMC297581	VAL # 46
NMC297582	VAL # 47
NMC297583	VAL # 48
NMC297584	VAL # 49
NMC297585	VAL # 50
NMC297586	VAL # 51
NMC297587	VAL # 52
NMC297588	VAL # 53
NMC297589	VAL # 54
NMC297590	VAL # 55
NMC297591	VAL # 56
NMC297592	VAL # 57
NMC297593	VAL # 58
NMC297594	VAL # 59
NMC297595	VAL # 60
NMC297596	VAL # 61
NMC297597	VAL # 62
NMC297598	VAL # 63
NMC297599	VAL # 64
NMC297600	VAL # 65
NMC297601	VAL # 66
NMC297602	VAL # 67
NMC297603	VAL # 68
NMC297604	VAL # 69
NMC297605	VAL # 70
NMC297606	VAL # 71
NMC297607	VAL # 72
NMC361164	COT FRAC # 1
NMC361165	COT FRAC # 2
NMC361166	COT FRAC # 3
NMC361167	COT FRAC # 4
NMC361168	COT FRAC # 5
NMC361169	COT FRAC # 6
NMC361170	COT FRAC # 7
NMC361171	COT FRAC # 8
NMC361172	COT FRAC # 9
NMC371559	COT # 75A
NMC371560	COT # 76A

b. RECOT Unpatented Mining Claims and GMMCMS Unpatented Millsite Claims (71 claims)
(* denotes millsite claims)

BLM Serial Number	Claim Name
NMC822614	RECOT 37
NMC822615	RECOT 39
NMC822616	RECOT 40
NMC822617	RECOT 41
NMC822618	RECOT 42
NMC822619	RECOT 43
NMC822620	RECOT 45
NMC822621	RECOT 47
NMC822622	RECOT 50
NMC822623	RECOT 51
NMC822624	RECOT 52
NMC822625	RECOT 53
NMC822626	RECOT 54
NMC822627	RECOT 59
NMC822628	RECOT 61
NMC822629	RECOT 63
NMC822630	RECOT 63B
NMC822560 *	GMMCMS 1
NMC822561 *	GMMCMS 2
NMC822562 *	GMMCMS 3
NMC822563 *	GMMCMS 4
NMC822564 *	GMMCMS 5
NMC822565 *	GMMCMS 6
NMC822566 *	GMMCMS 7
NMC822567 *	GMMCMS 8
NMC822568 *	GMMCMS 9
NMC822569 *	GMMCMS 10
NMC822570 *	GMMCMS 11
NMC822571 *	GMMCMS 12
NMC822572 *	GMMCMS 13
NMC822573 *	GMMCMS 14
NMC822574 *	GMMCMS 15
NMC822575 *	GMMCMS 16
NMC822576 *	GMMCMS 17
NMC822577 *	GMMCMS 18
NMC822578 *	GMMCMS 19
NMC822579 *	GMMCMS 20
NMC822580 *	GMMCMS 21
NMC822581 *	GMMCMS 22
NMC822582 *	GMMCMS 23
NMC822583 *	GMMCMS 24
NMC822584 *	GMMCMS 25
NMC822585 *	GMMCMS 26
NMC822586 *	GMMCMS 27
NMC822587 *	GMMCMS 28

BLM Serial Number	Claim Name
NMC822588 *	GMMCMS 29
NMC822589 *	GMMCMS 30
NMC822590 *	GMMCMS 31
NMC822591 *	GMMCMS 32
NMC822592 *	GMMCMS 33
NMC822593 *	GMMCMS 34
NMC822594 *	GMMCMS 35
NMC822595 *	GMMCMS 36
NMC822596 *	GMMCMS 37
NMC822597 *	GMMCMS 38
NMC822598 *	GMMCMS 39
NMC822599 *	GMMCMS 40
NMC822600 *	GMMCMS 41
NMC822601 *	GMMCMS 42
NMC822602 *	GMMCMS 43
NMC822603 *	GMMCMS 44
NMC822604 *	GMMCMS 45
NMC822605 *	GMMCMS 46
NMC822606 *	GMMCMS 47
NMC822607 *	GMMCMS 48
NMC822608 *	GMMCMS 49
NMC822609 *	GMMCMS 50
NMC822610 *	GMMCMS 51
NMC822611 *	GMMCMS 52
NMC822612 *	GMMCMS 53
NMC822613 *	GMMCMS 54

3. Euro-Nevada Lease

The Euro-Nevada Lease provides for the lease of the following 36 unpatented mining claims generally located in § 10, T.33N., R.43E, Humboldt County, Nevada:

BLM Serial Number	Claim Name
NMC373649	SAR# 37
NMC373650	SAR# 38
NMC373651	SAR# 39
NMC373652	SAR# 40
NMC373653	SAR# 41
NMC373654	SAR# 42
NMC373655	SAR# 43
NMC373656	SAR# 44
NMC373657	SAR# 45
NMC373658	SAR# 46
NMC373659	SAR# 47
NMC373660	SAR# 48
NMC373661	SAR# 49
NMC373662	SAR# 50
NMC373663	SAR# 51

BLM Serial Number	Claim Name
NMC373664	SAR# 52
NMC373665	SAR# 53
NMC373666	SAR# 54
NMC373667	SAR# 55
NMC373668	SAR# 56
NMC373669	SAR# 57
NMC373670	SAR# 58
NMC373671	SAR# 59
NMC373672	SAR# 60
NMC373673	SAR# 61
NMC373674	SAR# 62
NMC373675	SAR# 63
NMC373676	SAR# 64
NMC373677	SAR# 65
NMC373678	SAR# 66
NMC373679	SAR# 67
NMC373680	SAR# 68
NMC373681	SAR# 69
NMC373682	SAR# 70
NMC373683	SAR# 71
NMC373684	SAR# 72

4. Nevada North Lease

The Nevada North Lease provides for the lease of the following 12 unpatented mining claims generally located in § 6 (S2NE4, N2SE4, SE4SE4), T.32N., R.43E, Humboldt County, Nevada:

BLM Serial Number	Claim Name
NMC409224	BC- 1
NMC409225	BC- 2
NMC409226	BC- 3
NMC409227	BC- 4
NMC409228	BC- 5
NMC409229	BC- 6
NMC409230	BC- 7
NMC409231	BC- 8
NMC409232	BC- 9
NMC409233	BC-10
NMC409234	BC-11
NMC409235	BC-12

5. Franco-Nevada Lease

The Franco-Nevada Lease provides for the lease of the following 82 unpatented mining claims generally located in § 28, 32, T33.N., R.43E, Humboldt County, Nevada:

BLM Serial Number	Claim Name
NMC379514	N - 1

BLM Serial Number	Claim Name
NMC379515	N - 2
NMC379516	N - 3
NMC379517	N - 4
NMC379518	N - 5
NMC379519	N - 6
NMC379520	N - 7
NMC379521	N - 8
NMC379522	N - 9
NMC379523	N - 10
NMC379524	N - 11
NMC379525	N - 12
NMC379526	N - 13
NMC379527	N - 14
NMC379528	N - 15
NMC379529	N - 16
NMC379530	N - 17
NMC379531	N - 18
NMC379532	N - 19
NMC379533	N - 20
NMC379534	N - 21
NMC379535	N - 22
NMC379536	N - 23
NMC379537	N - 24
NMC379538	N - 25
NMC379539	N - 26
NMC379540	N - 27
NMC379541	N - 28
NMC379542	N - 29
NMC379543	N - 30
NMC379544	N - 31
NMC379545	N - 32
NMC379546	N - 33
NMC379547	N - 34
NMC379548	N - 35
NMC379549	N - 36
NMC379550	N - 37
NMC379551	N - 38
NMC379552	N - 39
NMC379553	N - 40
NMC379554	N - 41
NMC379555	N - 42
NMC379556	N - 43
NMC379557	N - 44
NMC379558	N - 45
NMC379559	N - 46
NMC379560	N - 47
NMC379561	N - 48
NMC379562	N - 49

BLM Serial Number	Claim Name
NMC379563	N - 50
NMC379564	N - 51
NMC379565	N - 52
NMC379566	N - 53
NMC379567	N - 54
NMC379568	N - 55
NMC379569	N - 56
NMC379570	N - 57
NMC379571	N - 58
NMC379572	N - 59
NMC379573	N - 60
NMC379574	N - 61
NMC379575	N - 62
NMC379576	N - 63
NMC379577	N - 64
NMC379578	N - 65
NMC379579	N - 66
NMC379580	N - 67
NMC379581	N - 68
NMC379582	N - 69
NMC379583	N - 70
NMC379584	N - 71
NMC379585	N - 72
NMC623992	N - 109
NMC623993	N - 110
NMC623994	N - 111
NMC623995	N - 112
NMC676435	N - 20A
NMC676436	N - 22A
NMC676437	N - 28A
NMC676438	N - 29A
NMC676439	N - 30A
NMC676440	N - 31A

Leased Real Property

1. SFP Minerals Lease[3]

   a. Approximately 649.00 acres within the All of § 5, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-02 for 2013-14 and 3343-05-100-001 for 2014-15;

   b. Approximately 640.00 acres within the All of § 9, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-09 for 2013-14 and 3343-09-100-001 for 2014-15;

[3] For §§ 9 and 17 (items 1.a. and b.), the SFP Minerals Lease covers mineral rights only. MMC owns the surface rights in these sections. See items 2 and 3 above under the heading "Owned Real Property".

c. Approximately 649.00 acres within the All of § 17, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-14 for 2013-14 and 3343-17-100-001 for 2014-15; and

d. Approximately 631.00 acres within the All of § 31, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-31 for 2013-14 and 3343-31-100-001 for 2014-15.

2. SPLC Lease and SPLC Sublease (New Nevada Lands, LLC, as lessor, and Newmont, as lessee and sublessor)

a. Approximately 640.00 acres within the All of § 29, T.34N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-401-29 for 2013-14 and 3443-29-100-001 for 2014-15; and

b. Approximately 640.00 acres within the All of § 33,[4] T.34N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel numbers 007-403-01 through 007-403-05, 007-403-07 through 007-403-10, 007-404-01, 007-404-03 through 007-404-13 for 2013-14 and 3443-33-100-001 through 3443-33-100-005, 3443-33-200-001 through 3443-33-200-008, 3443-33-300-001 through 3443-33-300-004, 3443-33-400-001 through 3443-33-400-003 for 2014-15;

3. SPLC Sublease (now lease with Franco-Nevada U.S. Corporation, as lessor)

a. Approximately 653.60 acres within the All of § 1, T.33N., R.42E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-451-06 for 2013-14 and 3342-01-100-001 for 2014-15;

b. Approximately 640.00 acres within the All of § 13, T.34N., R.42E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-451-18 for 2013-14 and 3342-13-100-001 for 2014-15;

c. Approximately 640.00 acres within the All of § 25, T.34N., R.42E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-451-30 for 2013-14 and 3342-25-100-001 for 2014-15;

d. Approximately 625.80 acres within the All of § 7, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-07 for 2013-14 and 3343-07-100-001 for 2014-15;

e. Approximately 620.00 acres within the All of § 19, T.34N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-401-21 for 2013-14 and 3443-19-100-001 for 2014-15; and

f. Approximately 625.38 acres within the All of § 31, T.34N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-401-36 for 2013-14 and 3443-31-100-001 for 2014-15.

[4] For § 33, the SPLC Lease and SPLC Sublease are for minerals only. MMC owns surface rights in § 33. See item 4 above under the heading "Owned Real Property".

4. UNR Lease

Approximately 628.00 acres within the All of § 19, T.33N., R.43E., M.D.B.&M., and identified as Humboldt County Assessor's parcel number 007-461-19 for 2013-14 and 3343-19-100-001 for 2014-15.

5. New Nevada 2012 Lease

Mineral interests owned by New Nevada Resources, LLC, and surface estate owned by New Nevada Lands, LLC, and leased under the New Nevada 2012 Lease.

T33N, R 43E, MDM.
Section 33, All (Approximately 640.00 acres, surface estate owned by New Nevada Lands, LLC)

6. New Nevada 2014 Lease

Mineral interests owned by New Nevada Resources, LLC, and certain surface estate owned by New Nevada Lands, LLC, and leased under the New Nevada 2014 Lease.

T33N, R 42E, MDM.
Section 11, All (Approximately 640.00 acres, surface estate owned by New Nevada Lands, LLC)
Section 23, All (Approximately 640.00 acres, surface estate owned by KH Investors, LLC)
Section 35, All (Approximately 640.00 acres, surface estate owned by Finance All, LLC)

SCHEDULE 3.1(27)

MARIGOLD PROJECT LEASES

Material Leasehold Interests

1. The Decker Lease.

2. The Vek and Andrus Lease.

3. The SFP Minerals Lease.

4. The UNR Lease.

Other Marigold Project Leases

5. Lease Agreement, made and entered into as of August 1, 1988, by and between Euro-Nevada Mining Corp., Inc., a Nevada corporation, as lessor, and Rayrock Mines, Inc., a Nevada corporation, doing business as Cordex Exploration Co., as lessee, as amended by a first amendment to lease agreement dated September 25, 1991 and an assignment and second amendment to lease agreement dated July 31, 1993 (collectively, the "**Euro-Nevada Lease**").

6. Minerals Lease, dated and effective as of February 19, 1986, by and between Southern Pacific Land Company, as lessor, and SFP Minerals Corporation, as lessee (collectively, the "**SPLC Lease**").

7. Minerals Sublease, dated and effective April 30, 1986, by and between SFP Minerals Corporation, a Delaware corporation, as sublessor, and Santa Fe Pacific Mining, Inc., a Kansas corporation, as sublessee, as amended by a modification of sublease dated March 31, 1992 (collectively, the "**SPLC Sublease**").

8. Mining lease made effective October 16, 2012 by and between New Nevada Lands, LLC, a Mississippi limited liability company and New Nevada Resources, LLC, a Florida limited liability company, as successors-in-interest of Nevada Land and Resource Company, LLC, as lessor, and Newmont, doing business as Newmont Mining Corporation, as lessee (the "**New Nevada 2012 Lease**").

9. Mining lease made effective as of December 3, 2014 by and between New Nevada Resources, LLC, a Florida limited liability company and New Nevada Lands, LLC, a Mississippi limited liability company, as successors-in-interest of Nevada Land and Resource Company, LLC, as lessor, and Newmont, as lessee (the "**New Nevada 2014 Lease**").

10. Mining lease made effective as of December 20, 1994, by and between Nevada North Resources (U.S.A.), Inc., a Nevada corporation, as lessor, and Sante Fe Pacific Gold Corporation, a Delaware corporation, as lessee, as amended by an amendment to mining lease made effective as of June 1, 2001, and a second amendment to mining lease made effective June 1, 2014 (collectively, the "**Nevada North Lease**").

11. Mining lease and agreement made effective June 5, 1987, between Donald J. Decker and Suzanne R. Decker, as lessors, and Welcome North Mines (U.S.) Inc. and Nevada North Resources (U.S.A.) Inc., as lessee, as amended by a first amendment to mining lease and agreement executed November 30, 1992 and a second amendment to mining lease and agreement made and entered into April 22, 1994 (collectively, the "**Franco-Nevada Lease**").

SCHEDULE 3.1(28)

MARIGOLD PROJECT AUTHORIZATIONS

Permit Name	Permit Number
Plan of Operations	N26-88-005P
Reclamation Permit and Bond	0108
Water Pollution Control Permit (including Petroleum Contaminated Soils Permit)	NEV0088040
Stormwater General Discharge Permit	NVR300000
Title V Air Quality Operating Permit	AP1041-2967[2]
Class II Air Quality Operating Permit	AP1041-0158.03[1,2]
Mercury Operating Permit to Construct: Phase II (air)	AP1041-2254
EPA/RCRA ID	NVD986766954
Industrial Artificial Pond Permit	S-36663
Jurisdictional Waters of the U.S. Determination	N/A (no jurisdictional waters)
Class III Landfill Waiver	SW337 SW1764
Hazardous Materials Permit (State of Nevada)	58489
BATF License	9-NV-013-20-70-00359
Potable Water Permit	HU-1103-NTNC
Septic Permit	GNEVOSDS09-0016[1] GNEVOSDS09-S0341[1]
Radio Licenses	WNPA726 WNUV910 WPMF419 WQVA510 WQVA548 WQVA551
DOT Hazardous Materials Registration	061515552 078XZ
Liquefied Petroleum Gas – Class 5 License	5-3482-01
Radiation Producing Machine Registration	00-06-4606-02
Trout Creek Dam Permit (including Dam/ Impoundment Permit)	J-666
Water Rights	3691 (Certificate 583) Permanent Change Application 832562 76425 76455-76462

	85909T
County Conditional Use Permit	UH-15-07
MSHA ID	26-02081

Notes:

1. As of the date hereof, permit is in the renewal process.
2. As of the date hereof, permit is pending with the State of Nevada.

SCHEDULE 3.1(32)

EXISTING ROYALTY AGREEMENTS

<table>
<tr><th>EXISTING ROYALTY AGREEMENT</th><th>MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY</th><th>PRODUCTION ROYALTY</th></tr>
<tr><td>1. The Decker Lease</td><td>Minimum annual royalty of $60,000, payable in $5,000 monthly installments for the remainder of the term of the Decker Lease.</td><td>Gross production royalty on ores mined from the Claims (as defined in the Decker Lease) and the University Lands (as defined in the Decker Lease) and processed based on the price of gold as follows:

<table><tr><td>Average Price of Gold/ounce</td><td>Royalty % on University Lands</td><td>Royalty % on Claims</td></tr><tr><td>$500 or below</td><td>None</td><td>5%</td></tr><tr><td>$500.01-$700</td><td>1%</td><td>6%</td></tr><tr><td>$700.01-$800</td><td>2%</td><td>7%</td></tr><tr><td>$800.01 and above</td><td>3%</td><td>8%</td></tr></table>
***Note:** The “University Lands” refers to the lands subject to the UNR Lease.</td></tr>
<tr><td>2. The Vek and Andrus Lease</td><td>$160,000 on each anniversary (after, and including, the fifth anniversary) of the Vek and Andrus Lease.

The amount of advance royalties shall be subject to adjustment in an amount equal to the change in the Producer Price Index for Industrial Commodities (1967=100%)</td><td>If and when the lessee commences production of metals and minerals, the lessee shall pay the lessor a production royalty of 5% of the net mint or smelter returns (as defined in the Vek and Andrus Lease) upon all metals, ores, minerals and mineral substances (or concentrates produced therefrom by lessee) produced, sold and shipped from the Subject Property (as defined in the Vek and Andrus Lease), until the lessor has received $1,500,000 from all payments (advance and production), and a production royalty of 3% thereafter. The current production royalty under the Vek and Andrus Lease is 3% of the net mint or smelter returns.</td></tr>
</table>

EXISTING ROYALTY AGREEMENT	MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY	PRODUCTION ROYALTY
3. The SFP Minerals Lease	Lessee shall pay lessor an advance royalty payment annually on the anniversary date and on each succeeding anniversary date of $20/acre for the Leased Premises (as defined in the SFP Minerals Lease) that are subject to the SFP Minerals Lease.	In the event lessee removes Minerals (as defined in the SFP Minerals Lease) from the Leased Premises, lessee shall pay to lessor production royalty equal to 5% of the Net Returns (as defined in the SFP Minerals Lease) of the Minerals mined and removed.
4. The UNR Lease	Lessee agrees to pay to the lessor advance royalties of $50,000 on the 1st day of August while the UNR Lease is in effect. The advance royalty is subject to annual adjustment based on changes in the Consumer Price Index (CPI).	If and when the lessee commences production of metals and minerals from the Subject Property (as defined in the UNR Lease), the lessee shall pay the lessor a production royalty of 5% of the net mint or smelter returns (as defined in the UNR Lease) upon all metals, ores, minerals and mineral substances (or concentrates produced therefrom by lessee), produced, sold and shipped from the Subject Property. ***Note:** The lands subject to the UNR Lease are also subject to a royalty under the Decker Lease.

EXISTING ROYALTY AGREEMENT	MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY	PRODUCTION ROYALTY
5. Purchase and assignment agreement made as of December 1, 1988 (the "**Freeport Royalty Agreement**") between Freeport-McMoran Gold Company, a Delaware corporation (predecessor in interest to Royal Gold, Inc. ("**Royal Gold**")), and Rayrock Mines, Inc., a Nevada Corporation (predecessor in interest to Marigold Mining Company)	There is no minimum royalty or advance payment.	A Net Smelter Return Royalty equal to 2% of Net Smelter Returns (as defined in the Freeport Royalty Agreement), payable sixty (60) days from the end of each calendar quarter year during which Minerals Products (as defined in the Freeport Royalty Agreement) produced from ore mined from the Mining Property (as defined in the Freeport Royalty Agreement) is sold. The Net Smelter Return Royalty shall only be payable after 150,000 troy ounces of gold have been produced and sold from ores mined from the Mining Property. "**Mining Property**" as defined in the Freeport Royalty Agreement is made up of: (i) the lands subject to the Decker Lease; and (ii) the lands subject to the UNR Lease. The Net Smelter Return Royalty is due and payable to Royal Gold.
6. The Euro-Nevada Lease	There is no minimum royalty or advance payment.	A production royalty equal to 5% of the net mint or smelter returns (as defined in the Euro-Nevada Lease) upon all metals, ores, minerals and mineral substances (or concentrates produced therefrom by lessee), produced sold and shipped or otherwise disposed of from the Subject Property (as defined in the Euro-Nevada Lease).
7. The SPLC Lease and the SPLC Sublease	Lessee shall pay lessor an advance royalty payment annually on the anniversary date and on each succeeding anniversary date of $20/acre for the Leased Premises (as defined in the SPLC Sublease).	In the event lessee removes Minerals (as defined in the SPLC Sublease) from the Leased Premises (as defined in the SPLC Sublease), lessee shall pay to lessor a production royalty equal to 5% of the Net Returns (as defined in the SPLC Sublease) of the Minerals mined and removed.

EXISTING ROYALTY AGREEMENT	MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY	PRODUCTION ROYALTY
8. Royalty agreement effective August 25, 2014 between Marigold Mining Company and Newmont (the "**Newmont Royalty Agreement**")	There is no minimum royalty or advance payment.	A production royalty equal to 2.0% of Net Smelter Returns (as defined the Newmont Royalty Agreement) from the sale or other disposition of all Minerals (as defined in the Newmont Royalty Agreement) produced from the Properties (as defined in the Newmont Royalty Agreement). "**Properties**" as defined in the Newmont Royalty Agreement is made up of the property, acquired from Newmont, listed as item 6 of the "Owned Real Property" set out in Schedule 3.1(26).
9. The New Nevada 2012 Lease	Annual payment of $1/acre of the Leased Premises (as defined in the New Nevada 2012 Lease), which, beginning on the fifth anniversary date of the New Nevada 2012 Lease, shall be increased by 5% or the percentage increase in the CPI deflator of the Gross National Product for the calendar year immediately preceding the anniversary date of the New Nevada 2012 Lease, whichever is greater.	A production royalty equal to 3.5% of the net mint or smelter returns upon all Leased Substances (as defined in the New Nevada 2012 Lease) (or concentrates produced therefrom) produced, sold and shipped from the Leased Premises (as defined in the New Nevada 2012 Lease).

<table>
<tr><th>EXISTING ROYALTY AGREEMENT</th><th>MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY</th><th>PRODUCTION ROYALTY</th></tr>
<tr><td>10. The New Nevada 2014 Lease</td><td>Beginning on the twentieth anniversary date of the New Nevada 2014 Lease, annual payment of $3/acre of the Leased Premises (as defined in the New Nevada 2014 Lease) that remain subject to the New Nevada 2014 Lease. Certain advance minimum royalty payments are due on the first through the nineteenth anniversary dates of the New Nevada 2014 Lease, but are not based on the acreage of Leased Premises.</td><td>A production royalty equal to 2.125% of the net mint or smelter returns upon all Leased Substances (as defined in the New Nevada 2014 Lease) (or concentrates produced therefrom) produced, sold and shipped from the Leased Premises; provided, however, as to any industrial minerals that are produced, sold and shipped from any portion of the Leased Premises pursuant to any sublease granted previously or hereafter by lessee and for which a production royalty is payable to lessee based on the volume or weight of industrial minerals that are produced from the Lease Premises, lessee shall pay 50% of the amount of the production royalty received by lessee for those industrial minerals and no further additional production royalty shall be payable under the New Nevada 2014 Lease for those industrial minerals.</td></tr>
<tr><td>11. The Nevada North Lease</td><td>Annual payment equal to 14% of the following advance royalty payment amounts, based on the Average Gold Price (as defined in the Nevada North Lease) per ounce:

<table><tr><th>Average Gold Price per ounce</th><th>Advance Royalty Payment</th></tr><tr><td>$275 or less</td><td>$25,000</td></tr><tr><td>Greater than $275 but less than $375</td><td>$30,000</td></tr><tr><td>$375 or greater</td><td>$40,000</td></tr></table></td><td>Production royalty of the following, based on the Gold Price (as defined in the Nevada North Lease) per ounce, subject to lessee’s option to reduce the production royalty to 2% of the Net Returns (as defined in the Nevada North Lease) for US$1 million; provided that such option shall only be exercisable by lessee in the event the Congress of the United States during the term of the Nevada North Lease imposes any type of production royalty on production or sale of Leased Substances (as defined in the Nevada North Lease):

<table><tr><th>Gold Price per ounce</th><th>Royalty Percentage of Net Returns</th></tr><tr><td>$275 or less</td><td>3%</td></tr><tr><td>Greater than $275 but less than $375</td><td>4%</td></tr><tr><td>$375 or greater</td><td>5%</td></tr></table></td></tr>
</table>

EXISTING ROYALTY AGREEMENT	MINIMUM ANNUAL ROYALTY/ADVANCE ROYALTY	PRODUCTION ROYALTY
12. Franco-Nevada Lease	There is no minimum royalty or advance payment.	Production royalty of 3% of the Net Smelter Returns (as defined in the Franco-Nevada Lease) from the sale of Mineral Substances (as defined in the Franco-Nevada Lease) from the Property (as defined in the Franco-Nevada Lease).

SCHEDULE 3.1(34)

MINE SAFETY

Mine Safety and Health Administration Violations

The following is a summary of citations issued by the U.S. Labor Department's Mine Safety and Health Administration under Section 104(a) of the Federal Mine Safety and Health Act of 1977 for violations of health or safety standards for the period of July 2014 to June 2015:

Citation/Order No.	Case No.	Date Issued	"Significant and Substantial" Violation (Y/N)	Citation/Order Status	Proposed Penalty	Amount Paid to Date
8784575	380112	3/8/2015	N	Closed	$176.00	$176.00
8784574	380112	3/6/2015	N	Closed	$100.00	$100.00
8784573	380112	3/5/2015	Y	Closed	$334.00	$334.00
8784571	377797	2/25/2015	Y	Closed	$1,111.00	$1,111.00
8784572	377797	2/25/2015	N	Closed	$100.00	$100.00
8784570	377797	2/25/2015	N	Closed	$100.00	$100.00
8784569	377797	2/24/2015	N	Closed	$285.00	$285.00
8869095	375551	1/14/2015	N	Closed	$100.00	$100.00
8789290	363205	8/18/2014	N	Closed	$100.00	$100.00
8789289	368124	8/18/2014	N	Closed	$100.00	$100.00
8789292	363205	8/18/2014	N	Closed	$100.00	$100.00
8789291	363205	8/18/2014	Y	Closed	$100.00	$100.00
8789287	363205	8/13/2014	N	Closed	$100.00	$100.00
8789282	363205	8/12/2014	N	Closed	$100.00	$100.00
8789283	363205	8/12/2014	N	Closed	$100.00	$100.00
8789286	365808	8/12/2014	N	Closed	$100.00	$100.00
8789284	363205	8/12/2014	N	Closed	$100.00	$100.00
8789285	363205	8/12/2014	N	Closed	$100.00	$100.00

Reportable Injuries

Contractor ID	Accident Date	Degree of Injury	Classification	Occupation – Activity	Total Exper.	Mine Exper.	Job Exper.
Employee	6/14/2015	Days away from work only	Hand tools (Non Powered)	Maintenance Man, Mechanic, Repair/ Serviceman, Fueler, Tire Tech, Field Service Tech – Hand Tools (Non Powered)	.92	.92	.92
Employee	5/22/2015	Days away from work only	Machinery	Bulldozer Operator, Universal Operator, Heavy Equipment Operator, Operator Engineer – Operate Bulldozer	3.5	3.5	3.5
Employee	4/6/2015	Days away from work only	Slip or Fall of Person	Drill Operator – Walking/Running	17.62	.62	17.02
Employee	3/17/2015	Days restricted activity only	Machinery	Maintenance Man, Mechanic, Repair/Serviceman, Fueler, Tire Tech, Field Service Tech – Hand Tools (Non Powered)	3.02	3.02	3.02
Employee	2/8/2015	No days away from work, no restrictive action	Handling of Materials	Maintenance Man, Mechanic, Repair/ Serviceman, Fueler, Tire Tech, Field Service Tech – Hand Tools (Non Powered	4.02	4.02	4.02
Employee	12/19/2014	Days away from work & restricted activity	Stepping or Kneeling on Object	Greaser, Grease Man, Oiler, Lube Man, Dragline Oiler – Get On/Off Equipment/Machines	2.83	2.83	2.83
Employee	12/15/2014	No days away from work, no restrictive action	Other	Welder (Shop) - Unknown	.44	.44	.44

Contractor ID	Accident Date	Degree of Injury	Classification	Occupation – Activity	Total Exper.	Mine Exper.	Job Exper.
Employee	8/29/2014	No days away from work, no restrictive action	Handling of Materials	Outside Foreman, Leadman – Handling Supplies/Materials	6.88	6.88	1.37
Contractor – K921	12/6/2014	No days away from work, no restrictive action	Slip or Fall of Person	Drill Helper – Handling Supplies/ Materials	4.96	.04	4.96
Contractor – K921	11/24/2014	No days away from work no restrictive action	Handling of Materials	Drill Helper – Handling Supplies/ Materials	.15	.13	.15

SCHEDULE 5.1(8)

POST-CLOSING REQUIREMENTS

POST-CLOSING REQUIREMENT	DATE BY WHICH TO BE MET
1. Register the necessary documentation in Humboldt County to evidence the termination of the Short Form of Mine Operating Agreement, effective as of April 30, 2007, recorded June 13, 2007, under Document #2007- 6280, between *Marigold Mining Company*, a Nevada corporation, and *Homestake Mining Company of California*, a California corporation	90 days from the Closing Date
2. Record a memorandum of lease for the Decker Lease in Humboldt County	90 days from the Closing Date, on a commercially reasonable efforts basis.
3. Submit notices of transfers of interest with the U.S. Bureau of Land Management to correct the U.S. Bureau of Land Management records with respect to the identification of the present owners of the claims subject to the Decker Lease and Euro-Nevada Lease	90 days from the Closing Date, on a commercially reasonable efforts basis.
4. Cause the execution, and delivery to the Administrative Agent, of the UNR Consent	90 days from the Closing Date
5. Execute and record in Humboldt County, following delivery of the UNR Consent to the Administrative Agent, a supplement to the deed of trust (Nevada law), dated the Closing Date, from Marigold Mining Company with respect to the Marigold Project Real Property, with respect to all of Marigold Mining Company's right, title and interest in and to its leasehold interest arising under the UNR Lease	120 days from the Closing Date
6. Execute and file a Notice of Pledge with the Nevada State Engineer, Division of Water Resources with respect to all water rights owned or used by the Marigold Mining Company	90 days from the Closing Date

SCHEDULE 5.1(11)

SECURITY PRINCIPLES

The Security Principles embody recognition by the Secured Parties and the Credit Parties that there may be certain legal and practical difficulties in obtaining effective guarantees and Liens in jurisdictions in which a Person is organized, conducts business or has assets (the "**Security Jurisdictions**"). In particular:

General

(1) General statutory limitations, financial assistance, capital maintenance, corporate benefit, fraudulent preference, US fraudulent transfer laws, "thin capitalization" rules, retention of title claims, exchange control restrictions and similar principles may limit the ability of a Person to provide a guarantee or Liens or may require that the guarantee or Liens be limited by an amount or otherwise.

(2) No guarantee or Lien shall be taken or Lien perfected to the extent to which it would result in any material cost which is excessive in the context of the benefit of such guarantee or Lien to the Secured Parties or any material negative tax consequence for the Borrower on a Consolidated basis (including but not limited to material effects on interest deductibility and stamp duty, notarization and registration fees) which is excessive in the context of the benefit of such guarantee or Lien to the Secured Parties.

(3) The maximum guaranteed or secured amount may be limited to minimize stamp duty, notarization, registration or other applicable fees, taxes and duties.

(4) Where there is material incremental cost involved in creating security over all assets owned by a Person in a particular category (for example, real estate) the principle stated in clause (2) above shall apply.

(5) It is acknowledged that in certain jurisdictions it may be either impossible or impractical to create a Lien over certain categories of assets in which event security shall not be taken over such assets.

(6) Any assets subject to third party arrangements or Laws which may prevent those assets from being charged shall be excluded from any relevant Security Document**.**

(7) A Person shall not be required to give guarantees or enter into Security Documents if it is not within the legal capacity of such Person or if the same would conflict with the fiduciary duties of the directors (or other officers) of such Person or contravene any legal prohibition or regulatory condition or would result in (or result in a material risk of) personal or criminal liability on the part of any director (or other officer) of any Credit Party provided that such Person shall use reasonable endeavours to overcome any such obstacle.

(8) The giving of a guarantee, the granting of a Lien or the perfection of a Lien shall not be required if it would restrict the ability of the relevant Person to conduct its operations and business in the ordinary course as otherwise permitted by the Loan Documents.

(9) To the extent possible, all Liens shall be granted in favour of the Administrative Agent and not the Secured Parties individually.

(10) To the extent possible, there should be no action required to be taken in relation to the guarantees or Security Documents when any Lender transfers any of its Loans or Commitments to a new Lender.

(11) Any Person that is a Controlled Foreign Corporation (as defined in the United States Internal Revenue Code) may not give a guarantee or grant a Lien over any of its assets (including shares in a subsidiary) as security for an obligation of a United States Person (as defined in the United States Internal Revenue Code). Furthermore, not more than 65 per cent of the total combined voting power of all classes of shares entitled to vote of a Controlled Foreign Corporation may be pledged directly or indirectly as security for an obligation of United States Person. These principles also apply with respect to any Person that becomes a United States Person or a Controlled Foreign Corporation following any guarantee or grant of Lien. These principles also apply to any relevant provision under any other Loan Document.

(12) No Lien shall be required over the assets or insurance of (i) Mina Pirquitas, LLC under the laws of any jurisdiction other than Canada or the United States (or any province, state or territory thereof), the perfection of which shall be limited to Canada and the United States), or (ii) any Foreign Material Subsidiary.

(13) No Lien over any real property interest (including any mining claim or lease) situate in Canada and existing as at the Closing Date shall be perfected by way of any registration other than in a personal property registry.

(14) No deposit account control agreement shall be required with respect to any Transitory Account.

(15) No Lien over any trademark shall be required to be perfected outside of Canada or the United States.

Equity Securities

(16) No Lien shall be required over Equity Securities unless issued by a Credit Party.

(17) Subject to advice from relevant local counsel for the Administrative Agent, if a Credit Party charges Equity Securities, the relevant Security Document shall be governed by the law of the jurisdiction of incorporation or organization of the issuer of such Equity Securities (the "**Issuer**") and not by the law of the jurisdiction of incorporation or organization of the charging Credit Party. However, the Equity Securities of Silver Standard Durango, S.A. de C.V. shall be charged under the laws of British Columbia.

(18) Security over Equity Securities shall, where legally possible, automatically charge further Equity Securities issued.

Real Estate

(19) No Lien shall be required over any leasehold interest in real property that is not a Material Leasehold Interest if such Lien would be prohibited by the terms of the lease. A consent agreement in form and substance satisfactory to the Administrative Agent shall be required from each landlord that has granted a Material Leasehold Interest.

(20) A landlord waiver, in form and substance satisfactory to the Administrative Agent, acting reasonably, shall be required from each landlord of real property where any material Collateral of any of the Credit Parties is located.

(21) A bailee letter, in form and substance reasonably satisfactory to the Administrative Agent, shall be required from each bailee who is in possession of any Collateral of any of the Credit Parties.

(22) No Lien shall be required over any real property comprising the Duthie, Hazelton, Mamie, Silver Lake or Sunrise Lake operations.

SCHEDULE 9.1

LENDER AND ISSUING BANK CONTACT INFORMATION

Name of Lender or Issuing Bank	**Address**	**Facsimile No.**	**E-mail Address**
Canadian Imperial Bank of Commerce	Brookfield Place, 161 Bay Street, 8th Floor Toronto, ON M5J 2S8	416-956-3810	peter.rawlins@cibc.ca
The Bank of Nova Scotia	Suite 1800 - 650 West Georgia St. Vancouver, BC V6B 4N7	604-661-1474	kurt.foellmer@scotiabank.com
Bank of Montreal	Suite 1700 - 885 West Georgia St. Vancouver, BC V6C 3E8	604-443-1408	jerry.kaye@bmo.com

Exhibit 10.2

AMENDING AGREEMENT NO. 1

THIS AMENDING AGREEMENT NO. 1 (this "**Amending Agreement**") is made as of May 31, 2016 between the parties to the Credit Agreement (as hereinafter defined).

WHEREAS:

A. Reference is made to the credit agreement (the "**Credit Agreement**") dated a,s of August 4, 2015 between, inter alios, Silver Standard Resources Inc., as borrower (the "**Borrower**"), the lenders from time to time party thereto (the "**Lenders**"), and Canadian Imperial Bank of Commerce, as administrative agent (the "'**Agent**").

B. The Borrower, the Lenders and the Agent wish to amend the Credit Agreement on the terms and conditions set out herein.

NOW THEREFORE THIS AGREEMENT WITNESSES that, in consideration of the mutual covenants and agreements contained in this Amending Agreement and for other good and valuable consideration. the receipt and sufficiency of which are acknowledged, the parties hereto agree as follows:

ARTICLE l
INTERPRETATION

1.1 One Amending Agreement. This Amending Agreement amends the Credit Agreement. This Amending Agreement and the Credit Agreement shall be read, interpreted, construed and have effect as, and shall constitute, one agreement with the same effect as iftl1e amendments made by this Amending Agreement had been contained in the Credit Agreement as of the date of this Amending Agreement.

1.2 Defined Terms. In this Amending Agreement, unless something in the subject matter or context is inconsistent:

(a) terms defined in the description of the parties or in the recitals have the respective meanings given to them in the description or recitals, as applicable; and

(b) all other capitalized terms have the respective meanings given to them in the Credit Agreement as amended by Article Two of this Amending Agreement (collectively, the "**Amended Credit Agreement**").

1.3 Headings. The headings of the Articles and Sections of this Amending Agreement are inserted for convenience of reference only and shall not affect the construction or interpretation of this Amending Agreement.

1.4 References. All references to Articles, Sections, Exhibits and Schedules, unless otherwise specified, are to Articles., Sections, Exhibits and Schedules of the Credit Agreement.

ARTICLE 2
AMENDMENTS

2.1 New Definitions. The following definitions are added to Section l.l in alphabetical order:

"**Daylight Indebtedness**" means unsecured Indebtedness of the Borrower to The Bank of Nova Scotia in an aggregate principal amount of $200,000,000.

"**Daylight Proceeds**" means all of the proceeds of the Daylight Indebtedness.

2.2 Material Subsidiary. It is agreed that Claude Resources Inc. is a Material Subsidiary.

2.3 Permitted Intercompany Investments. Clause (c) of the definition of "Permitted Intercompany Investments" is amended by deleting the word "Loans" and replacing it with "loans".

2.4 Daylight Proceeds. The following Section 5.1(21) is added to the Credit Agreement in numerical order:

(22) *Daylight Proceeds*. The Daylight Proceeds shall be applied as follows:

(a) the Borrower shall loan the Daylight Proceeds to Claude Resources Inc., such loan to constitute Permitted Intercompany Indebtedness of Claude Resources Inc. and a Permitted Intercompany Investment of the Borrower;

(b) Claude Resources Inc. shall pay the Daylight Proceeds to SS Canada Finance Inc. in satisfaction of the subscription price for preferred shares issued by SS Canada Finance, such subscription to constitute a Permitted Intercompany Investment of Claude Resources Inc.;

(c) SS Canada Finance Inc. shall loan the Daylight Proceeds to the Borrower, such loan to be subject to an Affiliate Postponement Agreement such that it constitutes Permitted Intercompany Indebtedness of the Borrower; and

(d) the Borrower shall repay the Daylight Indebtedness in full to The Bank of Nova Scotia,

with each such application to occur on the date of incurrence of the Daylight Indebtedness and, with the exception of clause (d), by way of a deposit to a bank account maintained with The Bank of Nova Scotia.

1.5 Indebtedness. Section 6.1(I) is amended by deleting the word "and" at the end of clause clause (m), replacing the"." at the end of clause (n) with "; and", and adding the following new clause (o):

(o) Daylight Indebtedness on the date of its incurrence.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

3.1 Confirmation of Representations. The Borrower represents and warrants that, as at the date of this Amending Agreement and assuming that the amendments made to the Credit Agreement by this Amending Agreement have become effective:

(a) this Amending Agreement and the Confirmation appended hereto has been duly authorized, executed and delivered by each of the signatory Credit Parties;

(b) the Credit Agreement, as amended hereby, constitutes a legal, valid and binding obligation of the Borrower, enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditor's rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law;

(c) no Default or Event of Default has occurred and is continuing;

(d) the representations and warranties contained in Article 3 (other than those that are made particular to a specific date) are true and correct as if made on the date hereof;

(e) none of 4158849 Canada Ltd., Madsen Gold Corp. or SS Canada Finance Inc. qualify as Material Subsidiaries pursuant to clause (b) of the definition thereof; and

(f) neither the incurrence of the Daylight Indebtedness, the application of the Daylight Proceeds nor any tax positions to be taken as a result thereof shall (i) cause a Default or Event of Default. or (ii) breach any applicable Laws.

ARTICLE 4
CONDITIONS

4.1 Conditions Precedent. This Amending Agreement shall become effective on the date upon which there has been receipt by the Administrative Agent of:

(a) a counterpart of this Amending Agreement executed by each party hereto;

(b) a counterpart of the Confirmation appended to this Amending Agreement, executed by each Guarantor;

(c) Claude Resources Inc. shall have delivered to the Administrative Agent all materials required under Section 5.1(11) other than a Lien over its real property (the deadline for which is hereby extended to 75 days following its Acquisition by the Borrower);

(d) the Borrower shall have delivered to the Administrative Agent share certificates evidencing all issued and outstanding Equity Securities of Claude Resources Inc., together with a stock transfer executed in blank; and

(e) SS Canada Finance Inc. shall have delivered 1o the Administrative Agent an Affiliate Postponement Agreement in form and substance satisfactory to the. Administrative Agent, acting reasonably.

For the avoidance of doubt, upon and regardless of the date on which such conditions precedent are met, the effective date of this Amending Agreement will be as of May 31, 2016.

ARTICLE 5
GENERAL

1. 5.1 Confirmation. Except as specifically stated herein, the Credit Agreement and the other Loan Documents shall continue in full force and effect in accordance with the provisions thereof. All Secured Liabilities under the Credit Agreement shall be continuing with only the terms thereof being modified as provided in this Amending Agreement, and this Amending Agreement shall not evidence or result in a novation of such Secured Liabilities.

2. 5.2 Interpretation. All references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter include, mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents. This Amending Agreement shall constitute a "Loan Document" under, and as defined in, the Credit Agreement.

3. 5.3 Binding Nature. This Amending Agreement shall enure to the benefit of and be binding upon the Borrower, the Lenders and the Administrative Agent and their respective successors and permitted assigns.

4. 5.4 Conflicts. If, after the date of this Amending Agreement, any provision of this Amending Agreement is inconsistent with any provision of the Credit Agreement, the relevant provision of this Amending Agreement shall prevail.

5. 5.5 Governing Law. This Amending Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

6. 5.6 Counterpart and Facsimile. This Amending Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same instrument. Delivery of an executed signature page to this Amending Agreement by any party by facsimile or other form of electronic transmission shall be as effective as delivery of a manually executed copy of this Amending Agreement by such party.

[signatures on the following pages]

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

CANADIAN IMPERIAL BANK OF COMMERCE,
as Lender and Administrative Agent

By: /s/ Peter Rawlins
Name: Peter Rawlins
Title: Executive Director

By: /s/ Jens Paterson
Name: Jens Paterson
Title: Executive Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

THE BANK OF NOVA SCOTIA,
as Lender

By: /s/ Stephen MacNeil
Name: Stephen MacNeil
Title: Associate Director

By: /s/ Kurt R. Foellmer
Name: Kurt R. Foellmer
Title: Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

BANK OF MONTREAL,
as Lender

By: /s/ Jerry Kaye
Name: Jerry Kaye
Title: Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

SILVER STANDARD RESOURCES INC.,

By: /s/ Gregory J. Martin
Name: Gregory J. Martin
Title: Senior Vice President and Chief Financial Officer

By:_____
Name:
Title:

CONFIRMATION

Each undersigned Guarantor acknowledges and irrevocably consents to the terms of the Amending Agreement. Each undersigned Guarantor further represents, warrants, and confirms to the Agent, for the benefit of each Secured Party, that:

(a) the Group Guarantee and the guarantees and indemnities granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(b) such guarantees and indemnities extend to the indebtedness, liabilities and obligations of the Borrower under the Amended Credit Agreement;

(c) the Security Documents and the Liens granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(d) the secured liabilities described in the Security Documents include indebtedness, liabilities and obligations arising under or in relation to the Amended Credit Agreement, and the Liens granted thereunder extend thereto; and

(e) all references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents.

SILVER STANDARD RESOURCES INC.
SILVER STANDARD US HOLDINGS INC.
SILVER STANDARD MARIGOLD INC.
INTERTRADE METALS LIMITED PARTNERSHIP
SILVER STANDARD VENTURES INC.
SILVER STANDARD DURANGO, S.A. DE C.V.
MARIGOLD MINING COMPANY
MINA PIRQUITAS, LLC.

in each case by its authorized signatory

/s/ Gregory J. Martin
Name: Gregory J. Martin

AMENDING AGREEMENT NO. 2

THIS AMENDING AGREEMENT NO. 2 (this "**Amending Agreement**") is made as of June June 8, 2017 between the parties to the Credit Agreement (as hereinafter defined).

WHEREAS:

A. Reference is made to the credit agreement dated as of August 4, 2015 between, *inter alios*, Silver Standard Resources Inc., as borrower (the "**Borrower**"), the lenders from time to time party thereto (the "**Lenders**"), and Canadian Imperial Bank of Commerce, as administrative agent (the "**Agent**"), as amended by amending agreement no. 1 dated as of May 31, 2016 (collectively, the "**Credit Agreement**")

B. The Borrower, the Lenders and the Agent wish to amend the Credit Agreement on the terms and conditions set out herein.

NOW THEREFORE THIS AGREEMENT WITNESSES that, in consideration of the mutual covenants and agreements contained in this Amending Agreement and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties hereto agree as follows:

ARTICLE 1
INTERPRETATION

1.1 One Amending Agreement. This Amending Agreement amends the Credit Agreement. This Amending Agreement and the Credit Agreement shall be read, interpreted, construed and have effect as, and shall constitute, one agreement with the same effect as if the amendments made by this Amending Agreement had been contained in the Credit Agreement as of the date of this Amending Agreement.

1.2 Defined Terms. In this Amending Agreement, unless something in the subject matter or context is inconsistent:

(a) terms defined in the description of the parties or in the recitals have the respective meanings given to them in the description or recitals, as applicable; and

(b) all other capitalized terms have the respective meanings given to them in the Credit Agreement as amended by Article Two of this Amending Agreement (collectively, the "**Amended Credit Agreement**").

1.3 Headings. The headings of the Articles and Sections of this Amending Agreement are inserted for convenience of reference only and shall not affect the construction or interpretation of this Amending Agreement.

1.4 References. All references to Articles, Sections, Exhibits and Schedules, unless otherwise specified, are to Articles, Sections, Exhibits and Schedules of the Credit Agreement.

ARTICLE 2
AMENDMENTS

2.1 New Definitions. The following definitions are added to Section l.1 in alphabetical order:

"**Additional Commitment**" has the meaning set out in Section 2.1(2)(a).

"**Additional Commitment Agreement"** means an agreement in the form of Exhibit E.

"**Additional Lender**" has the meaning set out in Section 2.1(2)(b).

"**Available Cash**" means, at any time, the aggregate cash and Cash Equivalents of the Borrower:

(a) over which the Administrative Agent has a first-priority Lien; and

(b) that are on deposit:

(i) with the Administrative Agent

(ii) in Canada with a Lender; or

(iii) with a financial institution with which the Administrative Agent has a deposit account control agreement with respect thereto,

determined on a Consolidated basis as at such time.

"**Available Liquidity**" means, at any time, an amount equal to the sum of:

(a) Available Cash; plus

(b) the excess amount of the aggregate Commitments over the aggregate Credit Exposure, if any,

in each case determined as at such time.

"**Chinchillas Project**" means the silver project of Valle Del Cura S.A. located in Jujuy Province, northern Argentina, commonly known as the Chinchillas project, and all assets, property and undertaking used, intended for use in, or forming part of, such project.

"**Fundamental Change**" has the meaning set out in the Permitted Notes.

"**Investment Cap**" means, at any time, an amount equal to the sum of:

(a) U.S.$30,000,000; plus

(b) the aggregate net after-tax proceeds realized by the Borrower from the sale of publicly traded Equity Securities between the Second Amendment Date and such time.

"**JV Agreement**" means the business combination agreement dated September 30, 2015 between the Borrower, 1049708 B.C. Ltd., Valle del Cura S.A., Golden Arrow Resources Corporation and Mina Pirquitas, LLC, as amended on March 30, 2017, and as may be further amended, supplemented, restated or otherwise modified from time to time.

"**JVco**" means Puna Operations Inc., which pursuant to the JV Agreement shall own 100% of the outstanding Equity Securities of Golden Arrow Resources Corporation and Mina Pirquitas, LLC and initially be owned 75% by the Borrower and 25% by 1049708 B.C. Ltd.

"**Payment**" means, with respect to any Indebtedness, (a) any payment or distribution by any Person of cash, securities, or other form of property, including by the exercise of a right of set-off or in any other manner, on account of such Indebtedness, or (b) any redemption, purchase or other acquisition of such Indebtedness by the Person owing such Indebtedness.

"**Permitted Notes Refinancing**" means:

(a) the extension of all redemption dates of the Permitted Notes to not less than six months beyond June 8, 2020 such that no principal shall be mandatorily repayable on a non-accelerated basis prior to such time; or

(b) the Payment in full of all Permitted Note Indebtedness (as permitted hereunder) such that the Permitted Notes outstanding on the Second Amendment Date are retired.

"**Permitted Notes Reference Date**" means October 1, 2019.

"**Permitted Repayment**" means any Payment of Permitted Note Indebtedness:

(a) made with respect to scheduled interest;

(b) made by way of conversion into Equity Securities issued by the Borrower;

(c) funded with the net proceeds of Equity Securities or other Permitted Notes issued by the Borrower;

(d) if, immediately following such Payment, Available Liquidity would be greater than U.S.$100,000,000; and

(e) made by virtue of the exercise by a holder of Permitted Notes of its redemption right exercisable on February 1, 2020.

"Pitarrilla Project" means the silver, lead, and zinc project of Silver Standard Durango, S.A. de C.V located within the Municipality of Inde, on the eastern flank of the Sierra Madre Occidental mountain range in the central part of Durango State, Mexico and all assets, property and undertaking used, intended for use in, or forming part of, such project.

"**Pre-Signing Moratorium Obligations**" has the meaning set out in the JV Agreement as in effect on the Second Amendment Date.

"**Post-Signing Moratorium Obligations**" has the meaning set out in the JV Agreement as in effect on the Second Amendment Date.

"**Refi Plan**" means a plan as to how the Borrower intends to achieve the Permitted Notes Refinancing, such plan to include detailed timelines.

"**San Luis Project**" means the gold and silver project of Reliant Ventures S.A.C. located in the Ancash Department, central Peru, and all assets, property and undertaking used, intended for use in, or forming part of, such project.

"**Seabee Project**" means the gold mine complex of Claude Resources Inc. located in the Province of Saskatchewan commonly known as "the Seabee Gold Operation", and all assets, property and undertaking used, intended for use in, or forming part of, such complex.

"**Seabee Project Approvals**" means, at any time, all Seabee Project Authorizations and Seabee Project Mining Rights as at such time.

"**Seabee Project Assets**" means all assets, property and undertaking (whether real or personal, tangible or intangible) which are used or intended for use in, forming part of, or attributable to, the Seabee Project**.** For the avoidance of doubt, the Seabee Project Assets shall include: (i) the Seabee Project Real Property and the mineral deposits covered thereby; (ii) all Seabee Project Saleable Product; (iii) all associated beneficiation facilities, together with all plant sites, waste dumps, ore dumps, crushing circuits, power supply systems and ancillary and infrastructure facilities; (iv) all required insurance with respect to the Seabee Project; (v) all plant and mobile equipment; (vi) the Seabee Project Approvals, and (vii) all proceeds derived from the Seabee Project.

"**Seabee Project Authorizations**" means, at any time, all Authorizations necessary for the development, operation and maintenance of the Seabee Project in accordance with, and as then contemplated by, the Life of Mine Plan.

"**Seabee Project Leases**" means all surface and mineral leases and leasehold interests constituting part of the Seabee Project including, without limitation, the Seabee Surface Lease Agreement .

"**Seabee Mining Rights**" means, at any time, all Mining Rights necessary for the development, operation and maintenance of the Seabee Project in accordance with, and as then contemplated by, the Life of Mine Plan, including the Seabee Project Leases.

"**Seabee Project Real Property**" means all lands and real property owned, held or used with respect to or in connection with the Seabee Project, including all patented mining claims, patented millsite claims, fee interests, unpatented mining claims (whether lode or placer), unpatented millsite claims, tunnel sites and rights, amended claims, relocated claims, leasehold interests (including the Seabee Project Leases), mineral interests, option rights, rights of use, easements, water rights and other real property interests (whether surface, underground, mineral, or other).

"**Seabee Project Saleable Product**" means all present and future gold (including without limitation gold bearing material, dore bullion and refined gold) mined, extracted, and derived from the Seabee Project.

"**Seabee Surface Lease Agreement**" means the surface lease agreement dated as of March 29, 2010 between the Government of Saskatewan and Claude Resources Inc., as amended by an addendum dated April 1, 2014, and as further amended, restated, supplemented or otherwise modified from time to time.

"**Second Amendment Date**" means June 8, 2017

2.2 Additional Commitment Agreement. Exhibit E to the Credit Agreement is added in the form attached hereto as Exhibit A.

2.3 Applicable Margin Definition. The definition of Applicable Margin in Section 1.1 is deleted in its entirety, and replaced with the following:

"**Applicable Margin**" means the applicable rate per annum, expressed as a percentage, set out in the relevant column and row of the table below, based on the Net Leverage Ratio as at the most recent Quarterly Date with respect to which the Borrower has delivered financial information to the Administrative Agent pursuant to Section 5.1(1).

Row	Net Leverage Ratio	B/A Borrowing, LIBO Rate Loan or Financial Letter of Credit	Canadian Prime Loan or Base Rate Loan	Non-Financial Letter of Credit	Standby Fee
1	< 1.0x	225 bps	125 bps	150 bps	50.63 bps
2	≥1.0x and < 1.5x	250 bps	150 bps	166.67 bps	56.25 bps
3	≥1.5x and < 2.5x	275 bps	175 bps	183.33 bps	61.88 bps
4	≥2.5x	375 bps	275 bps	250 bps	84.38 bps

As of the Second Amendment Date, the Applicable Margin shall be the margin provided for in Row 1 of the above grid; provided that the Applicable Margin with respect to any B/A Borrowing outstanding on the Second Amendment Date shall remain the Applicable Margin in effect prior to the Second Amendment Date until the rollover or conversion of such B/A Borrowing. Thereafter, the Applicable Margin shall change (to the extent necessary, if any) on the first Business Day following the next last date on which the financial statements and Compliance Certificate of the Borrower are required to be delivered to the Administrative Agent pursuant to Section 5.1(1) to reflect any change in the Net Leverage Ratio effective as of the date of such financial statements, based upon

the financial statements for the immediately preceding Rolling Period, or if such day is not a Business Day, then the first Business Day thereafter. Notwithstanding the foregoing, if at any time the Borrower fails to deliver financial statements and the certificate of the Borrower as required by Section 5.1(1) on or before the date required pursuant to Section 5.1(1) (without regard to grace periods), the Applicable Margin shall be the highest margins provided for in the above grid from the date such financial statements are due pursuant to Section 5.1(1) (without regard to grace periods) through the date the Administrative Agent receives all financial statements and certificates that are then due pursuant to Section 5.1(1), at which time the Applicable Margin shall again be set out in accordance with the above grid.

2.4 Change of Control. The definition of Change of Control in Section 1.1 is deleted in its entirety and replaced with the following:

"**Change in Control**" means (a) the acquisition of ownership, directly or indirectly, beneficially or of record, by any Person or group of Persons acting jointly or otherwise in concert, of Equity Securities of the Borrower representing more than 50% of the aggregate ordinary voting power represented by the issued and outstanding Equity Securities of the Borrower, (b) the occupation of a majority of the seats (other than vacant seats) on the board of directors of the Borrower by Persons who were neither (i) nominated by the board of directors of the Borrower nor (ii) appointed by directors so nominated, (c) the acquisition of direct or indirect Control of the Borrower by any Person or group of Persons acting jointly or otherwise in concert, or (d) any Fundamental Change.

2.5 Fee Letter. The definition of Fee Letter in Section 1.1 is deleted in its entirety, and replaced with the following:

"**Fee Letter**" means the fee letter dated as of June 8, 2017 among Canadian Imperial Bank of Commerce and the Borrower relating to the payment of certain structuring and arrangement fees.

2.6 Investments. The definition of Investments in Section 1.1 is amended by adding by deleting the proviso at the end thereof and replacing it with the following:

provided that (i) an Acquisition shall not constitute an Investment, and (ii) contributions made to JVco to fund Pre-Signing Moratorium Obligations and the Borrower's share of Post-Signing Moratorium Obligations shall not constitute Investments.

2.7 Maturity Date. The definition of Maturity Date in Section 1.1 is deleted in its entirety, and replaced with the following:

"**Maturity Date**" means June 8, 2020, as such date may be extended from time to time pursuant to Section 2.6.

2.8 Material Subsidiary. The definition of Material Subsidiary in Section 1.1 is deleted in its entirety and replaced with the following:

"**Material Subsidiary**" means:

(a) Silver Standard Canada Holdings Ltd., Silver Standard US Holdings Inc., Silver Standard Marigold Inc., Intertrade Metals Limited Partnership, Intertrade Metals Corp., Silver Standard Ventures Inc., Silver Standard Durango, S.A. de C.V., Marigold Mining Company and Claude Resources Inc.;

(b) each other present and future Subsidiary that at any time:

(i) has consolidated net tangible assets in excess of an amount equal to 5% of the net tangible assets of the Borrower at such time, determined on a Consolidated basis; or

(ii) has a subsidiary that is a Material Subsidiary; and

(c) any other Subsidiary designated as such in writing by the Borrower to the Administrative Agent;

provided that once a Subsidiary satisfies any of the tests set out in this definition, such Person shall at all times thereafter be a Material Subsidiary, regardless of whether it subsequently satisfies any of such tests. Notwithstanding the foregoing, JVco, Mina Pirquitas, LLC and Mina Pirquitas, LLC Sucursal Argentina (i.e., the Argentinian branch of Mina Pirquitas, LLC) and any other subsidiaries of JVco shall at no time constitute Material Subsidiaries.

2.9 Permitted Intercompany Investments. The definition of Permitted Intercompany Investments in Section 1.1 is deleted in its entirety and replaced with the following:

"**Permitted Intercompany Investments**" means an Investment by a Credit Party in any of the following:

(a) Equity Securities of any Affiliates;

(b) any Subsidiary by way of capital contribution; or

(c) loans or advances to any Affiliates;

provided that Investments in JVco shall not constitute Permitted Intercompany Investments.

2.10 Permitted Liens. The definition of "Permitted Liens is amended by adding the word "and" to the end of clause (x) and adding the following clause (y):

(y) Liens to secure Indebtedness to the extent permitted by Section 6.1(1)(p);

2.11 Non-Recourse Project Indebtedness. The definition of Non-Recourse Project Indebtedness in Section 1.1 is deleted in its entirety, and replaced with the following:

"**Non-Recourse Project Indebtedness**" of any Person means any Indebtedness of such Person with respect to which recourse for payment is limited to project assets (other than

Marigold Project Assets and Seabee Project Assets) encumbered by a Lien securing such Indebtedness (including, for the avoidance of doubt, project inventory and receivables) and the traceable proceeds thereof; provided, however, that personal recourse of a holder of Indebtedness against any obligor with respect thereto for fraud, misrepresentation, misapplication of cash, waste and other circumstances customarily excluded from non-recourse provisions in non-recourse financing shall not, by itself, prevent any Indebtedness from being characterized as Non-Recourse Project Indebtedness, provided further, that if a recourse claim is made in connection therewith, such claim shall no longer constitute Non-Recourse Project Indebtedness for the purposes of this Agreement.

2.12 Reduction Date Definition. The definition of "Reduction Date" is deleted from Section 1.1.

2.13 Commitments. Section 2.1 is deleted in its entirety, and replaced with the following:

2.1 Commitments.

(1) ***Initial Commitments***. Subject to the terms and conditions set forth herein, each Lender commits to make Loans to the Borrower from time to time during the period commencing on the Closing Date and ending on the Maturity Date in an aggregate outstanding principal amount equal to the amount set forth beside such Lender's name in Schedule 2.1 under the heading "Commitment", provided that a Lender shall not be required to extend further credit hereunder if such extension would result in (a) such Lender's Credit Exposure exceeding such Lender's Commitment, or (b) the aggregate Credit Exposures exceeding the aggregate Commitments. Within the foregoing limits and subject to the terms and conditions set forth herein, the Borrower may borrow, repay and reborrow Loans.

(2) ***Additional Commitments.***

(a) Subject to the terms and conditions hereof, at any time after the Second Amendment Date and prior to the Maturity Date, provided that no Event of Default has occurred and is continuing and that the Borrower is in pro forma compliance with the financial covenants in Section 5.1(12) (assuming the full incurrence and application of the new Indebtedness in question), the Borrower may request that the Lenders or any other Persons provide additional Commitments (each, an "**Additional Commitment**") which shall serve to increase the Credit, such that further Loans become available thereunder upon identical terms and conditions.

(b) Any Additional Commitment shall be documented pursuant to an Additional Commitment Agreement executed by the Borrower, the Person providing the Additional Commitment (the "**Additional Lender**") and the Administrative Agent. Upon satisfaction of the conditions precedent set out therein, (i) the Additional Commitment in question shall become effective, (ii) the Agent shall promptly notify each Lender as to such agreement, and (iii) Schedule 2.1 shall be deemed to be modified accordingly.

(c) Notwithstanding anything to the contrary in this Agreement:

(i) no Additional Commitment shall require the consent of any Lender other than the Additional Lender in question, but each Additional Commitment shall require the approval of the Administrative Agent, not to be unreasonably withheld;

(ii) no Lender shall have any obligation to participate in any Additional Commitment unless it agrees to do so in its sole discretion;

(iii) no Lender shall have the right to participate in any Additional Commitment or receive prior notice thereof, regardless of the fact that its share in the aggregate Commitments is reduced thereby;

(iv) the aggregate amount of all Additional Commitments shall not exceed U.S.$25,000,000;

(v) the aggregate amount of all Additional Commitments requested at any one time shall not be less than U.S.$10,000,000; and

(vi) the Borrower may pay such up-front, arrangement or other fees as may be agreed by the Administrative Agent and any Additional Lender in connection with the provision by such Additional Lender of an Additional Commitment.

(d) For greater certainty, any Additional Lender shall be entitled to share pro rata in any prepayments made by the Borrower pursuant to Section 2.9, and the obligations of the Credit Parties under any such Additional Commitment shall be secured *pari passu* with the other obligations of the Credit Parties under the Loan Documents.

2.14 Repayment of Loans. Section 2.7 is deleted in its entirety, and replaced with the following:

2.7 Repayment of Loans. The Borrower hereby unconditionally promises to pay to the Administrative Agent for the account of the Lenders the outstanding principal amount of the Loans on the Maturity Date; provided that, if the Permitted Note Refinancing has not occurred before:

(a) January 2, 2020 then the Borrower unconditionally promises to, on such date, pay to the Administrative Agent for the account of the Lenders the outstanding principal amount of the Loans such that (subject to clause (b) below) all Commitments become undrawn; and

(b) January 27, 2020 then the Borrower unconditionally promises to, on such date, provide Cover for all of the LC Exposure.

2.15 Standby Fees. Section 2.10(1) is amended by adding the following sentence to the end thereof:

> Notwithstanding the foregoing, such standby fee shall not apply at any time when the condition set out in Section 4.2(d) is not satisfied.

2.16 Conditions. Section 4.2 is amended by moving the word "and" from the end of clause (b) to the end of clause (c) and adding the following new clause (d):

> (d) at any time from January 2, 2020 until February 2, 2020, the Permitted Note Refinancing shall have occurred.

2.17 Mineral Resources and Reserves Report. Section 5.1 (1) is amended by moving word "and" from the end of clause (j) to the end of clause (k), and adding the following clause (l):

> (l) on or before the 90th day of each Fiscal Year, a report with respect to the mineral reserves and mineral resources of the Borrower, determined as at the end of such Fiscal Year on a Consolidated basis, in the substantially the form historically made public by the Borrower.

2.18 Permitted Notes. The following Subsection (14) is inserted into Section 5.1, and the existing Subsections (14) – (22) renumbered accordingly:

> (14) *Permitted Notes Refinancing*. On or before August 1, 2019, the Borrower shall provide the Administrative Agent and the Lenders with the Refi Plan.

2.19 Available Liquidity. The following clause (d) is added to Section 5.1(12):

> (d) *Available Liquidity*. At all times from and after the Permitted Notes Reference Date to and including February 2, 2020, maintain Available Liquidity of not less than U.S.$100,000,000.

2.20 Marigold Covenants. Section 5.1(21) is deleted in its entirety and replaced with "[**Intentionally Deleted]**".

2.21 Indebtedness. Section 6.1(1) is amended by:

> (a) deleting the reference in clause (b) to "U.S.$20,000,000" and replacing it with "U.S.$30,000,000";
>
> (b) deleting the reference in clause (i) to "U.S.$20,000,000" and replacing it with "U.S.$30,000,000"
>
> (c) moving the word "and" from the end of clause (n) to the end of clause (o); and
>
> (d) adding a new clause (p) as follows:
>
> (p) other secured Indebtedness in an aggregate principal amount not exceeding U.S.$20,000,000 at any time outstanding;

2.22 Restricted Payments. Section 6.1(9) is amended by deleting clause (f) in its entirety and replacing it with the following:

(f) the Borrower may make a Permitted Repayment.

2.23 Asset Dispositions. Section 6.1(5) is deleted in its entirety and replaced with the following:

(5) *Asset Dispositions*. The Borrower shall not, and shall not permit any other Credit Party to, make any Asset Disposition, except where the aggregate book value of the subject matter of all Asset Dispositions in any Fiscal Year would not exceed an amount equal to 5% of the Tangible Net Worth as at the beginning of such Fiscal Year; provided that the sale of an direct or indirect interest in the San Luis Project, the Chinchillas Project, the Pitarrilla Project or the Pirquitas Project (or any portion thereof) shall not be included in determining such cap, such that any such sale is unrestricted.

2.24 Investments. Section 6.1(6) is amended by deleting it in its entirety and replacing it with the following:

(6) *Investments*. The Borrower shall not, and shall not permit any other Credit Party to, make or permit to exist any Investment other than:

(a) Investments in Cash Equivalents;

(b) Investments held as at the Closing Date (including any appreciation or dividends thereon);

(c) Investments held as at the Second Amendment Date (including any appreciation or dividends thereon) plus any Equity Securities or joint venture interests obtained as a result of the exercise of any option held as at the Second Amendment Date;

(d) Permitted Intercompany Investments;

(e) investments (including debt obligations) received in connection with the bankruptcy or reorganization of suppliers and customers and in good faith settlement of delinquent obligations of, and other disputes with, customers and suppliers arising in the ordinary course of business;

(f) advances in the form of a prepayment of expenses to vendors, suppliers and trade creditors consistent with their past practices, so long as such expenses were incurred in the ordinary course of business of the Credit Parties;

(g) Investments in JVco made by way of (i) Equity Securities issued by Mina Pirquitas LLC, or (ii) cash in an aggregate amount of up to U.S.$100,000,000; or

(h) other Investments in Equity Securities or joint ventures, in each case where the issuer or business is in the mining sector, where the aggregate cash amount

thereof from and after the Second Amendment Date does not exceed the Investment Cap.

2.25 Hedge Arrangements. Section 6.1(8) is amended by deleting the reference to "U.S.$3,000,000" in the last sentence thereof and replacing it with "U.S.$5,000,000".

2.26 Royalty Agreements. Section 6.1(20) is deleted in its entirety and replaced with the following:

(20) *Royalty Agreements*. The Borrower shall not permit Marigold Mining Company to amend or modify the Existing Royalty Agreements in any manner that increases or accelerates (or may potentially increase or accelerate) its liabilities thereunder; provided that the UNR Lease may be amended to allow for an increased upfront payment or annual instalment payments (or any combination thereof) in an aggregate amount of not more than U.S.$30,000,000 in return for a decrease in the production royalty.

2.27 Events of Default. Section 7.1(d) is deleted in its entirety and replaced with the following:

(d) the Borrower shall fail to observe or perform any covenant, condition or agreement contained in Section 5.1(1)(d)(i) (notice of Default or Event of Default), Section 5.1(2) (Existence; Conduct of Business), Section 5.1(7) (Use of Proceeds and Letters of Credit), Section 5.1(12) (Financial Covenants), Section 5.1(14) (Permitted Notes) or in Article 6 (or any negative covenant in any other Loan Document).

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

3.1 Confirmation of Representations. The Borrower represents and warrants that, as at the date of this Amending Agreement and assuming that the amendments made to the Credit Agreement by this Amending Agreement have become effective:

(a) this Amending Agreement and the Confirmation appended hereto has been duly authorized, executed and delivered by each of the signatory Credit Parties;

(b) the Credit Agreement, as amended hereby, constitutes a legal, valid and binding obligation of the Borrower, enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditor's rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law;

(c) no Default or Event of Default has occurred and is continuing; and

(d) the representations and warranties contained in Article 3 (other than those that are made particular to a specific date) are true and correct as if made on the date hereof.

ARTICLE 4
CONDITIONS

4.1 Conditions Precedent. This Amending Agreement shall become effective on the date upon which there has been receipt by the Administrative Agent of:

(a) a counterpart of this Amending Agreement executed by each party hereto;

(b) a counterpart of the Confirmation appended to this Amending Agreement, executed by each Guarantor;

(c) a counterpart of the Fee Letter executed by each party thereto; and

(d) payment by the Borrower of (i) an upfront fee of U.S.$145,417.81 for the account of the Lenders, and (ii) all fees and other amounts due and payable on or prior to the Second Amendment Date pursuant to the Fee Letter.

For the avoidance of doubt, upon and regardless of the date on which such conditions precedent are met, the effective date of this Amending Agreement will be as of June 8, 2017.

ARTICLE 5
GENERAL

5.1 Confirmation. Except as specifically stated herein, the Credit Agreement and the other Loan Documents shall continue in full force and effect in accordance with the provisions thereof. All Secured Liabilities under the Credit Agreement shall be continuing with only the terms thereof being modified as provided in this Amending Agreement, and this Amending Agreement shall not evidence or result in a novation of such Secured Liabilities.

5.2 Interpretation. All references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter include, mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents. This Amending Agreement shall constitute a "Loan Document" under, and as defined in, the Credit Agreement.

5.3 Binding Nature. This Amending Agreement shall enure to the benefit of and be binding upon the Borrower, the Lenders and the Administrative Agent and their respective successors and permitted assigns.

5.4 Conflicts. If, after the date of this Amending Agreement, any provision of this Amending Agreement is inconsistent with any provision of the Credit Agreement, the relevant provision of this Amending Agreement shall prevail.

5.5 Governing Law. This Amending Agreement will be governed by and construed in

accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

5.6 Counterpart and Facsimile. This Amending Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same instrument. Delivery of an executed signature page to this Amending Agreement by any party by facsimile or other form of electronic transmission shall be as effective as delivery of a manually executed copy of this Amending Agreement by such party.

[signatures on the following pages]

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

CANADIAN IMPERIAL BANK OF COMMERCE,
As Lender and Administrative Agent

By: /s/ Peter Rawlins
Name: Peter Rawlins
Title: Managing Director

By: /s/ Jens Paterson
Name: Jens Paterson
Title: Executive Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

THE BANK OF NOVA SCOTIA,
as Lender

By: /s/ Kurt Foellmer
Name: Kurt Foellmer
Title: Director

By: /s/ Stephen MacNeil
Name: Stephen MacNeil
Title: Associate Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

BANK OF MONTREAL,
as Lender

By: /s/ Bob Deol
Name: Bob Deol
Title: Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

SILVER STANDARD RESOURCES INC.

By: /s/ Gregory J. Martin
Name: Gregory J. Martin
Title: Senior Vice President and Chief Financial Officer

CONFIRMATION

Each undersigned Guarantor acknowledges and irrevocably consents to the terms of the Amending Agreement. Each undersigned Guarantor further represents, warrants, and confirms to the Agent, for the benefit of each Secured Party, that:

(a) the Group Guarantee and the guarantees and indemnities granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(b) such guarantees and indemnities extend to the indebtedness, liabilities and obligations of the Borrower under the Amended Credit Agreement;

(c) the Security Documents and the Liens granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(d) the secured liabilities described in the Security Documents include indebtedness, liabilities and obligations arising under or in relation to the Amended Credit Agreement, and the Liens granted thereunder extend thereto; and

(e) all references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents.

SILVER STANDARD RESOURCES INC. SILVER STANDARD US HOLDINGS INC. SILVER STANDARD MARIGOLD INC. INTERTRADE METALS LIMITED PARTNERSHIP SILVER STANDARD VENTURES INC. SILVER STANDARD DURANGO, S.A. DE C.V. MARIGOLD MINING COMPANY CLAUDE RESOURCES INC.
in each case by its authorized signatory

/s/ Gregory J. Martin
Name: Gregory J. Martin

Exhibit A

EXHIBIT E

FORM OF ADDITIONAL COMMITMENT AGREEMENT

Canadian Imperial Bank of
Commerce 5th Floor, Atrium on Bay
595 Bay Street
Toronto, Ontario
M5G 2C2

Attention: Leanne Third
Neermala Hurry
Wilma Sevilleja

Ladies and Gentlemen:

Reference is made to the credit agreement dated as of August 4, 2015, as amended by amending agreement no. 1 dated May 31, 2016 and amending agreement no. 2 dated as of June 8, 2017 (as further amended, supplemented or restated from time to time, the "**Credit Agreement**", the terms defined therein being used herein as therein defined) among Silver Standard Resources Inc., as borrower (the "**Borrower**"), the financial institutions from time to time party thereto, as lenders (the "**Lenders**"), and Canadian Imperial Bank of Commerce, as administrative agent, sole lead arranger, sole bookrunner, and issuing bank (in its capacity as administrative agent, the "**Agent**").

1. Each of the undersigned financial institutions (each, an "**Additional Lender**") hereby severally agrees to provide the Additional Commitment set forth opposite its name on **Annex I** (for each such Additional Lender, its "**Additional Commitment**"). Each Additional Commitment provided pursuant to this letter agreement (this "**Agreement**") shall be subject to all of the terms and conditions set forth in the Credit Agreement, including, without limitation, Section 2.1(2) thereof. Each Additional Lender agrees that, from and after the Effective Date (as defined below), such Additional Lender shall be obligated to make Loans under the Revolving Credit upon the terms, and subject to the conditions, set forth in the Credit Agreement and in this Agreement.

2. Each party to this Agreement acknowledges and agrees that (i) the Additional Commitments provided pursuant to this Agreement shall constitute (and serve to increase) the Revolving Credit Commitments such that further Revolving Loans become available thereunder upon identical terms and conditions, (ii) with respect to the Additional Commitment provided by any Additional Lender pursuant to this Agreement, such Additional Lender shall receive from the Borrower such up-front, arrangement and/or other fees, if any, as may be separately agreed to in writing by the Borrower, the Agent and such Additional Lender, all of which fees shall be due and payable to such Additional Lender on the terms and conditions set forth in each such separate agreement, and (iii) from and after the Effective Date, each Additional Lender shall be a Lender under and as defined in the Credit Agreement for the purposes of the Credit Agreement and for all of the Loan Documents and shall be bound by the terms, conditions and covenants and shall be entitled to the benefits thereof as if it were an original Lender and signatory with a Commitment equal to such Additional Lender's Additional Commitment (plus, if such Additional Lender is already a Lender, such Lender's Commitment immediately prior to giving effect to the increase thereof pursuant to this Agreement).

3. Each Additional Lender, to the extent not already a party to the Credit Agreement as a Lender thereunder, acknowledges and agrees that (i) it is not a Defaulting Lender, (ii) it has received a copy of the Credit Agreement and the other Loan Documents, (iii) it has, independently and without reliance upon the Agent or any other Lender and on the basis of such documents and information as it deems appropriate, made its own credit analysis and decision regarding this Agreement and the Credit Agreement, and (iv) except for documents referred to in the preceding clause (ii) (which it has already received) the Agent shall not have any duty to provide such Additional Lender with any credit or other information concerning the affairs, financial condition or business of the Borrower or any third party, except as specified in the Credit Agreement.

4. The Borrower acknowledges and agrees that (i) it shall be liable for all indebtedness, obligations and other liabilities ("**Obligations**") with respect to the Additional Commitments provided hereby, including, without limitation, all Loans made pursuant thereto, and (ii) all such Obligations shall be entitled to the benefits of the Security Documents.

5. The Borrower represents and warrants to the Agent and the Lenders that

(i) no Default or Event of Default has occurred and is continuing and all of the representations and warranties contained in the Credit Agreement and in the other Loan Documents are true and correct on and as of the Effective Date as though made on and as of the Effective Date (except where made only as of an earlier date or as disclosed to and accepted by the Lenders prior to the Effective Date); and

(ii) the Borrower is in *pro forma* compliance with the financial covenants contained in Section 5.1(12) of the Credit Agreement (assuming the full incurrence of the new Indebtedness in question) as of the Effective Date.

6. This Agreement shall be effective on the date (the "**Effective Date**") on which each of the following conditions has been satisfied:

(i) payment of all fees required to be paid in connection herewith (including, without limitation, any agreed upon up-front, arrangement and/or other fees, if any, owing to the Additional Lenders and the Agent (or any affiliate thereof)) or due and owing to the Agent or the Lenders pursuant to the Credit Agreement;

(ii) the Agent shall have received (A) an executed counterpart of this Agreement duly executed by the Borrower prior to the close of business on the Return Date (as defined below), (B) acknowledgements executed by each Guarantor, acknowledging that the Additional Commitments contemplated hereby and all Loans to be incurred pursuant thereto shall be entitled to the benefits of the Security Documents on the same basis as the other Borrowings made pursuant to the Credit Agreement, (C) an opinion or opinions dated as of the Effective Date, in form and substance reasonably satisfactory to the Agent, from counsel to the Borrower and the Guarantors, covering such matters set forth in the opinions of counsel delivered to the Agent on the Closing Date pursuant to Section 4.1(4) of the Credit Agreement, and such other matters incident to the transactions contemplated hereby as the Agent may reasonably request, and (D) such other officers' certificates, board of director resolutions and evidence of good standing as the Agent shall reasonably request.

7. This Agreement shall be governed by and interpreted and enforced in accordance with the Laws of the Province of Ontario and the Laws of Canada applicable therein.

8. This Agreement shall enure to the benefit of and be binding upon the parties and their respective successors and permitted assigns.

9. This Agreement may be executed in any number of counterparts and delivered by facsimile or pdf formatted attachment to an email and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

10. The Borrower may accept this Agreement by signing in the space provided below and returning an executed counterpart hereof to the Agent before the close of business on **[Date]** (the "**Return Date**"). If the Borrower does not so accept this Agreement by such time, the Additional Commitments set forth in this Agreement shall be deemed cancelled.

11. After the execution and delivery to the Agent of a copy of this Agreement (including by way of counterparts and by facsimile or pdf email transmission) fully executed by the parties hereto, this Agreement may only be changed, modified or varied in accordance with the requirements for the modification of Loan Documents pursuant to Section 9.2(2) of the Credit Agreement. In the event of any conflict between the terms of this Agreement and those of the Credit Agreement, the terms of the Credit Agreement shall control.

[Remainder of this page left intentionally blank.]

Yours truly,

[NAME OF EACH ADDITIONAL LENDER]

By: _____

Name:
Title:

Exhibit 10.4

AMENDING AGREEMENT NO. 3

THIS AMENDING AGREEMENT NO. 3 (this "**Amending Agreement**") is made as of January 21, 2020 between the parties to the Credit Agreement (as hereinafter defined).

WHEREAS:

A. Reference is made to the credit agreement dated as of August 4, 2015 between, *inter alios*, SSR Mining Inc. (formerly Silver Standard Resources Inc.), as borrower (the "**Borrower**"), the lenders from time to time party thereto (the "**Lenders**"), and Canadian Imperial Bank of Commerce, as administrative agent (the "**Agent**"), as amended by amending agreement no. 1 dated as of May 31, 2016 and amending agreement no. 2 dated June 8, 2017 (collectively, the "**Credit Agreement**")

B. The Borrower, the Lenders and the Agent wish to amend the Credit Agreement on the terms and conditions set out herein.

NOW THEREFORE THIS AGREEMENT WITNESSES that, in consideration of the mutual covenants and agreements contained in this Amending Agreement and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties hereto agree as follows:

ARTICLE 1
INTERPRETATION

1.1 One Amending Agreement. This Amending Agreement amends the Credit Agreement. This Amending Agreement and the Credit Agreement shall be read, interpreted, construed and have effect as, and shall constitute, one agreement with the same effect as if the amendments made by this Amending Agreement had been contained in the Credit Agreement as of the date of this Amending Agreement.

1.2 Defined Terms. In this Amending Agreement, unless something in the subject matter or context is inconsistent:

(a) terms defined in the description of the parties or in the recitals have the respective meanings given to them in the description or recitals, as applicable; and

(b) all other capitalized terms have the respective meanings given to them in the Credit Agreement as amended by Article Two of this Amending Agreement (collectively, the "**Amended Credit Agreement**").

1.3 Headings. The headings of the Articles and Sections of this Amending Agreement are inserted for convenience of reference only and shall not affect the construction or interpretation of this Amending Agreement.

1.4 References. All references to Articles, Sections, Exhibits and Schedules, unless otherwise specified, are to Articles, Sections, Exhibits and Schedules of the Credit Agreement.

ARTICLE 2
AMENDMENTS

2.1 Deleted Definitions. The definitions of "Permitted Notes Refinancing", "Permitted Notes Reference Date", and "Refi Plan" are deleted from Section 1.1.

2.2 2013 Notes. The following definitions are added to Section 1.1 in alphabetical order:

"**2013 Notes**" means the 2.875% convertible senior notes due 2033 issued by the Borrower pursuant to the indenture dated as of January 16, 2013.

"**2013 Notes Redemption**" means the redemption of the 2013 Notes by the holders thereof on or about February 1, 2020.

2.3 Fundamental Change. The definition of "Fundamental Change" in Section 1.1 is deleted in its entirety and replaced with the following:

"**Fundamental Change**" has the meaning set out in the 2013 Notes.

2.4 Permitted Notes. The definition of "Permitted Notes" in Section 1.1 is deleted in its entirety and replaced with the following:

"**Permitted Notes**" means, collectively,:

(a) The 2013 Notes; and

(b) any other unsecured notes constituting securities under applicable Law issued by the Borrower after the Closing Date under one or more indentures where the maturity date or mandatory redemption date thereof is no earlier than six months following the Maturity Date and there are no scheduled principal repayments prior thereto.

2.5 Permitted Notes Indebtedness. All references to "Permitted Note Indebtedness" are changed to "Permitted Notes Indebtedness".

2.6 Permitted Repayment. The definition of "Permitted Repayment" in Section 1.1 is deleted in its entirety and replaced with the following:

"**Permitted Repayment**" means any Payment of Permitted Notes Indebtedness:

(a) made with respect to scheduled interest;

(b) made by way of conversion into Equity Securities issued by the Borrower;

(c) funded directly with the net proceeds of Equity Securities or other Permitted Note Indebtedness issued by the Borrower not more than 60 days prior to such Payment;

(d) if, immediately following such Payment, Available Liquidity would be greater than U.S.$100,000,000; and

(e) pursuant to the 2013 Notes Redemption.

2.7 Repayment of Loans. Section 2.7 is deleted in its entirety, and replaced with the following:

> **2.7 Repayment of Loans**. The Borrower hereby unconditionally promises to pay to the Administrative Agent for the account of the Lenders the outstanding principal amount of the Loans on the Maturity Date.

2.8 Standby Fees. Section 2.10(1) is amended by deleting the last sentence thereof

2.9 Alternate Rate of Interest. Section 2.12 is deleted in its entirety, and replaced with the following.

(1) If prior to the commencement of any Interest Period for a LIBO Rate Borrowing or the commencement of any Contract Period for a B/A Borrowing:

(a) the Administrative Agent determines (which determination shall be conclusive absent manifest error) that:

(i) adequate and reasonable means do not exist for ascertaining the LIBO Rate for such Interest Period; or

(ii) there is no market for B/As; or

(b) the Administrative Agent is advised by a Lender that:

(i) the LIBO Rate for such Interest Period will not adequately and fairly reflect the cost to such Lender of making or maintaining its LIBO Rate Loans included in such Borrowing for such Interest Period; or

(ii) the Discount Rate for such Contract Period will not adequately and fairly reflect the cost to such Lender of issuing or maintaining its B/As included in such Borrowing for such Contract Period,

then the Administrative Agent shall give written notice thereof to the Borrower and the Lenders as promptly as practicable thereafter and, until the Administrative Agent notifies the Borrower and the Lenders that the circumstances giving rise to such notice no longer exist, (A) any Borrowing Request that requests the conversion of any Borrowing to, or continuation of any Borrowing as, a LIBO Rate Borrowing or B/A Borrowing, as applicable, shall be ineffective, and (B) if any Borrowing Request requests a LIBO Rate Borrowing or B/A Borrowing, as applicable, such Borrowing shall be made as a Base Rate Borrowing or Canadian Prime Borrowing, as applicable; provided that if the circumstances giving rise to such notice do not affect all the Lenders, then requests by the Borrower for LIBO Rate Borrowings or B/A Borrowings, as applicable, may be made to Lenders that are not affected thereby.

(2) Notwithstanding anything to the contrary herein or in any other Loan Document, upon the occurrence of a Benchmark Transition Event or an Early Opt-in Election, as applicable, the Administrative Agent and the Borrower may amend this Agreement to replace the LIBO Rate with a Benchmark Replacement. Any such amendment with respect to a Benchmark Transition Event will become effective at 5:00 p.m. on the fifth (5^{th}) Business Day after the Administrative Agent has posted such proposed amendment to all Lenders and the Borrower so long as the Administrative Agent has not received, by such time, written notice of objection to such amendment from Lenders comprising the Required Lenders. Any such amendment with respect to an Early Opt-in Election will become effective on the date that Lenders comprising the Required Lenders have delivered to the Administrative Agent written notice that such Required Lenders accept such amendment. No replacement of the LIBO Rate with a Benchmark Replacement pursuant to this Section (2) will occur prior to the applicable Benchmark Transition Start Date. In connection with the implementation of a Benchmark Replacement, the Administrative Agent will have the right to make Benchmark Replacement Conforming Changes from time to time and, notwithstanding anything to the contrary herein or in any other Loan Document, any amendments implementing such Benchmark Replacement Conforming Changes will become effective without any further action or consent of any other party to this Agreement. The Administrative Agent will promptly notify the Borrower and the Lenders of (i) any occurrence of a Benchmark Transition Event or an Early Opt-in Election, as applicable, and its related Benchmark Replacement Date and Benchmark Transition Start Date, (ii) the implementation of any Benchmark Replacement, (iii) the effectiveness of any Benchmark Replacement conforming Changes and (iv) the commencement or conclusion of any Benchmark Unavailability Period. Any determination, decision or election that may be made by the Administrative Agent or Lenders pursuant to this Section (2), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non- occurrence of an event, circumstance or date and any decision to take or refrain from taking any action, will be conclusive and binding absent manifest error and may be made in its or their sole discretion and without consent from any other party hereto, except, in each case, as expressly required pursuant to this Section (2). Upon the Borrower's receipt of notice of the commencement of a Benchmark Unavailability Period, the Borrower may revoke any request for a LIBO Rate Loan of, conversion to or continuation of LIBO Rate Loans to be made, converted or continued during any Benchmark Unavailability Period and, failing that, the Borrower will be deemed to have converted any such request into a request for a Borrowing of, or conversion to. Base Rate Loans. During any Benchmark Unavailability Period, the component of Base Rate based upon the LIBO Rate will not be used in any determination of Base Rate. In this Section (2), the following terms have the meanings set out below:

"**Benchmark Replacement**" means the sum of:

(a) the alternate benchmark rate (which may include Term SOFR) that has been selected by the Administrative Agent and the Borrower giving due consideration to:

(i) any selection or recommendation of a replacement rate or the mechanism for determining such a rate by the FRBNY; or

(ii) any evolving or then-prevailing market convention for determining a rate of interest as a replacement to the LIBO Rate for U.S. dollar-denominated syndicated credit facilities; and

(b) the Benchmark Replacement Adjustment; provided that, if the Benchmark Replacement as so determined would be less than zero, the Benchmark Replacement will be deemed to be zero for the purposes of this Agreement.

"**Benchmark Replacement Adjustment**" means, with respect to any replacement of the LIBO Rate with an Unadjusted Benchmark Replacement for each applicable Interest Period, the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected by the Administrative Agent and the Borrower giving due consideration to:

(a) any selection or recommendation of a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the LIBO Rate with the applicable Unadjusted Benchmark Replacement by the FRBNY; or

(b) any evolving or then-prevailing market convention for determining a spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the LIBO Rate with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated syndicated credit facilities at such time.

"**Benchmark Replacement Conforming Changes**" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "Base Rate", the definition of "Interest Period," the timing and frequency of determining rates and making payments of interest and other administrative matters) that the Administrative Agent decides may be appropriate to reflect the adoption and implementation of such Benchmark Replacement and to permit the administration thereof by the Administrative Agent in a manner substantially consistent with market practice (or, if the Administrative Agent decides that adoption of any portion of such market practice is not administratively feasible or if the Administrative Agent determines that no market practice for the administration of the Benchmark Replacement exists, in such other manner of administration as the Administrative Agent decides is reasonably necessary in connection with the administration of this Agreement).

"**Benchmark Replacement Date**" means the earlier to occur of the following events with respect to the LIBO Rate:

(a) in the case of clause (a) or (b) of the definition of "Benchmark Transition Event," the later of:

(i) the date of the public statement or publication of information referenced therein; and

(ii) the date on which the administrator of the LIBO Rate permanently or indefinitely ceases to provide the LIBO Rate; or

(b) in the case of clause (c) of the definition of "Benchmark Transition Event," the date of the public statement or publication of information referenced therein.

"**Benchmark Transition Event**" means the occurrence of one or more of the following events with respect to the LIBO Rate:

(a) a public statement or publication of information by or on behalf of the administrator of the LIBO Rate announcing that such administrator has ceased or will cease to provide the LIBO Rate, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the LIBO Rate;

(b) a public statement or publication of information by the regulatory supervisor for the administrator of the LIBO Rate, the U.S. Federal Reserve System, an insolvency official with jurisdiction over the administrator for the LIBO Rate, a resolution authority with jurisdiction over the administrator for the LIBO Rate or a court or an entity with similar insolvency or resolution authority over the administrator for the LIBO Rate, which states that the administrator of the LIBO Rate has ceased or will cease to provide the LIBO Rate permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the LIBO Rate; or

(c) a public statement or publication of information by the regulatory supervisor for the administrator of the LIBO Rate announcing that the LIBO Rate is no longer representative.

"**Benchmark Transition Start Date**" means

(a) in the case of a Benchmark Transition Event, the earlier of:

(i) the applicable Benchmark Replacement Date; and

(ii) if such Benchmark Transition Event is a public statement or publication of information of a prospective event, the 90th day prior to the expected date of such event as of such public statement or publication of information (or if the expected date of such prospective event is fewer than [90] days after such statement or publication, the date of such statement or publication); and

(b) in the case of an Early Opt-in Election, the date specified by the Administrative Agent or the Required Lenders, as applicable, by notice to the Borrower, the Administrative Agent (in the case of such notice by the Required Lenders) and the Lenders.

"**Benchmark Unavailability Period**" means, if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to the LIBO Rate and solely to the extent that the LIBO Rate has not been replaced with a Benchmark Replacement, the period (x) beginning at the time that such Benchmark Replacement Date has occurred if, at such time, no Benchmark Replacement has replaced the LIBO Rate for all purposes hereunder in accordance with Section (2), and (y) ending at the time that a Benchmark Replacement has replaced the LIBO Rate for all purposes hereunder pursuant to Section (2).

*"***Early Opt-in Election**" means the occurrence of:

(a) (i) a determination by the Administrative Agent; or

(ii) a notification by the Required Lenders to the Administrative Agent (with a copy to the Borrower) that the Required Lenders have determined;

that U.S. dollar-denominated syndicated credit facilities being executed at such time, or that include language similar to that contained in this Section (2), are being executed or amended, as applicable, to incorporate or adopt a new benchmark interest rate to replace the LIBO Rate; and

(b) (i) the election by the Administrative Agent; or

(ii) the election by the Required Lenders;

to declare that such determination has occurred and the provision, as applicable, by the Administrative Agent of written notice of such election to the Borrower and the Lenders or by the Required Lenders of written notice of such election to the Administrative Agent.

"**SOFR**" with respect to any day means the secured overnight financing rate published for such day by the FRBNY, as the administrator of the benchmark, (or a successor administrator) on the FRBNY Website.

"**Term SOFR**" means the forward-looking term rate based on SOFR that has been selected or recommended by the FRBNY.

"**Unadjusted Benchmark Replacement**" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

(c) **Conditions.** Section 4.2 is amended by (i) moving the word "and" from the end of clause to the end of clause (b), replacing the ";" at the end of clause (c) with ".", and (iii) deleting clause (d).

2.10 Permitted Notes Refinancing. Section 5.1(14) is deleted in its entirety and replaced with the following:

(14) *Intentionally Deleted*.

2.11 Available Liquidity. Section 5.1(12)(d) is deleted in its entirety and replaced with the following:

(d) *Available Liquidity*. At all times prior to and including February 4, 2020, maintain Available Liquidity of not less than U.S.$100,000,000. On January 31, 2020 the Borrower shall deliver to the Administrative Agent a Compliance Certificate setting out the *pro forma* Available Liquidity following completion of the 2013 Note Redemption based upon the amount of 2013 Notes surrendered by their holders as at 5:00 p.m. on such date, and a failure to satisfy such test on a *pro forma* basis shall constitute an immediate Event of Default.

2.12 Events of Default. Section 7.1(f) is deleted in its entirety and replaced with the following:

(f) (i) any Material Indebtedness is not paid when due; or (ii) any event or condition occurs that results in any Material Indebtedness becoming due prior to its scheduled maturity or that enables or permits (with or without the giving of notice, the lapse of time or both) the holder or holders of any Material Indebtedness or any trustee or agent on its or their behalf to cause any Material Indebtedness to become due, or to require the prepayment, repurchase, redemption or defeasance thereof, prior to its scheduled maturity; provided that this Section 7.1(f) shall not apply to secured Indebtedness that becomes due as a result of the voluntary sale or transfer of the property or assets securing such Indebtedness so long as the proceeds of such sale or transfer are sufficient to, and are applied to, reduce such secured Indebtedness to nil;

2.13 SPPC Easement. Pursuant to an instrument dated August 1, 2019, Marigold Mining Company granted an easement over certain lands (the "**Subject Lands**") in favour of Sierra Pacific Power Company ("**SPPC**") for the purposes of constructing, operating, maintaining and removing certain communications facilities and electric line systems for the distribution and transmission of electricity (the "**SPPC Easement**"). The Borrower represents and warrants that the SPPC Easement does not materially detract from the value of the Subject Lands or interfere with the ordinary conduct of the business of any Credit Party, such that it constitutes a Permitted Lien. The Lenders authorize and direct the Administrative Agent to execute and deliver a consent and subordination agreement in favor of SPPC with respect to the SPPC Easement and the Subject Lands in such form as the Administrative Agent may, in its sole discretion, approve.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

3.1 Confirmation of Representations. The Borrower represents and warrants that, as at the date of this Amending Agreement and assuming that the amendments made to the Credit Agreement by this Amending Agreement have become effective:

(a) this Amending Agreement and the Confirmation appended hereto has been duly authorized, executed and delivered by each of the signatory Credit Parties;

(b) the Credit Agreement, as amended hereby, constitutes a legal, valid and binding obligation of the Borrower, enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditor's rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law;

(c) no Default or Event of Default has occurred and is continuing; and

(d) the representations and warranties contained in Article 3 (other than those that are made particular to a specific date) are true and correct as if made on the date hereof.

ARTICLE 4
CONDITIONS

4.1 Conditions Precedent. This Amending Agreement shall become effective on the date upon which there has been receipt by the Administrative Agent of:

(a) a counterpart of this Amending Agreement executed by each party hereto; and

(b) a counterpart of the Confirmation appended to this Amending Agreement, executed by each Guarantor;

(c) payment of a legal fees invoiced to date by counsel for the Administrative Agent

For the avoidance of doubt, upon and regardless of the date on which such conditions precedent are met, the effective date of this Amending Agreement will be as of January 21, 2020.

ARTICLE 5
GENERAL

5.1 Confirmation. Except as specifically stated herein, the Credit Agreement and the other Loan Documents shall continue in full force and effect in accordance with the provisions thereof. All Secured Liabilities under the Credit Agreement shall be continuing with only the terms thereof being modified as provided in this Amending Agreement, and this Amending Agreement shall not evidence or result in a novation of such Secured Liabilities.

5.2 Interpretation. All references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter include, mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents. This Amending Agreement shall constitute a "Loan Document" under, and as defined in, the Credit Agreement.

5.3 Binding Nature. This Amending Agreement shall enure to the benefit of and be binding upon the Borrower, the Lenders and the Administrative Agent and their respective successors and permitted assigns.

5.4 Severability. Any provision of this Amending Agreement which is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Amending Agreement, all without affecting the remaining provisions of this Amending Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

5.5 Conflicts. If, after the date of this Amending Agreement, any provision of this Amending Agreement is inconsistent with any provision of the Credit Agreement, the relevant provision of this Amending Agreement shall prevail.

5.6 Governing Law. This Amending Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

5.7 Counterpart and Facsimile. This Amending Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Amending Agreement by telecopy, emailed pdf. or any other electronic means that reproduces an image of the actual executed signature page shall be effective as delivery of a manually executed counterpart of this Amending Agreement.

[signatures on the following pages]

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

CANADIAN IMPERIAL BANK OF COMMERCE,
as Lender and Administrative Agent

By: /s/ Peter Rawlins
Name: Peter Rawlins
Title: Managing Director

By: /s/ Kazim Mehdi
Name: Kazim Mehdi
Tile: Executive Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

THE BANK OF NOVA SCOTIA,
as Lender

By: /s/ Kurt Foellmer
Name: Kurt Foellmer
Title: Director

By: /s/ Priya Francis
Name: Priya Francis
Title: Associate

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

BANK OF MONTREAL,
as Lender

By: /s/ Ben Rough

Name: Ben Rough
Title: Director

By: _____
Name:
Title:

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

SSR MINING INC.

By:

/s/ Gregory Martin

Name: Gregory Martin
Title: Senior Vice President and Chief Financial Officer

CONFIRMATION

Each undersigned Guarantor acknowledges and irrevocably consents to the terms of the Amending Agreement. Each undersigned Guarantor further represents, warrants, and confirms to the Agent, for the benefit of each Secured Party, that:

(a) the Group Guarantee and the guarantees and indemnities granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(b) such guarantees and indemnities extend to the indebtedness, liabilities and obligations of the Borrower under the Amended Credit Agreement;

(c) the Security Documents and the Liens granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(d) the secured liabilities described in the Security Documents include indebtedness, liabilities and obligations arising under or in relation to the Amended Credit Agreement, and the Liens granted thereunder extend thereto; and

(e) all references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents.

SSR MINING INC.
SILVER STANDARD CANADA HOLDINGS LTD.
SILVER STANDARD US HOLDINGS INC.
SILVER STANDARD MARIGOLD INC.
INTERTRADE METALS CORP.
INTERTRADE METALS LIMITED PARTNERSHIP
SILVER STANDARD VENTURES INC.
SSR DURANGO, S.A. DE C.V.
MARIGOLD MINING COMPANY
SGO MINING INC.
in each case by its authorized signatory

/s/ Gregory Martin
Name: Gregory Martin

AMENDING AGREEMENT NO. 4

THIS AMENDING AGREEMENT NO. 4 (this "**Amending Agreement**") is made as of June 3, 2020 between the parties to the Credit Agreement (as hereinafter defined).

WHEREAS:

A. Reference is made to the credit agreement dated as of August 4, 2015 between, *inter alios*, SSR Mining Inc. (formerly Silver Standard Resources Inc.), as borrower (the "**Borrower**"), the lenders from time to time party thereto (the "**Lenders**"), and Canadian Imperial Bank of Commerce, as administrative agent (the "**Agent**"), as amended by amending agreement no. 1 dated as of May 31, 2016, amending agreement no. 2 dated June 8, 2017 and amending agreement no. 3 dated January 21, 2020 (collectively, the "**Credit Agreement**").

B. The Borrower, the Lenders and the Agent wish to amend the Credit Agreement on the terms and conditions set out herein.

NOW THEREFORE THIS AGREEMENT WITNESSES that, in consideration of the mutual covenants and agreements contained in this Amending Agreement and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties hereto agree as follows:

ARTICLE 1
INTERPRETATION

1.1 One Amending Agreement. This Amending Agreement amends the Credit Agreement. This Amending Agreement and the Credit Agreement shall be read, interpreted, construed and have effect as, and shall constitute, one agreement with the same effect as if the amendments made by this Amending Agreement had been contained in the Credit Agreement as of the date of this Amending Agreement.

1.2 Defined Terms. In this Amending Agreement, unless something in the subject matter or context is inconsistent:

(a) terms defined in the description of the parties or in the recitals have the respective meanings given to them in the description or recitals, as applicable; and

(b) all other capitalized terms have the respective meanings given to them in the Credit Agreement as amended by Article Two of this Amending Agreement (collectively, the "**Amended Credit Agreement**").

1.3 Headings. The headings of the Articles and Sections of this Amending Agreement are inserted for convenience of reference only and shall not affect the construction or interpretation of this Amending Agreement.

1.4 References. All references to Articles, Sections, Exhibits and Schedules, unless otherwise specified, are to Articles, Sections, Exhibits and Schedules of the Credit Agreement.

ARTICLE 2

AMENDMENTS

2.1 Deleted Definitions. The definitions of "JVco" and "Pre-Signing Moratorium Obligations" are deleted in their entirety.

2.2 New Definitions. The following definitions are added to Section 1.1 in alphabetical order:

"**Alacer Subsidiaries**" means Alacer Gold Corp. and all of its present and future subsidiaries.

"**Argentine Subsidiaries**" means Mina Pirquitas S.A. and Valle Del Cura S.A.

"**Fourth Amendment Date**" means June 3, 2020.

"Modified Consolidated" means Consolidated modified to provide that, notwithstanding GAAP, the Alacer Subsidiaries shall be disregarded for all purposes except that:

(a) Net Income for any period shall include the aggregate amount of cash actually distributed by any Alacer Subsidiary during such period to a Credit Party as a dividend, distribution or return of capital;

(b) the book value of the Equity Securities of each Alacer Subsidiary held by a Credit Party shall be included as an asset on the balance sheet of the Borrower; and

(c) the liabilities of a Credit Party shall include the liabilities of an Alacer Subsidiary that is a partnership in which such Credit Party is a partner, general partner or limited partner to the extent such Credit Party is liable therefor as a result of such Credit Party's ownership interest in, or other relationship with, such Alacer Subsidiary.

"Utilization Percentage" means, at any time, the percentage equal to the aggregate Credit Exposure divided by the aggregate Commitments, in each case as at such time, and multiplied by 100%.

2.3 Applicable Margin. The definition of "Applicable Margin" in Section 1.1 is deleted in its entirety and replaced with the following:

"**Applicable Margin**" means the applicable rate per annum, expressed as a percentage, set out in the relevant column and row of the table below, based on the Net Leverage Ratio as at the most recent Quarterly Date with respect to which the Borrower has delivered financial information to the Administrative Agent pursuant to Section 5.1(1).

Row	Net Leverage Ratio	B/A Borrowing, LIBO Rate Loan or Financial Letter of Credit	Canadian Prime Loan or Base Rate Loan	Non-Financial Letter of Credit	Utilization Percentage	Standby Fee	Utilization Fee
1	< 1.0x	225 bps	125 bps	150 bps	< 33%	62.5 bps	25 bps
					≥ 33% and < 60%	68.8 bps	50 bps
					≥ 66%	75 bps	75 bps
2	≥ 1.0x and < 1.5x	250 bps	150 bps	166.67 bps	< 33%	68.8 bps	25 bps
					≥ 33% and < 60%	75 bps	50 bps
					≥ 66%	81.3 bps	75 bps
3	≥ 1.5x and < 2.5x	275 bps	175 bps	183.33 bps	< 33%	75 bps	25 bps
					≥ 33% and < 60%	81.3 bps	50 bps
					≥ 66%	87.5 bps	75 bps
4	≥ 2.5x	3745 bps	275 bps	250 bps	< 33%	100 bps	25 bps
					≥ 33% and < 60%	106.3 bps	50 bps
					≥ 66%	112.5 bps	75 bps

As of the Fourth Amendment Date, the Applicable Margin shall be the margin provided for in Row 1 of the above grid (with a Utilization Percentage of < 33%); provided that the Applicable Margin with respect to any B/A Borrowing outstanding on the Fourth Amendment Date shall remain the Applicable Margin in effect prior to the Fourth Amendment Date until the rollover or conversion of such B/A Borrowing. Thereafter, the Applicable Margin shall change (to the extent necessary, if any) on the first Business Day following the next last date on which the financial statements and Compliance Certificate of the Borrower are required to be delivered to the Administrative Agent pursuant to Section 5.1(1) to reflect any change in the Net Leverage Ratio effective as of the date of such financial statements, based upon the financial statements for the immediately preceding Rolling Period, or if such day is not a Business Day, then the first Business Day thereafter. Notwithstanding the foregoing, if at any time the Borrower fails to deliver financial statements and the certificate of the Borrower as required by Section 5.1(1) on or before the date required pursuant to Section 5.1(1) (without regard to grace periods), the Applicable Margin shall be the highest margins provided for in the above grid from the date such financial statements are due pursuant to Section 5.1(1) (without regard to grace periods) through the date the Administrative Agent receives all financial statements and certificates that are then due pursuant to Section 5.1(1), at which time the Applicable Margin shall again be set out in accordance with the above grid.

2.4 Federal Funds Effective Rate. The definition of "Federal Funds Effective Rate" in Section 1.1 is amended by adding the following sentence to the end thereof:

In either case, if that rate is less than zero, the Federal Funds Effective Rate shall be deemed to be zero.

2.5 **Investment**. The definition of "Investment" in Section 1.1 is deleted in its entirety and replaced with the following:

"**Investment**" means, as applied to any Person (the "**investor**"), any direct or indirect:

(a) purchase or other acquisition by the investor of Equity Securities of any other Person or any beneficial interest therein;

(b) purchase or other acquisition by the investor of bonds, notes, debentures or other debt securities of any other Person or any beneficial interest therein;

(c) loan or advance to any other Person, other than (i) advances to directors, officers, employees for expenses incurred in the ordinary course of business, and (ii) accounts receivable arising from sales or services rendered to such other Person in the ordinary course of the investor's business; and

(d) capital contribution by the investor to any other Person;

provided that (i) an Acquisition shall not constitute an Investment, and (ii) contributions made to fund Post-Signing Moratorium Obligations shall not constitute Investments. The amount of any Investment shall be the original cost of such Investment plus the cost of all additions thereto, without any adjustments for increases or decreases in value, or write- ups, write-downs or write-offs with respect to such Investment minus any amounts (i) realized upon the disposition of assets comprising an Investment (including the value of any liabilities assumed by any Person other than a Credit Party in connection with such disposition), (ii) constituting repayments of Investments that are loans or advances or (iii) constituting cash returns of principal or capital thereon (including any dividend, redemption or repurchase of equity that is accounted for, in accordance with GAAP, as a return of principal or capital).

2.6 **LIBO Rate**. The definition of "LIBO Rate" in Section 1.1 is amended by adding "subject to Section 2.12(2)," at the beginning of clause (b) thereof.

2.7 **Maturity Date.** The definition of "Maturity Date" in Section 1.1 is amended by replacing "June 8, 2020" with "June 8, 2021".

2.8 **Material Subsidiary**. The definition of "Material Subsidiary" is deleted in its entirety and replaced with the following:

"**Material Subsidiary**" means:

(a) Silver Standard Canada Holdings Ltd., Silver Standard US Holdings Inc., Silver Standard Marigold Inc., Intertrade Metals Limited Partnership, Intertrade Metals Corp., Silver Standard Ventures Inc., SSR Durango, S.A. de C.V., Marigold Mining Company, SGO Mining Inc., Puna Operations Inc. and 0694758 B.C. Ltd.;

(b) each other present and future Subsidiary that at any time:

(i) has consolidated net tangible assets in excess of an amount equal to 5% of the net tangible assets of the Borrower at such time, determined on a Consolidated basis; or

(ii) has a subsidiary that is a Material Subsidiary; and

(c) any other Subsidiary designated as such in writing by the Borrower to the Administrative Agent;

provided that once a Subsidiary satisfies any of the tests set out in this definition, such Person shall at all times thereafter be a Material Subsidiary, regardless of whether it subsequently satisfies any of such tests. Notwithstanding the foregoing, the Alacer Subsidiaries and the Argentine Subsidiaries shall at no time constitute Material Subsidiaries.

2.9 Permitted Intercompany Investments. The definition of "Permitted Intercompany Investments" is deleted in its entirety and replaced with the following

"**Permitted Intercompany Investments**" means an Investment by a Credit Party in any of the following:

(a) Equity Securities of any other Credit Party;

(b) any other Credit Party by way of capital contribution; or

(c) loans or advances to any other Credit Party.

2.10 Modified Consolidated. All references to "Consolidated" are changed to "Modified Consolidated" except for such references in:

(a) the definition of "Consolidated";

(b) Sections 5.1(a), (b) and (l); and

(c) Section 6.1(8)(b).

2.11 Financial Reporting. Section 5.1 is amended by:

(a) deleting the "and" at the end of clause (k);

(b) deleting the "." at the end of clause (l); and

(c) adding the following new clauses to the end thereof:

(m) as soon as available and in any event within 90 days after the end of each Fiscal Year, the unaudited Modified Consolidated balance sheet and related statements of income, retained earnings and changes in financial position of the Borrower as of the end of and for such Fiscal Year, all certified by a Responsible Officer of the Borrower as presenting fairly in all material respects the financial condition and results of operations of the Borrower on a Modified Consolidated basis; and

(n) as soon as available and in any event within 60 days after the end of each of the first three Fiscal Quarters of each Fiscal Year, the unaudited Modified Consolidated balance sheet and related statements of income, retained earnings and changes in financial position of the Borrower as of the end of and for such Fiscal Quarter and the then elapsed portion of the Fiscal Year which includes such Fiscal Quarter, all certified by a Responsible Officer of the Borrower as presenting fairly in all material respects the financial condition and results of operations of the Borrower on a Modified Consolidated basis, subject to normal year-end audit adjustments.

2.12 Utilization Fee. The following subsection is inserted into Section 2.10 in numerical order, and the subsequent subsections renumbered accordingly:

> (2) *Utilization Fees*. The Borrower shall pay to the Administrative Agent for the account of and distribution to each Lender in accordance with its Applicable Percentage a utilization fee for the period commencing on the Fourth Amendment Date to and including the Maturity Date (or such earlier date as the Commitments shall have been terminated entirely) computed at a rate per annum equal to the Applicable Margin on the aggregate Credit Exposure. Such utilization fee shall be (a) payable in arrears on the first Business Day following each Quarterly Date and on any the date on which the Commitments terminate or are reduced pursuant hereto, and (b) accrue daily on the basis of a year of 365 or 366 days, as the case may be, and shall be payable for the actual number of days elapsed (including the first day but excluding the last day).

2.13 Argentine Subsidiary Investments. Section 6.1(6)(g) is deleted in its entirety and replaced with the following:

> (g) Investments made in the Argentine Subsidiaries since the Second Amendment Date in an aggregate amount of up to U.S.$100,000,000; or

2.14 Other Investments. Section 6.1(6)(h) is deleted in its entirety and replaced with the following:

> (h) other Investments where the aggregate cash amount thereof from and after the Second Amendment Date does not exceed the Investment Cap.

2.15 Restricted Payments. Section 6.1(9) is amended by deleting the "and" at the end of clause (e), replacing the "." at the end of clause (f) with "; and", and adding the following as a new clause (g):

> (g) the Borrower may declare and pay any dividend, distribution or return of capital with respect to its Equity Securities if (i) following such payment the Net Leverage Ratio would be no greater than 2.50:1.00, and (ii) a Responsible Officer has provided a certificate to the Administrative Agent confirming that the conditions for such payment have been met.

2.16 Events of Default. Section 7.1 is amended by:

> (a) in subsection (d) deleting the reference to "the Borrower" and replacing it with "any Credit Party";
>
> (b) in subsections (g) and (h) adding "or Anagold Madencilik Sanayi ve Ticaret Anonim Sirketi or any Alacer Subsidiary which is a direct or indirect shareholder thereof" after "any Credit Party".

2.17 Release. Notwithstanding that Mina Pirquitas LLC, a Delaware company, is party to certain Loan Documents, Mina Pirquitas S.A., its successor by conversion to a company formed under the laws of Argentina, was not intended to be bound thereby. Accordingly, Mina Pirquitas S.A. is hereby released from any and all indebtedness, liabilities and obligations under the Loan Documents, and Lien over its Equity Securities in favour of the Administrative Agent is hereby discharged. The Lenders hereby consent to such continuation, and authorize and direct the Administrative Agent to take such steps as the Borrower may reasonably request in order to effect and evidence such release and discharge.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

3.1 Confirmation of Representations. The Borrower represents and warrants that, as at the date of this Amending Agreement and assuming that the amendments made to the Credit Agreement by this Amending Agreement have become effective:

(a) this Amending Agreement and the Confirmation appended hereto has been duly authorized, executed and delivered by each of the signatory Credit Parties;

(b) the Credit Agreement, as amended hereby, constitutes a legal, valid and binding obligation of the Borrower, enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditor's rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law;

(c) no Default or Event of Default has occurred and is continuing; and

(d) the representations and warranties contained in Article 3 (other than those that are made particular to a specific date) are true and correct as if made on the date hereof.

ARTICLE 4
CONDITIONS

4.1 Conditions Precedent. This Amending Agreement shall become effective on the date upon which there has been receipt by the Administrative Agent of:

(a) a counterpart of this Amending Agreement executed by each party hereto;
(a)
(b) a counterpart of the Confirmation appended to this Amending Agreement, executed by each Guarantor;

(c) payment of an extension fee of U.S.$150,000 to the Administrative Agent for the *pro rata* account of the Lenders; and

(d) payment of a legal fees invoiced to date by counsel for the Administrative Agent

For the avoidance of doubt, upon and regardless of the date on which such conditions precedent are met, the effective date of this Amending Agreement will be as of June 3, 2020.

ARTICLE 5
GENERAL

5.1 Confirmation. Except as specifically stated herein, the Credit Agreement and the other Loan Documents shall continue in full force and effect in accordance with the provisions thereof. All Secured Liabilities under the Credit Agreement shall be continuing with only the terms thereof being modified as provided in this Amending Agreement, and this Amending Agreement shall not evidence or result in a novation of such Secured Liabilities.

5.2 Interpretation. All references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter include, mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan

Documents. This Amending Agreement shall constitute a "Loan Document" under, and as defined in, the Credit Agreement.

5.3 Binding Nature. This Amending Agreement shall enure to the benefit of and be binding upon the Borrower, the Lenders and the Administrative Agent and their respective successors and permitted assigns.

5.4 Severability. Any provision of this Amending Agreement which is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Amending Agreement, all without affecting the remaining provisions of this Amending Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

5.5 Conflicts. If, after the date of this Amending Agreement, any provision of this Amending Agreement is inconsistent with any provision of the Credit Agreement, the relevant provision of this Amending Agreement shall prevail.

5.6 Governing Law. This Amending Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

5.7 Counterpart and Facsimile. This Amending Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page of this Amending Agreement by telecopy, emailed pdf. or any other electronic means that reproduces an image of the actual executed signature page shall be effective as delivery of a manually executed counterpart of this Amending Agreement.

[signatures on the following pages]

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

CANADIAN IMPERIAL BANK OF COMMERCE,
as Lender and Administrative Agent

By: /s/ Peter Rawlins
Name: Peter Rawlins
Title: Managing Director

By: /s/ Mark Saraiva
Name: Mark Saraiva
Title: Executive Director

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

THE BANK OF NOVA SCOTIA,
as Lender

By: /s/ Kurt Foellmer
Name: Kurt Foellmer
Title: Director

By: /s/ Priya Francis
Name: Priya Francis
Title: Associate

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

BANK OF MONTREAL,
as Lender

By: /s/ Ben Rough
Name: Ben Rough
Title: Director

By:
Name:
Title:

IN WITNESS WHEREOF the undersigned has caused this Amending Agreement to be duly executed as of the date set out on the first page.

SSR MINING INC.

By: /s/ Gregory J. Martin
Name: Gregory J. Martin
Title: Senior Vice President and Chief Financial Officer

CONFIRMATION

Each undersigned Guarantor acknowledges and irrevocably consents to the terms of the Amending Agreement. Each undersigned Guarantor further represents, warrants, and confirms to the Agent, for the benefit of each Secured Party, that:

(a) the Group Guarantee and the guarantees and indemnities granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(b) such guarantees and indemnities extend to the indebtedness, liabilities and obligations of the Borrower under the Amended Credit Agreement;

(c) the Security Documents and the Liens granted thereunder continue in full force and effect in accordance with their terms notwithstanding the Amending Agreement and the amendments to the Credit Agreement effected thereby;

(d) the secured liabilities described in the Security Documents include indebtedness, liabilities and obligations arising under or in relation to the Amended Credit Agreement, and the Liens granted thereunder extend thereto; and

(e) all references to the "this Agreement" or the "Credit Agreement" and all similar references in any of the other Loan Documents shall hereafter mean and be a reference to the Amended Credit Agreement without any requirement to amend such Loan Documents.

SSR MINING INC.
SILVER STANDARD CANADA HOLDINGS LTD. SILVER STANDARD US HOLDINGS INC. SILVER STANDARD MARIGOLD INC. INTERTRADE METALS CORP.
INTERTRADE METALS LIMITED PARTNERSHIP SILVER STANDARD VENTURES INC.
SSR DURANGO, S.A. DE C.V. MARIGOLD MINING COMPANY SGO MINING INC. PUNA OPERATIONS INC. 0694758 B.C. LTD.
in each case by its authorized signatory

/s/ Gregory J. Martin
Name: Gregory J. Martin

Exhibit 10.6

NORTON ROSE FULBRIGHT

The taking of this document or any certified copy of this document or any document which constitutes substitute documentation thereof, including written confirmations or references thereto, into Austria as well as any e-mail communication which refers to any Finance Document in Austria or sending any e-mail communication carrying an electronic or digital signature which refers to any Finance Document to an Austrian addressee may cause the imposition of Austrian stamp duty. Accordingly, keep the original document as well as all certified copies thereof and written and signed references thereto outside of Austria and avoid any e-mail communication which refers to any Finance Document in Austria or sending any e-mail communication carrying an electronic or digital signature which refers to any Finance Document to an Austrian addressee.

Dated 21 September 2015 and amended and restated on the Effective Date

FACILITY AGREEMENT

for a US$350,000,000 term facility for the expansion of the Copler Gold Mine Project

ANAGOLD MADENCİLİK SANAYİ VE TİCARET A.Ş.
as Borrower

ALACER GOLD CORP.
as Parent

LİDYA MADENCİLİK SANAYİ VE TİCARET A.Ş., ALACER GOLD MADENCİLİK A.Ş. and BANKA KOMBETARE TREGTARE SHA
as Shareholders

SOCIETE GENERALE, LONDON BRANCH, BNP PARIBAS (SUISSE) SA, ING BANK N.V. and UNICREDIT BANK AUSTRIA AG
as Mandated Lead Arrangers

ING BANK N.V.
as Facility Agent

ING BANK N.V.
as Security Holder

BNP PARIBAS (SUISSE) SA
as Technical Agent

SOCIETE GENERALE, LONDON BRANCH
as Documentation Agent

THE FINANCIAL INSTITUTIONS NAMED HEREIN
as Hedge Providers

and

THE FINANCIAL INSTITUTIONS NAMED HEREIN
as Lenders

Contents

Clause		Page
1	Interpretation	1
2	The Facility	57
3	Purpose	58
4	Conditions	58
5	Utilisation	59
6	Repayment	61
7	Illegality, prepayment and cancellation	61
8	Interest	67
9	Interest periods	68
10	Changes to the calculation of interest	70
11	Fees	71
12	Tax Gross-up and indemnities	73
13	Increased costs	78
14	Other indemnities	80
15	Mitigation by the Finance Parties	82
16	Costs and expenses	83
17	Financial Model, Budgets and Life of Mine Plan	84
18	Project Accounts	89
19	Guarantee	93
20	Representations	97
21	Information undertakings	109
22	Financial and Reserve Undertakings	121
23	Positive undertakings	122
24	Negative undertakings	128
25	Project undertakings	136
26	Equity Contributions	142
27	Default	142
28	Changes to the Lenders	154
29	Changes to Obligors	159

30	Role of the Facility Agent, the Technical Agent and the Mandated Lead Arrangers	159
31	The Security Holder	170
32	Voting	171
33	Conduct of business by the Finance Parties	178
34	Payment Cascade	178
35	Payment mechanics	181
36	Set-off	184
37	Notices	184
38	Calculations and certificates	188
39	Partial invalidity.	188
40	Remedies and waivers	189
41	Amendments and waivers	189
42	Confidentiality	189
43	Counterparts	193
44	Governing Law	193
45	Enforcement	193
46	Limitation of liability	194
47	Place of performance	195
Schedule 1 Original Lenders and Hedge Providers		196
Schedule 2 Initial Administrative Details of the Parties		198
Schedule 3 Conditions Precedent		204
Schedule 4 Forms of Utilisation Request and Selection Notice		216
Schedule 5 Certificates		218
Schedule 6 Form of Transfer Certificate		232
Schedule 7 Mandatory Cost Formula		234
Schedule 8 Repayment Schedule		238
Schedule 9 Economic Assumptions		239
Schedule 10 Reserve Amount Assessment Criteria		240
Schedule 11 Completion Tests		241
Schedule 12 Expert determination		246
Schedule 13 Environmental and Social Deliverables		249

THIS AGREEMENT is dated _____ 2015 and made between:

(1) **ANAGOLD MADENCİLİK SANAYİ VE TİCARET A.Ş.** a company incorporated in Turkey with trade registry number 157437 and registered address Çetin Emeç Bulvarı 8.Cad.,1332. Sok. No:8/8, Aşagı Öveçler Dikmen, Cankaya Ankara, Türkiye (the **Borrower**);

(2) **ALACER GOLD CORP.** a corporation organised and existing under the laws of the Yukon Territory with number corporate access number 34398 and registered address 3081 Third Avenue, Whitehorse, Yukon, Y1A 4Z7, Canada (the **Parent**);

(3) **LİDYA MADENCİLİK SANAYİ VE TİCARET A.Ş.** a company incorporated in Turkey with trade registry number 590086 9 and registered address Buyukdere Caddesi No. 163 34394 Zincirlikuyu/ Istanbul (**Lidya** and a **Shareholder**);

(4) **ALACER GOLD MADENCİLİK A.Ş.** a company incorporated in Turkey with trade registry number 119946 and registered address Çetin Emeç Bulvarı 8.Cad.,1332. Sok. No:8/8, Aşagı Öveçler Dikmen, Cankaya Ankara, Türkiye (**AGM** and a **Shareholder**);

(5) **BANKA KOMBETARE TREGTARE SHA** a company incorporated in Albania with number J62001011Q and registered address Bulevardi "Zhan d'Ark Tiran, Shqiperi Albania (**BKT** and a **Shareholder**);

(6) **SOCIETE GENERALE, LONDON BRANCH, BNP PARIBAS (SUISSE) SA, ING BANK N.V.** and **UNICREDIT BANK AUSTRIA AG** (each a **Mandated Lead Arranger**);

(7) **ING BANK N.V.** as facility agent of the other Finance Parties (the **Facility Agent**);

(8) **ING BANK N.V.** in its capacity as security trustee for the purposes of the Foreign Security Documents and as security holder for the purposes of the Turkish Security Documents for the Finance Parties (the **Security Holder**);

(9) **BNP PARIBAS (SUISSE) SA** as **Technical Agent**;

(10) **SOCIETE GENERALE, LONDON BRANCH** as **Documentation Agent**;

(11) **THE FINANCIAL INSTITUTIONS** named in Part 2 of Schedule 1 (*The Original Hedge Providers*) (the **Hedge Providers**); and

(12) **THE FINANCIAL INSTITUTIONS** named in Part 1 of Schedule 1 *(The Original Lenders)* (the **Lenders**).

1 Interpretation

Definitions

1.1 In this Agreement

Acceptable Bank means:

(a) a Lender;

(b) the Offshore Account Bank;

(c) the Onshore Account Bank;

(d) any other bank or financial institution which has a rating for its long-term unsecured and non credit-enhanced debt obligations of A- or higher by Standard & Poor's Rating Services or Fitch Ratings Ltd or A3 or higher by Moody's Investor Services Limited or a comparable rating from an internationally recognised credit rating agency; or

(e) any other bank or financial institution approved by the Facility Agent

Additional Cost Rate has the meaning given to it in Schedule 7 (*Mandatory Cost Formula*)

Additional Equity Contribution means any Equity Contribution made after Financial Close, including by way of a transfer from an Equity Contribution Account to the Proceeds Account

Affiliate means in relation to any person, a Subsidiary of that person or a Holding Company of that person or any other Subsidiary of that Holding Company

AGM Equity Contribution Account means the Dollar denominated account named "Equity Contribution Account" with an account number to be designated by the Offshore Account Bank prior to Financial Close and held by AGM at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent (acting reasonably) and any sub-accounts of the foregoing

Agreement means this facility agreement

Amendment and Restatement Agreement means the amendment and restatement agreement relating to this Agreement entered into between the parties to this Agreement on or about 16 June 2016

Applicable Accounting Standards means (i) in respect of the Parent, IFRS, and (ii) in respect of the Borrower, the accounting standards and financial reporting standards announced by Public Oversight Accounting and Auditing Standards Authority of Turkey (*Kamu Gozetimi Muhasebe Denetim Standartlar Kurumu*) and applicable from time to time in Turkey

Approved Exploration Activities means exploration activities in the area surrounding the Project, whether in relation to Non-Project Licences or otherwise, which prior to Final Project Completion, do not result in expenditure for the Borrower in excess of six million Dollars (US $6,000,000) annually

Approved Refinery means any one of Metalor Technologies SA, Metalor USA Refining Corp., Asahi Refining USA, Inc., Asahi Refining Canada Limited, the Royal Canadian Mint and Istanbul Gold Refinery

Assessment Documentation means the documents prepared for the Project as part of the Environmental and Social Assessment process, such as the EIA, the ESIA, the ESMP, the

Environmental Report and other material documents prepared by or on behalf of the Borrower in connection therewith

Assumptions means the Economic Assumptions and the Technical Assumptions

AUD Operating Account means the account named "AUD Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in Australian dollars and held by the Borrower at the Onshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Availability Period means the period commencing on Financial Close and ending on the earlier of (i) the Completion Longstop Date; (ii) Project Completion; and (iii) the date on which the Available Facility is reduced to zero (0), provided that in each case if any such date is not a Business Day, the last day of the relevant Availability Period shall be the next Business Day

Available Commitments means, in relation to a Lender, that Lender's Commitments in respect of the Facility less:

(a) its Contributions under the Facility; and

(b) in relation to any proposed Utilisation, the amount of its participation in any Loans that are due to be made on or before the proposed Utilisation Date

Available Facility means the aggregate at any time of each Lender's Available Commitment in respect of the Facility

Available Resources means, at any date before Project Completion, without double counting, the aggregate of:

(a) the Available Facility;

(b) the amounts standing to the credit of the Proceeds Account, the Equity Contribution Accounts and the Operating Accounts in accordance with the terms of the Finance Documents; and

(c) any Revenues forecast to be received by the Borrower prior to projected Project Completion in accordance with the Financial Model, less any Operating Costs forecast to be incurred prior to projected Project Completion in accordance with the Financial Model

Base Reference Bank Rate means the arithmetic mean of the rates (rounded upwards to four decimal places) as supplied to the Facility Agent at its request by the Reference Banks:

(a) (other than where paragraph (b) below applies) as the rate at which the relevant Reference Bank could borrow funds in the London interbank market in Dollars and for the relevant period were it to do so by asking for and then accepting interbank offers for deposits in reasonable market size in Dollars for that period; or

(b) if different, as the rate (if any and applied to Dollars and the relevant Reference Bank period) which contributors to the applicable Screen Rate are asked to submit to the relevant administrator

Basel II Accord means the "International Convergence of Capital Measurement and Capital Standards, a Revised Framework" published by the Basel Committee on Banking Supervision in June 2004 as updated prior to, and in the form existing on, the date of this Agreement, excluding any amendment thereto arising out of the Basel III Accord

Basel II Approach means, in relation to any Finance Party, either the Standardised Approach or the relevant Internal Ratings Based Approach (each as defined in the Basel II Accord) adopted by that Finance Party (or any of its Affiliates) for the purposes of implementing or complying with the Basel II Accord

Basel II Regulation means:

(a) any law or regulation in force as at the date hereof implementing the Basel II Accord, (including the relevant provisions of directive 2013/36/EU (**CRD IV**) and regulation 575/2013 (**CRR**) of the European Union) to the extent only that such law or regulation re- enacts and/or implements the requirements of the Basel II Accord but excluding any provision of such law or regulation implementing the Basel III Accord; and

(b) any Basel II Approach adopted by a Finance Party or any of its Affiliates

Basel III Regulation means any law or regulation implementing the Basel III Accord (including CRD IV and CRR) save to the extent that such law or regulation re-enacts a Basel II Regulation

Basel III Accord means, together:

(a) the agreements on capital requirements, a leverage ratio and liquidity standards contained in "Basel III: A global regulatory framework for more resilient banks and banking systems", "Basel III: International framework for liquidity risk measurement, standards and monitoring" and "Guidance for national authorities operating the countercyclical capital buffer" published by the Basel Committee on Banking Supervision in December 2010, each as amended, supplemented or restated;

(b) the rules for global systemically important banks contained in "Global systemically important banks: assessment methodology and the additional loss absorbency requirement - Rules text" published by the Basel Committee on Banking Supervision in November 2011, as amended, supplemented or restated; and

(c) any further guidance or standards published by the Basel Committee on Banking Supervision relating to "Basel III"

Borrower Compliance Certificate means a certificate of compliance issued by the Borrower substantially in the form set out in Part 1 of Schedule 5 (*Form of Borrower Compliance Certificate*) and duly signed by an authorised signatory of the Borrower

Borrower Share Pledge means the Turkish law share pledge granting, in favour of the Security Holder, a security interest over the shares in the Borrower held by the Shareholders, to be entered into prior to Financial Close

Borrower's Costs means:

(a) reasonable costs, expenses and fees properly incurred by the Borrower solely in connection with the management and administration of the Borrower, including internal service fees payable by the Borrower to other members of the Group to the extent such fees have been included in the Financial Model or as otherwise approved by the Facility Agent; and

(b) reasonable fees, costs and expenses of the legal, technical, financial and other advisers to the Borrower properly incurred by the Borrower for the purposes of the Project

BOO Contract means the oxygen plant build, own and operate agreement to be entered into between the Borrower and the BOO Contractor prior to Financial Close, as such agreement may be amended or replaced in accordance with this Agreement

BOO Contractor means Air Liquide or such other reputable counterparty to a oxygen plant build, own and operate agreement who has been approved by the Facility Agent

Break Costs means the amount (if any) by which:

(a) the interest (excluding Margin) which a Lender should have received for the period from the date of receipt of all or any part of its participation in a Loan or an Unpaid Sum to the last day of the current Interest Period in respect of that Loan or Unpaid Sum, had the principal amount or Unpaid Sum received been paid on the last day of that Interest Period;

exceeds

(b) the amount which that Lender would be able to obtain by placing an amount equal to the principal amount or Unpaid Sum received by it on deposit with a leading bank in the London interbank market for a period starting on the Business Day following receipt or recovery and ending on the last day of the current Interest Period

Business Day means a day (other than Saturday or Sunday) on which banks are open for general business in London, Amsterdam, Geneva, Paris, Vienna and Istanbul, and, if on that day a payment or purchase of any Dollar amount or any other currency is to be made, which is also a day on which banks are open for general business in New York City or the principal financial centre of the country of that currency, as the case may be

CAD Operating Account means the account named "CAD Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in Canadian dollars and held by the Borrower at the Onshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Calculation Date means, as the context may require, a Scheduled Calculation Date or an Unscheduled Calculation Date

Calculation Period means, in respect of a Calculation Date:

(a) in relation to a previous Calculation Period, the twelve (12) month period ending on that Calculation Date; and

(b) in relation to a future Calculation Period, the twelve (12) month period starting on the day after such Calculation Date (or, in respect of any Scheduled Calculation Date falling less than 12 months prior to the Final Scheduled Repayment Date, the period commencing on the day after such Calculation Date and ending on the Final Scheduled Repayment Date);

Calik Group means Çalık Holding A.Ş. and each of its Subsidiaries from time to time and **Calik Group Member** means any such entity

Calik Shareholders means each Calik Group Member which holds shares in the Borrower from time to time, which are Lidya and BKT as at the date of this Agreement

Capital Expenditure means any expenditure for fixed or capital assets, plant and equipment in connection with the Project, including (i) expenditure incurred in connection with all development costs prior to Project Completion; (ii) working capital referred to in the Financial Model and the Life of Mine Plan and incurred or to be incurred prior to Project Completion, and
(iii) the capital element of any expenditure incurred prior to Project Completion under a Capital Lease, in each case which would be treated as capital expenditure in accordance with Applicable Accounting Standards

Capital Lease means any lease, hire purchase contract, deferred purchase agreement or any other arrangement conveying the right to use real or personal property or a combination thereof, which would, in accordance with Applicable Accounting Standards, be treated as a finance or capital lease

Cash Equivalent Investments means at any time:

(a) deposits (including certificates of deposit) maturing within one year after the relevant date of calculation and issued by an Acceptable Bank;

(b) any investment in marketable debt obligations issued or guaranteed by the government of the United States of America, the United Kingdom, Canada, Germany or Turkey or by an instrumentality or agency of any of them having an equivalent credit rating, maturing within one year after the relevant date of calculation and not convertible or exchangeable to any other security;

(c) commercial paper not convertible or exchangeable to any other security:

(i) for which a recognised trading market exists;

(ii) issued by an issuer incorporated in the United States of America, the United Kingdom, Canada or Germany;

(iii) which matures within 1 year after the relevant date of calculation; and

(iv) which has a credit rating of either A-2 or higher by Standard & Poor's Rating Services or F2 or higher by Fitch Ratings Ltd or P-2 or higher by Moody's Investor Services Limited, or, if no rating is available in respect of the commercial paper, the issuer of which has, in respect of its long-term unsecured and non-credit enhanced debt obligations, an equivalent rating;

(d) any investment in money market funds which:

(i) have a credit rating of either A-2 or higher by Standard & Poor's Rating Services or F2 or higher by Fitch Ratings Ltd or P-2 or higher by Moody's Investor Services Limited;

(ii) invest substantially all their assets in securities of the types described in paragraphs (a) to (d) above; and

(iii) can be turned into cash on not more than 30 days' notice; or

(e) any other debt security approved by the Majority Lenders,

in each case denominated in Dollars, Euros or Liras (or any other currency acceptable to the Facility Agent) and to which the Borrower is alone entitled at that time and which is not issued or guaranteed by any member of the Group or subject to any Security Interest or Quasi-Security Interest (other than a Security Interest arising under the Security Documents)

Cash Flow Available for Debt Service or **CFADS** means (without double counting), on any Calculation Date, in respect of any period, **A** minus **B**, where:

(a) **A** is the aggregate Revenues received by the Borrower during that period; and

(b) **B** is the aggregate of all amounts (without double counting) payable by the Borrower during that period in respect of:

(i) Construction Costs; and

(ii) Operating Costs,

in each case on a "cash", rather than an "accruals" basis

Cash Sweep Calculation Certificate means a certificate signed by an authorised signatory of the Borrower substantially in the form set out in Part 2 of Schedule 5 (*Form of Cash Sweep Calculation Certificate*) duly detailing the Excess Cashflow for the Quarter ending on the most recent Calculation Date

Cash Sweep Period means, in respect of a Calculation Date, the three (3) month period ending on that Calculation Date

Change of Control means:

(a) the shares of the Parent cease to be listed on the Toronto Stock Exchange or any other exchange acceptable to the Facility Agent (acting on the instructions of the Majority Lenders); or

(b) any person or group of persons acting jointly or otherwise in concert gaining direct or indirect control of the Parent; or

(c) the Shareholders cease to hold beneficially one hundred per cent (100%) of the issued share capital of the Borrower; or

(d) the Calik Group ceases to hold beneficially, in aggregate, twenty per cent (20%) of the issued share capital of the Borrower; or

(e) the Calik Group's existing voting rights exercisable at a general assembly meeting (*Tr. genel kurul*) of the Borrower are less than twenty per cent (20%) of the total voting rights; or

(f) the Parent ceases to hold beneficially (directly or indirectly) at least eighty per cent (80%) of the issued share capital of the Borrower

For the purposes of this definition:

(a) control of the Parent means:

(i) the power (whether by way of ownership of shares, proxy, contract, agency or otherwise) to:

(A) cast, or control the casting of, more than fifty per cent (50%) of the maximum number of votes that might be cast at a general meeting of the Parent; or

(B) appoint or remove all, or the majority, of the directors or other equivalent officers of the Parent; or

(C) give directions with respect to the operating and financial policies of the Parent with which the directors or other equivalent officers of the Parent are obliged to comply; and/or

(ii) the holding beneficially of more than fifty per cent (50%) of the issued share capital of the Parent (excluding any part of that issued share capital that carries no right to participate beyond a specified amount in a distribution of either profits or capital); and/or

(iii) the holding beneficially of convertible loan notes or other debt instruments in the Parent which have associated conversion rights or other options that would allow such holder to obtain more than fifty per cent (50%) of the voting shares (on a fully diluted basis) in the capital of the Parent; and

(b) acting in concert means a group of persons who, pursuant to an agreement or understanding (whether formal or informal), actively co-operate, through the acquisition (directly or indirectly) of shares, convertible loan notes or other debt instruments contemplated in (a)(iii) above in the Parent by any of them, either directly or indirectly, to obtain or consolidate control of the Parent

Code means the US Internal Revenue Code of 1986

Commitments means, in relation to the Facility:

(a) in relation to an Original Lender, the amount set opposite its name in the relevant part of Schedule 1 (*The Original Lenders and Hedge Providers*) in respect of the Facility together with any further amount transferred to it under a Transfer Certificate; and

(b) in relation to a New Lender, the amount transferred to it under a Transfer Certificate in respect of the Facility,

in each case to the extent not cancelled, reduced or transferred by it under this Agreement

Compensation Proceeds means any amounts payable to or received by, or for the account of, any Obligor as compensation for any loss related to the Project, after deducting any expenses which are incurred by any member of the Group with respect to the recovery or payment of such amounts to such Obligor and any Tax incurred or required to be paid by such Obligor in connection with such amount, including:

(a) in relation to partial or total nationalisation, expropriation or compulsory purchase of the Project, any interest in the Project, any asset or right (irrespective of how that right is described) of any Obligor relating to the Project;

(b) in respect of the release, inhibition, modification, suspension or cancellation of any rights, easements or covenants enjoyed by or benefiting the Project, or the imposition of any restrictions affecting the Project, or the grant of any easements or rights over or affecting the Project or any part of it;

(c) in respect of refusal, revocation, suspension or modification of any Project Authorisation or Environmental or Social Permit or other official permission, consent, authorisation or exemption or any other official order or notice restricting the construction or operation of the Project;

(d) under or in respect of the Mining Licences in connection with the termination, expiry or disposal of the Mining Licences; and

(e) in the nature of damages or compensation under, in relation to or in connection with any Material Project Document, including Performance Liquidated Damages,

but excluding Insurance Proceeds and Delay Liquidated Damages

Competent Authority means any governmental, supranational, local government, statutory or regulatory body or any subdivision thereof and/or any ministerial or governmental, quasi-governmental or other regulatory department, body, instrumentality, agency or official court or tribunal having jurisdiction over any Obligor, the Project or the subject matter of, or any party (other than a Finance Party) to any of the Transaction Documents

Completion Longstop Date means 30 September 2019

Confidential Information means all information relating to the Project, the Borrower, any Major Project Party or the Group, the Material Project Documents, the Finance Documents or the Facility of which a Finance Party becomes aware in its capacity as, or for the purpose of becoming, a Finance Party or which is received by a Finance Party in relation to, or for the purpose of becoming a Finance Party under, the Finance Documents or the Facility from either:

(a) the Borrower, any Major Project Party or any member of the Group or any of their respective advisers or any other person on any of their behalf; or

(b) another Finance Party, if the information was obtained by that Finance Party directly or indirectly from the Borrower, any Major Project Party or any member of the Group or any of their respective advisers or any other person on any of their behalf,

in whatever form, and includes information given orally and any document, electronic file or any other way of representing or recording information which contains or is derived or copied from such information but excludes information that:

(i) is or becomes public information other than as a direct or indirect result of any breach by that Finance Party of clause 42 (*Confidentiality*);

(ii) is identified in writing at the time of delivery as non-confidential by the Borrower, any Major Project Party or any member of the Group or any of their respective advisers;

(iii) is required to be publicly disclosed by any of the Parties in order to comply with their responsibilities under the Equator Principles; or

(iv) is known by that Finance Party before the date the information is disclosed to it in accordance with paragraphs (a) or (b) above or is lawfully obtained by that Finance Party after that date, from a source which is, as far as that Finance Party is aware, unconnected with the Borrower, any Major Project Party or the Group and which, in either case, as far as that Finance Party is aware, has not been obtained in breach of, and is not otherwise subject to, any obligation of confidentiality

Consolidated Tangible Net Worth means the consolidated tangible net worth of the Parent determined in accordance with Applicable Accounting Standards

Consultants means the Independent Technical Consultant, the Independent Insurance Consultant and each other adviser or consultant appointed in accordance with clause 30.51 (*Appointment of Consultants*) and **Consultant** means any one of them

Construction Budget means the budget setting out the Construction Costs and other costs expected to be incurred up to and including Project Completion, delivered to the Facility Agent under clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*), as updated from time to time in accordance with clauses 17.14 to 17.18 (*Construction Budget and Operating Budget*)

Construction Costs means all costs (including Capital Expenditure, Borrower's Costs, Finance Costs, Operating Costs, Taxes (including VAT), Royalties and insurance premium in respect of the Project on or prior to Project Completion), expenses and fees payable by or on behalf of the Borrower until Project Completion

Construction Report means a report prepared by the Borrower in accordance with clauses 21.2 and 21.3 (*Construction Report*)

Contribution means, in respect of a Lender in relation to the Facility at any time, the amount of any Loans then owing to that Lender under the Facility

Copler Project Finance Accounts means, collectively, (i) the Turkish Lira denominated account named "Copler Lira Project Finance Account" and (ii) the Dollar denominated account named "Copler USD Project Finance Account", in each case, with an account number to be designated by the Turkish Lender and held by the Borrower with the Turkish Lender, together with any replacement and substitute accounts opened with the consent of the Facility Agent (acting reasonably) and any sub-accounts of the foregoing

Corrective Action Plan means a plan prepared by a reputable technical expert acceptable to the Facility Agent (acting reasonably):

(a) detailing the event or circumstance described in clauses 21.23(a) to 21.23(e) (*Environmental and Social Matters*);

(b) detailing measures to be implemented to remedy the relevant event or circumstance described in clauses 21.23(a) to 21.23(e) (*Environmental and Social Matters*); and

(c) including a time schedule and a cost schedule for implementation of the plan

Corrupt Act means any act or omission which is corrupt in nature, including:

(a) the offering or giving of any payment, reward or other advantage to any public official or other person, including Finance Party employees, in order to improperly or dishonestly influence the person concerned in the exercise of his or her duties;

(b) the offering or giving of any improper, dishonest or criminal advantage to influence the action of any person holding a public office or function or a director or employee of a public authority or public enterprise or a director or official of a public international organisation;

(c) any act which improperly or dishonestly influences or aims improperly or dishonestly to influence the procurement process or the implementation of the business of the Borrower, including collusion between tenderers;

(d) any act which has been found or is likely to be found by a court of competent jurisdiction to constitute an offence under any Corrupt Practices Laws;

(e) any act of a similar nature to those described in paragraphs (a), (b), (c) and (d) above which has been admitted by the person initiating or engaging in that activity to have taken place;

(f) any act of a similar nature to those described in paragraphs (a), (b), (c) and (d) above which has been found or is likely to be found by a court in a competent jurisdiction to be illegal, void, voidable or unenforceable under its governing law; and/or

(g) any act of a similar nature to those described in paragraphs (a), (b), (c) and (d) above which has been found or is likely to be found by a court in any competent jurisdiction to constitute an offence under any applicable law including any Corrupt Practices Laws

Corrupt Practices Laws means:

(a) the OECD Convention of 17 December 1997 with respect to measures against corruption of foreign public officials and any OECD Guidelines or Action Statements with respect thereto;

(b) any other law or regulation, and the principles set out in the same, relating to bribery, kick-backs, anti-corruption or similar business practices to which any Obligor or any Finance Party is bound to comply and/or ensure or procure compliance with, including:

(i) the UK Bribery Act 2010; and

(ii) any other similar law or regulation in force in Turkey, France, Canada, Luxembourg or any other jurisdiction to the extent that the relevant Obligor or any Finance Party is required to comply with that law or regulation

Cost Overrun means any Construction Cost incurred or projected to be incurred which results in the aggregate amount of Construction Costs incurred or projected to be incurred in relation to the Project exceeding the aggregate amount of Construction Costs referred to in the Financial Model delivered to the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*) (including all amounts which are included in such Financial Model as contingencies relating to Construction Costs). For the purposes of this definition, no Operating Costs shall be included in 'Construction Costs'

Cost to Complete Certificate means a certificate, substantially in the form set out in Part 4 of Schedule 5 (*Form of Cost to Complete Certificate*) and duly signed by an authorised signatory of the Borrower and the Independent Technical Consultant

Cost to Complete Shortfall means the Available Resources are less than the Projected Project Costs

Costs Certificate means a certificate substantially in the form set out in Part 3 of Schedule 5 (*Form of Costs Certificate*) signed by an authorised signatory of the Borrower and provided by the Borrower to the Facility Agent and the Technical Agent in relation to each proposed Utilisation in a sufficient level of detail (including, if reasonably requested by the Technical Agent or the Independent Technical Consultant and to the extent practical, invoices or documentation evidencing such Eligible Costs) to enable the Technical Agent and the Independent Technical Consultant to verify the accuracy of the Eligible Costs

CP Longstop Date means 30 July 2017

CRD IV means Directive 2013/36/EU of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directive 2006/48/EC and 2006/49/EC

CRR means Regulation (EU) no. 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending regulation (EU) No. 648/2012

CTNW Certificate means a certificate, substantially in the form set out in Part 5 of Schedule 5 (*Form of CTNW Certificate*) and duly signed by an authorised signatory of the Parent

Debt Service Reserve Account or **DSRA** means the account named "Debt Service Reserve Account" with an account number to be designated by the Offshore Account Bank prior to Project Completion, denominated in Dollars and held by the Borrower at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Decommissioning Plan means a plan (consistent with applicable laws and with Good Industry Practice and approved by the Independent Technical Consultant) to retire the physical facilities of the Project, including decontamination, dismantlement, rehabilitation, landscaping and monitoring

Default means any Event of Default or any event or circumstance specified in clause 27 (*Default*) which would (upon the giving of notice, the expiry of the relevant grace period, the making of any determination, or any combination of the foregoing) constitute an Event of Default

Definitive Feasibility Study means the Çöpler Sulfide Expansion Project Feasibility Study with an effective date of July 29, 2014 prepared by Jacobs Engineering Inc. in collaboration with Golder Associates, SRK Consulting and AMEC E&C Services Inc.

Delay Liquidated Damages means all sums payable to or received by, or for the account of, the Borrower under any of the Material Project Documents as liquidated damages (howsoever defined) for delay in completion of the subject matter of the relevant Material Project Document, together with all other amounts representing the proceeds of any other security, bonds or guarantees payable to or received by the Borrower in lieu of such liquidated damages

Development Plan means, collectively (i) the Definitive Feasibility Study, (ii) the Environmental and Social Impact Assessment and the Environmental Impact Assessment, (iii) the Integrated Environmental and Social Management Plan, (iv) the Technical Report, (v) the Environmental Report, (vii) the Equator Principles Action Plan, and (viii) (as applicable) the Construction Budget and the Operating Budget (as the same may each be updated from time to time in accordance with this Agreement)

Direct Agreements means:

(a) the direct agreement to be entered into between the Facility Agent, the Security Holder and the EPCM Contractor;

(b) the direct agreement to be entered into between the Facility Agent, the Security Holder and the BOO Contractor; and

(c) any direct agreement with a counterparty to a Material Project Document required by the Facility Agent from time to time,

provided that, where any Material Project Document ceases to be a Material Project Document in accordance with this Agreement, such Direct Agreement shall cease to be a Direct Agreement under this Agreement

Disruption Event means either or both of:

(a) a material disruption to those payment or communications systems or to those financial markets which are, in each case, required to operate in order for payments to be made in connection with the Facility (or otherwise in order for the transactions contemplated by the Finance Documents to be carried out) which disruption is not caused by, and is beyond the control of, any of the Parties; or

(b) the occurrence of any other event which results in a disruption (of a technical or systems-related nature) to the treasury or payments operations of a Party preventing that, or any other Party:

(i) from performing its payment obligations under the Finance Documents; or

(ii) from communicating with other Parties in accordance with the terms of the Finance Documents,

and which (in either such case) is not caused by, and is beyond the control of, the Party whose operations are disrupted

Distribution means:

(a) any payment by the Borrower, of dividends or other distribution (whether in cash or in kind) and any bonus issue or any return of capital including any payment in respect, or on the redemption, of any share capital whether at a premium or otherwise;

(b) any payment of interest, principal or any other amount in respect of any shareholder loans or loan notes or in respect of any Financial Indebtedness owed by the Borrower to any of its direct or indirect shareholders or other Affiliates, including any purchase by the Borrower of any shareholder loans or such Financial Indebtedness;

(c) any payment or discharge by way of set-off, counterclaim or otherwise in respect of Financial Indebtedness made by the Borrower to any of its direct or indirect shareholders or other Affiliates or in respect of shareholder loans; and

(d) any payment of any management, administration, advisory, consultancy or other similar type of fees or expenses made by the Borrower to any of its Affiliates (but excluding internal service fees payable by the Borrower to other members of the Group to the extent included in the Financial Model delivered to the Facility Agent pursuant to Part 1 of Schedule 3 (*Conditions Precedent*) or as otherwise approved by the Facility Agent)

Distribution Account means, collectively, the Dollar denominated accounts each named "Distribution Account" with account numbers to be designated by the Borrower prior to Project Completion and held by the Borrower, together with any replacement and substitute accounts opened from time to time by the Borrower with prior notice to the Facility Agent and any sub-accounts of the foregoing

Distribution Conditions means:

(a) Project Completion has occurred;

(b) the First Repayment Date has occurred;

(c) the credit balance in the Debt Service Reserve Account on the relevant Scheduled Calculation Date specified in clause 7.8 (*Mandatory Repayment - Cash Sweep*) and on the date on which the Distribution will be made is equal to or greater than the DSRA Minimum Balance for that Scheduled Calculation Date;

(d) no Default has occurred and is continuing or would result from the making of such payment into the Distribution Account;

(e) payment is made in accordance with the Payment Cascade and after all other payments due to be made by the date on which the transfer of funds from the Proceeds Account to the Distribution Account will occur, have been made;

(f) on the relevant Scheduled Calculation Date the Historic Debt Service Cover Ratio for the Calculation Period ending on that Scheduled Calculation Date is greater than 1.40:1;

(g) on the relevant Scheduled Calculation Date the Forecast Debt Service Cover Ratio for the next Calculation Period and the Calculation Period ending on each subsequent Scheduled Calculation Date until the Final Scheduled Repayment Date is greater than 1.40:1;

(h) on the relevant Scheduled Calculation Date the Loan Life Cover Ratio on that Scheduled Calculation Date and any future Scheduled Calculation Date until the Final Scheduled Repayment Date is greater than 1.50:1; and

(i) on the relevant Calculation Date and on each Scheduled Calculation Date until the Final Scheduled Repayment Date the Ore Reserve Tail Ratio is greater than thirty five per cent (35%)

Dodd-Frank Act means the Dodd-Frank Wall Street Reform and Consumer Protection Act of the United States of America, passed in 2010, and all requests, rules, guidelines or directives there under or issued in connection therewith

Dollars and **US$** means the lawful currency from time to time of the United States of America

DSRA Minimum Balance means:

(a) for the purposes of the Financial Completion Test, the maximum aggregate amount of principal and interest falling due for payment under the Finance Documents in respect of the Facility in any six (6) Month period as calculated by the Facility Agent and notified to the Borrower promptly upon the determination of such calculation; and

(b) in all other cases, on any date the aggregate amount of principal and interest falling due for payment under the Finance Documents in respect of the Facility in the six (6) Month period commencing on the day immediately following that date as calculated by the Facility Agent and notified to the Borrower promptly upon the determination of such calculation

Economic Assumptions means the economic assumptions (including, without limitation, those relating to gold prices, interest rates, inflation, foreign exchange rates, rates of taxation and VAT) listed in Schedule 9 (*Economic Assumptions*) and incorporated in the Financial Model delivered to the Facility Agent at or before Financial Close in accordance with clause 4.1 (*Initial conditions precedent*), as amended from time to time in accordance with and subject to this Agreement

Effective Date has the meaning given to that term in the Amendment and Restatement Agreement

Eligible Costs means, at any time and without double counting, the amounts payable by the Borrower in respect of:

(a) Construction Costs (including Cost Overruns); and

(b) any other fees, costs and expenses approved by the Facility Agent (acting on the instructions of the Majority Lenders) as Eligible Costs,

in each case as set out in the Financial Model or otherwise approved by the Majority Lenders

Emergency means a condition, circumstance or situation which, in the reasonable opinion of the Borrower:

(a) was unforeseeable at the time that the Operating Budget or Construction Budget, as the case may be, was prepared; and

(b) presents, or is likely to present, a physical threat to:

  (i) persons or property;

  (ii) the Environment; or

  (iii) the security, integrity or reliability of the Project,

and in the good faith judgement of the Borrower, requires the taking of immediate measures to prevent or mitigate such threat within a timeframe that makes it impractical to obtain the consent of the Majority Lenders

Enforcement Date means the date on which the Facility Agent serves a notice contemplated by clause 27.38 (*Consequences of an Event of Default*) and it will then remain the Enforcement Date until such time as the Facility Agent serves written notice on the Borrower that the Enforcement Date shall be treated as no longer existing

English Debenture means an English law debenture granting fixed and floating security over assets of the Borrower located outside of Turkey or not otherwise subject to any other Security Document, to be entered into prior to Financial Close if required by the Facility Agent

Environment includes (but is not limited to):

(a) the air (including the air within buildings and the air within other natural or man-made structures above or below ground);

(b) ground water, surface water, coastal or inland waters, aquifers, pipes, drains and sewers;

(c) land, including buildings and other structures in, on or under it and any soil and anything below the surface of the land; and

(d) human health or safety, living organisms and ecological systems

Environmental and Social Assessment is the process that determines the potential environmental and social risks and impacts (including labour, health and safety) of a proposed Project in its area of influence

Environmental and Social Deliverables means those actions and documents which must be taken or prepared and delivered, as the case may be, by the Borrower, as set out in Schedule 13 (*Environmental and Social Deliverables*)

Environmental and Social Impact Assessment or **ESIA** means the environmental and social impact assessment report in respect of the Project to be prepared by the Borrower as an Environmental and Social Deliverable, as amended and supplemented from time to time with the consent of all the Lenders

Environmental and Social Incident and Environmental and Social Accident means:

(a) any condition, circumstance or situation that arises or occurs in connection with the Project, which was not foreseen or was not foreseeable by the Borrower at the date of this Agreement, and such circumstance or situation:

(i) adversely affects, or is likely to adversely affect, the ability of the Borrower to operate the Project in accordance with the Environmental and Social Standards and the Development Plan; and/or

(ii) presents a physical threat to persons or property or the Environment or a threat to the security, integrity or reliability of the Project; or

(b) an unexpected event in connection with the Project that causes significant physical injuries or death to one or more persons, significant damage to property, or adverse environmental impacts,

including any explosion, spill or workplace accident which results in death, serious or multiple injuries or material environmental contamination, any violent labour unrest or dispute with local communities

Environmental and Social Management System means the environmental, social, health and safety management system of the Borrower designed to identify, assess and manage risk with respect to Environmental and Social Matters as described in system manuals, operational policies, management programs and plans, procedures requirements, performance indicators, audits and inspections, and practices and defining desired outcomes as measurable events, together with:

(a) performance indicators;

(b) targets;

(c) acceptable criteria; and

(d) corrective action mechanisms,

and including the Integrated Environmental and Social Management Plan

Environmental and Social Matters means any aspects, matters or issues relating to Environmental or Social Standards and relevant to the Project, including those identified in the Environmental Impact Assessment, Environmental and Social Impact Assessment, the Environmental and Social Management System and the Equator Principles Action Plan

Environmental and Social Monitoring Reports means the regular monitoring reports to be provided by the Independent Technical Consultant during construction and operational phases pursuant to clauses 21.6 and 21.7 (*Environmental and Social Monitoring Report*)

Environmental and Social Standards means:

(a) applicable Environmental Law;

(b) applicable Social Law;

(c) IFC Performance Standards on Social and Environmental Sustainability (effective as of 1 January 2012, as may be amended, updated or supplemented from time to time);

(d) applicable World Bank General Environmental, Health and Safety and Industry Guidelines (effective as at 30 April 2003, as may be amended, updated or supplemented from time to time) (known as the EHS Guidelines);

(e) the Equator Principles; and

any other document, policy or guideline necessary in order to allow the Lenders, acting reasonably, to demonstrate compliance with the Equator Principles in respect of their lending or any other financial exposure to the Borrower under the Finance Documents and which is designated as such by, and notified to the Borrower in writing by, the Facility Agent

Environmental Contaminant means any pollutant or contaminant (including any chemical, biological, industrial, radioactive, dangerous, toxic or hazardous substance, water or residue, whether in solid or liquid form or a gas or vapour and whether alone or in combination with any other substance) and any genetically modified organisms

Environmental Impact Assessment or **EIA** means the environmental impact assessment report prepared in respect of the Project by the Borrower and approved by the Ministry of Environment and Urbanization of Turkey in accordance with the Environmental Impact Assessment Regulation published in the Official Gazette dated 25 Nov 2014 with number 29186 (*cevresel etki degerlendirmesi*), as amended and supplemented from time to time with the consent of all the Lenders

Environmental Law means any law, bylaw, code, guideline, regulation, decree, lawful demand or demand letters or notices, interdicts, judgments, orders, writ, rule, injunction or decree or plans issued, promulgated or approved by or entered into with any Competent Authority which relates to:

(a) the pollution or protection of the Environment;

(b) the conditions of the workplace, including but not limited to health and safety matters; or

(c) the generation, handling, storage, use, release, spillage, disposal, transportation or burial of any Environmental Contaminant

Environmental Obligations means all the Borrower's obligations under this Agreement in relation to the Environment and Environmental Laws

Environmental or Social Claim means any litigation, arbitral proceedings, administrative proceedings, claim, complaint or material notice in connection with a breach or alleged breach of, or any liability or potential liability arising under:

(a) any Environmental and Social Standard; or

(b) any Environmental or Social Permit

Environmental or Social Permits means any permit, licence, wayleave, approval, filing, registration, exemption, consent and other authorisation and the filing of any notification, report or assessment required under any applicable Environmental Law or any Social Law for the operation of the Project or in order for the Borrower to comply with its obligations under the Transaction Documents or generally to operate the Project

Environmental Rehabilitation Bonding Requirements means all financial and/or security requirements as may be required pursuant to Environmental or Social Permits

Environmental Report means the review of the Definitive Feasibility Study and other environmental aspects of the Project (including an assessment of the Project's compliance with Environmental and Social Standards and Environmental or Social Permits) prepared by the Independent Technical Consultant, in substantially the form as the draft "Phase 2 Independent Engineer Report of the Copler Sulfide Expansion Project, Turkey" furnished to the Technical Agent on or about the date of this Agreement and otherwise in a form acceptable to and provided to the Facility Agent pursuant to Part 1 of Schedule 3 (*Conditions Precedent*) and each other report made by the Independent Technical Consultant as contemplated under this Agreement

EPCM Contract means an engineering, procurement and construction management agreement for the Project to be entered into between the Borrower and the EPCM Contractor prior to Financial Close, as such agreement may be amended or replaced in accordance with this Agreement

EPCM Contractor means AMEC Foster Wheeler Bimaş Birleşik İnşaat ve Mühendislik A.Ş. or such other reputable counterparty to an engineering, procurement and construction management agreement who has been approved by the Facility Agent

Equator Principles means those principles so entitled and described in "The Equator Principles - A financial industry benchmark for determining, assessing and managing social and environmental risk in projects" dated June 2013 and available, at the date of this Agreement, at http://www.equator-principles.com)

Equator Principles Action Plan means the environmental and social action plan(s) agreed between the Borrower and Lenders, prepared, as a result of due diligence by the Lenders and in accordance with this Agreement (including pursuant to clause 25.8 (*Environmental and Social Matters*) and Schedule 13 (*Environmental and Social Deliverables*)), to describe and prioritise the actions needed to address any gaps in the Assessment Documentation, the Integrated Environmental and Social Management Plan, the Environmental and Social Management System or Stakeholder Engagement documentation to bring the Project in line with the Environmental and Social Standards, as the same may be amended from time to time with the consent of the Lenders

Equity Contributions means any investment made or to be made by the Parent and/or any Shareholder in the Borrower (or any expenditure made by the Parent or any Shareholder on account of the Borrower for the purpose of the Project as evidenced by a certificate signed by an authorised signatory of the Parent prior to Financial Close) and shall include the Initial Equity Contribution and any Additional Equity Contribution

Equity Contribution Accounts means the AGM Equity Contribution Account and the Lidya Equity Contribution Account

Equivalent means, in relation to an amount specified in a particular currency (the **first amount**), the net amount of any other currency which the Facility Agent determines can be purchased with the first amount by applying the spot rate for that foreign exchange conversion which the Offshore Account Bank applies to its customers generally at or about 11.00 a.m. on the day on which the calculation falls to be made

Euro, **€** and **EUR** mean the single currency of the Participating Member States

Event of Default means any event or circumstance specified as such in clause 27 (*Default*)

Excess Cashflow means, in respect of any Cash Sweep Period for which it is being calculated, CFADS for that period (plus (without double counting) in respect of the Cash Sweep Period ending on the first Scheduled Calculation Date, the balance standing to the credit of the Proceeds Account on the first Scheduled Calculation Date), minus:

(a) the aggregate of all scheduled repayments and mandatory prepayments of principal falling due in relation to any Loan (except any prepayments to be made pursuant to clauses 7.7 and 7.9 (*Mandatory prepayment - cash sweep*)), and any voluntary prepayments made, in respect of the Loans during that Cash Sweep Period together with any Break Costs or Hedging Termination Amounts in relation to those prepayments;

(b) the aggregate of all accrued interest paid or payable under the Finance Documents during that Cash Sweep Period;

(c) the aggregate of all other Finance Costs paid or payable under or in connection with the Finance Documents during that Cash Sweep Period (except any prepayments to be made pursuant to clauses 7.7 and 7.9 (*Mandatory prepayment - cash sweep*));

(d) the aggregate of all amounts withdrawn from the Proceeds Account and paid into the Debt Service Reserve Account in accordance with the Finance Documents during that Cash Sweep Period; and

(e) an amount required to ensure the balance retained in the Proceeds Account is equal to the Operating Costs anticipated to fall due and payable within the sixty (60) day period following the relevant Calculation Date,

provided that if Excess Cashflow is negative for any period, then Excess Cashflow for such period shall be deemed to be zero (0)

Existing Lender has the meaning given to it in clauses 28.1 to 28.7 (*Assignments and transfers by the Lenders*)

Facility means the project term loan facility in an aggregate amount equal to three hundred and fifty million Dollars (US$350,000,000)

Facility Office means the office or offices notified by a Lender to the Facility Agent in writing on or before the date it becomes a Lender (or, following that date, by not less than five (5) Business Days' written notice) as the office or offices through which it will perform its obligations under this Agreement

Facility Period means the period from the date of this Agreement until all the obligations of the Obligors under the Finance Documents have been unconditionally and irrevocably discharged to the satisfaction of the Finance Parties and no Commitment is in force

FATCA means:

(a) sections 1471 to 1474 of the Code or any associated regulations;

(b) any treaty, law or regulation of any other jurisdiction, or relating to an intergovernmental agreement between the US and any other jurisdiction, which (in either case) facilitates the implementation of any law or regulation referred to in paragraph (a) above; or

(c) any agreement pursuant to the implementation of any treaty, law or regulation referred to in paragraphs (a) or (b) above with the US Internal Revenue Service, the US government or any governmental or taxation authority in any other jurisdiction

FATCA Application Date means:

(a) in relation to a "withholdable payment" described in section 1473(1)(A)(i) of the Code (which relates to payments of interest and certain other payments from sources within the US), 1 July 2014;

(b) in relation to a "withholdable payment" described in section 1473(1)(A)(ii) of the Code (which relates to "gross proceeds" from the disposition of property of a type that can produce interest from sources within the US), 1 January 2017; or

(c) in relation to a "passthru payment" described in section 1471(d)(7) of the Code not falling within paragraphs (a) or (b) above, 1 January 2017,

or, in each case, such other date from which such payment may become subject to a deduction or withholding required by FATCA as a result of any change in FATCA after the date of this Agreement.

FATCA Deduction means a deduction or withholding from a payment under a Finance Document required by FATCA

FATCA Exempt Party means a Party that is entitled to receive payments free from any FATCA Deduction

FATCA FFI means a foreign financial institution as defined in section 1471(d)(4) of the Code which, if any Finance Party is not a FATCA Exempt Party, could be required to make a FATCA Deduction

Fee Letter means any fee letter setting out fees referred to in clause 11 (*Fees*)

Final Project Completion means the date on which Project Completion has occurred and the Borrower has obtained all final Project Authorisations in respect of the Project

Final Scheduled Repayment Date means 21 December 2023, provided that if such date is not a Business Day, the Final Scheduled Repayment Date shall be the immediately preceding Business Day

Finance Costs means, for any period, the aggregate of all amounts required to be paid by the Borrower during such period by way of:

(a) all repayments of principal in respect of all Loans; and

(b) interest, fees, commissions, costs, hedging premia and expenses to any Finance Party under the Finance Documents

Finance Documents means:

(a) this Agreement;

(b) each Hedging Agreement;

(c) the Intercreditor Deed;

(d) the Onshore Accounts Agreement;

(e) the Offshore Accounts Agreement;

(f) the Turkish Accounts Agreement;

(g) each Security Document;

(h) any Direct Agreements;

(i) any Fee Letters;

(j) each Intercreditor Accession Deed;

(k) the Amendment and Restatement Agreement;

(l) each Transfer Certificate; and

(m) any other document designated as such by the Facility Agent and the Borrower (each acting reasonably)

Finance Parties means the Facility Agent, the Mandated Lead Arrangers, the Hedge Providers, the Security Holder, the Technical Agent, the Onshore Account Bank, the Offshore Account Bank, the Documentation Agent and the Lenders and **Finance Party** means any one of them

Financial Close means the date on which the Facility Agent gives notice to the Borrower under clause 4.2 (*Initial conditions precedent*)

Financial Completion Date means the date on which the Facility Agent serves a notice to the Borrower confirming that the Financial Completion Tests have been satisfied

Financial Completion Test means the conditions and tests set out in means the conditions and tests set out in Part 3 of Schedule 11 (*Completion Tests*)

Financial Indebtedness means any Indebtedness for or in respect of:

(a) moneys borrowed and debit balances at banks or other financial institutions;

(b) any acceptance under any acceptance credit or bill discounting facility (or dematerialised equivalent);

(c) any note purchase facility or the issue of bonds, notes, debentures, loan stock or any similar instrument;

(d) any amount of any liability in respect of a Capital Lease;

(e) receivables sold or discounted (other than any receivables to the extent they are sold on a non-recourse basis and meet any requirement for de-recognition under Applicable Accounting Standards);

(f) any derivative transaction entered into in connection with protection against or benefit from fluctuation in any rate or price (and, when calculating the value of that derivative transaction, only the marked to market value (or, if any actual amount is due as a result of the termination or close-out of that derivative transaction, that amount) shall be taken into account);

(g) any counter-indemnity obligation in respect of a Guarantee, standby or documentary letter of credit or any other instrument issued by a bank or financial institution in respect of an underlying liability which liability would fall within one of the other paragraphs of this definition or liabilities relating to any post-retirement benefit scheme;

(h) any amount raised by the issue of redeemable shares which are redeemable (other than at the option of the issuer) before the Final Scheduled Repayment Date;

(i) any amount of any liability under an advance or deferred purchase agreement if the agreement is in respect of the supply of assets or services and payment is due more than ninety (90) days after the date of supply;

(j) any amount raised under any transaction (including any forward sale or purchase, sale and sale back or sale and leaseback agreement) having the commercial effect of a borrowing or which is classified as borrowings under Applicable Accounting Standards; and

(k) the amount of any liability in respect of any Guarantee for any of the items referred to in paragraphs (a) to (j) above

Financial Model means the spreadsheet-based financial model developed by the Borrower and the Lenders and agreed in writing between the Borrower and the Lenders and delivered to the Facility Agent in accordance with clause 4.1 (*Initial conditions precedent*), incorporating the Construction Budget, the Operating Budget and the Life of Mine Plan as amended, updated and replaced from time to time subject to, and in accordance with, clause 17 (*Financial Model, Budgets and Life of Mine Plan*) and the terms and conditions of this Agreement

First Repayment Date means the earlier of:

(a) the first of 21 March, 21 June, 21 September or 21 December to occur after Project Completion; and

(b) 21 March 2019,

provided that if such date is not a Turkish Business Day, the First Repayment Date shall be the immediately following Turkish Business Day

Forecast CFADS means, in respect of a period, the CFADS forecast to be received during that period

Forecast Debt Service Cover Ratio means, in respect of any Calculation Date, the ratio of:

(a) Forecast CFADS; to

(b) the aggregate of the principal amount of the Loans which will become due and payable pursuant to clause 6.1 (*Repayment of the Loans*) plus interest and all other amounts required under the Finance Documents to be paid in relation to such Loans

in each case, during the relevant future Calculation Period

Foreign Security Documents means:

(a) the English Debenture;

(b) an assignment of any loans made by a member of the Group or the Calik Group to the Borrower;

(c) any account pledge agreement or other applicable agreement regarding any Project Accounts held outside Turkey;

(d) any other document not governed by Turkish law entered into by any Obligor (or prospective Obligor pursuant to clause 24.10(b)(i) (*No disposals*)) creating a Security Interest over all or any part of its assets in respect of the obligations of the Obligors under any of the Finance Documents; and

(e) any other document entered into by an Obligor in favour of a Finance Party in connection with this Agreement and designated as such by the Facility Agent and, acting reasonably, the Borrower

GBP Operating Account means the account named "GBP Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in pound sterling and held by the Borrower at the Onshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

GHG means any substance recognised as a greenhouse gas under the United Nations Framework Convention on Climate Change, Kyoto Protocol and any decisions, guidelines, modalities and procedures made pursuant to them, as amended or replaced from time to time

GHG Alternatives Analysis means an analysis conducted by or on behalf of the Borrower, in accordance with internationally recognised methodologies and good practice, of technically and financially feasible options available to reduce Project-related GHG emissions during the design, construction and operation of the Project, as more particularly described in Annex A to the Equator Principles

Good Industry Practice means, at any particular time, those practices, methods, activities, techniques and standards as are in accordance with sound international mining industry standards

Government means the government of Turkey

Government Agency means any supranational, national, federal, state, provincial, regional or local government or government department or other entity charged with the administration, interpretation or enforcement of any applicable law

Group means the Borrower, the Parent, each Shareholder and the Parent's Subsidiaries for the time being and **Group Member** means any such entity

Group Structure Chart means the Group structure chart provided to the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*)

Guarantee means any guarantee, indemnity, third party charge, bond or other assurance against financial loss by one person in respect of the obligations of another person

Guarantor means the Parent

Heap Leach Pad Expansion means the phase 4 expansion of the heap leach pad to a capacity of approximately fifty eight million tons

Hedge Providers means the Original Hedge Providers and any other person that has become a Party as a Hedge Provider in accordance with clause 28.18 (*Accession of Hedge Providers*) which, in each case, are or have become a party to the Intercreditor Deed as a Hedge Provider in accordance with the provisions of the Intercreditor Deed

Hedging Agreement means each 2002 ISDA Master Agreement (or such other ISDA pro forma Master Agreement as may be published by ISDA from time to time) and the schedule relating thereto which is entered into between the Borrower and a Hedge Provider in order to hedge rate or price risk, together with each confirmation entered into thereunder from time to time in respect of a Hedging Transaction, as amended or supplemented from time to time

Hedging Liabilities means (without double counting) all present and future liabilities (actual or contingent) payable or owing by the Borrower to a Hedge Provider in connection with a Hedging Agreement

Hedging Strategy means, in respect of the hedging programme relating to gold, silver, diesel and other commodities, currencies and/or interest rates, which the Borrower is permitted to implement in its absolute discretion subject to and in accordance with this Agreement, that:

(a) no more than 75% of total projected gold, silver or copper production for any given period will be subject to any Hedging Transactions (including any hedging transactions with third party hedge providers);

(b) no more than 100% of the interest payable under the Finance Documents for any given period will be subject to any Hedging Transactions (including any hedging transactions with third party hedge providers);

(c) no more than 75% of total foreign currency exposure for any given period will be subject to any Hedging Transactions (including any hedging transactions with third party hedge providers); and

(d) no Hedging Transactions or other derivative transactions will be entered into as a means of speculating on movements in the underlying financial or energy markets

Hedging Termination Amount means any amount falling due to a Hedge Provider under a Hedging Agreement as a result of the termination of that Hedging Agreement or any Hedging Transactions (or part thereof) thereunder

Hedging Transaction means transactions under Hedging Agreements for the purpose of limiting the Borrower's exposure to currency or interest rate fluctuations or adverse movements in certain commodity prices

Hedging Transaction Date means any date on which a Hedging Transaction under a Hedging Agreement is entered into

Historic Debt Service Cover Ratio means, in respect of any Calculation Date, the ratio of:

(a) the aggregate CFADS; to

(b) the aggregate of the principal amount of the Loans which will become due and payable pursuant to clause 6.1 (*Repayment of the Loans*) plus interest and all other amounts required under the Finance Documents to be paid in relation to such Loans

in each case, for the relevant previous Calculation Period

Holding Company means:

(a) in relation to a Lender, the company or entity within whose consolidated supervision that Lender is included; and

(b) in relation to a company or corporation (other than a Lender), any other company or corporation of which it is a Subsidiary

IFRS means International Financial Reporting Standards issued by the International Accounting Standards Board from time to time

Illicit Origin means any origin which is illicit or fraudulent including, without limitation, drug trafficking, corruption, bribery, organised criminal activities, terrorism, money laundering or fraud

Increased Costs has the meaning given to it in clause 13.2 (*Increased costs*)

Indebtedness includes any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent

Independent Insurance Consultant means JLT or any replacement Independent Insurance Consultant appointed by the Facility Agent in accordance with clause 30.51 (*Appointment of Consultants*)

Independent Model Auditor means BDO LLP or any replacement model auditor appointed by the Facility Agent or the Technical Agent in accordance with clause 30.51 (*Appointment of Consultants*)

Independent Review means a review of the Assessment Documentation including the Environmental and Social Management Plan, and the Integrated Environmental and Social Management System carried out by the Independent Technical Consultant

Independent Technical Consultant means Runge Inc (trading as RungePincockMinarco) and any replacement independent technical consultant appointed by the Facility Agent in consultation with the Technical Agent in accordance with clause 30.51 (*Appointment of Consultants*)

Independent Technical Consultant's Appointment Letter means the appointment letter between the Facility Agent or the Technical Agent and the Independent Technical Consultant

Initial Equity Contribution means expenditure by the Borrower on or after 1 January 2015 for the purpose of the Project as evidenced by a certificate signed by an authorised signatory of the Parent prior to the date of Financial Close, in aggregate of no less than two hundred and twenty million Dollars (US$220,000,000)

Initial Financial Statements means:

(a) in respect of the Borrower its audited consolidated financial statements for the year ended 31 December 2014 and its unaudited consolidated financial statements for the financial half year ended 30 June 2015; and

(b) in respect of the Parent its audited consolidated financial statements for the year ended 31 December 2014 and its unaudited consolidated financial statements for the financial half year ended 30 June 2015

Initial Life of Mine Plan means the life of mine plan to establish, amongst other things, the expected production levels over the life of the mine (based on the Mineral Reserves), estimated cash and full costs of production delivered to the Facility Agent under clause 4.1 (*Initial Conditions Precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*)

Insurance Broker means Jardine Lloyd Thompson Group plc or any of its Affiliates or any other broker acceptable to the Majority Lenders appointed by the Borrower from time to time in respect of any of the Insurances

Insurance Broker's Letter of Undertaking means the letter of undertaking from the Insurance Broker to the Facility Agent, in form and substance satisfactory to the Facility Agent and delivered to the Facility Agent under clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*)

Insurance Proceeds means any amount payable by Insurers in respect of claims under the Insurances, after deducting any expenses which are incurred by any member of the Group with respect to the recovery or payment of such amounts and any Tax incurred or required to be paid by such member of the Group in connection with such amount

Insurance Proceeds Account means the Dollar denominated account named "Insurance Proceeds Account" with an account number to be designated by the Offshore Account Bank and held by the Borrower at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent (acting reasonably) and any sub-accounts of the foregoing

Insurances means any and all of the contracts of insurance and reinsurance that the Borrower is required to procure and maintain in accordance with clauses 25.19 to 25.20 (*Insurances*)

Insurer means at any relevant time, any insurer with whom any Insurances have been placed

Integrated Environmental and Social Management Plan or **ESMP** means the environmental and social management programme prepared by the Borrower as part of the ESIA for the Project which sets out the relevant mitigation and corrective actions identified in the EIA and the ESIA that must be implemented by the Borrower in undertaking the Project to address Environmental and Social Matters, as provided to and approved by the Facility Agent pursuant to Part 1 of Schedule 3 (*Conditions precedent*) and as may be amended from time to time in accordance with this Agreement, which shall include the Decommissioning Plan

Intercreditor Deed means the intercreditor agreement to be entered into between, among others, the Facility Agent, the Security Holder, the Hedge Providers, the Lenders, the Borrower and the other Obligors prior to Financial Close

Intercreditor Deed of Accession means each deed of accession entered into in the form set out in Schedule 1 (*Deed of Accession*) to the Intercreditor Deed

Interest Payment Date means the last Business Day of an Interest Period applicable to a relevant Loan

Interest Period means, in relation to a Loan, each period determined in accordance with clause 9 (*Interest periods*) and, in relation to an Unpaid Sum, each period determined in accordance with clauses 8.3 to 8.5 (*Default interest*)

Interpolated Screen Rate means, in relation to any Loan, the rate (rounded to the same number of decimal places as the two relevant Screen Rates) which results from interpolating on a linear basis between:

(a) the applicable Screen Rate for the longest period (for which that Screen Rate is available) which is less than the Interest Period of that Loan; and

(b) the applicable Screen Rate for the shortest period (for which that Screen Rate is available) which exceeds the Interest Period of that Loan,

each as of 11:00 a.m. (London time) on the Quotation Day for Dollars

Legal Reservations means

(a) the principle that equitable remedies may be granted or refused at the discretion of a court and the limitation of enforcement by laws relating to insolvency, reorganisation and other laws generally affecting the rights of creditors;

(b) the time barring of claims under the Limitation Act 1980 and the Foreign Limitation Periods Act 1984, the possibility that an undertaking to assume liability for or indemnify a person against non-payment of UK stamp duty may be void and defences of set-off or counterclaim;

(c) similar principles, rights, defences or requirements under the laws of any Relevant Jurisdiction;

(d) the parallel debt structure referred to in the Facility Agreement has not been tested and confirmed by a Turkish court decision so far, but should be viewed in light of the position that an abstract acknowledgement of debt is valid and effective pursuant to article 18 of Turkish Code of Obligations (Law No. 6098); and

(e) any other matters which are set out as qualifications or reservations as to matters of law of general application in any legal opinion delivered to the Facility Agent pursuant to clause 4.1 (*Initial conditions precedent*)

Lenders means the Original Lenders and any New Lenders and **Lender** means any of them

LIBOR means, in relation to any Loan:

(a) the applicable Screen Rate as of 11:00 a.m. (London time) on the Quotation Day for Dollars and for a period equal in length to the Interest Period for that Loan; or

(b) as otherwise determined pursuant to clauses 10.1 to 10.3 (*Unavailability of Screen Rate*),

provided that if any such rate for LIBOR is below zero per cent (0%) per annum, LIBOR shall be deemed to be zero per cent (0%) per annum

Lidya Equity Contribution Account means the Dollar denominated account named "Equity Contribution Account" with an account number to be designated by the Offshore Account Bank prior to Financial Close and held by Lidya at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent (acting reasonably) and any sub-accounts of the foregoing

Life of Mine Plan means the Initial Life of Mine Plan and thereafter each Updated Life of Mine Plan finalised and approved in accordance with clauses 17.23 to 17.28 (*Life of Mine Plan*)

Lira Operating Account means the account named "Lira Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in Turkish Liras and held by the Borrower at the Onshore Account Bank, together with any

replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Loan means a loan made or to be made under the Facility or the principal amount outstanding for the time being of that loan

Loan Life Cover Ratio means, in respect of any Calculation Date, the ratio of **A** to **B** where:

(a) **A** is the aggregate of (1) the net present value (discounted at the applicable annualised interest rate under this Agreement for that Calculation Period) of Forecast CFADS from such Calculation Date to the Final Scheduled Repayment Date, and (2) the balance of the Debt Service Reserve Account on such Calculation Date; and

(b) **B** is the aggregate of all the Loans outstanding on such Calculation Date,

calculated in accordance with the then current Financial Model. In calculating the Loan Life Cover Ratio, it shall be assumed that all payments and all transfers between Project Accounts due to be made on the relevant Calculation Date are in fact made

Maintenance Expenditure means all expenditure incurred or to be incurred in connection with the maintenance and repair of the Project Assets

Major Project Party means:

(a) the Borrower;

(b) each Shareholder;

(c) prior to Final Project Completion, the Parent;

(d) the BOO Contractor;

(e) the EPCM Contractor;

(f) any other party to a Material Project Document,

provided that, in the case of the persons specified in paragraphs (d) to (f) (inclusive) above, those persons shall cease to be Major Project Parties when the obligations under the relevant Material Project Documents to which they are a party have been performed in full and no further obligations or liabilities remain thereunder

Majority Lenders means:

(a) at any time when the total number of Lenders is less than four, those Finance Parties whose Senior Creditor Participations at that time aggregate at least 66⅔ per cent. of the total Senior Creditor Participations at that time; and

(b) at any time when the total number of Lenders is at least four, those Finance Parties whose Senior Creditor Participations at that time aggregate more than 66⅔ per cent. of the total Senior Creditor Participations at that time

Mandatory Cost means the percentage rate per annum calculated by the Facility Agent in accordance with Schedule 7 (*Mandatory Cost Formula*)

Margin means:

(a) in respect of the Tranche A Loans:

(i) on and from the Effective Date to (but excluding) the date of Project Completion, three point seventy five per cent (3.75%) per annum; and

(ii) from (and including) the date of Project Completion to the last day of the Facility Period, three point five per cent (3.5%) per annum; and

(b) in respect of the Tranche B Loans:

(i) on and from the Effective Date to (but excluding) the date of Project Completion, three point ninety five per cent (3.95%) per annum; and

(ii) from (and including) the date of Project Completion to the last day of the Facility Period, three point seven per cent (3.7%) per annum

Material Adverse Effect means the occurrence of any event or circumstance which results in a change in:

(a) the business, assets, operations or financial condition of the Borrower or the Project which in the reasonable opinion of the Facility Agent (acting on the instructions of the Majority Lenders), would materially and negatively affect the ability of the Borrower and, prior to Project Completion, the Parent, taken (prior to Project Completion only) as a whole, to perform and discharge their obligations under the Finance Documents;

(b) the validity or enforceability of any of the Finance Documents which in the reasonable opinion of the Facility Agent (acting on the instructions of the Majority Lenders), would materially and adversely affect the rights and remedies of the Finance Parties under the Finance Documents; or

(c) the Security Interests created under the Finance Documents on the assets charged or purported to be charged thereunder or the priority of those Security Interests which, in any such case and in the reasonable opinion of the Facility Agent (acting on the instructions of the Majority Lenders), would materially and adversely affect the rights and remedies of the Finance Parties under the Finance Documents

Material Environmental Breach means any breach of Environmental Laws likely to give rise to any Material Environmental Liabilities

Material Environmental Compliance means compliance with all Environmental Obligations non-compliance with which may give rise to Material Environmental Liabilities

Material Environmental Liabilities means any liabilities in excess of five hundred thousand Dollars ($500,000) on an each and every occurrence basis which shall include fines, penalties, damages and attendant costs

Material Environmental Non-Compliance means any non-compliance with the Environmental Obligations which may give rise to Material Environmental Liabilities

Material Insurances means in respect of the Borrower, collectively, operational property damage and business interruption insurance, bullion in transit insurance, construction all risks and delay in start up insurance, construction marine cargo and delay in start up insurance and all third party liability insurances

Material Project Documents means:

(a) each Mining Licence;

(b) the EPCM Contract;

(c) the BOO Contract; and

(d) any other agreement entered into by the Borrower for the purpose of the Project (i) which has a term longer than one year; (ii) in respect of which there is, in the reasonable opinion of the Facility Agent, no readily available substitute service provider or supplier, as the case may be, to replace the counterparty; and (iii) which if terminated prior to its scheduled maturity, would be reasonably expected to have a Material Adverse Effect.

Mineral Reserves means the mineral reserves that have been estimated for the Project in accordance with the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") Standards on Mineral Resource and Mineral Reserves, adopted by the CIM Council on November 14, 2004 and November 27, 2010

Mineral Resources means the mineral resources that have been estimated for the Project in accordance with the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") Standards on Mineral Resource and Mineral Reserves, adopted by the CIM Council on November 14, 2004 and November 27, 2010

Mining Licences means the following mining licences granted by General Directorate of Mining Affairs affiliated to Turkish Republic Ministry of Energy and Natural Resources to the Borrower in respect of the Project:

(a) License No. 847(257);

(b) License No. 49729;

(c) License No. 20067313;

(d) License No. 50237;

(e) License No. 76817; and

(f) License No. 76818

Mining Rights means all interests in the surface of any lands, the minerals in (or that may be extracted from) any lands, all royalty agreements, water rights, patented and unpatented mining claims, fee interest, mining licences (including the Mining Licences), profits-a-prendre, leases, rights-of-way and inurements used by or necessary to the Borrower to construct, develop and operate the Project (including any mining convention or agreement with the Government)

Month means a period starting on one day in a calendar month and ending on the numerically corresponding day in the next calendar month, except that:

(a) if the numerically corresponding day is not a Business Day, that period shall end on the next Business Day in that calendar month in which that period is to end if there is one, or if there is not, on the immediately preceding Business Day;

(b) if there is no numerically corresponding day in the calendar month in which that period is to end, that period shall end on the last Business Day in that calendar month; and

(c) if an Interest Period begins on the last Business Day of a calendar month, that Interest Period shall end on the last Business Day in the calendar month in which that Interest Period is to end.

The above rules will only apply to the last month of any period

New Lender has the meaning given to it in clause 28.1 (*Changes to the Lenders*)

Non-Project Licences means all other exploration licences and mining licences granted to the Borrower which are not Mining Licences or other Mining Rights necessary for the Borrower to construct, develop and operate the Project

Obligors means, at all times, the Borrower, the Shareholders, and prior to Final Project Completion, the Parent, and **Obligor** means any of them

Offshore Account Bank means ING Luxembourg S.A. or such other financial institution designated as such by the Majority Lenders and the Borrower

Offshore Accounts Agreement means the agreement to be entered into between the Borrower, AGM, Lidya, the Offshore Account Bank, the Facility Agent and the Security Holder prior to Financial Close in relation to the operation of the Project Accounts other than the Onshore Operating Accounts, the Copler Project Finance Accounts and the Distribution Account

Offshore Euro Operating Account means the account named "Offshore Euro Operating Account" with an account number to be designated by the Offshore Account Bank prior to Financial Close, denominated in Euro and held by the Borrower at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Offshore Operating Accounts means the Offshore USD Operating Account and the Offshore Euro Operating Account

Offshore USD Operating Account means the account named "Offshore USD Operating Account" with an account number to be designated by the Offshore Account Bank prior to Financial Close, denominated in Dollars and held by the Borrower at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Onshore Account Bank means T. Garanti Bankasi A.S. or such other Turkish financial institution which is a Lender or an Affiliate of a Lender designated as such by the Majority Lenders and the Borrower

Onshore Accounts Agreement means the agreement to be entered into between the Borrower, the Onshore Account Bank, the Facility Agent and the Security Holder prior to Financial Close in relation to the operation of the Onshore Operating Accounts

Onshore Euro Operating Account means the account named "Onshore Euro Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in Euro and held by the Borrower at the Onshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Onshore Operating Accounts means the Lira Operating Account, the Onshore USD Operating Account, the Onshore Euro Operating Account, the CAD Operating Account; the AUD Operating Account and the GBP Operating Account

Onshore USD Operating Account means the account named "Onshore USD Operating Account" with an account number to be designated by the Onshore Account Bank prior to Financial Close, denominated in Dollars and held by the Borrower at the Onshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Operating Accounts means the Onshore Operating Accounts and the Offshore Operating Accounts

Operating Budget means the annual budget setting out the costs expected to be incurred and the revenues expected to be received in respect of the Project for the forthcoming calendar year, delivered to the Facility Agent under clause 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*), as updated from time to time in accordance with clauses 17.15 to 17.18 (*Construction Budget and Operating Budget*)

Operating Cost Overrun means any Operating Cost incurred or projected to be incurred which results in the aggregate amount of Operating Costs incurred or projected to be incurred in relation to the Project exceeding the aggregate amount of Operating Costs referred to in:

(a) prior to Project Completion, the Financial Model delivered to the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*), or

(b) on and from Project Completion, the Operating Budget, in

each case for the relevant period

Operating Costs means all costs and expenses incurred by the Borrower in operating, maintaining, protecting and implementing the Project and the Project Assets including mining, milling, leaching, loading, refining, or marketing activities in relation to the Project, including:

(a) Borrower's Costs;

(b) amounts paid or payable by the Borrower under the Material Project Documents;

(c) amounts paid or payable by the Borrower under any Hedging Agreements;

(d) premia paid or payable by the Borrower in respect of Insurances;

(e) Maintenance Expenditure;

(f) all consumables and supplies costs, including fuel and electricity costs;

(g) Taxes and Royalties;

(h) costs and expenses paid or payable to Consultants under the Finance Documents;

(i) amounts of cash or Cash Equivalent Investments deposited as security in relation to letters of credit procured by the Borrower to the extent such letters of credit constitute Permitted Indebtedness and such deposits constitute Permitted Security Interests; and

(j) all other costs agreed by the Facility Agent (acting on the instructions of the Majority Lenders) and the Borrower as Operating Costs,

but excluding the following:

(i) Finance Costs other than those specified in paragraphs (h) and (j) above;

(ii) Capital Expenditure (other than that specifically described in paragraphs (b) to (j) above); and

(iii) amounts incurred or paid in respect of shareholder loans and any payment permitted to be made pursuant to clauses 24.23 and 24.24 (*Distributions*)

Operating Period means the period commencing on Project Completion and ending on the last day of the Facility Period

Operating Report means a report prepared by the Borrower in accordance with clauses 21.4 and 21.5 (*Operating Report*)

Operational Completion Date means the date on which the Facility Agent and the Technical Agent serve a notice on the Borrower confirming that the Operational Completion Tests have been met

Operational Completion Tests means the conditions and tests set out in Part 2 of Schedule 11 (*Completion Tests*)

Ore Reserve Tail Ratio means the percentage ratio of:

(a) the total forecast contained gold in Mineral Reserves remaining to be mined until the Project Termination Date, calculated in accordance with the then current Financial Model; to

(b) the total forecast contained gold in Mineral Reserves as reflected in the Financial Model on the date of Financial Close

Original Hedge Providers means, at any time, those banks and financial institutions listed in Part 2 of Schedule 1 (*The Original Hedge Providers*) as Hedge Providers

Original Lenders means, at any time, those banks and financial institutions listed in Part 1 of Schedule 1 (*The Original Lenders*) as Lenders which have not transferred all their rights and obligations under this Agreement to a New Lender

Other Stakeholders are those not directly affected by the Project but have an interest in it, including national and local authorities, neighbouring projects and/or non-governmental organisations

Participating Member State means any member state of the European Union that has the euro as its lawful currency in accordance with legislation of the European Union relating to Economic and Monetary Union

Party means a party to this Agreement

Payment Cascade means the order of application of monies set out in clause 34.1 (*Payment Cascade prior to Enforcement Date*) or, as the context may require, clause 34.2 (*Payment Cascade after Enforcement Date*)

Performance Liquidated Damages means all sums payable to or received by the Borrower under any of the Material Project Documents as liquidated damages for shortfalls in performance, together with all other amounts representing the proceeds of any other security, bonds or guarantees payable to or received from by the Borrower in lieu of such liquidated damages

Permitted Disposal means any disposal permitted by clauses 24.8 and 24.9 (*No disposals*)

Permitted Indebtedness means:

(a) any Indebtedness incurred under, or as expressly permitted by, the Transaction Documents;

(b) any trade or other similar unsecured Indebtedness incurred by the Borrower in the ordinary course of trade (i) by way of open accounts extended by suppliers of goods and services or (ii) in respect of guarantee obligations, indemnification obligations or similar obligations, in each case on normal trade terms (including no provision for the payment of interest, other than in the normal course of business), which does not exceed, in aggregate, twenty million Dollars (US$20,000,000);

(c) without prejudice to clause 23.7 (*Taxes and judgments*) any Indebtedness incurred to a relevant Competent Authority in relation to any deferred payment of any Tax or judgment;

(d) any Indebtedness owing by the Borrower to any other member of the Group or the Calik Group which is subordinated to the Indebtedness owing under the Finance Documents on terms satisfactory to the Facility Agent;

(e) any Indebtedness secured by a Permitted Security Interest;

(f) any Indebtedness in relation to letters of credit procured by the Borrower in the ordinary course of trade, the outstanding amount of which does not exceed, in aggregate, ten million Dollars (US$10,000,000);

(g) Indebtedness of the Borrower which is secured by a Security Interest referred to in paragraph (b) of the definition of Permitted Security Interest and any other unsecured Indebtedness of the Borrower not contemplated in the foregoing paragraphs, the

aggregate outstanding amount of which does not exceed, in aggregate, five million Dollars (US$5,000,000) or its Equivalent; and

(h) any other Indebtedness (including in connection with any Hedging Agreement) permitted by the Facility Agent (acting on the instructions of the Majority Lenders) from time to time

Permitted Investment means:

(a) any Cash Equivalent Investments;

(b) deferred consideration in the event of any Permitted Disposal;

(c) with respect to the Proceeds Account, any deposit necessary as a matter of regulation in respect of any reclamation or rehabilitation bonds; and

(d) with respect to all Project Accounts, other than the Distribution Account, a debt instrument or deposit (of a type which the Onshore Account Bank or Offshore Account Bank, as applicable, can accommodate) which is otherwise approved by the Majority Lenders in consultation with the Onshore Account Bank or Offshore Account Bank, as applicable

Permitted Security Interest means:

(a) any Security Interest constituted by or arising under the Transaction Documents;

(b) any lien arising by operation of law in the ordinary course of trade and not as a result of any default or omission by the Borrower, and securing Indebtedness permitted in paragraph (b) or (g) of the definition of Permitted Indebtedness;

(c) any netting or set off arrangements entered into in the ordinary course of banking arrangements for the purpose of netting debit and credit balances on the Distribution Account only;

(d) any Security Interest or right of retention (*hapis hakki*) required in connection with purchase money Indebtedness or purchase money mortgages relating to equipment or goods acquired, leased or held in the ordinary course of business of the Borrower, to secure the purchase price of or rental payments with respect to such equipment or goods or to secure Indebtedness incurred for the purpose of financing the acquisition, construction or improvement of any such equipment or goods, provided that the outstanding amounts secured thereby in the aggregate does not exceed five million Dollars (US$5,000,000);

(e) any Security Interest over any Permitted Investment in favour of a clearing or custody system or financial institution bank or other depositary institution holding the Permitted Investment;

(f) Security Interests (other than in respect of shares in the Borrower or Mining Licences) imposed by any Government Agency for Taxes which are being contested in good faith and by appropriate proceedings, provided (i) during the period during which such Taxes are being so contested, such Security Interests shall not be executed on or enforced against any of the assets of the Borrower, and (ii) that the Borrower shall have set aside on its books in accordance with IFRS reserves deemed adequate therefor and not resulting in qualification by auditors;

(g) Security Interests in favour of public utilities or any municipalities or Government Agencies or other public authority when required by the utility, municipality or Government Agencies or other public authority in connection with the supply of services or utilities to the Borrower which, either individually or in the aggregate, are not material, do not materially detract from the value of the relevant property, and do not interfere with the ordinary course of business of the Borrower;

(h) statutory Security Interests incurred or pledges or deposits made in favour of a Government Agency to secure the performance of obligations of the Borrower under the Mining Licences or Environmental Laws to which any assets of the Borrower are subject or other statutory obligations of the Borrower;

(i) any other Security Interest required by any Competent Authority in connection with the Project and approved in writing by the Facility Agent acting on the instructions of the Majority Lenders (acting reasonably);

(j) pledges, deposits and Security Interests in connection with workers' compensation, employment insurance and other similar legislation, and deposits securing liability to Insurers, in each case to the extent required by applicable law;

(k) Security Interests resulting from the deposit of cash or securities in connection with expropriation proceedings, appeal bonds and costs of litigation, in each case where required by law;

(l) Security Interests to secure workers' compensation or claims incidental to construction, mechanics', warehouseman's, carriers', repairers, storage and other similar liens, arising by operation of law in the ordinary course of business and provided in each case that the obligations secured by such Security Interests are not yet due and payable, nor are they as a result of any default or omission by the Borrower;

(m) Security Interests resulting from the deposit of cash or Cash Equivalent Investments as security in respect of any Indebtedness in relation to letters of credit procured by the Borrower in the ordinary course of trade, provided that the aggregate amount of cash and Cash Equivalent Investments subject to the Security Interests does not exceed, in aggregate, ten million Dollars (US$10,000,000);

(n) Security Interests created by a judgment of a court of competent jurisdiction, as long as the judgment is being contested diligently and in good faith by appropriate proceedings by the Borrower;

(o) Security Interests in favour of customs and revenues authorities arising as a matter of law to secure payment of custom duties in connection with the importation of goods;

(p) rights of way (*gecit haklari*) or other usufruct rights (*irtifak haklari*) that do not negatively affect the operations of the Borrower or the Project or the Borrower's ability to develop, construct, operate and finance the Project substantially in accordance with the Development Plan and the Life of Mine Plan and which are granted to third parties in the ordinary course of business;

(q) rights of way (*gecit haklari*) or other usufruct rights (*irtifak haklari*) that do not negatively affect the operations of the Borrower or the Project or the Borrower's ability to develop, construct, operate and finance the Project substantially in accordance with the Development Plan and the Life of Mine Plan and which are required to granted to any Competent Authority in the ordinary course of business;

(r) cash collateral deposited with financial institutions as security for credit card facilities in the ordinary course of business; and

(s) any other Security Interest approved in writing by the Facility Agent acting on the instructions of the Majority Lenders

Physical Completion Date means the date on which the Borrower and the Independent Technical Consultant certify to the Facility Agent and the Technical Agent that the Physical Completion Tests have been met

Physical Completion Tests means the conditions and tests set out in Part 1 of Schedule 11 (*Completion Tests*)

Proceeds means, in respect of any Permitted Disposal, the cash consideration receivable for the relevant assets after deducting any expenses which are incurred by any member of the Group with respect to that Permitted Disposal and any Tax incurred or required to be paid by the seller in connection with that Permitted Disposal

Proceeds Account means the account named "Proceeds Account" with an account number to be designated by the Offshore Account Bank prior to Financial Close, denominated in Dollars and held by the Borrower at the Offshore Account Bank, together with any replacement and substitute accounts opened with the consent of the Facility Agent and any sub-accounts of the foregoing

Project means collectively, all properties, assets or other rights, whether real or personal, tangible or intangible, now owned or leased or hereafter acquired by or for the benefit of the Borrower which assets are used or intended for use in or forming part of the current oxide operations of the Çöpler gold mine, the sulphide expansion of the Çöpler gold mine, and the Heap Leach Pad Expansion of the Çöpler gold mine, located in Erzincan Province, Turkey which, for the avoidance of doubt, shall include:

(a) the Mineral Resources and Mineral Reserves referred to in the Mining Licences;

(b) the area and mineral deposits covered by the Mining Licences and applicable Project Authorisations;

(c) all associated beneficiation facilities, together with all plant sites, waste dumps, ore dumps, crushing circuits, abandoned heaps, power supply systems, infrastructure and other ancillary facilities and plant and equipment; and

(d) goodwill and relationships with suppliers and all other matters required to make the project viable

Project Accounts means the Debt Service Reserve Account, the Distribution Account, the Equity Contribution Accounts, the Proceeds Account, the Insurance Proceeds Account, the Copler Project Finance Accounts, the Operating Accounts and any other account of the Borrower so designated by the Borrower and the Facility Agent

Project Assets means all assets of whatever nature required or desirable for the purposes of, or in connection with, the Project (including land, plant, machinery, buildings and intellectual property rights) wherever they are situated and that are owned or leased by, or licenced to, the Borrower (which, for the avoidance of doubt, excludes Project Production)

Project Authorisations means all licences, permits, wayleaves, approvals, filings, registrations, exemptions, authorisations, concessions, claims, orders, rights and consents, resolutions, clearances and notarisations (other than Environmental or Social Permits but including all Mining Rights) necessary in connection with the Transaction Documents, the Project and all activities related to the Project (including production, transportation, processing and sale of output produced at the Project)

Project Completion means the date on which all of the Physical Completion Date, the Operational Completion Date and the Financial Completion Date have occurred

Project Costs means, for any period, (without double counting) the Operating Costs and the Construction Costs (including, for the avoidance of doubt, Cost Overruns) for such period

Project Period means the period commencing on the date of this Agreement and continuing until the Project Termination Date

Project Production means, for any period, the number of ounces of gold and silver contained in dore and number of tonnes of copper ore produced or (in the case of any period or portion thereof to occur in the future) which are scheduled in the Development Plan and the Life of Mine Plan, as applicable, to be produced at the Project during such period

Project Termination Date means the date specified in the then current Life of Mine Plan as being the date on which the commercial mining and production of gold (based on the Mineral Reserves) at the Project is expected to cease

Projected Completion Date means 31 December 2018

Projected Project Costs means, on any date, the sum of:

(a) the aggregate amount of all Eligible Costs and other costs incurred by the Borrower, which, in each case, have fallen due for payment but have not yet been paid; and

(b) the aggregate amount of Eligible Costs and any other costs incurred by the Borrower, which, in each case, are projected to fall due prior to the date on which Project Completion is expected to occur

Protected Party has the meaning given to it in clause 12.1 (*Tax Definitions*)

Qualifying Lender means a Lender whose Senior Creditor Participations (in its capacity as a Lender) aggregate at least twenty five per cent. (25%) of the total Senior Creditor Participations

Quarter means a period of three (3) Months ending on a Quarter Date

Quarter Date means each 31 March, 30 June, 30 September and 31 December

Quasi-Security Interest means an arrangement or transaction pursuant to which an Obligor:

(a) sells, transfers or otherwise disposes of any of its assets on terms whereby they are or may be leased to or re-acquired by an Obligor or any other member of the Group;

(b) sells, transfers or otherwise disposes of any of its receivables on recourse terms;

(c) enters into any arrangement under which money or the benefit of a bank or other account may be applied, set-off or made subject to a combination of accounts; or

(d) enters into any other preferential arrangement having a similar effect,

in circumstances where the arrangement or transaction is entered into primarily as a method of raising Financial Indebtedness or of financing the acquisition of an asset

Quotation Day means, in relation to any period for which an interest rate is to be determined, two (2) Business Days before the first day of that period unless market practice differs in the Relevant Interbank Market in which case the Quotation Day will be determined by the Facility Agent in accordance with market practice in the Relevant Interbank Market (and if quotations would normally be given by leading banks in the Relevant Interbank Market on more than one day, the Quotation Day will be the last of those days)

Reference Banks means the principal London offices of Societe Generale, ING Bank and BNP Paribas, or such other banks as may be nominated for the purpose of determining the Base Reference Bank Rate by the Facility Agent in consultation with the Borrower

Refining Contract means a contract for the refining and/or sale of gold and/or silver dore entered into by the Borrower

Reinstatement Plan means a detailed plan setting out a procedure for the repair or reinstatement and replacement of the relevant Project Assets, including details on who will carry out the reinstatement works, and the proposed terms and timetable upon which the reinstatement works will be carried out

Related Fund in relation to a fund (the **first fund**), means a fund which is managed or advised by the same investment manager or investment adviser as the first fund or, if it is managed by a different investment manager or investment adviser, a fund whose investment manager or investment adviser is an Affiliate of the investment manager or investment adviser of the first fund

Relevant Interbank Market means the London interbank market

Relevant Jurisdiction means, in relation to an Obligor:

(a) its jurisdiction of incorporation;

(b) any jurisdiction where any asset subject to or intended to be subject of the Security Documents to be created by it is situated;

(c) any jurisdiction where it conducts its material business; and

(d) the jurisdiction whose laws govern the perfection of any of the Security Documents entered into by it

Relevant Party means any party to a Finance Document other than a Finance Party

Repayment Date means the First Repayment Date, each 21 March, 21 June, 21 September and 21 December following the First Repayment Date up to the Final Scheduled Repayment Date, and the Final Scheduled Repayment Date, provided that if any such date is not a Turkish Business Day, the relevant Repayment Date shall be the immediately following Turkish Business Day

Repayment Instalment means each instalment for the repayment of the principal amount of the Loan determined in accordance with clause 6 (*Repayment*) and Schedule 8 (*Repayment Schedule*)

Repayment Schedule means the repayment schedule set out in Schedule 8 (*Repayment Schedule*) as may be updated from time to time in accordance with the terms of this Agreement

Repeating Representations means each of the following representations set out in clause 20 (*Representations*): clauses 20.2 and 20.3 (*Status*), 20.5 (*Binding obligations*), 20.6 (*Powers and Authority*), 20.7 (*Non-conflict*), 20.8(a), 20.9 and 20.10 (*Validity and admissibility in evidence; Authorisations*), 20.12 and 20.13 (*Governing law and enforcement*), 20.18 (*No default*), 20.20 (*No proceedings pending or threatened*), 20.21 to 20.25 (*Information*), 20.29 (*Disclosure of project terms*), 20.32 to 20.35 (*Environmental and Social Matters*), 20.37, 20.39, 20.40 and 20.41 (*Ownership and use of assets*), 20.43 (*Ownership and Group structure*), 20.51 (*Pari passu ranking*), 20.52 (*Security*), 20.54 (*Taxes*), 20.61 (*Corrupt gifts*), 20.62 (*No Insolvency*), 20.63 (*Material Project Documents*), 20.65 to 20.67 (*No immunity*), 20.68 (*Project Accounts*), 20.70 (*Financial statements*), 20.71 (*Compliance with laws*), 20.72 (*Anti-Terrorism Laws*), 20.73 and 20.74 (*Sanctions*), 20.75 (*Illicit Origin*), 20.76 (*Intellectual Property*) and 20.77 (*Labour matters*)

Representative means any delegate, agent, manager, administrator, nominee, attorney, trustee or custodian

Reserve Amount means the amount (in Dollars) of (i) Additional Equity Contributions and/or (ii) Revenues received by the Borrower prior to Financial Close, determined by the Lenders (in consultation with the Independent Technical Consultant) prior to Financial Close in accordance with the criteria set out in Schedule 10 (*Reserve Amount Assessment Criteria*), which amount must be made available by the Obligors in the Equity Contribution Accounts prior to Financial Close, to be applied towards Constructions Costs (including any Cost Overruns) in accordance with the Agreement. For the avoidance of doubt, the Lenders (in consultation with the Independent Technical Consultant) may determine the Reserve Amount to be zero

Revenues means, (without double counting) in relation to any period, all amounts paid to or received by the Borrower (excluding, for the avoidance of doubt, (i) any amounts made available under the Finance Documents (other than the Hedging Agreements to the extent set out in (b) below) and (ii) any Equity Contributions (unless such Additional Equity Contribution is being made pursuant to clause 27.5 (*Financial Covenants*)), in respect of:

(a) all amounts received under the Material Project Documents;

(b) all amounts received under any Hedging Agreement in effect on the relevant date of calculation;

(c) interest and income in respect of the Project Accounts and Permitted Investments, but only if the amount does not form part of the balance required to be maintained in a Project Account in accordance with the Finance Documents;

(d) Insurance Proceeds only in relation to delay in start-up and business interruption (including loss of profit and loss of revenue) Insurances paid to the Borrower;

(e) Delay Liquidated Damages paid to the Borrower;

(f) Tax refunds (including any amounts received under any tax incentive schemes or interest rate subsidies);

(g) all amounts received from the sale of gold and other metals produced from the Project; and

(h) any other amount agreed between the Borrower and the Majority Lenders from time to time,

in each case on a "cash" rather than an "accruals" basis

Royalties means any royalties (or similar) paid or payable by the Borrower to the Government in connection with the Project

Sanctioned Country means a country or territory which is, or whose government is, subject to Sanctions broadly prohibiting dealings with such government, country, or territory or listed on a Sanctions List

Sanctioned Entity means:

(a) a person which is, or which is owned or controlled directly or indirectly by any other person which is, listed on a Sanctions List or is subject to Sanctions; or

(b) a person which is located, organised or ordinarily resident in a Sanctioned Country

Sanctioned Transaction means the use of the proceeds of the Facility for the purpose of financing or making funds or credit available, directly or indirectly, to, or contributing to financing the activities or business of:

(a) a Sanctioned Entity; or

(b) any other person, joint venture partner or entity, if a member of the Group has actual knowledge that the person, joint venture partner or entity proposes to use the proceeds of the financing or funds or credit for the purpose of financing or making funds or credit available, directly or indirectly, to, or contributing to financing the activities of, a Sanctioned Entity

Sanctioning Body means the government of the United Kingdom of Great Britain and Northern Ireland and/or the government of the United States of America and/or the government of the Republic of France and/or the government of any other member state of the European Union and/or the European Union and/or the Council of Europe and/or the United Nations Security Council and/or the Government of Canada and/or Government of Luxembourg and/or the Government of Switzerland and/or the Government of Austria, and any of their governmental authorities, including, without limitation, the United States Department of the Treasury Office of Foreign Asset Control (OFAC), the United States Department of Commerce, the United States Department of State, the United States Department of the Treasury, the Bank of England, Her Majesty's Treasury in the United Kingdom of Great Britain and Northern Ireland, the State Secretariat for Economic Affairs of Switzerland (SECO) and the French *Ministre de l'Economie, des Finances et de l'Industrie* (MINEFI)

Sanctions means trade, economic or financial sanctions or embargoes or restrictive measures imposed, administered or enforced from time to time by a Sanctioning Body

Sanctions List means any of the sanctions lists of specifically designated nationals or designated persons or entities (or equivalent) of, or any public announcement of Sanctions by, any Sanctioning Body (each as amended, supplemented or substituted from time to time) and includes without limitation the Specially Designated Nationals and Blocked Persons List maintained by OFAC, or any list of persons issued by OFAC pursuant to Executive Order 13224
- Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism, or any similar list issued by OFAC and the consolidated list of financial sanctions targets and the investments ban list published by Her Majesty's Treasury in the United Kingdom of Great Britain and Northern Ireland or implemented under economic or financial sanctions of Canada, Switzerland or Luxembourg

Scheduled Calculation Date means each Quarter Date occurring after the Projected Completion Date

Scope 1 Emissions means direct GHG emissions from the facilities owned or controlled within the physical Project boundary

Scope 2 Emissions means indirect GHG emissions associated with the off-site production of energy used by the Project

Screen Rate means the London interbank offered rate administered by ICE Benchmark Administration Limited (or any other person which takes over administration of that rate) for the relevant currency and period displayed on pages LIBOR01 or LIBOR02 of the Thomson Reuters screen (or any replacement Thomson Reuters page which displays that rate) or on the appropriate page of such other information service which publishes that rate from time to time in place of Thomson Reuters. If such page or service ceases to be available, the Facility Agent

may specify another page or service displaying the relevant rate after consultation with the Borrower and the Lenders

Security Documents means the Turkish Security Documents and the Foreign Security Documents

Security Interest means:

(a) any mortgage, charge, pledge, lien, hypothecation, cession, assignment by way of security, trust, arrangement for the purpose of providing security or other security interest of any kind in any jurisdiction;

(b) any proprietary interest over an asset, or any contractual arrangement in relation to an asset, in each case created in relation to Financial Indebtedness and which has the same commercial effect as if security had been created over it; and

(c) any right of set-off created by an agreement

SEDAR means the document filing and retrieval system administered by the Canadian Securities Administrators

Selection Notice means a notice substantially in the form set out in Part 2 of Schedule 4 (*Form of Selection Notice*) given in accordance with clause 9 (*Interest periods*)

Senior Creditor Participation means, in relation to a Finance Party, the aggregate of:

(a) either:

(i) if there are no Loans outstanding, its Commitments or if the Total Commitments have been reduced to zero, its Commitments immediately before the reduction; or

(ii) at any other time, the amount of that Finance Party's Contributions; and

(b) in respect of any Hedging Transaction (or part thereof) of that Finance Party under any Hedging Agreement that has, as of the date the calculation is made, been terminated or closed out in accordance with the terms of this Agreement and the Intercreditor Deed, the amount, if any, payable to it under any Hedging Agreement in respect of that termination or close-out as of the date of termination or close-out (and before taking into account any interest accrued on that amount since the date of termination or close-out) to the extent that amount is unpaid (that amount to be certified by the relevant Finance Party and calculated in accordance with the relevant Hedging Agreement)

Senior Debt means all present and future liabilities (actual or contingent) as may from time to time be payable, owing or accrued (whether or not due at such time) by any Obligor to any of the Finance Parties under or in connection with the Finance Documents

Shareholders means AGM and the Calik Shareholders and **Shareholder** means any one of them

Site means the mining licence area covered by the Mining Licences

Social Law means any law, bylaw, code, guideline, regulation, decree, lawful demand or demand letters or notices, interdicts, judgments, orders or plans issued, promulgated or approved by any Competent Authority which relates to Social Matters

Social Matters means:

(a) communities (including temporary and permanent human residents with both formal and informal tenure of land/structures);

(b) social infrastructure including both tangible (i.e. schools, community centres, cultural or sacred sites) and intangible items (including meeting places and cultural traditions);

(c) individual and communally owned assets (including farm animals and/or grazing land);

(d) formal and informal businesses;

(e) social security;

(f) occupational and public health and safety;

(g) community groups including civil society groups;

(h) cultural matters;

(i) human rights;

(j) labour, livelihoods and working conditions;

(k) industrial relations (between government, employers and employees);

(l) ownership of land rights, immovable goods and intellectual and cultural property rights; and

(m) community health

Stamp Duty Sensitive Documents has the meaning given to it in clause 37.15(a)(ii)(B) (*Austrian stamp duty*)

Subsidiary means any company or entity directly or indirectly controlled by another person, for which purpose **control** means either ownership of more than fifty per cent (50%) of the voting share capital (or equivalent right of ownership) of such company or entity, or power to direct its policies and management, whether by contract or otherwise

Supermajority Lenders means:

(a) at any time when the total number of Lenders is less than four, those Finance Parties whose Senior Creditor Participations at that time aggregate at least 80 per cent. of the total Senior Creditor Participations at that time; and

(b) at any time when the total number of Lenders is at least four, those Finance Parties whose Senior Creditor Participations at that time aggregate more than 80 per cent. of the total Senior Creditor Participations at that time

Tax means any tax, levy, impost, duty or other charge or withholding of similar nature, including any Banking and Insurance Transactions Tax (*Banka ve Sigorta Muameleleri Vergisi*) and any Resource Utilisation Support Fund (Kaynak Kullanımı Destekleme Fonu) and including any interest or penalty payable in connection with any failure to pay or any delay in paying any of the same

Tax Credit has the meaning given to it in clause 12.1 (*Tax Definitions*) **Tax**

Deduction has the meaning given to it in clause 12.1 (*Tax Definitions*) **Tax**

Payment has the meaning given to it in clause 12.1 (*Tax Definitions*)

Technical Assumptions means the technical assumptions incorporated in the Financial Model delivered to and approved by the Facility Agent in accordance with clause 4.1 (*Initial conditions Precedent*), as amended from time to time in accordance with this Agreement

Technical Report means the review of the Definitive Feasibility Study, the NI 43-101 Updated Technical Report dated March 2015 prepared by the Parent and other technical aspects of the Project prepared by the Independent Technical Consultant, in substantially the form as the draft thereof furnished to the Technical Agent on or about the date of this Agreement and otherwise in a form acceptable to and provided to the Facility Agent pursuant to Part 1 of Schedule 3 (*Conditions Precedent*) and each other report made by the Independent Technical Consultant in connection with the Independent Technical Consultant's Appointment Letter

Third Parties Act means the Contracts (Rights of Third Parties) Act 1999

Total Commitments means the aggregate of all Commitments under the Facility being three hundred and fifty million Dollars (US$350,000,000)

Tranche A Loans means the first one hundred and fifty million Dollars (US$150,000,000) of Loans made under the Facility, provided that a portion of a Loan may constitute a Tranche A Loan while the remaining portion constitutes a Tranche B Loan

Tranche B Loans means all Loans made under the Facility subsequent to the making of the Tranche A Loans

Transaction Documents means the Finance Documents and the Material Project Documents

Transfer Certificate means an agreement substantially in the form of Schedule 6 (*Form of Transfer Certificate*) duly completed by an Existing Lender, a New Lender and the Facility Agent

Transfer Date means, in relation to a transfer or an assignment, the later of:

(a) the proposed Transfer Date specified in the relevant Transfer Certificate; and

(b) the date on which the Facility Agent executes the relevant Transfer Certificate

Turkey means the Republic of Turkey

Turkish Accounts Agreement means the agreement to be entered into between the Borrower, the Turkish Lender, the Facility Agent and the Security Holder prior to Financial Close in relation to the operation of the Copler Project Finance Accounts

Turkish Business Day means a day (other than Saturday or Sunday) on which banks are open for general business in Istanbul

Turkish Lira, TRL and Lira mean the lawful currency of Turkey as the name of such currency may be modified from time to time by the laws of Turkey

Turkish Lender means ING Bank A.S.

Turkish Security Documents means:

(a) the Borrower Share Pledge;

(b) an assignment of receivables agreement regarding the receivables of the Borrower under the Material Project Documents and the Refining Contracts;

(c) an account pledge agreement regarding any Project Accounts held in Turkey;

(d) a mortgage over the Project Assets (including mine mortgages in accordance with Article 42 of the Turkish Mining Law (No. 3213));

(e) a commercial enterprise pledge agreement granted by the Borrower over the Project Assets to the maximum extent possible and permissible under the laws of Turkey;

(f) any other Turkish law document entered into by any Obligor (or prospective Obligor pursuant to clause 24.10(b)(i) (No disposals)) creating a Security Interest over all or any part of its assets in respect of the obligations of the Obligors under any of the Finance Documents; and

(g) any other document entered into by an Obligor in favour of a Finance Party in connection with this Agreement and designated as such by the Facility Agent and, acting reasonably, the Borrower,

each such document creating a first degree and priority Security Interest

Unanimous Lenders means, at any times, those Finance Parties whose Senior Creditor Participations at that time aggregate hundred per cent. (100%) of the total Senior Creditor Participations

Unpaid Sum means any sum due and payable but unpaid by an Obligor under the Finance Documents

Unscheduled Calculation Date means:

(a) the date falling ten (10) Business Days after the Financial Model, Construction Budget, Operating Budget and/or Life of Mine Plan has been updated pursuant to clause 17 (*Financial Model, Budgets and Life of Mine Plan*); or

(b) the date on which Project Completion is expected to occur

Updated Life of Mine Plan has the meaning given to that term in clause 17.23 (*Financial Model, Budgets and Life of Mine Plan*)

US means the United States of America

Utilisation means a utilisation of the Facility

Utilisation Date means the date of a Utilisation, being the date on which the relevant Loan is to be made, which shall be the date proposed in the relevant Utilisation Request unless otherwise notified by the Facility Agent

Utilisation Request means a notice substantially in the form set out in Schedule 4 (*Form of Utilisation Request and Selection Notice*)

VAT means any value added tax as provided for in the Value Added Tax Act 1994 and any other tax of a similar nature

Interpretation

1.2 Unless a contrary indication appears, any reference in this Agreement to:

(a) the Facility Agent, the Onshore Account Bank, the Offshore Account Bank, the Mandated Lead Arrangers, any Finance Party, any Lender, any Party, any Major Project Party, the Security Holder, or any other party or person shall be construed so as to include its successors in title, permitted replacements, permitted assigns and permitted transferees;

(b) a document being in an **approved form** shall be construed as such if it is identified as such by the Facility Agent and the Borrower or their respective legal advisers;

(c) **assets** includes present and future properties, assets, intellectual property rights, real property, personal property, rights, revenues, uncalled capital and any rights to receive, or require delivery of, or exercise direct control over any of the foregoing;

(d) a **Finance Document**, a **Material Project Document** or any other agreement or instrument is a reference to that Finance Document, Material Project Document or other agreement or instrument as in force for the time being and as from time to time amended, extended, restated, supplemented or novated, however fundamentally;

(e) the term **including** shall be construed as meaning **including without limitation**;

(f) an **obligation** means any duty, obligation or liability of any kind;

(g) a **person** includes any individual, firm, company, corporation, government, state or agency of a state or any association, trust, joint venture, consortium or partnership (whether or not having separate legal personality);

(h) an amount, calculation or ratio to be **projected** or **forecast** shall be a reference to that amount, calculation or ratio as derived from the most recent Financial Model;

(i) a **regulation** includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, intergovernmental or supranational body, agency, department or of any regulatory, self-regulatory or other authority or organisation;

(j) a **right** means any right, privilege, power, immunity or other interest or remedy of any kind;

(k) the **winding up**, **dissolution**, **administration** or **bankruptcy** of a person shall be construed as to include any equivalent or analogous procedures under the laws of any jurisdiction in which such person is incorporated or resident in any jurisdiction in which such person carries on business or in which any of its assets are located (including the seeking of a liquidation, winding up, appointment of bankruptcy trustee, reorganisation, dissolution, administration, arrangement, adjustment, protection or relief of debtors, insolvency and suspension of payments);

(l) a provision of law or regulation shall be a reference to that provision as amended, supplemented, replaced or re-enacted;

(m) a time of day shall be a reference to London time; and

(n) clauses and schedules are to be construed as references to clauses of and schedules to this Agreement.

1.3 Section, clause and Schedule headings are for ease of reference only and shall be ignored in the interpretation of this Agreement.

1.4 Unless a contrary indication appears, any term used in any other Finance Document or in any notice given under, or in connection with, any Finance Document has the same meaning in that Finance Document or notice as in this Agreement.

1.5 Subject to clause 41 (*Amendments and waivers*), a Default (other than an Event of Default) is continuing if it has not been remedied in accordance with the Finance Documents or waived in writing in accordance with the Finance Documents and an Event of Default is continuing if it has not been waived in writing in accordance with the Finance Documents.

1.6 Any certification given by an officer or director of any Obligor pursuant to any Finance Document shall be given by such person for and on behalf of such Obligor in his or her capacity as an officer or director of such Obligor and not in his or her personal capacity and is given without any personal liability.

Third party rights

1.7 Subject to any express provision to the contrary in any Finance Document, a person who is not a Finance Party or a party to a Finance Document has no right under the Third Parties Act to enforce or to enjoy the benefit of that Finance Document.

Conflict of Documents

1.8 The terms of the Finance Documents (other than the Intercreditor Deed and other than as relates to the creation and/or perfection of security) are subject to the terms of this Agreement and, in the event of any conflict between any provision of this Agreement and any provision of any Finance Document (other than the Intercreditor Deed and other than in relation to the creation and/or perfection of security) the provisions of this Agreement shall prevail. In the event of conflict between this Agreement and the Intercreditor Deed, the provisions of the Intercreditor Deed shall prevail.

Finance Parties acting "reasonably"

1.9 The Parties agree that if and whenever any Finance Party is expressed to be required to act "reasonably" that Finance Party shall without limitation be deemed to have so acted of, and to the extent that, it relies in good faith upon legal advice which states that, as a matter of law, their position would be prejudiced if they do not follow such advice.

Calculations

1.10 In any calculation done for the purposes of a Finance Document, no amount shall be double-counted.

2 The Facility

The Facility

2.1 Subject to the terms of this Agreement and the other Finance Documents, the Lenders make the Facility available to the Borrower.

Finance Parties' Rights and Obligations

2.2 The obligations of each Finance Party under the Finance Documents are several. Failure by a Finance Party to perform its obligations under the Finance Documents does not affect the obligations of any other party under the Finance Documents. No Finance Party is responsible for the obligations of any other Finance Party under the Finance Documents.

2.3 The obligations of the Borrower under this Agreement are as follows:

(a) subject to clause 2.3(f), the Borrower undertakes, by way of an abstract acknowledgement of debt, to pay to the Security Holder (as creditor in its own right and not as representative or agent of the other Finance Parties) amounts equal to the full amount of the Loan and all other amounts (including interest, commission and expenses) payable by the Borrower under the Finance Documents when they are due for payment (the **Parallel Debt**). The Security Holder shall have its own independent right to demand payment, repayment, discharge or performance under the Finance Documents, irrespective of any discharge of the Borrower's or any of the Guarantor's obligation to pay those amounts to the other Finance Parties resulting from failure by any of them to take appropriate steps to preserve their entitlement to be paid those amounts;

(b) the Borrower will pay to each Lender, when they are due for payment, that proportion of the Loan which was lent by that Lender and all interest, commission and other amounts payable in relation to it;

(c) the Borrower will pay to each of the Mandated Lead Arrangers, the Facility Agent, the Technical Agent and the Documentation Agent when they are due for payment, all amounts owing to it under the Finance Documents;

(d) the Borrower will pay to each Hedge Provider when they are due for payment, all amounts owing to it under the Finance Documents;

(e) the obligations of the Borrower to (i) the Security Holder and (ii) each other Finance Party are several;

(f) the Parallel Debt shall be decreased to the extent that the Borrower has paid any amounts to the Finance Parties under the Finance Documents;

(g) if an amount would otherwise be payable under this clause 2.3 to the same person in two different capacities, the Borrower and the Guarantor will only have an obligation to pay that amount once.

2.4 In the event of the appointment of a new or replacement Security Holder, the Security Holder shall assign to such successor Security Holder the obligations owed or to be owed to it pursuant to clause 2.3. Any resignation by the Security Holder or any such appointment of a new or replacement Security Holder is not effective with respect to its rights under the obligations owed or to be owed to it pursuant to clause 2.3 until such rights are so assigned to the successor Security Holder or appointed Security Holder.

2.5 The rights of each Finance Party under or in connection with the Finance Documents are separate and independent rights and any debt arising under the Finance Documents to a Finance Party from an Obligor shall be a separate and independent debt.

2.6 A Finance Party may, except as otherwise stated in the Finance Documents, separately enforce its rights under the Finance Documents without joining the Security Holder or any other Finance Parties. However, the Security Documents can only be enforced by the Security Holder.

3 Purpose

Purpose

3.1 The Borrower shall apply all amounts borrowed by it under the Facility to pay Eligible Costs in respect of the Project.

Monitoring

3.2 No Finance Party is bound to monitor or verify the application of any amount borrowed pursuant to this Agreement.

4 Conditions

Initial conditions precedent

4.1 The Borrower shall not deliver a Utilisation Request unless the Facility Agent:

(a) has received all of the documents and other evidence listed in Part 1 of Schedule 3 (*Conditions Precedent*) in form and substance satisfactory to the Facility Agent or it has waived such satisfaction (in each case acting on the instructions of the Unanimous Lenders); and

(b) is satisfied that all of the documents described in Part 1 of Schedule 3 (*Conditions Precedent*) are unconditional or are subject to conditions satisfactory to the Facility Agent

or it has waived such satisfaction (in each case acting on the instructions of the Unanimous Lenders).

4.2 The Facility Agent shall notify the Borrower, the Lenders and the Hedge Providers promptly upon the conditions in clause 4.1 above being satisfied or waived.

4.3 If the conditions in clause 4.1 above are not satisfied or waived in accordance with this Agreement on or before the CP Longstop Date then the Borrower shall not be entitled to deliver a Utilisation Request and the Commitments shall be immediately cancelled. A failure to satisfy the conditions in clause 4.1 above on or before the CP Longstop Date and a resulting cancellation of the Commitments in accordance with this clause 4.3, can only be waived with the consent of the Facility Agent (acting on the instructions of the Unanimous Lenders).

Further conditions precedent to drawdown of the Loans

4.4 The Lenders shall only be obliged to comply with their obligations under clauses 5.4 to 5.6 (*Lender's participation*) if on the date of the Utilisation Request and on each proposed Utilisation Date, the conditions precedent listed in Part 2 of Schedule 3 (*Conditions Precedent*) have been satisfied or waived with the consent of the Facility Agent (acting on the instructions of the Unanimous Lenders).

Maximum number of Loans

4.5 The Borrower shall not utilise the Facility more than once in any calendar month.

5 Utilisation

Delivery of a Utilisation Request

5.1 Subject to clause 4 (*Conditions*), the Borrower may utilise the Facility by:

(a) delivery to the Independent Technical Consultant and the Technical Agent of a Costs Certificate and a Cost to Complete Certificate, each signed by an authorised signatory of the Borrower, no later than ten (10) Business Days before the delivery of a Utilisation Request pursuant to clause 5.1(b) below, for counter-signature and confirmation by the Independent Technical Consultant; and

(b) delivery to the Facility Agent of a duly completed Utilisation Request not later than 11:00 a.m. five (5) Business Days before the proposed Utilisation Date.

Completion of a Utilisation Request

5.2 Each Utilisation Request is irrevocable and will not be regarded as having been duly completed unless:

(a) it identifies the purpose of the Utilisation(s);

(b) the proposed Utilisation Date is a Business Day within the Availability Period;

(c) the Utilisation(s) are in Dollars and the amounts of the proposed Utilisation(s) comply with clause 5.3 (*Amount*);

(d) the proposed Interest Period specified in the Utilisation Request comply with clause 9 (*Interest periods*); and

(e) it attaches a Costs Certificate and a Cost to Complete Certificate as required pursuant to clause 4.4 (*Further conditions precedent to drawdown of the Loans*).

Amount

5.3 The amount of the proposed Loan must be:

(a) a minimum of five million US Dollars (US$5,000,000)]and in an integral multiple of one million US Dollars (US$1,000,000) or if less, the Available Facility; and

(b) an amount no greater than five per cent (5%) more than the aggregate amount of Eligible Costs payable as set out in the relevant Costs Certificate.

Lenders' participation

5.4 If the conditions set out in this Agreement have been met (or waived in accordance with this Agreement), each Lender shall make its participation in each Loan available by the Utilisation Date through its Facility Office.

5.5 The amount of each Lender's participation in each Utilisation will be equal to the proportion borne by its Available Commitment to the Available Facility immediately prior to making that Loan.

5.6 The Facility Agent shall, promptly upon receipt of a duly completed Utilisation Request from the Borrower, notify each Lender of the contents of the Utilisation Request, the amount of the Loan requested therein and the amount of that Lender's participation in that Utilisation.

Deposit of proceeds of Utilisations

5.7 The proceeds of each Loan shall be transferred from an account in the name of the Facility Agent in Turkey and deposited into the relevant Copler Project Finance Account for use for the purposes described in clause 3.1 (*Purpose*).

6 Repayment

Repayment of the Loans

6.1 Except as such repayment may be modified pursuant to clause 7.10 (*Application of mandatory prepayment proceeds*) or clauses 7.13 to 7.15 (*Voluntary prepayment*), or if the First Repayment Date occurs on or around the date of Project Completion, where the Facility Agent notifies the Borrower of an updated schedule of Repayment Instalments, the Borrower shall on each Repayment Date, make a repayment of the Loans in the amount equal to the applicable percentage of all Loans borrowed as at the close of business on the last day of the Availability Period, which percentage is as set opposite that Repayment Date in Schedule 8 (*Repayment Schedule*).

6.2 The Borrower shall not reborrow any part of the Facility which is repaid.

6.3 On the Final Scheduled Repayment Date, the Borrower shall make payment in full of all amounts (whether principal, interest or otherwise) that are outstanding under or in respect of the Facility.

7 Illegality, prepayment and cancellation

Illegality and Sanctions

7.1 If it is or becomes unlawful or contrary to any regulation in any applicable jurisdiction or contrary to any Sanctions applicable to that Lender for a Lender to perform any of its obligations as contemplated by any Finance Document or to fund or maintain its participation in any Loan or it becomes unlawful for any Affiliate of a Lender for that Lender to do so:

(a) that Lender shall promptly notify the Facility Agent upon becoming aware of that event;

(b) upon the Facility Agent notifying the Borrower, the Available Commitments of that Lender will be immediately cancelled; and

(c) the Borrower shall repay that Lender's participation in the Loans made to the Borrower, together with accrued interest and all other amounts accrued to that Lender under the Finance Documents, on the last day of the Interest Period for each Loan occurring after the Facility Agent has notified the Borrower or, if earlier, the date specified by the Lender in the notice delivered to the Facility Agent (being no earlier than the last day of any applicable grace period permitted by law) and that Lender's corresponding Commitment(s) shall be cancelled in the amount of the participations repaid.

7.2 If any member of the Group or the Calik Group:

(a) is or becomes a Sanctioned Entity;

(b) participates in any manner in any Sanctioned Transaction,

each Obligor shall notify the Facility Agent promptly upon becoming aware of that event (unless that Obligor is aware that a notification has already been provided by another Obligor). Upon receipt of such notice or a notice of such event from another Finance Party, the Facility Agent shall promptly notify the Lenders, and each Lender may on no less than ten (10) Business Days' notice to the Borrower, cancel its Available Commitments and declare all outstanding Loans made by it to the Borrower, together with accrued interest, Break Costs and all other amounts accrued to it under the Finance Documents immediately due and payable, whereupon that Lender's Available Commitments will be cancelled and all such outstanding amounts owing to it will become immediately due and payable.

Mandatory prepayment - Change of Control

7.3 If any Change of Control occurs or any Obligor becomes aware that a Change of Control is reasonably likely to occur, the Borrower (or such Obligor) shall promptly (and in any event no later than three (3) Business Days after the occurrence of that event) notify the Facility Agent of that event, and:

(a) a Qualifying Lender may immediately upon notice to the Borrower and the Facility Agent after any Change of Control has occurred, cancel its Available Commitments and declare all its outstanding Loans, together with accrued interest, Break Costs and all other amounts accrued to it under the Finance Documents immediately due and payable, whereupon its Commitments will be cancelled and all such outstanding amounts will become immediately due and payable; provided that the Qualifying Lender may not do so, if, in relation to a Change of Control occurring pursuant to paragraphs (a) and (b) of the definition of Change of Control only, (i) the shares of the Parent have been acquired by, or the Parent has merged with, a company having a credit rating equal to or higher than the credit rating of the Parent on the date of this Agreement; and (ii) the Qualifying Lender is satisfied that such company has complied with all Lenders' necessary "know your customer" or other similar requirements; or

(b) the Facility Agent may (acting on the instructions of the Supermajority Lenders), immediately upon notice to the Borrower after any Change of Control has occurred, cancel the Available Commitments and declare all outstanding Loans, together with accrued interest, Break Costs and all other amounts accrued under the Finance Documents immediately due and payable, whereupon the Total Commitments will be cancelled and all such outstanding amounts will become immediately due and payable; provided that the Supermajority Lenders may not instruct the Facility Agent to do so, and the Facility Agent shall not cancel Available Commitments or declare any amounts due and payable, if, in relation to a Change of Control occurring pursuant to paragraphs (a) and (b) of the definition of Change of Control only, (i) the shares of the Parent have been

acquired by, or the Parent has merged with, a company having a credit rating equal to or higher than the credit rating of the Parent on the date of this Agreement; and (ii) the Lenders are satisfied that such company has complied with all Lenders' necessary "know your customer" or other similar requirements.

Mandatory prepayment - Asset Disposal

7.4 If the Borrower makes any Permitted Disposal (other than in respect of clauses 24.9(c), 24.9(d) and 24.9(e) (*No disposals*)) in any rolling twelve (12) month period where the Proceeds when aggregated with the Proceeds of all other Permitted Disposals (other than in respect of clauses 24.9(c), 24.9(d) and 24.9(e) (*No disposals*)) in that rolling twelve (12) month period exceeds five million Dollars (US$5,000,000) or its Equivalent, the Borrower shall promptly (and in any event no later than ten (10) Business Days after the occurrence of that event) prepay the Loans in an amount equal to such excess, provided that the amount of such excess is at least one million Dollars (US$1,000,000) or its Equivalent.

Mandatory prepayment - Insurance Proceeds/Compensation Proceeds

7.5 Except as provided in clause 7.6 below, the Borrower shall, within ten (10) Business Days following receipt by the Borrower of any Insurance Proceeds (other than any insurance proceeds in respect of third party liability insurance where such proceeds are to be paid to third parties) or any Compensation Proceeds, in each case on or after Financial Close, prepay the Loans in an amount equal to such Insurance Proceeds or Compensation Proceeds on the next Interest Payment Date.

7.6 The Borrower shall not be required to prepay any Loans following such receipt or payment of Insurance Proceeds or Compensation Proceeds if:

(a) in relation to Insurance Proceeds in an aggregate amount no greater than twenty five million Dollars (US$25,000,000) or its Equivalent relating to a single event or incident or a series of connected events or incidents, such Insurance Proceeds are promptly applied in the repair or reinstatement of the relevant Project Assets;

(b) in relation to Insurance Proceeds in an aggregate amount in excess of twenty five million Dollars (US$25,000,000) or its Equivalent relating to a single event or incident or a series of connected events or incidents, such Insurance Proceeds are promptly applied in the repair or reinstatement of the relevant Project Assets in accordance with a Reinstatement Plan acceptable to the Majority Lenders delivered to the Facility Agent by the Borrower within thirty (30) days of the event giving rise to the receipt or payment of such Insurance Proceeds;

(c) in relation to Insurance Proceeds, the relevant Insurance Proceeds are paid in respect of delay in start-up or business interruption Insurance; or

(d) in relation to Performance Liquidated Damages, such Performance Liquidated Damages are promptly applied in remedying the matter to which the payment of such Performance Liquidated Damages relates.

Mandatory prepayment - cash sweep

7.7 The Borrower shall, within forty-five (45) days of each Scheduled Calculation Date which occurs whilst the principal amount outstanding under the Loans is more than $150,000,000, deliver a Cash Sweep Calculation Certificate to the Facility Agent and make a mandatory prepayment of the Tranche B Loans outstanding on such Scheduled Calculation Date in an amount equal to:

(a) if the principal amount outstanding under the Loans is more than $150,000,000 but not more than $250,000,000, thirty per cent (30%) of the Excess Cashflow for the relevant Cash Sweep Period; and

(b) if the principal amount outstanding under the Loans is more than $250,000,000, fifty per cent (50%) of the Excess Cashflow for the relevant Cash Sweep Period,

in each case as set out in the relevant Cash Sweep Calculation Certificate which the Facility Agent has confirmed is satisfactory.

7.8 The Borrower may, within sixty (60) days of each Scheduled Calculation Date, provided (i) the Borrower has provided the Facility Agent, together with a Cash Sweep Calculation Certificate, such evidence as is necessary to satisfy the Facility Agent that the Distribution Conditions have been satisfied (by reference to that Scheduled Calculation Date, as applicable), (ii) the Facility Agent (acting on behalf of the Majority Lenders) has not, within ten (10) Business Days of receipt of the Cash Sweep Calculation Certificate, objected to the amounts and calculations set out in the relevant Cash Sweep Calculation Certificate, and (iii) any payment required to be made in accordance with clause 7.7 above has been made in full, withdraw from the Proceeds Account and pay into the Distribution Account an amount equal to:

(a) if the principal amount outstanding under the Loans is less than or equal to $150,000,000, one hundred per cent (100%) of the Excess Cashflow for the relevant Cash Sweep Period;

(b) if the principal amount outstanding under the Loans is more than $150,000,000 but not more than $250,000,000, seventy per cent (70%) of the Excess Cashflow for the relevant Cash Sweep Period; and

(c) if the principal amount outstanding under the Loans is more than $250,000,000, fifty per cent (50%) of the Excess Cashflow for the relevant Cash Sweep Period,

in each case as set out in the relevant Cash Sweep Calculation Certificate which (i) in case of paragraphs (b) and (c) above, the Facility Agent has confirmed is satisfactory, or (ii) in case of paragraph (a) above, the Facility Agent has not objected to within ten (10) Business Days of its receipt as provided for above.

7.9 If on any Scheduled Calculation Date an Event of Default is continuing, the Borrower shall, unless the Facility Agent (acting on the instructions of the Majority Lenders) advises otherwise, within ten (10) Business Days of the Scheduled Calculation Date make a mandatory prepayment of the Loans outstanding in an amount at least equal to the Excess Cashflow for the relevant Cash Sweep Period.

Application of mandatory prepayment proceeds

7.10 Each prepayment to be made under clause 7.1 (*Illegality and Sanctions*) to 7.6 (*Mandatory prepayment - Insurance Proceeds/Compensations Proceeds*) shall be applied:

(a) pro rata against all relevant outstanding instalments under the Facility; and

(b) pro rata among the Lenders in proportion to their participation in the relevant Loans.

7.11 Each prepayment to be made under clause 7.9 (*Mandatory prepayment - Cash Sweep*) shall be applied:

(a) in reducing the outstanding instalments of Tranche B Loans in inverse order of maturity; and

(b) pro rata among the Lenders in proportion to their participation in the relevant Loans.

Voluntary cancellation

7.12 The Borrower may, by giving the Facility Agent not less than ten (10) Business Days' (or such shorter period as the Majority Lenders may agree in writing) prior written notice, cancel the whole or any part (and, if in part, being a minimum amount of five million Dollars (US$5,000,000) and an integral multiple of one million Dollars (US$1,000,000)) of the Available Facility. Any cancellation under this clause 7.12 shall reduce the Commitments of the Lenders pro rata under the Facility.

Voluntary prepayment

7.13 Subject to clause 7.21 (*Restrictions*) the Borrower may, by giving the Facility Agent not less than ten (10) Business Days (or three (3) Business Days if such prepayment is being made pursuant to clause 27.5 (*Financial covenants*), or in either case such other period as the Majority Lenders may agree) prior notice, prepay the whole or any part of any Loan on an Interest Payment Date in respect of that Loan or at any time if such prepayment is being made

pursuant to clause 27.5 (*Financial covenants*) (or at such other times as the Lenders may agree).

7.14 Any voluntary prepayment of part of any Loan must be a minimum amount of five million Dollars (US$5,000,000) and an integral multiple of one million Dollars (US$1,000,000).

7.15 Any prepayment under clauses 7.13 to 7.14 (*Voluntary prepayment*) above shall be applied:

(a) pro rata in reducing each outstanding instalment under the Facility; and

(b) pro rata among the Lenders in proportion to their participation in the relevant Loans.

Right of repayment and cancellation in relation to a single lender

7.16 Subject to clause 7.21 (*Restrictions*), if:

(a) any sum payable to any Lender by an Obligor is required to be increased under clause 12.4 (*Tax gross-up*); or

(b) any Lender claims indemnification from the Borrower under clause 12.7 (*Tax indemnity*) or clause 13.1 (*Increased costs*);

the Borrower may, whilst the circumstance giving rise to the requirement for the increase or indemnification continues, give the Facility Agent notice of cancellation of the Commitments of that Lender and its intention to procure the repayment of that Lender's participation in the Loans.

7.17 On receipt of a valid notice in accordance with clause 7.16 above, the Commitment of that Lender shall immediately be reduced to zero (0).

7.18 On the last day of each Interest Period which ends after the Borrower has given a valid notice under clause 7.16 above (or, if earlier, the date specified by the Borrower in that notice), the Borrower shall repay that Lender's participation in that Loan.

Automatic cancellation

7.19 The Available Facility shall be automatically cancelled at the end of the Availability Period.

Restrictions

7.20 Any notice of cancellation or prepayment given by any Party under this clause 7 (*Illegality, prepayment and cancellation*) shall be irrevocable and shall specify the date or dates upon which the relevant cancellation or prepayment is to be made and the amount of that cancellation or prepayment.

7.21 The Borrower shall not be entitled to serve a notice under clause 7.16 (*Right of repayment and cancellation in relation to a single lender*), to make a prepayment under clauses 7.13 to 7.15 (*Voluntary prepayment*), or give any notice under clause 7.12 (*Voluntary cancellation*) unless:

(a) the Borrower has sufficient funds to use for the purpose of the prepayment in accordance with the Payment Cascade; and

(b) the proposed prepayment and/or cancellation is unlikely to cause a Cost to Complete Shortfall to occur.

7.22 If the Borrower makes any prepayment under this Agreement, the Borrower shall also pay at the same time:

(a) accrued interest, fees and other amounts outstanding in relation to the amount prepaid;

(b) any Break Costs payable under clauses 10.9 and 10.10 (*Break Costs*) in respect of the amount prepaid; and

(c) any Hedging Termination Amount that becomes payable as a consequence of any Hedging Transactions being terminated in whole or in part in accordance with the Hedging Strategy in respect of the prepayment.

Subject to the payment of the amounts contemplated by this clause, any prepayment under this Agreement shall be made without premium or penalty.

7.23 The Borrower is not entitled to reborrow any part of any Loan which has been prepaid.

7.24 The Borrower shall not repay or prepay all or any part of the Loans or cancel all or any part of the Commitments except at the times and in the manner expressly provided for in this Agreement.

7.25 Any Commitments cancelled under this Agreement cannot be subsequently reinstated.

7.26 If the Facility Agent receives a notice under this clause 7 (*Illegality, prepayment and cancellation*) it shall promptly forward a copy of that notice to either the Borrower or the affected Lender(s), as appropriate.

8 Interest

Calculation of interest

8.1 The rate of interest on each Loan for each Interest Period is the percentage rate per annum which is the aggregate of the applicable:

(a) Margin;

(b) LIBOR; and

(c) Mandatory Cost, if any.

Payment of interest

8.2 The Borrower shall pay accrued interest on each Loan on each Interest Payment Date for that Loan.

Default interest

8.3 If an Obligor fails to pay any amount payable by it under a Finance Document on its due date, interest shall accrue on the overdue amount from the due date up to the date of actual payment (both before and after judgment, as applicable) at a rate which, subject to clause 8.4 below, is two per cent (2%) per annum higher than the rate which would have been payable if the overdue amount had, during the period of non-payment, constituted a Loan for successive Interest Periods, each of a duration selected by the Facility Agent (acting reasonably) which in any case shall not be shorter than one (1) month. Any interest accruing under this clause 8.3 shall be immediately payable by that Obligor on demand by the Facility Agent.

8.4 If any overdue amount consists of all or part of a Loan which became due on a day which was not the last day of an Interest Period relating to that Loan:

(a) the first Interest Period for that overdue amount shall have a duration equal to the unexpired portion of the current Interest Period relating to that Loan; and

(b) the rate of interest applying to the overdue amount during that first Interest Period shall be two per cent (2%) per annum higher than the rate which would have applied if the overdue amount had not become due.

8.5 Default interest (if unpaid) arising on an overdue amount will be compounded with the overdue amount at the end of each Interest Period applicable to that overdue amount but will remain immediately due and payable.

Notification of rates of interest

8.6 The Facility Agent shall promptly notify the Lenders and the Borrower of the determination of a rate of interest under this Agreement.

9 Interest periods

Interest Periods

9.1 The Borrower may select an Interest Period for a Loan in the Utilisation Request for that Loan or (if the Loan has already been borrowed) in a Selection Notice.

9.2 Each Selection Notice is irrevocable and must be delivered to the Facility Agent by the Borrower no later than 11:00 a.m. five (5) Business Days before the last day of the then current Interest Period.

9.3 If the Borrower fails to deliver a Selection Notice to the Facility Agent in accordance with clause 9.2 above, the relevant Interest Period for that Loan shall be the same duration as the immediately preceding Interest Period in respect of that Loan.

9.4 Subject to this clause 9 (*Interest periods*), the Borrower may select an Interest Period of three (3) or six (6) months or any other period agreed between the Borrower and the Facility Agent (acting reasonably on the instructions of all Lenders). In addition the Borrower may select an Interest Period of a period of less than three (3) months, if necessary to ensure that the Loan has an Interest Period ending on a Repayment Date.

9.5 Notwithstanding anything in clauses 9.1 to 9.4, an Interest Period for any Loan shall not extend beyond the Final Scheduled Repayment Date.

9.6 Each Interest Period for each Loan shall start on the Utilisation Date for that Loan or (if already made) on the last day of its preceding Interest Period.

Changes to Interest Periods

9.7 Prior to determining the interest rate for a Loan, the Facility Agent may (but is not obliged to) reduce an Interest Period for any Loan to ensure that the Interest Period ends on a Repayment Date for the Loan, or to otherwise consolidate Loans in order to facilitate the payment of any Repayment Instalment due on any Repayment Date.

9.8 If the Facility Agent makes any change to an Interest Period referred to in clause 9.7 above, it shall promptly notify the Borrower and the Lenders.

Non-Business Days

9.9 If an Interest Period would otherwise end on a day which is not a Business Day, that Interest Period will instead end on the next Business Day in that calendar month (if there is one) or the preceding Business Day (if there is not).

Consolidation of Loans

9.10 If two or more Interest Periods end on the same date the Loans to which those Interest Periods relate shall (unless the Borrower has delivered a Selection Notice selecting a different Interest Period for the next Interest Period) be consolidated into, and treated as, a single Loan under the Facility on the last day of the Interest Period.

10 Changes to the calculation of interest

Unavailability of Screen Rate

10.1 If no Screen Rate is available for LIBOR for the Interest Period of a Loan, the applicable LIBOR shall be the Interpolated Screen Rate for a period equal in length to the Interest Period of that Loan.

10.2 If no Screen Rate is available for LIBOR for:

(a) Dollars; or

(b) the Interest Period of a Loan and it is not possible to calculate the Interpolated Screen Rate,

the applicable LIBOR shall be the Base Reference Bank Rate as of 11:00 a.m. (London time) on the Quotation Day for Dollars and for a period equal in length to the Interest Period of that Loan.

10.3 If clause 10.2 above applies but no Base Reference Bank Rate is available for Dollars for the relevant Interest Period there shall be no LIBOR for that Loan and clause 10.7 (*Cost of funds*) shall apply to that Loan for that Interest Period.

Calculation of Base Reference Bank Rate

10.4 Subject to clause 10.5 below, if LIBOR is to be determined on the basis of a Base Reference Bank Rate but a Reference Bank does not supply a quotation by 11:00 a.m. (London time) on the Quotation Day, the Base Reference Bank Rate shall be calculated on the basis of the quotations of the remaining Reference Banks.

10.5 If at or about noon on the Quotation Day none or only one of the Reference Banks supplies a quotation, there shall be no Base Reference Bank Rate for the relevant Interest Period.

Market disruption

10.6 If before close of business in London on the Quotation Day for the relevant Interest Period the Facility Agent receives notifications from a Lender or Lenders (whose participations in a Loan exceed fifty per cent (50%) of that Loan) that the cost to it of funding its participation in that Loan from whatever source it may reasonably select would be in excess of LIBOR there shall be no LIBOR for that Loan and clause 10.7 (*Cost of funds*) shall apply to that Loan for the relevant Interest Period.

Cost of funds

10.7 If clause 10.6 (*Market disruption*) applies, the rate of interest on the relevant Loan for the relevant Interest Period shall be the percentage rate per annum which is the sum of:

(a) the applicable Margin;

(b) the rate notified to the Facility Agent by that Lender as soon as practicable and in any event by close of business on the date falling five (5) Business Days after the Quotation Day (or, if earlier, on the date falling five (5) Business Days before the date on which interest is due to be paid in respect of that Interest Period), to be that which expresses as a percentage rate per annum the cost to the relevant Lender of funding its participation in that Loan from whatever source it may reasonably select; and

(c) the Mandatory Cost, if any, applicable to that Lender's participation in the Loan.

10.8 If clause 10.7 above applies, the Facility Agent shall, as soon as is practicable, notify the Borrower.

Break Costs

10.9 The Borrower shall, within five (5) Business Days of demand by a Finance Party, pay to that Finance Party its Break Costs attributable to all or any part of a Loan or Unpaid Sum being paid by that Borrower on a day other than the last day of an Interest Period for that Loan or Unpaid Sum.

10.10 Each Lender shall, as soon as reasonably practicable after a demand by the Facility Agent, provide a certificate confirming the amount of its Break Costs for any Interest Period in which they accrue.

11 Fees

Commitment fee

11.1 The Borrower shall pay to the Facility Agent (for the account of each Lender) a fee in Dollars computed at the rate of:

(a) 0.5% per annum on that Lender's average daily Available Commitment, from the date of this Agreement until (but excluding) the date of Financial Close;

(b) 0.95% per annum on that Lender's pro rata proportion of the Available Commitment in respect of Tranche A Loans, from (and including) the date of Financial Close until the end of the Availability Period; and

(a) 0.9% per annum on that Lender's pro rata proportion of the Available Commitment in respect of Tranche B Loans, from (and including) the date of Financial Close until the end of the Availability Period.

11.2 The accrued commitment fee is payable in arrears on each Quarter Date falling during the Availability Period, on the last day of the Availability Period and if cancelled in full, on the cancelled amount of the relevant Lenders' Commitment at the time the cancellation is effective.

Arrangement fee

11.3 The Borrower shall pay to the Mandated Lead Arrangers a non-refundable arrangement and structuring fee in the amount of [**REDACTED**] of the Total Commitments (the Arrangement and Structuring Fee) which shall be split between the Mandated Lead Arrangers pro-rata to their respective Commitments as at the date of this Agreement.

11.4 The Arrangement and Structuring Fee shall be due and payable on the date of this Agreement.

Facility Agent fee

11.5 The Borrower shall pay to the Facility Agent (for its own account) an annual, non-refundable agency fee in the amount [**REDACTED**], which shall be due and payable in advance, on the date of this Agreement and thereafter on each anniversary of that date until the expiry of the Facility Period.

Technical Agent fee

11.6 The Borrower shall pay the Technical Agent (for its own account) a non-refundable agency fee in the amount of [**REDACTED**] which shall be due and payable as follows: [**REDACTED**] on the date of this Agreement and [**REDACTED**] the date of Financial Close.

Documentation Agent Fee

11.7 The Borrower shall pay the Documentation Agent (for its own account) a non-refundable agency fee in the amount of [**REDACTED**] which shall be due and payable on the date of this Agreement.

Security Holder Fee

11.8 The Borrower shall pay to the Security Holder (for its own account) a security holder fee in the amount and at the times agreed in a Fee Letter.

Structuring Fee

11.9 The Borrower shall pay to the Turkish Lender (for its own account) a structuring fee in the amount and at the times agreed in a Fee Letter.

[Redacted various fee amounts.]

General

11.10 All fees payable pursuant to this clause 11 (*Fees*) shall be payable to the accounts which the relevant recipient may specify from time to time.

12 Tax Gross-up and indemnities

Tax Definitions

12.1 In this Agreement:

Protected Party means a Finance Party which is or will be subject to any liability, or required to make any payment, for or on account of Tax imposed on, or in relation to, a payment received or receivable (or any sum deemed for the purposes of Tax to be received or receivable) under a Finance Document

Tax Credit means a credit against, relief or remission for, or repayment of any Tax

Tax Deduction means a deduction or withholding for or on account of Tax from a payment under a Finance Document, other than a FATCA Deduction

Tax Payment means either the increase in a payment made by an Obligor to a Finance Party under clauses 12.2 to 12.6 (*Tax gross-up*) or a payment under clauses 12.7 to 12.10 (*Tax indemnity*).

Unless a contrary indication appears, in this clause 12 (*Tax Gross-up and indemnities*) a reference to "determines" or "determined" means a determination made in the absolute discretion of the person making the determination.

Tax gross-up

12.2 Each Obligor shall make all payments to be made by it under the Finance Documents without any Tax Deduction, unless a Tax Deduction is required by law.

12.3 The Borrower shall promptly upon becoming aware that an Obligor must make a Tax Deduction (or that there is any change in the rate or the basis of a Tax Deduction) notify the Facility Agent accordingly. Similarly, a Lender shall notify the Facility Agent on becoming so aware in respect of a payment payable to that Lender. If the Facility Agent receives such notification from a Lender it shall notify the Borrower.

12.4 If a Tax Deduction is required by law to be made by an Obligor, the amount of the payment due from that Obligor shall be increased to an amount which (after making any Tax Deduction) leaves an amount equal to the payment which would have been due if no Tax Deduction had been required.

12.5 If an Obligor is required to make a Tax Deduction, that Obligor shall make that Tax Deduction and any payment required in connection with that Tax Deduction within the time allowed and in the minimum amount required by law.

12.6 Within thirty (30) days of making either a Tax Deduction or any payment required in connection with that Tax Deduction, the Obligor making that Tax Deduction shall deliver to the Facility Agent for the Finance Party entitled to the payment evidence reasonably satisfactory to that Finance Party that the Tax Deduction has been made or (as applicable) any appropriate payment paid to the relevant taxing authority.

Tax indemnity

12.7 The Borrower shall (within five (5) Business Days of demand by the Facility Agent) pay to a Protected Party an amount equal to the loss, liability or cost which that Protected Party determines will be or has been (directly or indirectly) suffered for or on account of Tax by that Protected Party in respect of a Finance Document.

12.8 Clause 12.7 above shall not apply:

(a) with respect to any Tax assessed on a Finance Party:

(i) under the law of the jurisdiction in which that Finance Party is incorporated or any political subdivision thereof, if different, the jurisdiction (or jurisdictions) in which that Finance Party is treated as resident for tax purposes; or

(ii) under the law of the jurisdiction or any political subdivision thereof, in which that Finance Party's Facility Office is located in respect of amounts received or receivable in that jurisdiction,

if that Tax is imposed on or calculated by reference to the net income (however denominated) received or receivable (but not any sum deemed to be received or receivable) by that Finance Party or is a similar tax imposed on financial institutions in addition to or in lieu of net income tax; or

(b) to the extent a loss, liability or cost:

(i) is compensated for by an increased payment under clauses 12.2 to 12.6 (*Tax gross-up*); or

(ii) relates to a FATCA Deduction required to be made by a Party.

12.9 A Protected Party making, or intending to make a claim under clause 12.7 above shall promptly notify the Facility Agent of the event which will give, or has given, rise to the claim, following which the Facility Agent shall notify the Borrower.

12.10 A Protected Party shall, on receiving a payment from an Obligor under clauses 12.7 to 12.9 above, notify the Facility Agent.

12.11 The Borrower shall (within five (5) Business Days of demand by the Facility Agent) pay to any applicable Finance Party an amount equal to the loss, liability or cost which that Finance Party determines will be or has been (directly or indirectly) suffered for or on account of Turkish Banking and Insurance Transactions Tax (*Banka ve Sigorta Muameleleri Vergisi (BSMV*)) in relation to an Obligor, the Project or any Finance Document.

Tax Credit

12.12 If an Obligor makes a Tax Payment and the relevant Finance Party determines that:

(a) a Tax Credit is attributable either to an increased payment of which that Tax Payment forms part, or to that Tax Payment; and

(b) the relevant Finance Party has obtained and utilised that Tax Credit,

the Finance Party shall elect to either:

(i) pay an amount to the relevant Obligor which that Finance Party determines will leave it (after that payment) in the same after-Tax position as it would have been in had the Tax Payment not been required to be made by the Obligor; or

(ii) set off against any payment obligation due from the relevant Obligor an amount which that Finance Party determines will leave it (after that set-off) in the same after-Tax position as it would have been in had the Tax Payment not been required to be made by the Obligor.

Stamp taxes

12.13 The Borrower shall pay and, within five (5) Business Days of demand, indemnify each Finance Party against any cost, loss or liability such Finance Party incurs in relation to all stamp duty, registration and other similar Taxes payable in respect of any Finance Document unless the stamp duty is triggered as a result of such Finance Party breaching clause 37.15 (*Austrian stamp duty*) intentionally or with gross negligence.

Value added tax

12.14 All amounts set out or expressed in a Finance Document to be payable by any Party to a Finance Party which (in whole or in part) constitute the consideration for a supply or supplies for VAT purposes shall be deemed to be exclusive of any VAT which is chargeable on such supply or supplies, and accordingly, subject to clause 12.15 below, if VAT is or becomes chargeable on any supply made by any Finance Party to any Party under a Finance Document, that Party shall pay to the Finance Party (in addition to and at the same time as paying any other consideration

for such supply) an amount equal to the amount of such VAT (and such Finance Party shall promptly provide an appropriate VAT invoice to such Party).

12.15 If VAT is or becomes chargeable on any supply made by any Finance Party (the **Supplier**) to any other Finance Party (the **Recipient**) under a Finance Document, and any Party (other than the Recipient) (the **Subject Party**) is required by the terms of any Finance Document to pay an amount equal to the consideration for such supply to the Supplier (rather than being required to reimburse the Recipient in respect of that consideration), such Party shall also pay to the Supplier (in addition to and at the same time as paying such amount) an amount equal to the amount of such VAT. The Recipient will promptly pay to the Subject Party an amount equal to any credit or repayment obtained by the Recipient from the relevant tax authority which the Recipient reasonably determines is in respect of such VAT.

12.16 Where a Finance Document requires any Party to reimburse or indemnify a Finance Party for any cost or expense, that Party shall reimburse or indemnify, as the case may be, such Finance Party for the full amount of such cost or expense, including such part thereof as represents VAT, save to the extent that such Finance Party reasonably determines that it is entitled to credit or repayment in respect of such VAT from the relevant tax authority.

12.17 Any reference in clauses 12.14 to 12.17 to any Party shall, at any time when such Party is treated as a member of a group for VAT purposes, include (where appropriate and unless the context otherwise requires) a reference to the representative member of such group at such time (the term "representative member" to have the same meaning as in the Value Added Tax Act 1994).

12.18 **FATCA Information**

(a) Subject to paragraph (c) below, each Party shall, within ten (10) Business Days of a reasonable request by another Party:

(i) confirm to that other Party whether it is:

(A) a FATCA Exempt Party; or

(B) not a FATCA Exempt Party; and

(ii) supply to that other Party such forms, documentation and other information relating to its status under FATCA as that other Party reasonably requests for the purposes of that other Party's compliance with FATCA; and

(iii) supply to that other Party such forms, documentation and other information relating to its status as that other Party reasonably requests for the purposes of that other

Party's compliance with any other law, regulation, or exchange of information regime.

(b) If a Party confirms to another Party pursuant to 12.18(a)(i) above that it is a FATCA Exempt Party and it subsequently becomes aware that it is not, or has ceased to be a FATCA Exempt Party, that Party shall notify that other Party reasonably promptly.

(c) Paragraph (a) above shall not oblige any Finance Party to do anything, and paragraph (a)(iii) above shall not oblige any other Party to do anything, which would or might in its reasonable opinion constitute a breach of:

(i) any law or regulation;

(ii) any fiduciary duty; or

(iii) any duty of confidentiality.

(d) If a Party fails to confirm whether or not it is a FATCA Exempt Party or to supply forms, documentation or other information requested in accordance with paragraph (a)(i) or (ii) above (including, for the avoidance of doubt, where paragraph (c) above applies), then such Party shall be treated for the purposes of the Finance Documents (and payments under them) as if it is not a FATCA Exempt Party until such time as the Party in question provides the requested confirmation, forms, documentation or other information.

(e) Each Original Lender and each New Lender under clause 28 (*Changes to the Lenders*) shall:

(i) on the date of this Agreement (with regard to each Original Lender only);

(ii) on the relevant Transfer Date (with regard to the relevant New Lender only); or

(iii) on the date of a request from the Agent,

supply to the Facility Agent:

(A) a withholding certificate on Form W-8, Form W-9 or any other relevant form certifying its status as a FATCA Exempt Party; or

(B) any withholding statement or other document, authorisation or waiver as the Facility Agent may require to certify or establish its status as a FATCA Exempt Party.

(f) The Facility Agent shall as soon as practicable provide any withholding certificate, withholding statement, document, authorisation or waiver it receives from a Lender pursuant to paragraph (e) above to the Borrower.

(g) If any withholding certificate, withholding statement, document, authorisation or waiver provided to the Facility Agent by a Lender pursuant to paragraph (e) above is or becomes materially inaccurate or incomplete, that Lender shall promptly update it and provide such updated withholding certificate, withholding statement, document, authorisation or waiver to the Facility Agent unless it is unlawful for the Lender to do so (in which case the Lender shall promptly notify the Facility Agent). The Facility Agent shall as soon as practicable provide any such updated withholding certificate, withholding statement, document, authorisation or waiver to the Borrower.

(h) The Facility Agent may rely on any withholding certificate, withholding statement, document, authorisation or waiver it receives from a Lender pursuant to paragraph (e) or (g) above without further verification. The Facility Agent shall not be liable for any action taken by it under or in connection with paragraph (e), (f) or (g) above.

(i) If a Lender subsequently becomes aware that it has ceased to be a FATCA Exempt Party, that Lender shall immediately notify the Facility Agent and the Facility Agent shall as soon as practicable notify the relevant Borrower and the other Finance Parties.

12.19 **FATCA Deduction by a Finance Party**

(a) Each Party may make any FATCA Deduction it is required by FATCA to make, and any payment required in connection with that FATCA Deduction, and no Party shall be required to increase any payment in respect of which it makes such a FATCA Deduction or otherwise compensate the recipient of the payment for that FATCA Deduction.

(b) Each Party shall promptly, upon becoming aware that it must make a FATCA Deduction (or that there is any change in the rate or the basis of such FATCA Deduction), and in any case at least three Business Days prior to making a FATCA Deduction, notify the Party to whom it is making the payment and, on or prior to the day on which it notifies that Party, shall also notify the Borrower, the Facility Agent and the other Finance Parties.

13 Increased costs

Increased costs

13.1 Subject to clauses 13.5 and 13.6 (*Exceptions*) the Borrower shall, within five (5) Business Days of a demand by the Facility Agent, pay for the account of a Finance Party the amount of any Increased Costs incurred by that Finance Party or any of its Affiliates as a result of:

(a) the introduction of or any change in (or in the interpretation, administration or application of) any law or regulation after the date of this Agreement;

(b) compliance with any law or regulation made after the date of this Agreement; and/or

(c) the implementation or application of or compliance with any Basel III Regulation, CRD IV, CRR or the Dodd-Frank Act or any law or regulation that implements or applies any Basel III Regulation, CRD IV, CRR or the Dodd-Frank Act.

13.2 In this Agreement **Increased Costs** means:

(a) a reduction in the rate of return from the Facility or on a Finance Party's (or its Affiliate's) overall capital;

(b) an additional or increased cost; or

(c) a reduction of any amount due and payable under any Finance Document,

which is incurred or suffered by a Finance Party or any of its Affiliates to the extent that it is attributable to that Finance Party having entered into its Commitment or funding or performing its obligations under any Finance Document.

Increased cost claims

13.3 A Finance Party intending to make a claim pursuant to clause 13.1 (*Increased costs*) shall notify the Facility Agent of the event giving rise to the claim, following which the Facility Agent shall promptly notify the Borrower.

13.4 Each Finance Party shall, as soon as practicable after a demand by the Facility Agent or the Borrower, provide a certificate confirming the amount of its Increased Costs.

Exceptions

13.5 Clause 13.1 (*Increased costs*) does not apply to the extent any Increased Cost is:

(a) attributable to a Tax Deduction required by law to be made by the Borrower;

(b) compensated for by clauses 12.7 to 12.10 (*Tax indemnity*) (or would have been compensated for under clauses 12.7 to 12.10 (*Tax indemnity*) but was not so compensated solely because any of the exclusions in clause 12.8 (*Tax indemnity*) applied);

(c) attributable to the wilful breach by the relevant Finance Party or its Affiliates of any law or regulation;

(d) compensated for by the payment of the Mandatory Cost; or

(e) attributable to a FATCA Deduction required to be made by a Party.

13.6 In clause 13.5 above, a reference to a **Tax Deduction** has the same meaning given to the term in clause 12.1 (*Tax Definitions*).

14 Other indemnities

Currency indemnity

14.1 If any sum due from an Obligor under the Finance Documents (a **Sum**), or any order, judgment or award given or made in relation to a Sum, has to be converted from the currency (the **First Currency**) in which that Sum is payable into another currency (the **Second Currency**) for the purpose of:

(a) making or filing a claim or proof against that Obligor; and/or

(b) obtaining or enforcing an order, judgment or award in relation to any litigation proceedings,

the Borrower shall as an independent obligation, within five (5) Business Days of demand indemnify each Finance Party to whom that Sum is due against any cost, loss or liability arising out of or as a result of the conversion including any discrepancy between (A) the rate of exchange used to convert that Sum from the First Currency into the Second Currency and (B) the rate or rates of exchange available to that person at the time of its receipt of that Sum.

14.2 Each of the Borrower and the Parent waives any right it may have in any jurisdiction to pay any amount under the Finance Documents in a currency or currency unit other than that in which it is expressed to be payable.

Other indemnities

14.3 The Borrower shall indemnify each Finance Party on demand against any cost, loss or liability incurred by that Finance Party as a result of:

(a) the occurrence of any Event of Default;

(b) a failure by an Obligor to pay any amount due under a Finance Document on its due date;

(c) funding, or making arrangements to fund, its participation in a Loan requested by the Borrower in a Utilisation Request but not made by reason of the operation of any one or more of the provisions of this Agreement (other than by reason of default or negligence by that Finance Party alone);

(d) a Loan (or part of a Loan) not being prepaid in accordance with a notice of prepayment given by the Borrower;

(e) any actual or alleged Material Environmental Breach of any applicable Environmental Law or any Environmental or Social Permit in connection with the Project or the Facility by any person other than a Finance Party (except where such actual or alleged Material Environmental Breach by a Finance Party is due to the acts or omissions of an Obligor, any other Major Project Party or any other third party);

(f) any third party claim or proceedings (other than a claim or proceeding in respect of Taxes made by an authority entitled to levy or impose Taxes) being made or brought against that Finance Party in connection with the Project, the Facility or any of the Obligors to the extent that such claim or proceeding is brought or initiated during, or relates to events, acts, omissions or circumstances which occurred or arose during, the Facility Period, unless such cost, loss or liability is caused by the negligence or misconduct of that Finance Party; and/or

(g) the replacement of a Lender pursuant to clause 7.16 (*Right of repayment and cancellation in relation to a single Lender*) or clause 32.16 (*Instructions*), provided that the replaced Lender shall not be indemnified pursuant to this clause 14.3(g) in respect of any amounts which it would have received or been entitled to receive under the Finance Documents after the date of its replacement under clause 7.18 (*Right of repayment and cancellation in relation to a single* lender) or 32.16 (*Instructions*) , as the case may be, if it had not been so replaced.

Indemnity to the Facility Agent and Security Holder

14.4 The Borrower shall indemnify the Facility Agent and the Security Holder (and, in respect of sub-paragraph (b) below, any Finance Party) promptly on demand (and in any event within five (5) Business Days) against any cost, loss or liability incurred by the Facility Agent or the Security Holder (acting reasonably) as a result of:

(a) investigating any event which it reasonably believes is a Default;

(b) acting or relying on any notice, request or instruction which it reasonably believes to be genuine, correct and appropriately authorised; and

(c) any action taken by the Facility Agent or the Security Holder or any of their respective representatives, agents or contractors in connection with clause 25.21 (*Power to remedy*).

Sanctions

14.5 The Borrower shall indemnify and hold harmless each Finance Party against all actions, proceedings, claims and/or demands that may be brought against such Finance Party and against all losses, damages, costs and expenses which such Finance Party may incur or sustain, in connection with or arising out of:

(a) the seizure, blocking or withholding of any funds (including any funds held by a Finance Party) by any Sanctioning Body related to or connected with, in any manner whatsoever, any action or omission of an Obligor; and/or

(b) conduct or activity of an Obligor that directly or indirectly benefits any party against which Sanctions have been established by any Sanctioning Body from time to time.

Substantiation

14.6 If under any provision of this Agreement or any Finance Document, a Finance Party makes a demand for payment in relation to any indemnity or other compensation for costs, losses or liabilities, that Finance Party shall (if possible and practical, and in the discretion of that Finance Party) provide substantiation to the Borrower of the amount demanded.

15 Mitigation by the Finance Parties

Mitigation

15.1 Each Finance Party shall, in consultation with the Borrower, take all reasonable steps to mitigate any circumstances which arise and which would result in any amount becoming payable under or pursuant to, or cancelled pursuant to, any of clause 7.1 (*Illegality and Sanctions*), clause 12 (*Tax Gross-up and indemnities*), clause 13 (*Increased costs*) or paragraph 3 of Schedule 7 (*Mandatory Cost Formula*), including (but not limited to) transferring its rights and obligations under the Finance Documents to another Affiliate or Facility Office.

15.2 Clause 15.1 above does not in any way limit the obligations of any Obligor under the Finance Documents.

Limitation of liability

15.3 The Borrower shall indemnify each Finance Party within five (5) Business Days of demand for all costs and expenses reasonably incurred by that Finance Party as a result of steps taken by it under clauses 15.1 and 15.2 (*Mitigation*).

15.4 A Finance Party is not obliged to take any steps under clauses 15.1 and 15.2 (*Mitigation*) if, in the opinion of that Finance Party (acting reasonably), to do so might be prejudicial to it.

16 Costs and expenses

Transaction expenses

16.1 The Borrower shall promptly, on demand, pay the Documentation Agent, the Facility Agent, the Security Holder, the Technical Agent, the Mandated Lead Arrangers and any other Finance Parties the amount of all documented costs and expenses (including fees, costs and expenses of legal, insurance, model audit, technical and other consultants and advisers and any documentation costs) reasonably incurred by any of them in connection with the negotiation, preparation, printing, execution and administration of any due diligence in connection with:

(a) this Agreement (including the associated term sheet) and any other documents referred to in this Agreement; and

(b) any other Finance Documents executed after the date of this Agreement.

Amendment costs

16.2 If:

(a) an Obligor requests an amendment, waiver or consent or, in the opinion of the Facility Agent, a waiver or consent (or an amendment in connection with a waiver or consent) is required, under any Finance Document; or

(b) an amendment is required pursuant to clause 35.16 (*Change of currency*),

the Borrower shall, within five (5) Business Days of demand, reimburse the Facility Agent, the Security Holder and the Technical Agent for the amount of all documented costs and expenses (including fees, costs and expenses of legal, insurance, technical and other consultants and advisers) reasonably incurred by the Facility Agent, the Security Holder and the Technical Agent (or any other Finance Party) in responding to, evaluating, negotiating or complying with that request or requirement. Such fees shall be in addition to any fee paid or payable to the Finance Parties under clause 11 (*Fees*).

Enforcement and preservation costs

16.3 The Borrower shall, within five (5) Business Days of demand, pay to each Finance Party the amount of all costs and expenses (including legal fees) incurred by that Finance Party in connection with the enforcement of, or the preservation of any rights under, any Finance Document and the Security Interests and any proceedings instituted by or against the Security Holder as a consequence of taking or holding the Security Interests created or claimed to be created under the Security Documents or enforcing those rights.

Consultants' costs and expenses

16.4 The Borrower shall pay to the Facility Agent all documented costs and expenses (including legal fees) incurred by the Facility Agent in connection with the appointment of any Consultant.

16.5 The Borrower shall, within five (5) Business Days of demand, pay the Facility Agent all documented fees, costs and expenses reasonably incurred by the Facility Agent in connection with work carried out by the Consultants in relation to the Project.

Failure to fulfil conditions precedent

16.6 The amounts described in this clause 16 (*Costs and expenses*) are payable by the Borrower even if the conditions precedent contained in clause 4 (*Conditions*) are never fulfilled.

17 Financial Model, Budgets and Life of Mine Plan

The Financial Model

17.1 The Borrower, the Technical Agent and the Facility Agent shall each retain a copy of the Financial Model for use in producing and verifying the Borrower Compliance Certificates to be delivered pursuant to clauses 21.19 and 21.20 (*Borrower Compliance Certificates*).

17.2 Not later than thirty (30) days before the first Quarter Date in each calendar year the Borrower will, and at any other time during the Facility Period, the Borrower may, notify the Technical Agent, the Independent Technical Consultant and the Facility Agent of any proposed updates to the Financial Model, including any changes to the Financial Model:

(a) which it believes in good faith are required in order to correct any actual historical data known to be inaccurate or to correct any manifest error in the Financial Model;

(b) to reflect any material changes to the Development Plan and the Life of Mine Plan;

(c) to reflect updates and changes to the Construction Budget and/or Operating Budget, as applicable; and

(d) to reflect changes in projected Revenues due to any proposed changes to the Assumptions.

17.3 The Technical Agent (acting on the instructions of the Majority Lenders) may propose such changes to the Financial Model if it considers that there has been a change in circumstances which has resulted in the Financial Model being incorrect in a material respect or the Financial Model no longer being representative of the Project.

17.4 The assumed prices for gold and copper shall be as set out in Schedule 9 (*Economic Assumptions*), or as otherwise determined by the Majority Lenders.

17.5 All other Assumptions (other than the assumed gold and copper prices determined in clause 17.4) and the other figures for Economic Assumptions shall be as set out in the Financial Model, provided that each of the Borrower and the Technical Agent (acting on the instructions of the Majority Lenders) shall have the right, following any material change in circumstance or any material change in projections, to propose revisions to:

(a) the Technical Assumptions; and

(b) the figures to be used for the Economic Assumptions (other than the assumed gold and copper prices, which shall be set in accordance with clause 17.4 above),

to be used for any subsequent Financial Model, Cost to Complete Certificate or Borrower Compliance Certificate to be delivered in accordance with this Agreement.

17.6 The Borrower will:

(a) make any proposals in relation to the Financial Model in good faith after careful consideration and enquiry and such proposals will genuinely reflect views which it believes in good faith to be reasonable in the circumstances and will be consistent with the provisions of the Transaction Documents in all material respects; and

(b) provide written reasons for its proposed revisions.

17.7 Within ten (10) Business Days of receipt of the Borrower's proposals for the changes to the Financial Model (including any relevant Assumptions) in accordance with this clause 17, the Technical Agent (in consultation with the Independent Technical Consultant and acting on the instructions of the Majority Lenders) shall notify the Borrower whether it agrees with the Borrower's proposals and, if it disagrees, the reasons for the disagreement. If no notice of disagreement is delivered, the Technical Agent shall be deemed to have agreed the Borrower's proposed changes.

17.8 If the Technical Agent disagrees with the Borrower's proposals, then the Technical Agent (acting on the instructions of the Majority Lenders) and the Borrower shall negotiate in good faith to agree the changes to the Financial Model (including any relevant Assumptions other than the assumed prices for gold and copper). If the Parties are unable to reach agreement by the date falling five (5) Business Days following the Technical Agent's notice of disagreement, then the disputed matters may be referred by either party to an independent expert for determination in accordance with Schedule 12 (*Expert determination*).

17.9 Within ten (10) Business Days following receipt of the Technical Agent's proposals for the changes to the Financial Model (including any relevant Assumptions other than the assumed prices for gold and copper), the Borrower shall notify the Technical Agent whether it agrees with the Technical Agent's proposals and, if it disagrees, the reasons for the disagreement. If no

such notice is delivered, the Borrower shall be deemed to have agreed the Technical Agent's proposed changes.

17.10 If the Borrower disagrees with the Technical Agent's proposals, then the Borrower and the Technical Agent (acting on the instructions of the Majority Lenders) shall negotiate in good faith to agree the changes to the Financial Model (including any relevant Assumptions other than the assumed prices for gold and copper). If the Parties are unable to reach agreement by the date falling five (5) Business Days following the Borrower's notice of disagreement, then the disputed matters may be referred by either party to an independent expert for determination in accordance with Schedule 12 (*Expert determination*).

17.11 Any changes to the Financial Model (including the Assumptions) shall take effect and be binding on the Parties on and from the date such changes are agreed or determined in accordance with clauses 17.1 to 17.10 above, and shall be incorporated into an updated Financial Model.

17.12 The Technical Agent, acting on the instructions of the Majority Lenders (acting reasonably), may, at the Technical Agent's option, require that the updated or amended Financial Model be audited by the Independent Model Auditor.

Notification of errors

17.13 The Borrower shall promptly inform the Technical Agent and the Facility Agent, and the Technical Agent shall promptly inform the Borrower and the Facility Agent, in each case as soon as it becomes aware, of any error in the Financial Model which would materially affect any calculation.

Construction Budget and Operating Budget

17.14 On and from Financial Close until Project Completion, the Borrower shall deliver, as soon as available and in any event no later than five (5) Business Days prior to the last Quarter Date of each year, an updated Construction Budget for the forthcoming calendar year incorporating any updates to the current Construction Budget approved by the board of directors of the Parent and the Borrower, together with full explanations for any material changes or updates.

17.15 On and from Project Completion until the expiry of the Facility Period, the Borrower shall deliver, as soon as available and in any event no later than five (5) Business Days prior to the last Quarter Date of each year, an updated Operating Budget for the forthcoming calendar year incorporating any updates to the current Operating Budget approved by the board of directors of the Parent and the Borrower, together with full explanations for any material changes or updates.

17.16 The Technical Agent (acting on the instructions of the Majority Lenders) may review and audit any updated Construction Budget and any updated Operating Budget, and may, if it considers

that there has been a change in circumstances which has resulted in the Construction Budget and/or the Operating Budget being incorrect in a material respect or that the Construction Budget and/or the Operating Budget is no longer representative of the Project, by no later than fifteen (15) Business Days following receipt of the relevant updated budget, propose further amendments to the Construction Budget and/or the Operating Budget, as applicable, to correct such error. If no such proposal is made, the Technical Agent shall be deemed to have agreed the Borrower's proposed changes.

17.17 If the Borrower disagrees with the Technical Agent's proposals, then the Borrower and the Technical Agent shall negotiate in good faith to agree the changes to the Construction Budget and/or the Operating Budget, as applicable. If the Parties are unable to reach agreement by the date falling five (5) days following the Borrower's notice of disagreement, then the disputed matters may be referred by either party to an independent expert for determination in accordance with Schedule 12 (*Expert determination*). Pending the resolution of the disputed matters, the then existing Construction Budget or Operating Budget, as the case may be, shall continue in effect without any amendment.

17.18 Any changes (i) deemed to be agreed in accordance with clause 17.16; (ii) agreed between the Borrower and the Technical Agent in accordance with clauses 17.16 and 17.17; or (iii) determined by the independent expert, shall form part of the updated Construction Budget or Operating Budget, as the case may be, for the purposes of this Agreement.

Construction expenditure

17.19 Prior to Project Completion, the Borrower shall only incur or pay Eligible Costs, provided that the Borrower may in addition incur:

(a) Cost Overruns provided that, if the aggregate amount of Cost Overruns together with Operating Cost Overruns permitted pursuant to clause 17.19(b) below (the **Total Cost Overruns**) exceeds the Reserve Amount then the Borrower shall only be entitled to incur or pay Cost Overruns which cause the Total Cost Overruns to be in excess of the Reserve Amount with the prior approval of the Facility Agent (acting on the instructions of the Majority Lenders);

(b) Operating Cost Overruns which result in the aggregate amount of Operating Costs incurred or projected to be incurred in relation to the Project prior to Project Completion exceeding the aggregate amount of Operating Costs prior to Project Completion referred to in the Financial Model delivered to the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*) (including all amounts which are included in such Financial Model as contingencies relating to Operating Costs) by no more than five per cent (5%); and

(c) additional expenditure in relation to Approved Exploration Activities.

Operating expenditure

17.20 Following Project Completion, unless approved by the Technical Agent (acting on the instructions of the Majority Lenders) the Borrower shall not (except as provided in clause 17.21 below) incur or pay any cost where that cost or payment (in aggregate with all other amounts incurred or paid for the relevant calendar year) exceeds the aggregate amount allowed for Operating Costs for that calendar year in the Operating Budget.

17.21 Clause 17.20 above shall not restrict or prevent the Borrower from incurring or paying a particular cost to the extent that:

(a) the relevant cost is a Finance Cost or Tax;

(b) the relevant cost is necessary to mitigate in accordance with Good Industry Practice the effects of an Emergency; or

(c) the relevant cost is an Operating Cost Overrun which results in the aggregate amount of Operating Costs incurred or projected to be incurred in relation to the Project for the relevant calendar year exceeding the aggregate amount of Operating Costs for that calendar year referred to in the Operating Budget (excluding any such cost incurred or paid pursuant to clause 17.21(b) above) by no more than twenty five per cent (25%).

Requirements as to preparation of budgets

17.22 The Borrower shall ensure that each Construction Budget, Operating Budget and any other report required to be delivered to the Facility Agent under this Agreement shall:

(a) be prepared in good faith and after reasonable due diligence;

(b) accurately document historical data and include the Borrower's best estimate of projected receipts and expenditure;

(c) be true and accurate in all material respects and not omit anything which would make it misleading in a material respect; and

(d) comply with the Finance Documents and take into account obligations and rights of the Borrower (and any other relevant Obligors) under the Material Project Documents.

Life of Mine Plan

17.23 If any updates or amendments to the Initial Life of Mine Plan are proposed by the Borrower, not less than sixty (60) days prior to the Projected Completion Date, and (on and from Project Completion) no later than the delivery of the updated Operating Budget under clause 17.15

(*Construction Budget and Operating Budget*), the Borrower shall deliver to the Technical Agent, the Facility Agent and the Independent Technical Consultant an updated Life of Mine Plan (an **Updated Life of Mine Plan**) for approval by the Majority Lenders.

17.24 The Borrower may from time to time propose changes to the Life of Mine Plan which it believes in good faith are required in order to correct any historical data known to be inaccurate, by giving written notice to the Technical Agent out the proposed change and the reasons why it believes such a change is required.

17.25 Each Updated Life of Mine Plan shall, amongst other things, detail the expected Project Production and full costs of production until the Project Termination Date.

17.26 Within thirty (30) days of receipt of any such changes or Updated Life of Mine Plan proposed by the Borrower, the Technical Agent shall notify the Borrower whether such changes or Updated Life of Mine Plan (as applicable) has been approved by the Majority Lenders.

17.27 If the Majority Lenders do not approve an Updated Life of Mine Plan or the changes to the Life of Mine Plan proposed by the Borrower, then:

(a) the Technical Agent shall provide the Borrower with reasonable details of the grounds for such disapproval; and

(b) the then existing Life of Mine Plan shall continue in effect without any amendment.

17.28 Upon the Technical Agent notifying the Borrower under clause 17.26 above that the Majority Lenders have approved the relevant Updated Life of Mine Plan or the changes proposed to the Life of Mine Plan, the relevant Updated Life of Mine Plan or the Life of Mine Plan as updated with the relevant changes, as applicable, shall become the **Life of Mine Plan** for the purposes of this Agreement.

18 Project Accounts

Accounts Agreements

18.1 On and from Financial Close:

(a) the Borrower shall operate the Project Accounts (except the Distribution Account and the Equity Contribution Accounts) in accordance with the Onshore Accounts Agreement, the Offshore Accounts Agreement, the Turkish Accounts Agreement and the other Finance Documents; and

(b) each of AGM and Lidya shall operate the Equity Contribution Accounts in accordance with this Agreement and the Offshore Accounts Agreement.

Proceeds Account

18.2 On and from Financial Close until the expiry of the Facility Period, the Borrower will procure that all monies paid to (or to the order of) the Borrower or received by the Borrower that are not required by this Agreement to be paid into another Project Account are deposited directly into the Proceeds Account.

18.3 On and from Financial Close the Borrower shall only withdraw monies from the Proceeds Accounts to make payments (if required, by way of transfers to the Operating Accounts):

(a) of (without double counting) Construction Costs and Operating Costs in accordance with the Financial Model;

(b) of other Cost Overruns or Operating Cost Overruns approved by the Facility Agent (acting on the instructions of the Majority Lenders) or permitted pursuant to clauses 17.19 (*Construction Expenditure*) to 17.21 (*Operating Expenditure*);

(c) permitted under clause 7.8 (*Mandatory prepayment - cash sweep*); or

(d) which are otherwise permitted or required by this Agreement,

in each case that have fallen due in accordance with the Payment Cascade.

Operating Accounts

18.4 At any time during the Facility Period, the balance on each Operating Account shall not exceed the amount of (without double counting) Construction Costs and Operating Costs expected to be paid in the currency of that Operating Account (without double counting USD and Euro in the Onshore Operating Accounts and the Offshore Operating Accounts) in the next ninety (90) days. The Borrower shall transfer amounts in excess of this threshold to the Proceeds Account.

Debt Service Reserve Account

18.5 On and from the earlier of (i) the First Repayment Date and (ii) Project Completion, the Borrower shall maintain a credit balance on the Debt Service Reserve Account of an amount at least equal to the DSRA Minimum Balance by making Additional Equity Contributions or transfers from the Proceeds Account to the Debt Service Reserve Account, provided that the Facility may not be used to fund the Debt Service Reserve Account.

18.6 The Borrower may only withdraw amounts from the Debt Service Reserve Account in any one of the following circumstances:

(a) to pay Finance Costs that have fallen due, to the extent that there are insufficient credit balances in the Proceeds Account to pay such Finance Costs in accordance with the Payment Cascade, by making transfers from the Debt Service Reserve Account to the Copler Project Finance Accounts; and

(b) to transfer amounts in excess of the DSRA Minimum Balance to the Proceeds Account, provided that if the Debt Service Reserve Account is funded for the purposes of the Financial Completion Test, no transfer pursuant to this paragraph (b) shall be made until the second Repayment Date following Project Completion.

18.7 If any amount is withdrawn from the Debt Service Reserve Account pursuant to clause 18.6(a), the Borrower shall, as soon as possible but in any event by the next Repayment Date or Calculation Date (whichever is earlier), ensure that there is a credit balance on the Debt Service Reserve Account of an amount at least equal to the DSRA Minimum Balance.

Insurance Proceeds Account

18.8 On and from Financial Close the Borrower shall procure that all Insurance Proceeds (other than (i) any insurance proceeds in respect of third party liability insurance where such proceeds are to be paid to third parties or (ii) where such Insurance Proceeds are paid to the Borrower in reimbursement of amounts spent by the Borrower on the repair or reinstatement of Project Assets in accordance with clause 18.9(b) below or (iii) where such Insurance Proceeds are paid in respect of delay in start-up or business interruption Insurance) shall be paid into the Insurance Proceeds Account.

18.9 On and from Financial Close the Borrower may only withdraw amounts from the Insurance Proceeds Account:

(a) in order to prepay Loans in accordance with clauses 7.5 to 7.6 (*Mandatory Prepayment - Insurance Proceeds/Compensation Proceeds*); or

(b) to the extent that it is permitted to apply those monies to the repair or reinstatement of Project Assets in accordance with clauses 7.5 to 7.6 (*Mandatory Prepayment - Insurance Proceeds/ Compensation Proceeds).*

Distribution Account

18.10 On and from Financial Close the Borrower shall pay any amounts that are to be declared or paid as Distributions into the Distribution Account, to the extent that there are sufficient funds available for this purpose in accordance with the operation of the Payment Cascade, by making transfers from the Proceeds Account to the Distribution Account in accordance with clause 7.8 (*Mandatory prepayment - cash sweep*). The Borrower shall not transfer any amounts from the Proceeds Account to the Distribution Account unless all the requirements specified in clauses 24.23 to 24.24 (*Distributions*) have been satisfied.

18.11 The Borrower may withdraw amounts standing to the credit of the Distribution Account at any time.

Equity Contribution Accounts

18.12 No later than thirty (30) days prior to the expected date of Financial Close, the Independent Technical Consultant shall conduct a preliminary assessment of the Reserve Amount estimated to be required as at Financial Close, and provide a copy of such assessment to the Facility Agent and the Borrower.

18.13 On or prior to Financial Close, the Parent and/or the Shareholders and/or the Borrower shall pay the Reserve Amount into the Equity Contribution Accounts.

18.14 Prior to Final Project Completion, each of AGM and Lidya may only withdraw amounts from its respective Equity Contribution Account:

(a) to transfer such amounts to the Proceeds Account to pay:

(i) Construction Costs in accordance with the Financial Model;

(ii) any Cost Overruns; and

(iii) any Operating Cost Overruns permitted pursuant to clause 17.19(b),

in each case whether to comply with the condition set out in paragraph 5 (*Debt to total spend ratio*) of Part 2 of Schedule 3 or otherwise (and any such withdrawals shall constitute Additional Equity Contributions), provided that if the aggregate amount of Cost Overruns together with Operating Cost Overruns permitted pursuant to clause 17.19(b) (the **Total Cost Overruns**) exceeds the Reserve Amount then each of AGM and Lidya may only withdraw amounts from its respective Equity Contribution Account to pay such Cost Overruns or Operating Cost Overruns which cause the Total Cost Overruns to be in excess of the Reserve Amount, with the prior approval of the Facility Agent (acting on the instructions of the Majority Lenders); or

(b) to transfer such amounts in accordance with clause 18.15 below.

18.15 At any time following Final Project Completion, each of AGM and Lidya may withdraw any balance standing to the credit of its respective Equity Contribution Account.

Copler Project Finance Accounts

18.16 On and from Financial Close until the expiry of the Facility Period, the Borrower will procure that all amounts utilised under the Facility are deposited directly into the Copler Project Finance Accounts by directing payment to such account pursuant to the relevant Utilisation Request. The Borrower shall, immediately on receipt of such funds into the Copler Project Finance Accounts, transfer such amounts to the Proceeds Account.

18.17 The Borrower may only make a repayment or prepayment of the Loans or a payment of interest in respect of the Loans by withdrawing or transferring amounts from the Copler Project Finance Accounts. The Borrower may transfer amounts from the Proceeds Account or the Debt Service Reserve Account to the Copler Project Finance Accounts for this purpose.

19 Guarantee

Guarantee and indemnity

19.1 The Guarantor has entered into this guarantee for valuable consideration from each Finance Party and acknowledges receipt of that consideration.

19.2 The Guarantor irrevocably and unconditionally:

(a) guarantees to each Finance Party punctual performance by the Borrower of all of the Borrower's obligations under the Finance Documents, regardless of any intermediate payment or discharge in whole or in part;

(b) undertakes with each Finance Party to pay upon first demand, without any defence or objection, set-off or counterclaim and without verification of the underlying legal ground, to each Finance Party or as otherwise directed by the Facility Agent, such amount which the Facility Agent claims in its demand as being due under or in connection with any Finance Document and unpaid, or which the Facility Agent claims would have been payable to any of the Finance Parties, had the guaranteed obligation not become unenforceable, invalid or illegal, and the Guarantor shall immediately on demand (even if no demand has been made on the Borrower) pay that amount as if it was the principal obligor and not merely a surety; and

(c) agrees with each Finance Party that if any obligation guaranteed by it is or becomes unenforceable, invalid or illegal, it will, as an independent and primary obligation, indemnify that Finance Party immediately on demand (even if no demand has been made on the Borrower) against any cost, loss or liability it incurs as a result of the Borrower or itself not paying any amount which would, but for such unenforceability, invalidity or illegality, have been payable by it under any Finance Document on the date when it would have been due. The amount payable by the Guarantor under this indemnity will not exceed the amount it would have had to pay under this clause 19 (*Guarantee*) if the amount claimed had been recoverable on the basis of a guarantee.

Duration of the guarantee

19.3 Save in each case that any Called-up Obligations will continue until they have been irrevocably and unconditionally paid or discharged in full, this guarantee will continue until Final Project Completion regardless of any intermediate payment or discharge in whole or in part and upon

Final Project Completion the Parent shall be automatically released from this guarantee and all other obligations under this clause 19, without further action of any Parties. The Facility Agent shall execute all such confirmations and acknowledgements as the Parent may reasonably require confirming such release.

19.4 For the purpose of clause 19.3, **Called-up Obligations** shall mean outstanding obligations of the Obligors under or in connection with this guarantee which relate to, and which the Parent was called upon to perform prior to Final Project Completion.

Reinstatement

19.5 Subject to clause 19.3 (*Duration of the guarantee*), if any discharge, release or arrangement (whether in respect of the obligations of any Obligor or any security for those obligations or otherwise) is made by a Finance Party in whole or in part on the basis of any payment, security or other disposition which is avoided or must be restored in insolvency, liquidation, administration or otherwise, without limitation, then the liability of the Guarantor under this clause 19 (*Guarantee*) will continue or be reinstated as if the discharge release or arrangement had not occurred.

Waiver of defences

19.6 Subject to clause 19.3 (*Duration of the guarantee*), the obligations of the Guarantor under this clause 19 (*Guarantee*) will not be affected by an act, omission, matter or thing which, but for this clause, would reduce, release or prejudice any of its obligations under this clause 19 (*Guarantee*) (without limitation and whether or not known to it or any Finance Party) including:

(a) any time, waiver or consent granted to, or composition with, the Borrower or other person;

(b) the release of the Borrower or any other person under the terms of any composition or arrangement with any creditor of any member of the Group;

(c) the taking, variation, compromise, exchange, renewal or release of, or refusal or neglect to perfect, take up or enforce, any rights against, or security over assets of, the Borrower or other person or any non-presentation or non-observance of any formality or other requirement in respect of any instrument or any failure to realise the full value of any security;

(d) any incapacity or lack of power, authority or legal personality of or dissolution or change in the members or status of the Borrower or any other person;

(e) any amendment, novation, supplement, extension, restatement (however fundamental and whether or not more onerous) or replacement of any Finance Document or any other document or security including without limitation any change in the purpose of, any

extension of or any increase in any facility or the addition of any new facility under any Finance Document or other document or security;

(f) any unenforceability, illegality or invalidity of any obligation of any person under any Finance Document or any other document or security; or

(g) any insolvency or similar proceedings.

Payment on first demand

19.7 The amounts demanded under this clause 19 (*Guarantee*) shall be paid immediately upon receipt of a payment demand, to the account designated by the Facility Agent in such payment demand. The payment demand shall include a statement that the amount set forth in the payment demand is an amount owed by the Borrower which has not been received by the respective Finance Party or Finance Parties when due.

Guarantor intent

19.8 Subject to clause 19.3 (*Duration of the Guarantee*), without prejudice to the generality of clause 19.6 (*Waiver of defences*), the Guarantor expressly confirms that it intends that this guarantee shall extend from time to time to any (however fundamental) variation, increase, extension or addition of or to any of the Finance Documents and/or any facility or amount made available or which might be made available from time to time under any of the Finance Documents for any purposes.

Immediate recourse

19.9 The Guarantor waives any right it may have of first requiring any Finance Party (or any trustee or agent on its behalf) to proceed against or enforce any other rights or security or claim payment from any person before claiming from the Guarantor under this clause 19 (*Guarantee*). This waiver applies irrespective of any law or any provision of a Finance Document to the contrary.

Appropriations

19.10 Subject to clause 19.3 (*Duration of the guarantee*), until all amounts which may be or become payable by the Obligors under or in connection with the Finance Documents have been irrevocably paid in full, each Finance Party (or any trustee or agent on its behalf) may:

(a) refrain from applying or enforcing any other moneys, security or rights held or received by that Finance Party (or any trustee or agent on its behalf) in respect of those amounts, or apply and enforce the same in such manner and order as it sees fit (whether against those amounts or otherwise) and the Guarantor shall not be entitled to the benefit of the same; and

(b) hold in an interest-bearing suspense account any moneys received from the Guarantor or on account of any Guarantor's liability under this clause 19 (*Guarantee*).

Deferral of Guarantor's rights

19.11 Subject to clause 19.3 (*Duration of the guarantee*), until all amounts which may be or become payable by the Obligors under or in connection with the Finance Documents have been irrevocably paid in full and unless the Facility Agent otherwise directs (acting on the instructions of the Majority Lenders), the Guarantor will not exercise any rights which it may have by reason of performance by it of its obligations under the Finance Documents or by reason of any amount being payable, or liability arising, under this clause 19 (*Guarantee*):

(a) to be indemnified by an Obligor;

(b) to claim any contribution from any other guarantor of any Obligor's obligations under the Finance Documents;

(c) to take the benefit (in whole or in part and whether by way of subrogation or otherwise) of any rights of the Finance Parties under the Finance Documents or of any other guarantee or security taken pursuant to, or in connection with, the Finance Documents by any Finance Party;

(d) to bring legal or other proceedings for an order requiring any Obligor to make any payment, or perform any obligation, in respect of which the Guarantor has given a guarantee, undertaking or indemnity under clause 19.1 (*Guarantee and indemnity*);

(e) to exercise any right of set-off against any Obligor; and/or

(f) to claim or prove as a creditor of any Obligor in competition with any Finance Party.

19.12 If the Guarantor receives any benefit, payment or distribution in relation to the rights described in clause 19.11 above it will promptly pay an equal amount to the Facility Agent for application in accordance with clause 34 (*Payment mechanics*). Subject to clause 19.3 (*Duration of the guarantee*) above, this only applies until all amounts which may be or become payable by the Obligors under or in connection with the Finance Documents have been irrevocably paid in full.

Additional security

19.13 This guarantee is in addition to and is not in any way prejudiced by any other guarantee or security now or subsequently held by any Finance Party.

20 Representations

Representations

20.1 Each Obligor represents and warrants:

(a) the matters set out in this clause 20 (*Representations*) to each Finance Party on the date of Financial Close; and

(b) the matters set out in clauses 20.2 to 20.4 (*Status*) with respect to the Obligors only, 20.5 (*Binding obligations*) with respect to Finance Documents entered into prior to Financial Close only, 20.6 (*Powers and Authority*) with respect to Obligors only, 20.7 (*Non-conflict*) with respect to Finance Documents entered into prior to Financial Close only, 20.10 (*Validity and admissibility in evidence; Authorisations*), 20.12 and 20.13 (*Governing law and enforcement*) with respect to Finance Documents entered into prior to Financial Close only, 20.14 (*Deduction of Tax*), 20.15 (*No filing or stamp taxes*) with respect to Finance Documents entered into prior to Financial Close only, 20.19 and 20.20 (*No proceedings pending or threatened*), 20.21 to 20.25 (*Information*), 20.30 to 20.35 (*Environmental and Social Matters*), 20.42 (*No other business*), 20.43 to 20.47 (*Ownership and Group Structure*), 20.61 (*Corrupt gifts*), 20.62 (*No Insolvency*), 20.65 to
20.67 (*No immunity*), 20.71 (*Compliance with laws*), 20.72 (*Anti-Terrorism Laws*) with respect to the Obligors only, 20.73 to 20.74 (*Sanctions*) with respect to the Obligors only and 20.75 (*Illicit Origin*) to each Finance Party, on the date of this Agreement,

provided that each Obligor (other than the Borrower) only represents and warrants such matters in relation to itself. For the avoidance of doubt, each Calik Shareholder only represents and warrants the matters set out in clauses 20.2 to 20.4 (Status), 20.5 (*Binding* obligations), 20.6 (*Powers and* Authority), 20.7 (*Non*-conflict), 20.8(a), 20.8(c) and 20.8(d) (*Validity and admissibility in evidence; Authorisations*), 20.12 and 20.13 (*Governing law and enforcement*),
20.16 (*No Security Interest or Indebtedness*), 20.18 (*No Default*), 20.19 (*No proceedings pending or threatened*), 20.21 to 20.25 (*Information*) (and only in relation to Information provided by it), 20.46 to 20.50 (*Ownership and Group Structure*), 20.52 and 20.53 (*Security*), 20.61 (*Corrupt gifts*), 20.62 (*No Insolvency*), 20.65 to 20.67 (*No immunity*), 20.72 (*Anti-terrorism Laws*), 20.73 and 20.74 (*Sanctions*) and 20.75 (*Illicit Origin*) and only does so in relation to itself and its obligations under the Transaction Documents.

Status

20.2 Each Major Project Party is duly incorporated and validly existing under the laws of its jurisdiction of incorporation.

20.3 Each Major Project Party has the power to own its assets and carry on its business as it is currently being conducted.

20.4 No Obligor is a FATCA FFI.

Binding obligations

20.5 Each Transaction Document constitutes legal, valid, binding and enforceable obligations of each Major Project Party, which is a party to it, subject to the Legal Reservations, and in the case of the Material Project Documents only, except to the extent that any such Material Project Document has been discharged in accordance with its terms and provided that no rights, obligations or liabilities (contingent or otherwise) of any party to it remain outstanding.

Powers and Authority

20.6 Each Major Project Party has power and authority to enter into, perform and deliver, and has taken all necessary action to authorise its entry into and performance and delivery of, the Transaction Documents to which it is or will be a party and the transactions contemplated by those documents (including the creation of any Security Interest pursuant to the Security Documents).

Non-conflict

20.7 The entry into and performance by each Obligor of, and the transactions contemplated by, the Transaction Documents to which it is a party do not and will not conflict with:

(a) any law or regulation applicable to each Obligor;

(b) the constitutional documents of each Obligor; or

(c) any agreement or instrument binding on an Obligor or any Subsidiaries of any Obligor or any assets of any Obligor or of any Subsidiaries of any Obligor, except for any such conflict which could not be reasonably expected to have a Material Adverse Effect.

Validity and admissibility in evidence; Authorisations

20.8 All:

(a) Project Authorisations and Environmental or Social Permits required by each Obligor to enable it to lawfully enter into, exercise its rights and comply with its obligations under the Transaction Documents to which it is a party; and

(b) Project Authorisations and Environmental or Social Permits required by the Borrower to develop, construct, operate and finance the Project substantially in accordance with the Development Plan and Life of Mine Plan (having regard to the Project's then current stage of construction or operation);

(c) Project Authorisations and Environmental or Social Permits required by each Obligor to make the Transaction Documents to which it is a party admissible in evidence in the

jurisdiction of its incorporation and in the relevant jurisdiction in respect of that Transaction Document; and

(d) Project Authorisations and Environmental or Social Permits required by each Obligor to ensure that the Security Interests created under each of the Security Documents has the priority and ranking contemplated by the relevant Security Document (subject to Permitted Security Interests which rank *pari passu* or ahead by operation of law),

have been, or will by the required date have been, obtained or effected and are, or will by the required date be, in full force and effect.

20.9 The Borrower is not aware of:

(a) any steps taken to surrender, suspend, cancel, revoke, vary, challenge or annul any Project Authorisation or Environmental or Social Permit;

(b) any circumstances whereby a Project Authorisation or Environmental or Social Permit will not be obtained, effected or in full force and effect by the time it is required to implement the Project; or

(c) any circumstances which may lead to a condition or requirement being imposed on a Project Authorisation or Environmental or Social Permit that the Borrower does not reasonably expect to be able to satisfy,

in each case which has not been disclosed to the Facility Agent.

20.10 The Borrower holds valid Mining Licences and has good and valid title to them.

20.11 The Borrower disclosed all material facts and information to all relevant public authorities, including but not limited to the General Directorate of Mining Affairs, the Ministry of Energy and Natural Resources, the Ministry of Forestry and Water Affairs and/or its relevant directorates, and the Ministry of Environment and Urbanization and/or its relevant directorates, in relation to the application for the Mining Licence and the Borrower has made no misleading or incorrect statement or representation to any relevant public authority which has not been corrected prior to the Mining Licence being issued by the General Directorate of Mining Affairs, the Ministry of Energy and Natural Resources.

Governing law and enforcement

20.12 Subject to the Legal Reservations, the choice of English, Turkish, Luxembourg law or any law expressed to govern a Transaction Document (as the case may be), as the governing law of the Transaction Documents will be recognised and enforced in each Obligor's Relevant Jurisdiction.

20.13 Subject to the Legal Reservations, any judgment obtained in England, in Turkey or in Luxembourg (or in any other relevant jurisdiction whose law is expressed to govern a Transaction Document) in relation to a Transaction Document will be recognised and enforced in each Obligor's Relevant Jurisdiction.

Deduction of Tax

20.14 Neither the Borrower nor, prior to Final Project Completion, the Parent is required under any applicable law or regulation to make any deduction for or on account of Tax from any payment it may make under any Finance Document.

No filing or stamp taxes

20.15 Other than any filings, notifications and registrations to be made and/or registration fees to be paid in relation to the execution of relevant Finance Documents, including without limitation (i) registration of the Borrower Share Pledge into the Borrower's share ledger, (ii) registration of the mortgages over the Project Assets (including mine mortgages with the competent registry offices and/or the General Directorate of Mining Affairs as the case may be) and (iii) the notarisation of the relevant commercial enterprise pledge agreement and the registration of the commercial enterprise pledge granted by the Borrower with the competent trade registry office which shall be made or paid promptly after the date of the relevant Finance Document, it is not necessary or advisable that this Agreement or any other Transaction Document be filed, recorded or enrolled with any court, public office or other authority in any jurisdiction or that any stamp, documentary, registration, notarial or similar Taxes or fees be paid on or in relation to this Agreement or any other Transaction Document or the transactions contemplated by the Transaction Documents, subject to compliance with clause 37.15 (*Austrian stamp duty*).

No Security Interest or Indebtedness

20.16 Save for Permitted Security Interests, no Security Interest or Quasi-Security Interest exists over all or any of the present or future revenues or assets of the Borrower or any shares in the Borrower.

20.17 Save for Permitted Indebtedness, the Borrower has not incurred any Financial Indebtedness.

No Default

20.18 Other than as disclosed under clause 21.17 (*Notification of Default*), no Event of Default and (in relation to any such representation given on the date of this Agreement and the date of Financial Close only) no Default, has occurred and is continuing or is reasonably likely to result from the making of any Utilisation or the entry into, the performance of, or any transaction contemplated by, any Finance Document.

No proceedings pending or threatened

20.19 No litigation, arbitration or administrative proceedings of or before any court, arbitral body, agency or governmental body which, in the reasonable opinion of the Facility Agent, has a reasonable prospect of success and which, if adversely determined, might reasonably be expected to have a Material Adverse Effect have been started against any Obligor or, to the best of the Borrower's knowledge and belief having made due and careful enquiry, been threatened against the Borrower or in connection with the Project.

20.20 No judgments or orders have been made against the Borrower or the Parent by any Competent Authority which might reasonably be expected to have a Material Adverse Effect.

Information

20.21 Any Information provided to the Finance Parties in connection with this Agreement and the Project is true, complete and accurate in all material respects at the time it was given or made.

20.22 There are no facts or circumstances or any other information which could make the Information provided to the Finance Parties incomplete, untrue, inaccurate or misleading (as at the time it was given, stated or made), in any material respect.

20.23 The Information provided to the Finance Parties does not (as at the time it was given, stated or made) omit anything which could make the Information incomplete, untrue, inaccurate or misleading in any material respect.

20.24 All opinions, projections, forecasts or expressions of intention contained in the Information and the assumptions on which they are based (save to the extent provided by the Finance Parties or their Consultants) have been arrived at after due and careful enquiry and consideration and are reasonable as at the date they were given or made.

20.25 For the purposes of clauses 20.21 to 20.24 (*Information*) above, **Information** means any information provided by an Obligor or any of their Affiliates to the Finance Parties in connection with the Project or its financing (including, but not limited to, the Development Plan, the Financial Model and each Borrower Compliance Certificate).

Disclosure of project terms

20.26 Each Material Project Document:

(a) is in full force and effect; and

(b) is enforceable against each Major Project Party thereto (and by such Major Project Party against all other parties thereto) in accordance with its terms (subject to the Legal Reservations) except to the extent that such Material Project Document has been

discharged in accordance with its terms and provided that no rights, obligations or liabilities (contingent or otherwise) of any party to it remain outstanding.

20.27 The originals, copies or certified copies (as applicable) of the Transaction Documents, the Project Authorisations and Environmental or Social Permits provided by the Borrower to the Facility Agent pursuant to clause 4.1 (*Initial conditions precedent*) are true, complete and up to date.

20.28 The Borrower has not entered into any agreement to share its income or profits with a third party.

20.29 Other than any disputes notified to the Facility Agent in accordance with this Agreement there is no material dispute in connection with any Material Project Document to which the Borrower is a party.

Environmental and Social Matters

20.30 The Borrower has conducted an Environmental and Social Assessment which addresses the relevant environmental and social risks and impacts of the Project. Copies of all of the Assessment Documentation have been provided to the Facility Agent.

20.31 The Environmental and Social Assessment has addressed and evaluated the potential risks related to, and compliance by the Borrower with all Environmental and Social Standards.

20.32 A summary of the EIA accessible and available online on the webpage of the Ministry of Environment and Urbanization (http://eced.csb.gov.tr/ced/jsp/ek1/2864) or on an alternative webpage as notified by the Borrower to the Facility Agent from time to time.

20.33 All assets (including underlying groundwater) owned, operated, leased, licensed or utilised by the Borrower (including any and all Project Assets) have been, and continue to be, owned, operated, leased, licensed or utilised by the Borrower or any other relevant person, in Material Environmental Compliance with the ESMP and in compliance with all Environmental and Social Standards and Environmental or Social Permits.

20.34 Other than as previously disclosed in writing to the Facility Agent (as to which, the Borrower represents and warrants the same has no reasonable prospect of success), there have been no past, and there are no outstanding, pending or threatened Environmental or Social Claims against or in connection with the Project or any assets of the Borrower (including the Project Assets) which will, or could reasonably be expected, to result in Material Environmental Liabilities, and no facts or circumstances exist which are likely to give rise to any such Environmental or Social Claim.

20.35 There has not been any leakage, spillage, release or emission of Environmental Contaminants at or from the Borrower's facilities or the Project Assets which either:

(a) contravenes any applicable Environmental Law, Social Law or any Environmental or Social Permit and which has not been rectified or remedied in accordance with Environmental and Social Standards; or

(b) will or could reasonably be expected to result in Material Environmental Liabilities.

Ownership and use of assets

20.36 The Borrower has acquired or has acquired the use of (or will acquire or acquire the use of by the date they are required in relation to the Project) all Project Assets and all Mining Rights, and has obtained (or will obtain by the date they are required in relation to the Project) such other surface and other rights as are necessary for access rights, water rights, plant sites, tailings disposal, waste dumps, ore dumps, abandoned heaps and ancillary facilities which are or will be required in connection with the development of the Project substantially in accordance with the Development Plan and the Life of Mine Plan.

20.37 All such Project Assets, Mining Rights and other rights are (or once acquired in accordance with clause 20.36 (*Ownership and use of assets*) above will be) sufficient in scope and substance for the development of the Project substantially in accordance with the Development Plan and the Life of Mine Plan.

20.38 The Borrower has good, valid and marketable title to, or valid leases or licences of, all of the assets it owns or purports to own and necessary to carry on its business as presently conducted, free and clear of all Security Interests (including infringement claims with respect to patents, trademarks, copyrights and similar intellectual property rights) except Permitted Security Interests.

20.39 The Borrower has complied in all material respects with all contractual obligations relating to any Project Asset leased, operated, licensed or used by it and all instruments pursuant to which it is entitled to lease, operate, license or use any such Project Assets are in full force and effect.

20.40 No claims or other assertions of rights (other than those contractual rights expressly provided for in the Material Project Documents) have been made, are pending, or, to the best of the Borrower's knowledge and belief having made due and careful enquiry, are likely to be made, in relation to the Project Assets (including land), which in the reasonable opinion of the Facility Agent have a reasonable prospect of success and which, if adversely determined, might reasonably be expected to have a Material Adverse Effect.

20.41 The Borrower has or will have at the time they are required for the Project, good, valid and marketable title to, or valid leases or licenses of, and all appropriate Project Authorisations to

use, the assets necessary for it to be able to operate the Project in accordance with Good Industry Practice and in a manner that is consistent in all material respects with the requirements of, and projections contained in, the Development Plan and Life of Mine Plan.

No other business

20.42 Except as expressly contemplated by the Transaction Documents, the Borrower has not undertaken any trading activity or business since the date of its incorporation, other than in connection with the implementation and conduct of the Project and exploration pursuant to the Non-Project Licences.

Ownership and Group structure

20.43 The Borrower has no Subsidiaries other than as permitted by this Agreement.

20.44 The Parent indirectly holds 100% of the shares in AGM.

20.45 AGM holds the shares representing eighty per cent (80%) of the share capital of the Borrower and eighty per cent (80%) of the existing voting rights exercisable at a general assembly meeting (*Tr. genel kurul*) of the Borrower.

20.46 The Calik Group holds, in aggregate, the shares representing twenty per cent (20%) of the share of the Borrower and twenty per cent (20%) of the existing voting rights exercisable at a general assembly meeting (*Tr. genel kurul*) of the Borrower.

20.47 The Shareholders, in aggregate, hold the shares representing one hundred per cent (100%) of the share capital of in the Borrower.

20.48 The shares of the Borrower are fully paid.

20.49 No person has any right to call for the issue or transfer of any share capital or loan stock in the Borrower other than in accordance with the Finance Documents.

20.50 The Group Structure Chart is complete and accurate in all respects and shows each Group Member, including current name, company registration number, details of all shareholders (except in relation to the Parent) and the jurisdiction of incorporation.

Pari passu ranking

20.51 The Borrower's and the Parent's payment obligations under the Finance Documents rank at least *pari passu* with all its other present and future unsecured and unsubordinated payment obligations, except for obligations mandatorily preferred by law applying to companies generally.

Security

20.52 Subject to the Legal Reservations, the security created by the Security Documents constitutes legal, valid and enforceable security and ranks as a first priority security interest over the assets described in the relevant Security Document and those assets are not subject to any prior or *pari passu* security (other than Permitted Security Interests which rank *pari passu* or ahead by operation of law).

20.53 Subject to any filings, registration or notice requirements which are to be carried out in accordance with clause 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent)* and clause 23.19 (*After acquired assets*), all actions and documents required to perfect the security created by the Security Documents have been duly performed, executed and delivered and, subject to the Legal Reservations, and the security created by the Security Documents constitutes perfected security on all the assets described in the Security Documents as being charged thereby.

Taxes

20.54 The Borrower has:

(a) filed all tax returns, reports and supporting information required to be filed by it; and

(b) paid or discharged all Taxes and governmental charges due and payable by it on or before the due date except those which are being contested in good faith by appropriate proceedings and for which adequate reserves have been provided in accordance with Applicable Accounting Standards and, to the extent that any Taxes are not due and payable, the Borrower has provided adequate reserves for the payment of those Taxes in accordance with Applicable Accounting Standards.

Development Plan, Integrated Environmental and Social Management Plan, Technical Report and Environmental Report

20.55 The Development Plan contains summary descriptions of the Project Assets and the development and operation of the Project as proposed to be conducted during the Project Period.

20.56 The ESMP contains summary descriptions of the environmental aspects of the Project Assets and the development and operation of the Project as now conducted and as proposed to be conducted throughout the Project Period.

20.57 The factual information provided by, or on behalf of, the Parent and the Borrower to the Independent Technical Consultant in connection with the preparation of the Technical Report and the Environmental Report (as applicable) is true and accurate as at the date furnished to the Independent Technical Consultant in all material respects and does not omit to state any

information or fact the omission of which might render such provided information misleading in any respect.

Insurance

20.58 The insurance contracts required to be obtained by the Borrower in accordance with this Agreement have been obtained and maintained and are in full force and effect, and those Insurances have not been materially amended or modified.

20.59 The Borrower has not done, or omitted to do anything, and no event or circumstance has occurred, which has made, or could make, any Insurances void, voidable or subject to any material restriction or limitation.

20.60 The Borrower has not received any notification from its Insurers that the relevant Insurer's liability under or in connection with the Material Insurances (other than local Turkish Insurance policies) has been reduced or avoided, and no Insurer under or in connection with any Material Insurance (other than an Insurer under any local Turkish Insurance policies) has had its rating reduced below A- by Standard & Poor's ("S&P") or an equivalent rating from another nationally recognised rating service without a replacement Insurance being placed with a replacement Insurer which has the required rating within five (5) Business Days of the relevant Insurer being downgraded.

Corrupt gifts

20.61 Neither the Borrower, the Shareholders nor the Parent has committed a Corrupt Act.

No Insolvency

20.62 No corporate action, legal proceedings or other procedures or steps have been taken or are threatened against any Obligor for its bankruptcy, winding-up, dissolution, administration or re-organisation or for the appointment of a receiver, administrator, administrative receiver, trustee, manager, bankruptcy trustee or similar officer of it or of any or all of its assets or revenues.

Material Project Documents

20.63 The Borrower is not in breach of any of its material obligations under Material Project Documents to which it is a party.

20.64 No party to any Material Project Document (other than the Borrower) is (so far as the Borrower is aware having made due and reasonable enquiries) in breach of the material terms of any Material Project Document to which it is a party.

No immunity

20.65 Each Obligor is subject to civil and commercial law with respect to its obligations under each of the Finance Documents to which it is a party.

20.66 The entry into and performance of the Finance Documents to which it is a party by each Obligor constitute private and commercial acts (rather than governmental or public acts).

20.67 No Obligor nor any of its assets will be entitled to claim any right of immunity from set-off, suit, execution, attachment or other legal process in respect of its obligations under the Finance Documents.

Project Accounts

20.68 The Borrower does not hold any bank accounts other than:

(a) the Project Accounts; and

(b) such other accounts held with the prior consent of the Facility Agent (acting on the instructions of the Majority Lenders).

Financial statements

20.69 The Initial Financial Statements:

(a) were prepared in accordance with Applicable Accounting Standards;

(b) in the case of the audited financial statements, were audited by the relevant Obligor's auditors; and

(c) (in the case of audited financial statements) present fairly in all material respects each Obligor's financial condition as at the date on which they were drawn up and the results of their operations (consolidated in the case of the Parent) for the period ending on that date in conformity with the relevant legislation and Applicable Accounting Standards, applied on a consistent basis.

20.70 There has been no material adverse change in either of the Borrower's or the Parent's business or financial condition (or the business or consolidated financial condition of the Group in the case of the Parent) since the date on which the Initial Financial Statements were drawn up.

Compliance with laws

20.71 Each of the Borrower and, prior to Final Project Completion, the Parent are in compliance in all material respects with all laws and regulations to which they are subject and to which the Project is bound.

Anti-Terrorism Laws

20.72 No Major Project Party (nor, after Final Project Completion, the Parent):

(a) is named on the list of Specially Designated Nationals and Blocked Persons maintained by OFAC or any list of persons issued by OFAC pursuant to Executive Order 13224 - Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism, as in effect from time to time, or any similar list issued by OFAC (collectively, the **OFAC Lists**) or on any other relevant list of blocked persons in connection with terrorism;

(b) is a person determined by the Secretary of the Treasury of the United States to be owned by, controlled by, acting for or on behalf of, providing assistance, support, sponsorship, or services of any kind to, or otherwise associated with any of the persons referred to or described in the OFAC Lists or on any other relevant list of blocked persons in connection with terrorism;

(c) is subject to any Sanctions imposed pursuant to any regulation relating to terrorism; or

(d) has conducted business with or engaged in any transaction with any person identified in clauses 20.72(a), 20.72(b) or 20.72(c) above.

Sanctions

20.73 Neither the Borrower, nor any Shareholder nor the Parent:

(a) is using or will use the proceeds of the Facility in any manner that would result in a violation of Sanctions including for the purpose of financing or making funds available directly or indirectly to any person or entity which is a Sanctioned Entity; or

(b) is contributing or will contribute or otherwise make available the proceeds of the Facility to any other person or entity for the purpose of financing the activities of any person or entity which is a Sanctioned Entity, to the extent such contribution or provision of proceeds would currently be prohibited by Sanctions or would otherwise cause any person to be in breach of Sanctions.

20.74 No Major Project Party (nor, after Final Project Completion, the Parent) nor any member of the Group nor any member of the Calik Group:

(a) (nor, to the its knowledge, any director, officer, agent, employee or Affiliate) is a Sanctioned Entity; or

(b) has been or is targeted under any Sanctions or has violated or is violating any applicable Sanctions.

Illicit Origin

20.75 No funds invested in the shares in the Borrower or any Shareholder by way of shareholder contributions or otherwise are of Illicit Origin.

Intellectual Property

20.76 The Borrower owns and possesses or has acquired the right to use (or will on or prior to the date on which such rights are necessary for the development and operation of the Project in accordance with the Development Plan and the Life of Mine Plan, own and possess or have acquired the right to use) all material patents, patent rights, trademarks, trademark rights, trade names, trade name rights, service marks, service mark rights and copyrights necessary, in accordance with the nature of the industry in which it operates, for the development and operation of the Project substantially in accordance with the Development Plan and the Life of Mine Plan.

Labour matters

20.77 No labour disputes are current or, to the best of its knowledge and belief (having made due and careful enquiry), threatened against the Borrower which have or are reasonably likely to have a Material Adverse Effect.

Repetition

20.78 The Repeating Representations are deemed to be made by each of the Borrower and the Parent by reference to the facts and circumstances then existing on each Utilisation Date, each Hedging Transaction Date, the date of Project Completion, the date of Final Project Completion, and upon issue of each Borrower Compliance Certificate pursuant to clause 21.19 (*Borrower Compliance Certificates*) (or if no Borrower Compliance Certificate is issued as required, on the applicable Calculation Date) provided, however, that the Parent will not make any new representations or warranties pursuant to the terms of this clause 20.78 (*Repetition*) at any time following Final Project Completion.

20.79 Any representation with respect to a future matter made prior to Final Project Completion by the Parent shall cease to have any force or effect on and from Final Project Completion.

21 Information undertakings

21.1 Unless otherwise specified, the undertakings in this clause 21 (*Information undertakings*) remain in force throughout the Facility Period, provided that the Parent will not be under any further obligation under this clause 21 (*Information undertakings*) at any time following Final Project Completion.

Construction Report

21.2 The Borrower shall prepare and deliver to the Facility Agent, the Technical Agent and the Independent Technical Consultant a Construction Report on a monthly basis on and from Financial Close up to and including Project Completion. Each Construction Report shall be delivered by the Borrower as soon as practicable and, in any event, within fifteen (15) Business Days of the end of each Month.

21.3 The Borrower shall ensure that each Construction Report is in the form approved by the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*) and, to the extent required by the Facility Agent from time to time, contains or encloses the following details:

(a) actual expenditure for the relevant Month and a comparison of that expenditure against the corresponding figures in the Construction Budget;

(b) total actual expenditure since the date of this Agreement and a comparison of that expenditure against the corresponding figures in the Construction Budget and explanations as to material deviations;

(c) actual progress on construction for the relevant Month and a comparison of that progress against the anticipated program;

(d) total actual progress on construction since the date of this Agreement and a comparison of that progress against the anticipated program and explanations as to material deviations;

(e) details of any actual or forecast Cost Overrun;

(f) for the following twelve (12) Months, forecast expenditure for each of those Months together with a comparison of that forecast expenditure against the corresponding figures in the Construction Budget and explanations as to material deviations;

(g) the Borrower's opinion as to whether Project Completion is likely to be achieved by the Projected Completion Date and, if the Borrower thinks that date is not achievable, the Borrower's best estimate of when Project Completion will be achieved (together with reasons for that estimate);

(h) any material change, damage to or destruction of any material Project Asset;

(i) any material delay to the works or any extensions of time granted by the Borrower to any party carrying out construction related activities under any Material Project Document;

(j) copies of any material certificates and reports provided to any Obligor under the Material Project Documents;

(k) details of any Delay Liquidated Damages which have been paid to or received by the Borrower under the Material Project Documents; and

(l) any other or additional information that the Facility Agent might reasonably request the Borrower to provide in relation to the construction of the Project.

Operating Report

21.4 The Borrower shall prepare and deliver to the Facility Agent, the Technical Agent and the Independent Technical Consultant an Operating Report on a monthly basis (or, if such reports are produced by the Borrower on a less frequent basis, as and when they are prepared but no less than Quarterly) on and from Financial Close until the end of the Facility Period. Each Operating Report shall be delivered by the Borrower as soon as practicable and, in any event, within fifteen (15) Business Days of the end of each Month (or at least within forty five (45) days of the end of the Quarter to which the Operating Report relates if provided Quarterly).

21.5 The Borrower will ensure that each Operating Report is in the form approved by the Facility Agent pursuant to clauses 4.1 (*Initial conditions precedent*) and Part 1 of Schedule 3 (*Conditions Precedent*) and, to the extent required by the Facility Agent from time to time, contains or encloses the following details:

(a) the actual performance and production of the Project (including actual Project Production) for the relevant Month(s) and a comparison of that performance and production against the corresponding figure in the Operating Budget;

(b) the total actual performance and production of the Project (including actual Project Production) for the calendar year to date and a comparison of that performance and production against the corresponding figure in the Operating Budget and explanations as to material deviations;

(c) actual expenditure for the relevant Month(s) and a comparison of that expenditure against the corresponding figures in the Operating Budget and explanations as to material deviations;

(d) total actual expenditure for the calendar year to date and a comparison of that expenditure against the corresponding figures in the Operating Budget and explanations as to material deviations;

(e) details of any unscheduled stoppage or disruption to mining or production at the Project which lasts for more than ten (10) consecutive days;

(f) cash balances of each of the Project Accounts (except the Distribution Account) as at the first day and the last day of the relevant Month(s); and

(g) any other or additional information that the Facility Agent might reasonably request the Borrower to provide in relation to the operation of the Project.

Environmental and Social Monitoring Report

21.6 The Borrower shall promptly provide such documents, evidence or other information as are reasonably requested by the Independent Technical Consultant and, notwithstanding clause 25.23 (*Books and records and access to Site*), on and from Financial Close, give such access to the Site and the Project Assets as is reasonably required by the Independent Technical Consultant (which shall be no less than one visit in each half year prior to Project Completion and one visit in each of the Borrower's financial years after Project Completion), to conduct the Independent Review, to assist it to produce an Environmental and Social Monitoring Report in relation to Environmental and Social Matters, and to verify the information relating to compliance with Environmental and Social Standards and the Environmental and Social Deliverables. The Independent Technical Consultant shall supply to the Facility Agent, in sufficient copies for all the Lenders such Environmental and Social Monitoring Reports:

(a) prior to Project Completion, within forty-five (45) days of each half year period; and

(b) after Project Completion, within forty-five (45) days of the end of each of the Borrower's financial years.

21.7 Such Environmental and Social Monitoring Reports by the Independent Technical Consultant shall be in form and substance satisfactory to the Facility Agent and shall, inter alia, set out in detail:

(a) Environmental and Social Matters relevant to the Project;

(b) all of the actions and activities undertaken by or on behalf of the Borrower pursuant to the ESMP during the period to which the Environmental and Social Monitoring Reports relates; and

(c) any non-compliance with any Environmental and Social Standard and any Environmental and Social Permits, the Environmental Impact Assessment and the Environmental and Social Impact Assessment, together with details of the actions which the Borrower has taken, is taking or intends to take in order to rectify such non-compliance.

21.8 The Borrower shall publicly report GHG emission levels (combined Scope 1 Emissions and Scope 2 Emissions) during the operational phase of the Project if such emissions exceed 100,000 tonnes of CO_2 annually, as required by the Equator Principles.

Financial statements

21.9 On and from Financial Close, the Borrower shall supply to the Facility Agent:

(a) as soon as they become available, but in any event within one hundred and twenty (120) days after the end of each of its financial years, the audited financial statements of the Borrower, and until Final Project Completion only, the consolidated audited financial statements, together with the related management discussion and analysis, of the Parent for that financial year; and

(b) as soon as they become available, but in any event within forty five (45) days after each Quarter Date, the quarterly interim financial statements of the Borrower and until Final Project Completion only, the quarterly consolidated interim financial statements of the Parent for the Quarter ending on that Quarter Date.

21.10 The Borrower shall procure that on and from Final Project Completion the Lenders receive SEDAR notifications that financial statements and related management discussion and analysis of the Parent have been made available on SEDAR.

Requirements as to Financial statements

21.11 Each set of financial statements delivered by the Borrower pursuant to clause 21.9 (*Financial statements*) shall be certified by an authorised signatory of the relevant Obligor as complying with the requirements in clause 21.14 below.

21.12 Each of the Borrower and the Parent shall ensure that the financial statements delivered under clause 21.9 (*Financial statements*) in relation to it are:

(a) prepared in accordance with Applicable Accounting Standards;

(b) present fairly in all material respects its financial condition as at the date to which they were drawn up and the results of its operation for the period ending on that date in conformity with relevant legislation and Applicable Accounting Standards; and

(c) in the case of the annual audited financial statements, are not the subject of any qualifications in the corresponding auditor's opinion.

21.13 On and from Financial Close, each of the Borrower and the Parent shall maintain as its auditors an internationally recognised firm of accountants acceptable to the Facility Agent (acting reasonably).

21.14 The Borrower shall procure that each set of financial statements delivered pursuant to clause 21.9 (*Financial statements*) is prepared using accounting practices and financial reference periods consistent with those applied in the preparation of the Initial Financial Statements for

itself or the Parent (as applicable) unless, in relation to any set of financial statements, it notifies the Facility Agent that there has been a change in Applicable Accounting Standards, the accounting practices or reference periods and it, or its auditors, delivers to the Facility Agent:

(a) a description of any change necessary for those financial statements to reflect the Applicable Accounting Standards, accounting practices and reference periods upon which its or the Parent's (as applicable) Initial Financial Statements were prepared; and

(b) sufficient information, in form and substance as may be reasonably required by the Facility Agent, to enable the Finance Parties to determine whether clause 22 (*Financial and Reserve Undertakings*) has been complied with and to make an accurate comparison between the financial position indicated in those financial statements and its or the Parent's (as applicable) Initial Financial Statements.

21.15 Any reference in this Agreement to those financial statements shall be construed as a reference to those financial statements as adjusted to reflect the basis upon which the Initial Financial Statements were prepared.

Hedging Report

21.16 Provided there are any Hedging Transactions in place, on and from the date a Hedging Agreement (or any hedging agreement or hedging transaction with a third party) is entered into, the Borrower shall supply to the Facility Agent:

(a) (A) prior to Project Completion, no later than fifteen (15) Business Days following the end of each Quarter and (B) on and after Project Completion, no later than forty five (45) days following the end of each Quarter, a report in respect of that Quarter detailing:

(i) the Hedging Transactions entered into pursuant to each Hedging Agreement (and any hedging transactions entered into with persons other than the Hedge Providers) and the Borrower's exposure under such transactions; and

(ii) any breach of the Hedging Strategy together with details of the applicable over-hedging including what such over-hedging relates to, what Hedging Transactions are outstanding with the Hedge Providers (and any third party hedge providers, if there are any), and any other details the Facility Agent requires in order to issue a notice contemplated under clause 10.2 (*Close out of Hedging Agreements*) of the Intercreditor Deed; and

(b) promptly upon becoming aware of any breach of the Hedging Strategy, a notice of such breach together with details of the applicable over-hedging including what such over- hedging relates to, what Hedging Transactions are outstanding with the Hedge Providers (and any third party hedge providers, if there are any), and any other details the Facility

Agent requires in order to issue a notice contemplated under clause 10.2 (*Close out of Hedging Agreements*) of the Intercreditor Deed.

Notification of Default and Change of Control

21.17 Each of the Borrower and the Parent shall notify the Facility Agent (i) of any Default (and the steps, if any, being taken to remedy it) promptly upon becoming aware of its occurrence; and (ii) on and from Financial Close, promptly on becoming aware that a Change of Control is reasonably likely to occur, of such Change of Control or events or circumstances which are reasonably likely to constitute a Change of Control (unless a notification has already been provided by another Obligor).

Shareholder and creditor documents

21.18 On and from Financial Close the Borrower shall supply to the Facility Agent all material documents dispatched by the Borrower to its shareholders (or any class of them) or its creditors generally or to any stock exchange or (subject to any conflicting duty of confidentiality imposed by any regulations) any other regulatory body at the same time that they are dispatched, in each case to the extent such documents are not otherwise available on SEDAR.

Borrower Compliance Certificates

21.19 The Borrower shall supply to the Facility Agent together with the financial statements provided to the Facility Agent pursuant to clause 21.9(b) (*Financial statements*) but in any event by no later than within forty five (45) days after each Calculation Date (or, where the Calculation Date is an Unscheduled Calculation Date, on such Unscheduled Calculation Date) a Borrower Compliance Certificate calculated as of such date, indicating, *inter alia*, compliance on the relevant Calculation Date with each of the ratios set forth in clause 22.1 (*Financial undertakings - Borrower*).

21.20 With each Borrower Compliance Certificate delivered in accordance with clause 21.19 above, the Borrower will deliver such information concerning the calculations and assumptions used by the Borrower in preparing such Borrower Compliance Certificate as the Technical Agent may require (acting reasonably), including such information set out in the pro forma Borrower Compliance Certificate in Part 1 of Schedule 5 (*Form of Borrower Compliance Certificate*).

21.21 The Borrower shall prepare each Borrower Compliance Certificate in such a manner so as to ensure that:

(a) the Borrower Compliance Certificate is prepared using the Financial Model and is based on the Assumptions determined in accordance with clauses 17.4 to 17.11 (*The Financial Model*);

(b) the Borrower Compliance Certificate accounts for income and expenditure on a cash basis;

(c) the Borrower Compliance Certificate calculates tax payments on the basis of legislation and practice in force at the time of preparation of the Borrower Compliance Certificate; and

(d) the Borrower Compliance Certificate takes into account the terms of the Transaction Documents in preparing estimates of income and expenditure.

Cost to Complete Shortfall

21.22 Unless a Cost to Complete Certificate has been provided to the Facility Agent pursuant to clause 4.1 (*Initial conditions precedent*) within the last forty five (45) days, on and from Financial Close until Project Completion the Borrower shall, together with the financial statements provided to the Facility Agent pursuant to clause 21.9 (*Financial statements*) but in any event by no later than no later than forty five (45) days following each Quarter Date, provide the Technical Agent and the Facility Agent with a Cost to Complete Certificate certifying whether a Cost to Complete Shortfall exists (and, if so, the amount of the Cost to Complete Shortfall) together with supporting calculations undertaken by the Borrower to enable the Technical Agent to verify the accuracy of such certificate.

Environmental and Social Matters

21.23 The Borrower shall promptly provide to the Facility Agent:

(a) details of any non-compliance with applicable Environmental and Social Standards or any Environmental or Social Permit of which it is aware (having made due and reasonable enquiries from time to time);

(b) details of any suspension, revocation, cancellation, annulment or amendment of any Environmental or Social Permit;

(c) details of any Material Environmental Breach of any Environmental or Social Permit;

(d) details of any event resulting in the release or discovery of any material Environmental Contaminant on the Site;

(e) details of any material community or worker-related protest affecting the Project or which could reasonably be expected to result in national or international media attention;

(f) a Corrective Action Plan, if requested by the Facility Agent, in response to any of the events or circumstances described in clauses 21.23(a) to 21.23(e)above.

Miscellaneous information

21.24 On and from Financial Close, the Borrower shall supply to the Facility Agent:

(a) details of any material litigation, arbitration, regulatory or administrative proceedings (including any Environmental or Social Claim) which are current, pending or (to its knowledge) threatened against or involving:

(i) the Borrower or the Project; and

(ii) any other Major Project Party in connection with the Project or its performance of the Material Project Documents,

including any such proceedings which are reasonably likely to result in:

(A) a liability exceeding one million Dollars (US$1,000,000) (other than in relation to a claim for workers' compensation or other labour or employment claim);

(B) a material delay to Project Completion;

(C) a material delay to Final Project Completion; or

(D) a Material Adverse Effect;

(b) details of any Environmental and Social Incident and Environmental and Social Accident, including the nature of the Environmental and Social Incident and Environmental and Social Accident, the on-site and off-site impacts of such Environmental and Social Incident and Environmental and Social Accident and the actions the Borrower is taking or proposes to take in order to address such impacts;

(c) a copy of any notice or communication received by it from any regulatory body, court, organisation or other person prohibiting, suspending, varying or requiring the halting of all or any part of any material activity or process carried out in respect of the Project;

(d) details of any material breach by any party, frustration, rescission, repudiation, termination or cancellation of, or material disputes under, any Transaction Document together with details of any proposed action it proposes to take in relation to the same;

(e) a copy of any notice received or given by any Obligor purporting or threatening default or, the rescission, repudiation, termination or cancellation of any of the Transaction Documents together with details of any proposed action it proposes to take in relation to the same;

(f) details of any occurrence or circumstance (including any third party claim or liability) of which such Obligor becomes aware which is likely to have a Material Adverse Effect or prejudice the rights of the Finance Parties under the Finance Documents;

(g) details of any damage or destruction of any Project Asset where the cost of repair or reinstatement is likely to exceed five million Dollars (US$5,000,000);

(h) details of any suspension, revocation, cancellation, annulment or amendment of any Project Authorisation which, if substantiated, is likely to have a Material Adverse Effect or result in any liability for a Finance Party or prejudice the rights of the Finance Parties under the Finance Documents;

(i) details of any breach of any Project Authorisation or any law which, if substantiated, is likely to have a Material Adverse Effect or result in any liability for a Finance Party or prejudice the rights of the Finance Parties under the Finance Documents;

(j) details of any decision to accelerate, expand, reduce or decelerate the level of production for any Quarter at the Project other than in accordance with the Development Plan and the Life of Mine Plan;

(k) details of any downward revision to the Mineral Reserves other than in accordance with the Life of Mine Plan;

(l) any proposed material change in mining or processing methods at the Project;

(m) copies of any Material Project Documents and Refining Contracts entered into after the date of this Agreement;

(n) copies of any other material agreements entered into by, or under which material obligations are assumed by the Borrower in relation to the Project;

(o) an annual statement of Mineral Reserves for the Project;

(p) details of any Security Interest or Quasi-Security Interest granted by any of the Parent's Subsidiaries (other than AGM) over any of its shareholdings by which the Parent directly or indirectly holds the shares in AGM or the Borrower; and

(q) any other information:

(i) requested by the Facility Agent in relation to any Default which may, in the Facility Agent's opinion, have occurred and

(ii) reasonably requested by the Facility Agent in respect of the financial condition, business and/or operations of an Obligor or the Project, or the compliance by the

Borrower with all Environmental and Social Standards, including any information reasonably required by the Independent Technical Consultant to prepare its reports to the Finance Parties.

21.25 The Borrower shall deliver the information contemplated by clause 21.24 above promptly upon becoming aware of the relevant matter or, as the case may be, promptly upon receipt of the relevant notice, claim or communication, or request by the Facility Agent.

Insurance information

21.26 On and from Financial Close the Borrower shall supply to the Facility Agent:

(a) as soon as practicable upon becoming aware (having made due and reasonable enquiry) of the occurrence of the relevant event and details as to any:

(i) material disputes with any of the Insurers in relation to any of the Insurances;

(ii) failure to pay any insurance premium as and when required that might result in the cancellation of any Insurance;

(iii) act or omission or of any event of which it has knowledge which may have a material impact on the cover provided under the Insurances;

(iv) down-grading of an Insurer's (other than a local Turkish Insurer's) rating below A- by Standard & Poor's ("S&P") or an equivalent rating from another nationally recognised rating service;

(v) failure to comply with the Borrower's obligations under clauses 25.19 to 25.20 (*Insurances*), in each case stating the reasons therefor;

(vi) notices received from any Insurer with respect to the cancellation of or proposed cancellation of any Insurance (and, in the case of the notification of such details, stating the reasons therefor); and

(vii) claims or circumstances which are likely to give rise to a claim in relation to the Insurances in excess of three million Dollars (US$3,000,000);

(b) promptly and in any event no later than sixty (60) days prior to any such changes becoming effective, details of any material changes which are proposed to be made to the terms of the Insurances and which, if effected, would result in any material reduction in limits or coverage (including those resulting from extensions) or in any increase in deductibles, exclusions or exceptions or would result in termination, cancellation, suspension or expiry (in the latter case, which is not immediately followed by a renewal upon the same terms with the same Insurers) of any of the Insurances; and

(c) upon written request by the Facility Agent in each case, certified copies of all policies, cover notes, certificates, endorsements, renewal receipts and confirmation of renewal and payment of premiums in respect of the Insurances and any other information which may be required for the Independent Insurance Consultant to prepare a report or certificate to be delivered to the Facility Agent and/or Technical Agent.

Law

21.27 On and from Financial Close the Borrower shall notify the Facility Agent promptly upon becoming aware of the amendment, repeal or replacement of any law or regulation being adopted or the passage of any new law or regulation which might reasonably be expected to have a Material Adverse Effect or prejudice the rights of the Finance Parties under the Finance Documents.

Cash Sweep Calculation Certificate

21.28 In accordance with clause 7.7 (*Mandatory prepayments - cash sweep*) and so long as the outstanding Loan exceeds US$150,000,000, no later than forty-five (45) days following each applicable Calculation Date, the Borrower shall supply to the Facility Agent a Cash Sweep Calculation Certificate relating to the Cash Sweep Period ending on such Calculation Date.

Sufficient copies

21.29 Except as permitted in clause 37.7 (*Use of websites*), the Borrower, if so required by the Facility Agent, shall supply sufficient copies of each document to be supplied under the Finance Documents which is not otherwise available on SEDAR to the Facility Agent to distribute to each of the Lenders and Hedge Providers.

"Know your customer" checks

21.30 In circumstances where the necessary information is not already available to the Finance Parties, each Obligor shall promptly upon the request of the Facility Agent or any Finance Party supply, or procure the supply of, such documentation and other evidence as is reasonably requested by the Facility Agent (for itself or on behalf of any Finance Party) or any Finance Party (for itself or on behalf of any prospective new Lender) in order for the Facility Agent, such Finance Party or any prospective new Lender to carry out and be satisfied it has complied with all necessary "know your customer" or other similar checks under all applicable laws and regulations pursuant to the transactions contemplated in the Finance Documents.

21.31 Each Finance Party shall promptly upon the request of the Facility Agent or the Security Holder supply, or procure the supply of, such documentation and other evidence as is reasonably requested by the Facility Agent or the Security Holder (for itself in each case) in order for it to carry out and be satisfied it has complied with all necessary "know your customer" or other

similar checks under all applicable laws and regulations pursuant to the transactions contemplated in the Finance Documents.

Sanctions

21.32 Each Obligor shall, and the Borrower shall procure that (following Final Project Completion) the Parent shall, promptly upon becoming aware of the same, supply to the Facility Agent details of any claim, action, suit, proceedings or investigation against it or any member of the Group or the Calik Group with respect to Sanctions.

22 Financial and Reserve Undertakings

Financial and reserve undertakings

22.1 The Borrower shall ensure that:

(a) on any relevant Calculation Date the Historic Debt Service Cover Ratio for the Calculation Period ending on that Calculation Date is no less than 1.20:1;

(b) on any relevant Calculation Date the Forecast Debt Service Cover Ratio for the next Calculation Period and the Calculation Period ending on each subsequent Scheduled Calculation Date until the Final Scheduled Repayment Date is no less than 1.20:1;

(c) on any relevant Calculation Date the Loan Life Cover Ratio on that Calculation Date and any future Scheduled Calculation Date until the Final Scheduled Repayment Date is no less than 1.30:1;

(d) at all times on and from Financial Close and on each relevant Calculation Date, the Ore Reserve Tail Ratio is at least thirty per cent (30%).

22.2 The Parent shall ensure that at all times on and from Financial Close up to and including the date of Final Project Completion its Consolidated Tangible Net Worth is no less than five hundred million Dollars ($500,000,000), and shall, no later than forty five (45) days after each Quarter Date prior to Final Project Completion, deliver a CTNW Certificate to the Facility Agent signed by an authorised signatory of the Parent, confirming its Consolidated Tangible Net Worth (with details of calculations undertaken by the Parent so as to enable the Facility Agent to verify the accuracy of the matters set out in the certificates).

Financial Testing

22.3 The financial covenants set out in clauses 22.1(a) to (d) (*Financial and reserve undertakings*) shall be calculated in accordance with Applicable Accounting Standards and tested by reference to the Financial Model and each Borrower Compliance Certificate delivered pursuant to clause 21.19 to 21.20 (*Borrower Compliance Certificates*).

23 Positive undertakings

23.1 Provided that the Parent will not be under any further obligation under this clause 23 (*Positive undertakings*) at any time following Final Project Completion:

(a) unless specified otherwise in paragraph (b) below, undertakings in this clause 23 (*Positive undertakings*) remain in force from the date of Financial Close until the end of the Facility Period;

(b) undertakings in clauses 23.3 (*Law*), 23.7 to 23.9 (*Taxes and judgments*), 23.11(b), 23.11(e) and 23.12 (*Hedging*), 23.14 (*Defence of Claims and actions by the third parties*), 23.15 (*Corporate Existence*), 23.16 to 23.18 (*Ownership*), and 23.21 to 23.22 (*Anti-corruption*) remain in force throughout the Facility Period; and

(c) undertakings in clauses 23.23 to 23.24 (*Cash balance of the Parent*) remain in force until the earlier of (i) Financial Close and (ii) the date on which the Security Documents have been entered into and perfected in form and substances satisfactory to the Facility Agent.

Purpose

23.2 The Borrower shall only use the Loans for the purpose specified in clause 3.1 (*Purpose*).

Law

23.3 The Borrower and the Parent shall comply in all material respects with all laws and regulations to which it or the Project is subject.

Pari passu

23.4 The Borrower and the Parent shall ensure that their respective payment obligations under this Agreement and each other Finance Document to which it is a party rank at least *pari passu* in right of payment with all of its present and future other unsecured indebtedness, other than any such indebtedness which is preferred by mandatory provisions of applicable law.

Property

23.5 The Borrower shall acquire (by the date it is required in relation to the Project) any Project Assets, Project Authorisations or Mining Rights, or obtain (by the date it is required in relation to the Project) such other surface and other rights as are necessary for access rights, water rights, plant sites, tailings disposal, waste dumps, ore dumps, abandoned heaps and ancillary facilities which are required in connection with the development of the Project substantially in accordance with the Development Plan or the Life of Mine Plan.

23.6 The Borrower shall maintain, preserve, protect and keep:

(a) all of its ownership, lease, use, licence and other interests in the Project Assets (including the Mining Rights) as are necessary for it to be able to operate the Project in accordance with Good Industry Practice and in a manner that is consistent in all material respects with the requirements of, and projections contained in, the Development Plan and the Life of Mine Plan; and

(b) all of the Project Assets owned by it in good repair, working order and condition, make necessary and proper repairs, renewals and replacements so that the Project may be properly conducted, such operation to be in accordance with Good Industry Practice unless the continued maintenance of any such Project Asset is no longer necessary or economically desirable for the operation of the Project, such operation to be in accordance with Good Industry Practice.

Taxes and judgments

23.7 The Borrower shall, at all times:

(a) file all tax returns (including all property tax returns and other similar tax returns applicable to the Project) required to be filed by it in any jurisdiction;

(b) promptly pay all Taxes and other governmental charges when due and payable and promptly pay and discharge any amounts payable pursuant to any judgment or order when due and payable (or within applicable grace periods permitted by law) (unless any final judgment or order for payment of such Taxes has been made) other than in respect of those Taxes which are being diligently contested by it in good faith and for which adequate reserves have been provided for the payment of that Tax in accordance with Applicable Accounting Standards; and

(c) apply all Tax credits, losses, reliefs or allowances in the manner and to the extent they were taken into account in the Financial Model.

23.8 The Borrower will maintain its tax residence in Turkey and ensure that it is not resident for tax purposes in any other jurisdiction.

23.9 The Borrower will promptly notify the Facility Agent of the imposition of, or any material change in the assessment of, any tax to which it is subject.

Hedging

23.10 The Borrower shall promptly, upon entry into any Hedging Agreement, deliver to the Facility Agent an original or certified copy of that Hedging Agreement and an original or certified copy of each confirmation in relation to that Hedging Agreement.

23.11 The Borrower may enter into a Hedging Agreement, Hedging Transaction or other physically settled or cash settled derivative transaction in connection with the protection against or benefit from fluctuation in any rate or price provided that:

(a) the Borrower enters into a Hedging Agreement or Hedging Transaction with a Lender or Affiliate of a Lender at the time of entry into the relevant Hedging Agreement or Hedging Transaction, in each case who is party to (or has acceded to) the Intercreditor Deed;

(b) any such Hedging Agreement or Hedging Transaction does not and will not conflict with the Hedging Strategy, and the Borrower maintains such compliance with the Hedging Strategy;

(c) the Borrower's obligations under such Hedging Agreement or Hedging Transaction are secured by the Security Documents on a *pari passu* basis with the obligations owing by the Borrower under the other Finance Documents;

(d) the Borrower's rights under those Hedging Agreements are secured in favour of, and in a manner acceptable to, the Security Holder on a *pari passu* basis between the Lenders and Hedge Providers; and

(e) each Lender will be offered on a pro rata basis an opportunity to bid (or for its Affiliates to bid, as applicable) on any such Hedging Transaction in accordance with clause 23.12.

23.12 The Borrower will give each Lender ten (10) Business Days' prior written notice of any proposed Hedging Transaction. Each Lender (or its Affiliate) that wishes to participate on at least a pro rata basis in any such Hedging Transaction will provide its hedging margin quote (including all associated costs) and the maximum amount of production or supply or notional amount (as the case may be) subject to its quote, on a confidential basis to the Borrower within three (3) Business Days of receipt of such notice. The Borrower will advise each bidding Lender (or its Affiliate) of the best quote received from the other bidding Lenders (or their Affiliates) which covers the entire proposed amount to be hedged and each Lender (or its Affiliate) shall have three (3) Business Days to agree to match the quoted hedging margin (including all associated costs) by providing a notice to the Borrower within such period. All Lenders (or their Affiliates) that have agreed to enter into the proposed Hedging Transaction on such terms shall become Hedge Providers (and shall, if they have not already done so, enter into a Hedging Agreement with the Borrower). If any Lender (or any of its Affiliates) fails to respond to the Borrower within any such time periods, it will be deemed to have elected not to participate in the proposed Hedging Transaction.

Security Interest

23.13 The Borrower and the Shareholders shall maintain and preserve the Security Interests created by the Security Documents and the priority of such Security Interests, subject to the Permitted Security Interests which rank *pari passu* or ahead by operation of law.

Defence of Claims and actions by third parties

23.14 The Borrower and, prior to Final Project Completion, the Parent shall promptly defend any material action, claim or other proceeding made against or affecting it (including any actions, claims or proceedings by any third parties with respect to the construction, development or operation of the Project) or, if there is no effective defence to, or if it is not commercially worthwhile for it to defend such action, claim or proceeding (based on legal advice received by it), the Borrower and, prior to Final Project Completion, the Parent shall use all reasonable endeavours to minimise or mitigate the effect of such claim, action or proceeding upon the Project, the Borrower, the Parent and the Borrower's and the Parent's business (including settling or compromising such claim if commercially appropriate to do so).

Corporate Existence

23.15 Each Obligors shall do, or cause to be done, all things necessary to preserve and keep in full force and effect:

(a) its corporate existence; and

(b) its authority to conduct its business unless, in relation to a Shareholder only, its failure to preserve and keep in full force and effect its authority to conduct its business could not have a Material Adverse Effect.

Ownership

23.16 The Shareholders shall, in aggregate, maintain at all times one hundred per cent (100%) of the direct ownership and control interest in the Borrower.

23.17 AGM shall maintain at all times eighty per cent (80%) of the direct ownership and control interest in the Borrower and eighty per cent (80%) of the existing voting rights exercisable at a general assembly meeting (*Tr. genel kurul*) of the Borrower.

23.18 The Calik Group shall, in aggregate, maintain at all times twenty per cent (20%) of the direct ownership and control interest in the Borrower and twenty per cent (20%) of the existing voting rights exercisable at a general assembly meeting (*Tr. genel kurul*) of the Borrower.

After acquired assets

23.19 The Borrower shall, upon the acquisition of any Project Assets (including the entering into of any Material Project Document or Refining Contract) in respect of which no Security Interest has effectively been granted and perfected pursuant to any Security Documents:

(i) within thirty (30) days of the acquisition of such assets having an aggregate fair market value in excess of (A) prior to Project Completion, US$5,000,000 (or its Equivalent); and (B) on and from Project Completion, US$10,000,000 (or its Equivalent);

(ii) upon entering into any Material Project Document or Refining Contract; or

(iii) with respect to the acquisition of any other such assets, (A) (prior to Project Completion) during a Quarter, by no later than thirty (30) days after the end of the relevant Quarter Date; and (B) (on and from Project Completion) during a calendar year, by no later than thirty (30) days after the last Quarter Date in each calendar year:

(a) enter into all instruments required by the Security Holder, in the form and substance satisfactory to the Security Holder, to grant to the Finance Parties a first ranking Security Interest over such newly acquired assets (other than Permitted Security Interests which rank *pari passu* or ahead by operation of law);

(b) simultaneously therewith effect all relevant notarisations and registrations; and

(c) take all other actions necessary or reasonably desirable to:

(A) create in favour of the Finance Parties a valid and perfected first priority Security Interest (subject to Permitted Security Interests which rank *pari passu* or ahead by operation of law) over all of such newly acquired assets: and

(B) evidence the creation of such Security Interest.

Further Assurance

23.20 Subject to clause 23.19 (*After acquired assets*) in respect of assets to which clause 23.19 relates, each Obligor shall promptly do all such acts or execute all such documents (including assignments, transfers, mortgages, charges, notices and instructions) as the Security Holder may specify (and in such form as the Security Holder may require in favour of the Security Holder or its nominee(s)):

(a) to create, perfect, protect or maintain the Security Interests created or intended to be created under or evidenced by the Security Documents (or other Permitted Security Interests) (which may include the execution of a mortgage, charge, assignment or other Security Interests over all or any of the assets which are, or are intended to be, the subject of the Security Documents (including an assignment of any loans to be made by a member of the Group or the Calik Group to the Borrower), or the placing or removal of any registration or financing statement) or for the exercise of any rights, powers and remedies of the Security Holder or the Finance Parties provided by or pursuant to the Finance Documents or by law;

(b) to confer on the Security Holder or confer on the Finance Parties Security Interests over any property and assets of the Borrower located in any jurisdiction equivalent or similar to the Security Interests intended to be conferred by or pursuant to the Security Documents; and/or

(c) to facilitate the realisation of the assets which are, or are intended to be, the subject of the Security Documents.

Anti-corruption

23.21 Notwithstanding the generality of clause 23.3 (*Law*), each Obligor shall, and the Borrower shall procure that following Final Project Completion, the Parent shall:

(a) comply with Corrupt Practices Laws;

(b) not (and shall procure that none of its directors, officers, employees, agents, contractors or sub-contractors, nor any person acting on its behalf or with whom it is associated shall) commit any Corrupt Act;

(c) maintain in place its own policies and procedures designed to ensure compliance with this clause 23.21; and

(d) from time to time provided that it is no more than once per year unless the Facility Agent reasonably suspects a Default has occurred, at the request of the Facility Agent confirm in writing that it has complied with its undertakings under this clause 23.21 and provide any information reasonably requested by the Facility Agent in support of that confirmation.

23.22 Each Obligor shall, and the Borrower shall procure that the Parent shall, promptly notify the Facility Agent of any breach or potential breach of clause 23.21 of which it becomes aware in relation to itself and shall co-operate with the Facility Agent and provide the Facility Agent with all information that is reasonably requested by the Facility Agent for the purpose of assessing

the Finance Parties' potential liability under Corrupt Practices Laws arising in connection with any such breach or potential breach.

Cash balance of the Parent

23.23 On and from the date on which a Hedging Agreement is entered into until the earlier of (i) Financial Close and (ii) the date on which the Security Documents have been entered into and perfected in form and substance satisfactory to the Facility Agent, the Parent or AGM shall maintain a consolidated cash balance on its accounts of at least $70,000,000 (seventy million Dollars).

23.24 The Parent shall provide the Facility Agent with evidence of its or AGM's compliance with the undertaking in clause 23.23 on the date of each Hedging Transaction and from time to time promptly on request by the Facility Agent (which request shall not be made by the Facility Agent more than once every Month, provided that no Default is continuing).

24 Negative undertakings

24.1 Provided that the Parent will not be under any further obligation under this clause 24 at any time following Final Project Completion:

(a) unless specified otherwise in paragraph (b) below, the undertakings in this clause 24 (*Negative undertakings*) remain in force from the date of Financial Close until the end of the Facility Period; and

(b) the undertakings in clauses 24.2 (*Corporate structure*), 24.3 and 24.4 (*Acquisitions*), 24.6 (*Business activities*), 24.7 (*Constitutional documents*), 24.8 (*No disposals*) and 24.26 to 24.28 (*Sanctions*) remain in force throughout the Facility Period.

Corporate structure

24.2 Prior to Project Completion:

(a) the Borrower shall not enter into any amalgamation, merger, demerger or corporate reconstruction, except if otherwise permitted by this Agreement,

(b) the Shareholders shall not enter into any amalgamation, merger, demerger or corporate reconstruction, except if otherwise permitted by this Agreement or if:

(i) in relation to a Calik Shareholder, the transferee or resulting entity (as applicable) is another Calik Shareholder or a Calik Group Member, subject always to clause 23.18 (*Ownership*), or, in relation to AGM, the transferee or resulting entity (as applicable) is a Group Member;

(ii) the relevant Shareholder and the transferee or resulting entity (as applicable) prior to or simultaneously with the transfer, do all such acts and execute all such documents as the Security Holder may specify, which shall be in form and substance satisfactory to the Security Holder, to:

(A) ensure that any transferred shares and associated rights remain subject to the Borrower Share Pledge (or a new share pledge in favour of the Security Holder) and the Security Interest over such shares and rights is perfected (including endorsement of the relevant share certificates in the transferee's or resulting entity's name (as applicable), and updating the share ledger to reflect the new shareholding);

(B) accede to the relevant Finance Documents including this Agreement and the Intercreditor Deed, in all relevant capacities as determined by the Security Holder; and

(C) if required by the Security Holder, assign to the Security Holder any loans made by a member of the Calik Group or the Group to the Borrower; and

(iii) the Facility Agent has confirmed that all the Lenders have completed their respective 'know your customer' checks; and

(c) the Parent shall not enter into any amalgamation, merger, demerger or corporate reconstruction with a Sanctioned Entity or in relation to an asset situated in a Sanctioned Country.

Following Project Completion, neither the Borrower nor AGM shall enter into any amalgamation, merger, demerger or corporate reconstruction, except if otherwise permitted by this Agreement.

Acquisitions

24.3 Except as provided in clause 24.4 below, the Borrower shall not:

(a) purchase, subscribe for or otherwise acquire any shares (or other securities or any interest therein), in, or incorporate, any other company or agree to do any of the foregoing; or

(b) purchase or otherwise acquire any assets (other than in the ordinary course of trade and in accordance with the Financial Model) or revenues or (without limitation to any of the foregoing) acquire any business or interest therein or form or enter into, any partnership, consortium, joint venture or other like arrangement or agree to do so,

without the prior written consent of the Facility Agent (acting on the instructions of the Majority Lenders).

24.4 Clause 24.3 (*Acquisitions*) above shall not apply to:

(a) Permitted Investments;

(b) an acquisition of any business or interest or the forming or entering into any partnership, consortium, joint venture or other arrangement that is otherwise permitted by this Agreement;

(c) an acquisition of any asset, business or interest or the forming or entering into any partnership, consortium, joint venture or other arrangement after Final Project Completion, provided that:

(i) such acquisition or transaction is funded by way of Additional Equity Contributions or funds which have been, or are in accordance with the Finance Documents entitled to be, transferred to the Distribution Account;

(ii) such acquisition is not made in relation to an asset in or connected with a Sanctioned Country or Sanctioned Entity;

(iii) such acquisition could not result in the requirements of clause 22 (*Financial and reserve undertakings*) not being satisfied;

(iv) the Borrower would be in Material Environmental Compliance with all Environmental and Social Standards pursuant to this Agreement in relation to such acquisition if such acquisition were part of the Project;

(v) such acquisition or transaction could not be expected to prejudice the rights of the Finance Parties under the Finance Documents or have an adverse effect on the projected Revenues of the Borrower or its ability to repay the Lenders pursuant to the Finance Documents; and

(vi) the terms of such acquisition or transaction are not otherwise contrary to the terms of the Finance Documents; and

(d) any such action by the Borrower for the proper implementation of the Project in accordance with and to the extent contemplated in the then current Financial Model,

in each case unless such Permitted Investment or acquisition adversely affects or could adversely affect the Mining Rights or the Borrower's rights under the Mining Rights to construct and operate the Project.

24.5 The Parent shall not (and following Final Project Completion the Borrower shall procure that the Parent shall not):

(a) purchase, subscribe for or otherwise acquire any shares (or other securities or any interest therein), in, or incorporate, any other company or agree to do any of the foregoing; or

(b) purchase or otherwise acquire any assets or revenues or (without limitation to any of the foregoing) acquire any business or interest therein or form or enter into, any partnership, consortium, joint venture or other like arrangement or agree to do so,

in relation to a Sanctioned Country or Sanctioned Entity or an asset in or connected with a Sanctioned Country or Sanctioned Entity, unless it has obtained the prior written approval of the Facility Agent (acting on the instructions of the Majority Lenders).

Business activities

24.6 The Borrower shall not:

(a) engage in any business or activities (including entering into any agreement or assuming any obligation in relation to such business or activities) other than

(i) the development and operation of the Project in accordance with the Development Plan and the Life of Mine Plan; and

(ii) Approved Exploration Activities; or

(b) maintain any place of business other than the location of the Project or elsewhere in Turkey.

Constitutional documents

24.7 No Obligor shall amend or vary any of its articles of incorporation, by-laws or similar constitutional documents in a way which may prejudice the rights of the Finance Parties under the Finance Documents or otherwise have a Material Adverse Effect.

No disposals

24.8 Except as provided in clause 24.9 below, the Borrower shall not sell, lease, transfer, discount, factor, assign or otherwise dispose of, by a single transaction or a series of transactions, whether related or not, and whether voluntary or involuntary, all or any part of:

(a) the Project Assets which it owns or which it has the right to prevent being disposed of;

(b) its rights under the Transaction Documents; or

(c) any of its other present or future assets (which for the purposes of this clause does not include Project Production)

24.9 Clause 24.8 above shall not apply to any disposal:

(a) made on commercial arm's length terms in the ordinary course of trade;

(b) of Non-Project Licences;

(c) of worn, damaged, obsolete, redundant or defective assets which, if required to operate the Project, have been replaced with assets of at least equal quality;

(d) of Cash Equivalent Investments for cash or in exchange for other Cash Equivalent Investments;

(e) arising as a result of Permitted Security Interests;

(f) which is contemplated under the Finance Documents;

(g) in any twelve (12) month period of any assets of the Borrower which are not Project Assets and which are not otherwise material to the Project, and which have a value when aggregated with all other assets disposed of under this clause 24.9(g) in such twelve (12) month period of less than five million Dollars (US$5,000,000) or its Equivalent; or

(h) approved with the prior written consent of the Facility Agent (acting on the instructions of the Majority Lenders).

24.10 No Shareholder shall sell, transfer, assign or otherwise dispose of shares in the Borrower, provided that the Calik Shareholders shall be entitled to dispose of their shares in the Borrower if:

(a) the transferor is another Calik Shareholder or a Calik Group Member, subject always to clause 23.18 (*Ownership*);

(b) the transferor and the transferee prior to or simultaneously with the transfer, do all such acts and execute all such documents as the Security Holder may specify, which shall be in form and substance satisfactory to the Security Holder, to:

(i) ensure that any transferred shares and associated rights remain subject to the Borrower Share Pledge (or a new share pledge in favour of the Security Holder) and the Security Interest over such shares and rights is perfected (including endorsement of the relevant share certificates in the transferee's name, and updating the share ledger to reflect the new shareholding);

(ii) accede to the relevant Finance Documents including this Agreement and the Intercreditor Deed, in all relevant capacities as determined by the Security Holder; and

(iii) if required by the Security Holder, assign to the Security Holder any loans made by a member of the Calik Group to the Borrower; and

(c) the Facility Agent has confirmed to the transferring Calik Shareholder and the Borrower that all the Lenders have completed their respective 'know your customer' checks in respect of the proposed transferee.

Negative pledge

24.11 The Borrower shall not create or permit to subsist any Security Interest or Quasi-Security Interest over any of its assets except a Permitted Security Interest, and no Shareholder shall create or permit to subsist any Security Interest or Quasi-Security Interest over any of its assets intended to be subject to a Security Interest pursuant to the Finance Documents.

Guarantees

24.12 Except as provided in clause 24.13 below, the Borrower shall not give, incur or allow to be outstanding any Guarantee in respect of any person.

24.13 Clause 24.12 above shall not apply to:

(a) any Guarantee given pursuant to the Transaction Documents;

(b) any Guarantee constituting Permitted Indebtedness or a Permitted Security Interest;

(c) any environmental bonds, guarantees or letters of credit required to be issued by the Borrower in relation to the Project pursuant to any Environmental or Social Permit;

(d) any Guarantee approved in writing by the Facility Agent (acting on the instructions of the Majority Lenders); or

(e) customary Guarantees to directors and officers in their capacities as such in relation to claims made against them as directors or officers.

Loans

24.14 The Borrower shall not make any loans or otherwise grant any form of credit to any person except for:

(a) loans or credit that constitutes a Permitted Investment; or

(b) loans or credit approved by the Facility Agent (acting on the instructions of the Majority Lenders).

24.15 Neither the Parent nor any Shareholder shall make any loan to the Borrower unless such loan has been assigned by the Parent or the Shareholder, as the case may be, to the Security

Holder as security for the Borrower's obligations to the Finance Parties under the Finance Documents, on terms acceptable to the Security Holder.

Indebtedness

24.16 The Borrower shall not create, incur, assume or suffer to exist or otherwise become liable in respect of any Financial Indebtedness other than Permitted Indebtedness.

Transactions with Affiliates

24.17 The Borrower shall not enter into any arrangement or transaction with any of its Affiliates other than:

(a) the Transaction Documents;

(b) transactions on market-standard arm's length terms which are no less favourable to the Borrower than any terms that could be obtained by the Borrower in a market-standard arm's length arrangement or transaction with a person who is not an Affiliate of it (and which fact shall be certified by the Borrower to the Facility Agent if so requested by the Facility Agent).

Share capital

24.18 Subject to clause 24.19 below, the Borrower shall not:

(a) purchase, reduce, cancel, repay or redeem any of its share capital or any option over its share capital unless (subject to the other terms of this Agreement) using funds from the Distribution Account;

(b) redeem, reduce, cancel, repay, purchase or transfer any shareholder loans or loan stock (other than by making a Distribution in accordance with clauses 24.23 and 24.24 (*Distributions*) and the Intercreditor Deed) unless (subject to the other terms of this Agreement) using funds from the Distribution Account;

(c) issue any shares or grant any right to acquire or be issued any shares;

(d) alter the nature of, or any rights attaching to, any of its shares; or

(e) issue any voting capital,

without the prior written consent of the Facility Agent (acting on the instructions of the Majority Lenders).

24.19 Clauses 24.18(a), (c) and (e) above do not apply to restrict the Borrower from issuing any shares or any voting capital for the purpose of making Additional Equity Contributions.

Project Accounts

24.20 The Borrower shall not hold any bank accounts or maintain any similar deposit arrangements other than:

(a) the Project Accounts; and

(b) such other accounts with the prior consent of the Facility Agent (acting on the instructions of the Majority Lenders).

24.21 The Borrower, AGM and Lidya, as applicable, shall operate the Project Accounts in accordance with clause 18 (*Project Accounts)*.

Tax losses

24.22 The Borrower shall not dispose of any Tax losses, credit, relief or allowance available to it other than to its Affiliates.

Distributions

24.23 The Borrower may only declare, make, pay or permit any Distribution in relation to funds held in the Distribution Account.

24.24 Notwithstanding clause 24.23 above, unless permitted by the Facility Agent (acting on the instructions of the Majority Lenders), on and from Financial Close until the expiry of the Facility Period the Borrower shall not declare make, pay or permit any Distribution or transfer any amounts to the Distribution Account otherwise than pursuant to clause 7.8 (*Mandatory prepayment - cash sweep*).

Financial year

24.25 The Borrower shall not, without the prior written consent of the Facility Agent, change its financial year end.

Sanctions

24.26 The Borrower shall not contribute or otherwise make available the proceeds of the Facility, directly or indirectly, to any person or entity (whether or not related to it) in any manner that would result in a violation of Sanctions including for the purpose of financing the activities of any person or entity which is a Sanctioned Entity.

24.27 The Borrower shall not fund all or part of any payment under the Finance Documents out of proceeds derived from transactions which would be prohibited by Sanctions or would otherwise cause any person to be in breach of Sanctions.

24.28 The Borrower shall ensure that (i) no person that is a Sanctioned Entity will have any legal or beneficial interest in any funds repaid or remitted by the Borrower to any Finance Party in connection with the Facility, and (ii) it shall not use any revenue or benefit derived from any activity or dealing with a Sanctioned Entity for the purpose of discharging amounts owing to any Finance Party in respect of the Facility.

Management fees

24.29 The Borrower shall not pay to any Affiliate, pursuant to any management or service agreement or otherwise, management, service or similar fees greater than those set out in the Financial Model delivered to the Facility Agent pursuant to clause 4.1 (*Initial conditions* precedent) and Part 1 of Schedule 3 (*Conditions Precedent*), or as otherwise approved by the Facility Agent.

25 Project undertakings

25.1 Provided that the Parent will not be under any further obligation under this clause 25 (*Project undertakings*) at any time following Final Project Completion:

(a) unless otherwise specified in paragraph (b) below, the undertakings in this clause 25 (*Project undertakings*) remain in force from the date of Financial Close until the end of the Facility Period; and

(b) the undertakings in clauses 25.8 to 25.15 (*Environmental and Social Matters*), 25.26 (*Suspension and abandonment)*, 25.27 (*Rehabilitation*) and 25.29 (*Application of FATCA*) remain in force throughout the Facility Period.

Material Project Documents

25.2 The Borrower shall duly and punctually perform, comply with and observe in all material respects its obligations under each Material Project Document to which it is a party.

25.3 The Borrower shall in accordance with Good Industry Practice, maintain and enforce its rights under the Material Project Documents.

25.4 The Borrower shall not, without the prior written consent of the Facility Agent, permit or agree to:

(a) any material amendment of a Material Project Document;

(b) the suspension, waiver, repudiation, revocation, annulment or cancellation of the whole of, or any material provision of, a Material Project Document, an Environmental or Social Permit or a Project Authorisation;

(c) except as expressly required under the Finance Documents and except for assignments by a Major Project Party to its Affiliates as may be contemplated under the Material Project Document, the assignment or transfer of a Material Project Document, Environmental or Social Permit or Project Authorisation;

(d) any other party to a Material Project Document assigning or transferring that party's rights or obligations under that Material Project Document, except for assignments by a Major Project Party to its Affiliates as may be contemplated under the Material Project Document; or

(e) the termination of a Material Project Document except to the extent that such Material Project Document has been discharged in accordance with its terms.

25.5 The Borrower shall procure that each Material Project Document:

(i) contains an obligation satisfactory to the Facility Agent that each Major Project Party to it shall ensure that appropriate controls and safeguards are in place which are designed to prevent any proceeds of the Facility from being used in a manner prohibited under clause 23.21 (*Anti-corruption*) and clauses 24.26 and 24.27 (*Sanctions*), and

(ii) contains such other provisions satisfactory to the Facility Agent relating to Sanctions, Corrupt Acts and anti-terrorism, including rights for the Borrower to terminate the relevant Material Project Document upon breach of any such provision by the Major Project Party.

Project Authorisations

25.6 The Borrower and, prior to Final Project Completion, the Parent shall, and the Borrower shall procure that each other Major Project Party shall, as applicable, obtain and maintain in full force and effect, each Project Authorisation (including all Mining Rights) necessary:

(a) to enable it to lawfully enter into, exercise its rights and comply with its obligations under the Transaction Documents to which it is a party;

(b) for the Borrower to develop, construct, operate and finance the Project (including the achievement of Project Completion by the Projected Completion Date) substantially in accordance with the Development Plan and the Life of Mine Plan;

(c) to make the Transaction Documents to which it is a party admissible in evidence in the jurisdiction of its incorporation and in the relevant jurisdiction in respect of that Transaction Document; and

(d) to ensure that the Security Interests created under each of the Security Documents has the priority and ranking contemplated by the relevant Security Document.

25.7 The Borrower shall, and shall procure that each other Major Project Party (other than the Shareholders) shall, at all times comply in all material respects with the requirements of such Project Authorisations (including all Mining Rights) and shall not allow any Project Authorisation (including all Mining Rights) to be amended, cancelled, reduced or suspended.

Environmental and Social Matters

25.8 The Borrower shall do all such acts and prepare and deliver all such documents as may be required to adhere to the Environmental and Social Deliverables, in respect of each 'Deliverable' by the relevant time as set out in Schedule 13 (*Environmental and Social Deliverables*) or as may otherwise be agreed by the Facility Agent (acting on the instructions of the Majority Lenders).

25.9 The Borrower shall, and shall procure that each other Major Project Party shall, ensure that it has (and maintains in full force and effect) all Environmental or Social Permits necessary:

(a) to enable it to lawfully enter into, exercise its rights and comply with its obligations under the Transaction Documents to which it is a party; and

(b) for the Borrower to develop, construct, operate and finance the Project (including the achievement of Project Completion by the Projected Completion Date) substantially in accordance with the Development Plan and the Life of Mine Plan.

25.10 The Borrower shall, and shall procure that each other Major Project Party shall, ensure that it maintains, and complies with the terms of all Environmental or Social Permits which it is obliged to obtain and maintain under clause 25.9 above.

25.11 The Borrower shall, and shall procure that each other Major Project Party shall:

(a) comply with and carry out the Project in accordance with all applicable Environmental and Social Standards and shall do all things necessary to ensure that the Borrower and the Project are in compliance with the Equator Principles; and

(b) comply in all material respects with the terms of the ESMP.

25.12 The Borrower shall, and shall procure that each other Major Project Party shall, maintain, and comply in all material respects with the terms of, the Environmental and Social Management System with respect to the Project.

25.13 The Borrower shall not amend the ESMP without the prior consent of the Facility Agent (following consultation with the Independent Technical Consultant).

25.14 The Borrower shall provide full details to the Facility Agent and the Independent Technical Consultant of all environmental tests and studies carried out in relation to the Project.

25.15 The Borrower shall take all action reasonably necessary to prevent the Project from being adversely affected by Environmental Contaminants.

Completion

25.16 The Borrower shall ensure that the Project is constructed, operated, maintained and developed, that Project Production is produced and processed and that Project Costs are incurred, in each case substantially in accordance with the Development Plan and the Life of Mine Plan, in accordance with Good Industry Practice, and in all material respects in accordance with all applicable laws and regulations and the Material Project Documents (including so as to achieve Project Completion by no later than the Projected Completion Date).

Consultants

25.17 The Borrower shall co-operate with, and shall use all reasonable endeavours to ensure that each other party to the Material Project Documents co-operates with, each Consultant.

Tests

25.18 The Borrower shall give the Facility Agent, the Technical Agent and the Independent Technical Consultant reasonable notice of all completion and acceptance tests carried out in respect of the Project. The Borrower shall permit that representatives of the Finance Parties and the Independent Technical Consultant are permitted to attend whilst tests are carried out and inspect the results of the tests.

Insurances

25.19 The Borrower shall effect and maintain or procure that there will be effected and at all times maintained Insurances on and in relation to the Project against those risks and on such terms as would be usual or appropriate for prudent companies carrying on the same or substantially similar business, with insurers or underwriters, and on terms, acceptable to the Facility Agent from time to time, including the following terms:

(a) naming the Security Holder as additional insured and loss payee, where required;

(b) the Insurers shall waive all rights of subrogation which they may have against the Borrower and each Finance Party;

(c) incorporating multiple contract and non-vitiation provisions;

(d) all Insurances may be placed in Turkey in respect of the Borrower and the Project, provided that at least 95% of all Material Insurances shall be reinsured on a facultative

basis with reinsurers which have a rating of at least A- by Standard & Poor's ("S&P") or an equivalent rating from another nationally recognized rating service, or a replacement Insurance shall be placed with a replacement Insurer having the required rating within ten (10) Business Days of an existing Insurer being downgraded; and

(e) the Borrower's local Turkish Insurances shall be placed in accordance with local Turkish law requirements and Good Industry Practice.

25.20 The Borrower shall:

(a) as a condition to Financial Close, implement such Material Insurances and other insurances as may be required by the Facility Agent (acting reasonably and in consultation with the Independent Insurance Consultant), in respect of the Project and the Borrower, as applicable;

(b) ensure that the Insurances are in full force and effect and that all premia are paid when due;

(c) ensure that the conditions of the Insurances are complied with; and

(d) ensure that nothing will be done or omitted which would reduce or avoid liability under any of the Insurances.

Power to remedy

25.21 If the Borrower does not comply with its obligations under clause 25.16 (*Completion)*, or clauses 25.19 to 25.20 (*Insurances)*, it shall allow the Facility Agent or any of its representatives, agents or contractors upon giving notice to enter the Site and do anything (at the Borrower's cost) the Facility Agent considers necessary or reasonably desirable to remedy such failure to comply.

Books and records and access to Site

25.22 Each of the Borrower and the Parent shall keep financial records and statements (including but not limited to its books and accounts) reflecting all of its business affairs and transactions in accordance with Applicable Accounting Standards.

25.23 The Borrower shall ensure that the Finance Parties (or their representatives) and the Consultants are (at the expense of the Borrower):

(a) given reasonable access to any and all of the Borrower's properties and operations (including the Site and the Project Assets); and

(b) entitled to visit all of the Borrower's offices or any other location where relevant personnel or records are located, to discuss its financial matters with its officers, its banks and its auditors (as the case may be) and to inspect and take copies of the Borrower's books and

records (including all drawings and specifications) on reasonable prior notice to the Borrower,

in each case on not less than ten (10) days' prior written notice:

(i) at any time from the date of this Agreement until Project Completion, semi- annually;

(ii) at any time after Project Completion, annually; and

(iii) if an Event of Default has occurred and is continuing, at such times as any Lender requires.

provided that the Borrower shall only be liable for the costs of two representatives of each Finance Party and two representatives of each of the Independent Technical Consultant and the Independent Insurance Consultant, in relation to each visit and each visit shall be conducted so as to minimise disruption to the Borrower's business and not to cause material disruption to the development or operations of the Project.

Refining Contracts

25.24 The Borrower shall procure that at all times Refining Contracts have been entered into for all the gold and silver dore scheduled in the Development Plan and Life of Mine Plan to be produced at the Project.

25.25 Notwithstanding clause 25.24 above, the Borrower may not enter into a Refining Contract or any other contract for the sale of Project Production unless:

(a) the refinery is an Approved Refinery or the refinery or other buyer has been approved by the Facility Agent (acting on the instructions of the Majority Lenders);

(b) such Refining Contract or other contract is on ordinary commercial terms similar to the terms that counterparty applies to its customers generally; and

(c) the Borrower procures that the counterparty to the Refining Contract acknowledges, in form and substance satisfactory to the Security Holder, the Security Interest granted to the Finance Parties in respect of that Refining Contract.

Suspension and abandonment

25.26 The Borrower shall not suspend or abandon the Project for more than thirty (30) consecutive days (or an aggregate of forty five (45) days in any twelve (12) months' period (excluding in each case periods of routine suspension for regular maintenance)).

Rehabilitation

25.27 The Borrower shall maintain a rehabilitation schedule for the Project in accordance with its obligations under the Project Authorisations and consistent with applicable laws and with Good Industry Practice.

Decommissioning

25.28 The Borrower shall ensure that the Project is decommissioned in all material respects in accordance with the Decommissioning Plan and applicable Environmental and Social Standards.

Application of FATCA

25.29 No Obligor shall become a FATCA FFI or a United States person as that term is defined for United States tax purposes in conformity with section 7701(a)(30) of the United States Tax Code.

26 Equity Contributions

26.1 The Borrower irrevocably directs the Parent and the Shareholders that all Equity Contributions made after the date of Financial Close shall be paid directly into the Proceeds Accounts.

26.2 The Parent and the Shareholders may make Additional Equity Contributions to the Borrower at any time provided that:

(a) such Additional Equity Contributions shall not be included in any calculation of Cash Flow Available for Debt Service/CFADS (unless such Additional Equity Contribution is being made pursuant to clause 27.5 (*Financial covenants*));

(b) any Additional Equity Contributions made by way of intercompany loan or other Financial Indebtedness shall be subordinated to amounts owing under the Finance Documents in accordance with the Intercreditor Deed; and

(c) any such intercompany loans shall be assigned by the relevant lender to the Security Holder as security for the Borrower's obligations to the Finance Parties under the Finance Documents, on terms acceptable to the Security Holder.

27 Default

27.1 Each of the events and circumstances set out in this clause 27 (*Default*) is an Event of Default (save for clause 27.38 (*Consequences of an Event of Default*)).

Non-payment

27.2 The Borrower or the Parent does not pay on the due date any amount payable by it under any Finance Document (including an amount to be paid into a Project Account (except the Distribution Account)) unless:

(a) its failure to pay is caused by:

(i) an administrative or technical error; or

(ii) a Disruption Event; and

(b) payment is made within three (3) Business Days of its due date.

27.3 Any Shareholder does not pay on the due date any amount payable by it under any Finance Document (including an amount to be paid into a Project Account (except the Distribution Account)) unless payment is made within five (5) Business Days of its due date.

Financial covenants

27.4 Subject to clause 27.5, any requirement of clause 22 (*Financial and reserve undertakings*) is not satisfied.

27.5 No Event of Default will occur under clause 27.4 above if, within ten (10) Business Days of the earlier of:

(a) the Facility Agent giving notice of such failure to comply to the Borrower; and

(b) the date on which the Borrower becomes aware or ought reasonably to have become aware of such failure to comply,

the Parent and/or any Shareholders make Additional Equity Contributions (which may, at the election of the Borrower, be deemed to be Revenues for the purposes of calculating CFADS or applied in prepayment of the Loans in accordance with clause 7.13 (*Voluntary prepayment of Loans*)), such that the ratios set out at clause 22 (*Financial and reserve undertakings*) would have been met on the most recent Calculation Date had such Additional Equity Contributions been made on the day immediately prior to such Calculation Date, provided that a breach of clause 22 (*Financial and reserve undertakings*) shall not be capable of being remedied on consecutive Calculation Dates or on more than four (4) occasions during the Facility Period.

Breach of other obligations

27.6 Any Relevant Party fails to comply with any provision of a Finance Document (other than those provisions referred to in clause 27.2 (*Non-payment*) or 27.4 (*Financial covenants*)) unless:

(a) the Facility Agent considers (acting reasonably) that the relevant non-compliance is capable of remedy; and

(b) in the case non-compliance by:

(i) the Borrower or the Parent, such non-compliance is remedied within ten (10) Business Days of the earlier of (i) the Facility Agent giving written notice of the non- compliance to the Borrower and (ii) the date on which the Borrower became aware or ought reasonably to have become aware of such non-compliance); and

(ii) any other Relevant Party, such non-compliance is remedied within thirty (30) days of the earlier of (i) the Facility Agent giving written notice of the non-compliance to the Borrower and (ii) the date on which an Obligor became aware or ought reasonably to have become aware of such non-compliance).

27.7 For the purposes of clause 27.6 above but without limitation, any failure to comply with clauses 23.2 (*Purpose*), 23.4 (*Pari passu ranking*), 23.21 (*Anti-corruption*), 24.2 (*Corporate Structure*), 24.3 (*Acquisitions*), 24.6 (*Business Activities*), 24.8 (*No Disposals*), 24.11 (*Negative pledge*), 24.12 (*Guarantees*), 24.14 (*Loans*), 24.16 (*Indebtedness*), 24.17 (*Transactions with Affiliates*), 24.18 (*Share Capital*), 24.23 (*Distributions*), 24.26 to 24.28 (*Sanctions*) and 25.19 to 25.20 (*Insurances)* shall not be capable of remedy.

Misrepresentation

27.8 Any representation, warranty or statement made or repeated or deemed to be made or repeated in any Finance Document is, or proves to have been, incorrect or misleading in any material respect when made or repeated or deemed to be made or repeated unless:

(a) the Facility Agent considers (acting reasonably) that the circumstances giving rise to the misrepresentation are capable of remedy; and

(b) if such representation, warranty or statement is made or repeated or deemed to be made or repeated by:

(i) the Borrower or the Parent, the circumstances giving rise to the misrepresentation are remedied with ten (10) Business Days of the earlier of (i) the Facility Agent giving written notice of such misrepresentation to the Borrower and (ii) the date on which the person making such representation became aware or ought reasonably to have become aware of the misrepresentation; and

(ii) any other Relevant Party, the circumstances giving rise to the misrepresentation are remedied with thirty (30) days of the earlier of (i) the Facility Agent giving written notice of such misrepresentation to the Borrower and (ii) the date on which

the person making such representation became aware or ought reasonably to have become aware of the misrepresentation.

Cross-default

27.9 Subject to clause 27.12, any Financial Indebtedness of either of the Borrower or (prior to Final Project Completion only) the Parent is not paid when due and such failure continues after the expiry of any originally applicable grace period.

27.10 Subject to clause 27.12, any Financial Indebtedness of the Borrower or (prior to Final Project Completion only) the Parent:

(a) is declared to be or otherwise becomes due and payable prior to its specified maturity;

(b) is placed on demand; or

(c) is capable of being declared by a creditor to be due and payable prior to its specified maturity or is capable of being placed on demand,

in each case, as a result of an event of default (however described).

27.11 Any commitment for or underwriting of any Financial Indebtedness of either of the Borrower or (prior to Final Project Completion only) the Parent is cancelled or suspended by a creditor of the Borrower or the Parent (as applicable) as a result of an event of default (however described).

27.12 No Event of Default will occur under clauses 27.9 to 27.11 (*Cross-default*) if:

(a) in relation to the Borrower, the aggregate amount of Financial Indebtedness or commitment for Financial Indebtedness falling within clauses 27.9 to 27.11 above is less than one million Dollars (US$1,000,000) or its Equivalent; or

(b) in relation to the Parent, the aggregate amount of Financial Indebtedness or commitment for Financial Indebtedness falling within clauses 27.9 to 27.11 above is less than five million Dollars (US$5,000,000) or its Equivalent.

Insolvency

27.13 Any of the following occurs in respect of a Major Project Party or (following Final Project Completion) the Parent:

(a) it is, or is deemed for the purposes of any law to be, unable or admits inability to pay its debts as they fall due;

(b) it suspends or threatens to suspend making payments on any of its debts;

(c) a moratorium is declared in respect of any of its Indebtedness. If a moratorium occurs in respect of a Major Project Party, the ending of the moratorium will not remedy any Event of Default caused by that moratorium; or

(d) the value of its assets is less than the value of its liabilities (taking into account all prospective and contingent liabilities),

unless:

(i) in respect of any Major Project Party (other than an Obligor):

(A) within five (5) Business Days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or the replacement of the relevant Major Project Party, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan;

(B) within ten (10) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Major Project Party, which is satisfactory to the Majority Lenders; and

(C) the Borrower proceeds with the remedy of the occurrence or the replacement of the Major Project Party in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within twenty (20) Business Days of the relevant occurrence; or

(ii) in respect of a Major Project Party (other than an Obligor) a Material Adverse Effect has not occurred and is not reasonably likely to occur as a result thereof.

Insolvency proceedings

27.14 Any corporate action, legal proceedings or other procedure or step is taken in relation to:

(a) the suspension of payments, a moratorium of any Indebtedness, winding up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of any Major Project Party or (following Final Project Completion) the Parent including, in relation to the Major Project Parties incorporated in Turkey, petition for bankruptcy (*iflas*), insolvency (*aciz*), liquidation (*tasfiye*), or dissolution (*infisah*);

(b) a composition, compromise, assignment or arrangement with any creditor of any Major Project Party or (following Final Project Completion) the Parent;

(c) the appointment of a liquidator, receiver, administrator, administrative receiver, compulsory manager or other similar officer in respect of any Major Project Party or (following Final Project Completion) the Parent or any of their assets;

(d) any Major Project Party or (following Final Project Completion) the Parent commencing negotiations with one or more of its creditors with a view to rescheduling its Indebtedness; or

(e) any analogous procedure or step is taken in any jurisdiction,

(other than a petition for winding up being issued which is frivolous or vexatious and is discharged, stayed or dismissed within fifteen (15) Business Days of commencement) unless:

(i) in respect of any Major Project Party (other than an Obligor):

(A) within five (5) Business Days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or the replacement of the relevant Major Project Party, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan;

(B) within ten (10) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Major Project Party, which is satisfactory to the Majority Lenders; and

(C) the Borrower proceeds with the remedy of the occurrence or the replacement of the Major Project Party in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within twenty (20) Business Days of the relevant occurrence; or

(ii) in respect of a Major Project Party (other than an Obligor) a Material Adverse Effect has not occurred and is not reasonably likely to occur as a result thereof.

Creditors' process

27.15 Any expropriation (other than by a Competent Authority), attachment, sequestration, distress, execution or analogous event affects any asset(s) of the Borrower, or any asset(s) of a Major Project Party or (following Final Project Completion) the Parent which have an aggregate value which exceeds five million Dollars ($5,000,000), unless in each case (other than in relation to any Mining Rights or any shares in the Borrower):

(a) the Majority Lenders determine that such event or assets are not material to the Project or the relevant expropriation, attachment, sequestration, distress, execution or analogous event is discharged within fifteen (15) Business Days;

(b) in respect of any Major Project Party (other than an Obligor):

(i) within five (5) days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or the replacement of the relevant Major Project Party, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan;

(ii) within ten (10) days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Major Project Party, which is satisfactory to the Majority Lenders; and

(iii) the Borrower proceeds with the remedy of the occurrence or the replacement of the Major Project Party in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within twenty (20) days of the relevant occurrence; or

(c) in respect of a Major Project Party (other than an Obligor) a Material Adverse Effect has not occurred and is not reasonably likely to occur as a result thereof.

Cessation of business

27.16 A Major Project Party or (following Final Project Completion) the Parent ceases, or threatens to cease, to carry on business unless:

(a) in respect of any Major Project Party (other than the Borrower), as part of a fully solvent reorganisation and in relation to any Shareholder and the Parent, such cessation of business could not have a Material Adverse Effect;

(b) in respect of any Major Project Party (other than an Obligor):

(i) within five (5) days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or replacement of the relevant Major Project Party, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan;

(ii) within ten (10) days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Major Project Party, which is satisfactory to the Majority Lenders; and

(iii) the Borrower proceeds with the remedy of the occurrence or the replacement of the Major Project Party in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within twenty (20) days of the relevant occurrence; or

(c) in respect of a Major Project Party (other than an Obligor) a Material Adverse Effect has not occurred and is not reasonably likely to occur as a result thereof.

Unlawfulness

27.17 It is or becomes unlawful for an Obligor to perform any of its obligations under the Finance Documents or any material obligations under the Material Project Documents unless any such unlawfulness is cured within any applicable time period afforded under the applicable law.

Immunity

27.18 Any Obligor or, in the case of the Borrower and the Parent, any of its Project Assets or other material assets or, in the case of any Shareholder, its assets which are or are intended to be subject to Security Interests in favour of the Security Holder, is or becomes immune from any legal process in respect of their obligations under the Finance Documents.

Sanctions and Anti-corruption

27.19 The Borrower, any Shareholder or the Parent:

(a) participates in any conduct or activity which directly or indirectly benefits any party against which Sanctions have been established by any Sanctioning Body from time to time or participates in a Sanctioned Transaction;

(b) becomes a Sanctioned Entity;

(c) becomes a person determined by the Secretary of the Treasury of the United States to be owned by, controlled by, acting for or on behalf of, providing assistance, support, sponsorship, or services of any kind to, or otherwise associated with any of the persons referred to or described in the OFAC Lists or on any other relevant list of blocked persons in connection with terrorism; or

(d) conducts business with or engages in any transaction with any person who is a Sanctioned Entity or is identified in paragraph (c) above.

27.20 Any Major Project Party or a counterparty to a Refining Contract:

(a) is or becomes targeted under any Sanctions or has violated or is violating any applicable Sanctions;

(b) does not comply with Corrupt Practices Laws;

(c) or any of its directors, officers or employees, or any person acting on its behalf or with whom it is associated, commits any Corrupt Act; or

(d) does not maintain in place its own policies and procedures designed to ensure compliance with clause 23.21 (*Anti-corruption*),

unless in respect of any such Major Project Party (other than an Obligor) or counterparty:

(i) within five (5) Business Days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or replacement of the relevant Major Project Party or counterparty, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan:

(ii) within ten (10) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Major Project Party or counterparty, which is satisfactory to the Majority Lenders; and

(iii) the Borrower proceeds with the remedy of the occurrence or the replacement of the Major Project Party or counterparty in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within ten (10) Business Days of the relevant occurrence.

27.21 Funds of Illicit Origin are invested in the shares in the Borrower or any Shareholder by way of shareholder contributions or otherwise.

Cost to Complete Shortfall

27.22 There is a Cost to Complete Shortfall or the Independent Technical Consultant fails to certify a Cost to Complete Certificate on the basis that in his opinion there is a Cost to Complete Shortfall, unless:

(a) the Borrower delivers to the Facility Agent, within five (5) Business Days of the date on which the Borrower became aware or ought reasonably to have become aware that a Cost to Complete Shortfall exists, a remedial plan acceptable to the Majority Lenders which details how such Cost to Complete Shortfall will be remedied (a **Remedial Plan**); and

(b) the Borrower promptly, but in any event by no later than twenty (20) days following delivery of the Remedial Plan, complies with and implements the Remedial Plan to the satisfaction of the Majority Lenders,

provided that the Borrower continues to comply with the Remedial Plan to the satisfaction of the Majority Lenders.

Completion

27.23 Project Completion has not occurred on or prior to the Completion Longstop Date.

Effectiveness of Finance Documents

27.24 Any Obligor repudiates a Finance Document or evidences an intention to repudiate a Finance Document, without the prior consent of the Facility Agent.

27.25 Any provision of any Finance Document is or becomes or is alleged in writing by any party thereto to be invalid, non-binding, illegal, ineffective or unenforceable.

27.26 Any Finance Document is terminated (other than in accordance with its terms or the prior approval of the Facility Agent) or rescinded or any Obligor evidences an intention to terminate (other than in accordance with its terms) or rescind any Finance Document.

27.27 Any Security Document does not create legal, valid, binding and enforceable security over the assets charged under that Security Document or the ranking or priority of such security is adversely affected.

Material Project Documents

27.28 Any:

(a) party repudiates any Material Project Document;

(b) material provision of any Material Project Document is invalid, non-binding, illegal, ineffective, unenforceable or is amended (without the prior written consent of the Majority Lenders) for any reason whatsoever, or it is or becomes unlawful for any person (other than a Finance Party) to perform any material obligations under a Material Project Document;

(c) party to a Material Project Document does not comply with any of its obligations under any Material Project Document and, in each case other than where such party is an Obligor, such event has or is reasonably likely to cause a Material Adverse Effect; or

(d) notice is given by any party to a Material Project Document to terminate or rescind such Material Project Document or any Material Project Document is terminated or rescinded or becomes capable of being terminated or rescinded (except to the extent that such Material Project Document has been discharged in accordance with its terms),

unless (other than in relation to the Mining Licences):

(i) such default or event has, if applicable, been remedied within the time period prescribed or applicable grace period under the Material Project Document; or

(ii)

(A) within ten (10) Business Days of the relevant event, the Borrower provides the Facility Agent with an initial outline plan for the replacement of the relevant Material Project Document, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such replacement plan;

(B) within fifteen (15) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the replacement of the relevant Material Project Document, which is satisfactory to the Majority Lenders; and

(C) the Borrower proceeds with the replacement of the relevant Material Project Document in accordance with the final plan approved by the Majority Lenders in order to complete the replacement within twenty five (25) Business Days of the relevant occurrence; or

(iii) in the case of a termination of a Material Project Document, the termination occurs with the prior written consent of the Facility Agent under clause 25.4(e).

Environmental matters

27.29 Any Environmental Contaminant is discovered or unlawfully released on the Site which could result in Material Environmental Liabilities, unless the Majority Lenders have approved a remedy plan in relation to the Environmental Contaminant.

27.30 Any Finance Party becomes subject to any Material Environmental Liabilities under any applicable Environmental Law in connection with the Project or an Obligor.

27.31 Any Project Asset ceases to be, owned, operated, leased, licensed or utilised by the Borrower or any other relevant person, in compliance with the Integrated Environmental and Social Management Plan, any Environmental and Social Standards or any Environmental and Social Permits.

Compulsory acquisition

27.32 Any Project Asset which has a value in excess of five million Dollars (US$5,000,000) or is otherwise material to the Project is seized, expropriated, nationalised, acquired, confiscated, requisitioned or administered (whether compulsorily or not) by any Competent Authority, unless (other than in relation to any Mining Rights):

(a) within five (5) Business Days of the relevant event, the Borrower provides the Facility Agent with an initial outline plan for the replacement of the relevant Project Asset or remedy of the relevant event, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such replacement plan;

(b) within ten (10) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the replacement of the relevant Project Asset or remedy of the relevant event, which is satisfactory to the Majority Lenders; and

(c) the Borrower proceeds with the replacement of the relevant Project Asset or remedy of the relevant event in accordance with the final plan approved by the Majority Lenders in order to complete the replacement within twenty (20) Business Days of the relevant occurrence.

27.33 All or any part of the Shareholders' shares in the Borrower are seized, expropriated, nationalised, acquired, confiscated, requisitioned or administered (whether compulsorily or not) by any Competent Authority.

27.34 All or any part of the Borrower's rights under the Transaction Documents are forfeited, suspended or otherwise abrogated by any Competent Authority unless:

(a) within five (5) Business Days of such occurrence, the Borrower provides the Facility Agent with an initial outline plan for the remedy of the occurrence or replacement of the relevant Transaction Document, which is satisfactory to the Majority Lenders, and consults with the Facility Agent as to such remedy or replacement plan;

(b) within ten (10) Business Days of such occurrence, the Borrower provides the Facility Agent with a final plan for the remedy of the occurrence or the replacement of the Transaction Document, which is satisfactory to the Majority Lenders; and

(c) the Borrower proceeds with the remedy of the occurrence or the replacement of the Transaction Document in accordance with the final plan approved by the Majority Lenders in order to complete the remedy or replacement within twenty (20) Business Days of the relevant occurrence.

Litigation

27.35 Any claim, litigation, arbitration or administrative proceeding (including an Environmental or Social Claim) is taking place, pending or threatened against any Major Project Party which, in the opinion of the Facility Agent, has a reasonable prospect of success and which, if adversely determined, might reasonably be expected to have a Material Adverse Effect.

Abandonment and suspension

27.36 The whole or a substantial part of the Project Assets are lost or damaged.

Material Adverse Effect

27.37 Any event occurs or series of events occur which individually or together has a Material Adverse Effect.

Consequences of an Event of Default

27.38 If an Event of Default has occurred and is continuing then the Facility Agent may, and must if so directed by the Majority Lenders, by giving notice to the Borrower:

(a) cancel all or any part of the Total Commitments; and/or

(b) declare that all or part of any Loan is repayable, and any other amounts accrued or outstanding under the Finance Documents are immediately due and payable, whereupon they shall become immediately due and payable; and/or

(c) take any steps to enforce any rights of the Finance Parties under the Security Documents; and/or

(d) declare that no withdrawals may be made from any Project Account (except the Distribution Account); and/or

(e) take any steps contemplated in any Direct Agreement; and/or

(f) require the termination of any Hedging Agreement in the manner contemplated by clause 10.1 (*Close out of Hedging Agreements*) of the Intercreditor Deed.

28 Changes to the Lenders

Assignments and transfers by the Lenders

28.1 Subject to this clause 28 (*Changes to the Lenders*) a Lender (the **Existing Lender**) may:

(a) assign any of its rights; or

(b) transfer by novation any of its rights (including such as relate to that Lender's participation in each Loan) and obligations,

under any Finance Document to another bank or financial institution or to a trust, fund or any insurance or reinsurance company or other entity which is regularly engaged in or established for the purpose of making, purchasing or investing in loans, securities or other financial assets (a **New Lender**).

28.2 The consent of the Borrower is required for an assignment or transfer by an Existing Lender, unless the assignment or transfer is:

(a) to another Lender or an Affiliate of a Lender, or a vehicle (including trusts or funds) whose shares or notes are held by a Lender or an Affiliate of a Lender; or

(b) made at a time when a Default is continuing.

28.3 The consent of the Borrower to an assignment or transfer must not be unreasonably withheld or delayed. The Borrower will be deemed to have given its consent five (5) Business Days after the Existing Lender has requested it unless consent is expressly refused by the Borrower within that time.

28.4 An assignment or transfer will only be effective on:

(a) receipt by the Facility Agent of written confirmation from the New Lender (in form and substance satisfactory to the Facility Agent) that the New Lender will assume the same obligations to the other Finance Parties as it would have been under if it was an Original Lender;

(b) the New Lender entering into the documentation required for it to accede as a party to the Intercreditor Deed; and

(c) the performance by the Facility Agent of all necessary "know your customer" or other similar checks under all applicable laws and regulations in relation to such assignment to a New Lender, the completion of which the Facility Agent shall promptly notify to the Existing Lender and the New Lender.

28.5 Any transfer will only be effective if the New Lender enters into the documentation required for it to accede as a party to the Intercreditor Deed and if the procedure set out in clauses 28.13 to 28.16 (*Procedure for transfer*) is complied with.

28.6 If:

(a) a Lender assigns or transfers any of its rights or obligations under the Finance Documents or changes its Facility Office; and

(b) as a result of circumstances existing at the date the assignment, transfer or change occurs, an Obligor would be obliged to make a payment to the New Lender or Lender acting through its new Facility Office under clause 12 (*Tax Gross-up and indemnities*) or clause 13 (*Increased costs*),

then the New Lender or Lender acting through its new Facility Office is only entitled to receive payment under those clauses to the same extent as the Existing Lender or Lender acting

through its previous Facility Office would have been if the assignment, transfer or change had not occurred.

28.7 Each New Lender, by executing the relevant Transfer Certificate confirms, for the avoidance of doubt, that the Facility Agent has authority to execute on its behalf any amendment or waiver that has been approved by or on behalf of the requisite Lender or Lenders in accordance with this Agreement on or prior to the date on which the transfer or assignment becomes effective in accordance with this Agreement and that it is bound by that decision to the same extent as the Existing Lender would have been had it remained a Lender.

Assignment or transfer fee

28.8 Unless the Facility Agent otherwise agrees and excluding an assignment or transfer (a) to an Affiliate of a Lender or (b) to a Related Fund, the New Lender shall, on the date upon which an assignment or transfer takes effect, pay to the Facility Agent (for its own account) a fee of five thousand Dollars (US$5,000).

28.9 Any expenses (excluding any expenses or other costs payable pursuant to clauses 12 (*Tax Gross-up and indemnities*) and 13 (*Increased costs*)) associated with the introduction of the New Lender or the assignment or transfer of the rights of any Existing Lender shall be borne by the New Lender and/or Existing Lenders and shall not be to the account of the Borrower or any Obligor (save in respect of the Borrower's own costs in consulting in accordance with clause 28.2 (*Assignments and transfers by the Lenders*)).

Limitation of responsibility of Existing Lenders

28.10 Unless expressly agreed to the contrary, an Existing Lender makes no representation or warranty and assumes no responsibility to a New Lender for:

(a) the legality, validity, effectiveness, adequacy or enforceability of the Finance Documents or any other documents;

(b) the financial condition of the Borrower or any Major Project Party;

(c) the performance and observance by the Borrower, any Major Project Party or any other person of its obligations under the Finance Documents or any other documents; or

(d) the accuracy of any statements (whether written or oral) made in, or in connection with, any Finance Document or any other document,

and any representations or warranties implied by law are excluded.

28.11 Each New Lender confirms to the Existing Lender and the other Finance Parties that it:

(a) has made, and shall continue to make, its own independent investigation and assessment of the financial condition and affairs of the Borrower, each counterparty to the Material Project Documents, each Major Project Party and their related entities in connection with its participation in this Agreement and has not relied exclusively on any information provided to it by the Existing Lender or any other Finance Party in connection with any Transaction Document or Security Interest; and

(b) will continue to make its own independent appraisal of the creditworthiness of the Borrower, each counterparty to the Material Project Documents, each Major Project Party and their related entities whilst any amount is or may be outstanding under the Finance Documents or any Commitment is outstanding.

28.12 Nothing in any Finance Document obliges an Existing Lender to:

(a) accept a re-transfer from a New Lender of any of the rights and obligations assigned or transferred under this clause 28 (*Changes to the Lenders*); or

(b) support any losses directly or indirectly incurred by the New Lender by reason of the non-performance by the Borrower, any Major Project Party or any other person of their respective obligations under the Finance Documents or otherwise.

Procedure for transfer

28.13 Subject to the conditions set out in clause 28.1 to 28.7 (*Assignments and transfers by the Lenders*) above transfer is effected in accordance with clause 28.16 below when the Facility Agent executes an otherwise duly completed Transfer Certificate delivered to it by the Existing Lender and the New Lender. The Facility Agent shall, subject to clause 28.15 below, as soon as reasonably practicable after receipt by it of a duly completed Transfer Certificate appearing on its face to comply with the terms of this Agreement and delivered in accordance with the terms of this Agreement, execute that Transfer Certificate.

28.14 Each Obligor and the other Finance Parties irrevocably authorise the Facility Agent to execute any Transfer Certificate on their behalf, without any consultation with them, unless the consent of the Borrower was required for the assignment or transfer pursuant to this clause 28 and the Borrower has withheld its consent in accordance with this clause 28.

28.15 The Facility Agent shall only be obliged to execute a Transfer Certificate delivered to it by the Existing Lender and the New Lender once it is satisfied it has complied with all necessary "know your customer" or other similar checks under all applicable laws and regulations in relation to the transfer to such New Lender.

28.16 On the Transfer Date:

(a) to the extent that in the Transfer Certificate the Existing Lender seeks to transfer by novation its rights and obligations under the Finance Documents, each Obligor and the Existing Lender shall be released from further obligations towards one another under such Finance Documents and their respective rights against one another under such Finance Documents shall be cancelled (being the **Discharged Rights and Obligations**);

(b) each Obligor and the New Lender shall assume obligations towards one another and/or acquire rights against one another which differ from the Discharged Rights and Obligations only insofar as that Obligor and the New Lender have assumed and/or acquired the same in place of that Obligor and the Existing Lender;

(c) the Facility Agent, the Mandated Lead Arrangers, the New Lender and other Finance Parties shall acquire the same rights and assume the same obligations between themselves as they would have acquired and assumed had the New Lender been an Original Lender with the rights and/or obligations acquired or assumed by it as a result of the transfer and to that extent the Facility Agent, the Mandated Lead Arranger, the Existing Lender and the other Finance Parties shall each be released from further obligations to each other under such Finance Documents; and

(d) the New Lender shall become a party to the Finance Documents as a **Lender**.

Copy of Transfer Certificate to Borrower

28.17 The Facility Agent shall, as soon as reasonably practicable after it has executed a Transfer Certificate, send to the Borrower a copy of that Transfer Certificate.

Accession of Hedge Providers

28.18 Any person which becomes a party to the Intercreditor Deed as a Hedge Provider in accordance with the provisions of the Intercreditor Deed shall, at the same time, become a Party to this Agreement as a Hedge Provider.

Security over Lender's rights

28.19 In addition to the other rights provided to Lenders under this clause 28, each Lender may without consulting with or obtaining consent from any Obligor, at any time charge, assign or otherwise create a Security Interest in or over (whether by way of collateral or otherwise) all or any of its rights under any Finance Document to secure obligations of that Lender including, without limitation:

(a) any charge, assignment or other Security Interest to secure obligations to a federal reserve or central bank; and

(b) in the case of any Lender which is a fund, any charge, assignment or other Security Interest granted to any holders (or trustee or representatives of holders) of obligations owed, or securities issued, by that Lender as security for those obligations or securities,

provided that no such charge, assignment or Security Interest shall:

(i) release a Lender from any of its obligations under the Finance Documents or substitute the beneficiary of the relevant charge, assignment or Security Interest for the Lender as a party to any of the Finance Documents; or

(ii) require any payments to be made by an Obligor other than or in excess of, or grant to any person any more extensive rights than, those required to be made or granted to the relevant Lender under the Finance Documents.

29 Changes to Obligors

29.1 No Obligor may assign any of its rights or transfer any of its rights or obligations in whole or in part under the Finance Documents.

30 Role of the Facility Agent, the Technical Agent and the Mandated Lead Arrangers

Appointment of the Facility Agent

30.1 Each Finance Party (other than the Facility Agent) appoints the Facility Agent to act as its agent under and in connection with the Finance Documents.

30.2 Each Finance Party authorises the Facility Agent to exercise the rights, powers, authorities and discretions specifically given to the Facility Agent under or in connection with the Finance Documents together with any other incidental rights, powers, authorities and discretions.

Duties of the Facility Agent

30.3 Subject to clause 30.5 below, the Facility Agent shall:

(a) promptly forward to a Party the original or a copy of any document which is delivered to the Facility Agent for that Party by any other Party; and

(b) notify the Lenders and the Hedge Providers of any repayment, prepayment or cancellation of Commitments, made under this Agreement.

30.4 Without prejudice to clause 28.17 (*Copy of Transfer Certificate to Borrower*), clause 30.3 above shall not apply to any Transfer Certificate.

30.5 Except where a Finance Document specifically provides otherwise, the Facility Agent is not obliged to review or check the adequacy, accuracy or completeness of any document it forwards to another Party.

30.6 If the Facility Agent receives notice from a Party referring to this Agreement, describing a Default and stating that the circumstance described is a Default, it shall promptly notify the Finance Parties.

30.7 If the Facility Agent is aware of the non-payment of any principal, interest, commitment fee, any other fee or any other amounts due and payable under the Finance Documents to a Finance Parties (other than a payment to either the Facility Agent or the Mandated Lead Arrangers for their own account) it shall promptly notify the other Finance Parties.

30.8 The Facility Agent shall provide to the Borrower within ten (10) Business Days of a request by the Borrower (but no more frequently than once per calendar month, a list (which may be in electronic form) setting out the names of the Lenders as at the date of that request, their respective Commitments, the address and fax number (and the department or officer, if any, for whose attention any communication is to be made) of each Lender for any communication to be made or document to be delivered under or in connection with the Finance Documents, the electronic mail address and/ or any other information required to enable the sending and receipt of information by electronic mail or other electronic means to and by each Lender to whom any communication under or in connection with the Finance Documents may be made by that means and the account details of each Lender for any payment to be distributed by the Facility Agent to that Lender under the Finance Documents.

30.9 The Facility Agent is not obliged to disclose to any Finance Party any details of the rate notified to the Facility Agent by any Lender or the identity of any such Lender for the purpose of clause 10.6 (*Market disruption*).

30.10 The Facility Agent's duties under the Finance Documents are solely mechanical and administrative in nature.

Role of the Mandated Lead Arrangers

30.11 Except as specifically provided in the Finance Documents, the Mandated Lead Arrangers have no obligations of any kind to any other Party under or in connection with any Finance Document.

No fiduciary duties

30.12 Nothing in this Agreement constitutes the Facility Agent or any Mandated Lead Arranger as a trustee or fiduciary of any other person.

30.13 Neither the Facility Agent, the Security Holder nor the Mandated Lead Arrangers shall be bound to account to any Lender for any sum or the profit element of any sum received by it for its own account.

Business with other parties

30.14 The Facility Agent, the Security Holder and the Mandated Lead Arrangers may accept deposits from, lend money to and generally engage in any kind of banking or other business with any member of the Group and any other party to a Transaction Document.

Rights and discretions

30.15 The Facility Agent may rely on:

(a) any representation, notice or document believed by it to be genuine, correct and appropriately authorised; and

(b) any statement made by a director, authorised signatory or employee of any person regarding any matters which may reasonably be assumed to be within his knowledge or within his power to verify.

30.16 The Facility Agent may assume (unless it has received notice to the contrary in its capacity as agent for the Finance Parties) that:

(a) no Default has occurred (unless it has actual knowledge of a Default arising under clause 27.2 (*Non-payment*)); and

(b) any right, power, authority or discretion vested in any Party or the Majority Lenders has not been exercised.

30.17 The Facility Agent may engage, pay for and rely on the advice or services of any lawyers, accountants, surveyors or other experts.

30.18 The Facility Agent may act in relation to the Finance Documents through its personnel and agents.

30.19 The Facility Agent may disclose to any other Party any information it reasonably believes it has received as agent under the Finance Documents.

30.20 Notwithstanding any other provision of any Finance Document to the contrary, neither the Facility Agent nor any Mandated Lead Arranger is obliged to do or omit to do anything if it would or might in its reasonable opinion constitute a breach of any law or regulation or a breach of a fiduciary duty or duty of confidentiality.

Majority Lenders' instructions

30.21 Unless a contrary indication appears in a Finance Document, the Facility Agent shall:

(a) exercise any right, power, authority or discretion vested in it as Agent in accordance with any instructions given to it by the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*) (or, if so instructed by the requisite instructing majority, refrain from exercising any right, power, authority or discretion vested in it as Agent);

(b) refrain from exercising any right, power, authority or discretion vested in it as Agent under the Finance Documents until it has received instructions from the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*); and

(c) not be liable for any act (or omission) if it acts (or refrains from taking any action) in accordance with an instruction of the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*).

30.22 Unless a contrary indication appears in a Finance Document, any instructions given by the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*) will be binding on all the Finance Parties.

30.23 The Facility Agent may refrain from acting in accordance with the instructions of the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*) and the Intercreditor Deed until it has received such security as it may require for any cost, loss or liability (together with any associated VAT) which it may incur in complying with the instructions.

30.24 In the absence of instructions from the requisite instructing majority in accordance with clause 41 (*Amendments and waivers*) and the Intercreditor Deed the Facility Agent may act (or refrain from taking action) as it considers to be in the best interest of the Finance Parties.

30.25 The Facility Agent is not authorised to act in the name of a Lender (without first obtaining that Lender's consent) in any legal proceedings relating to any Finance Document.

Responsibility for documentation

30.26 Neither the Facility Agent nor the Mandated Lead Arrangers:

(a) are responsible for the adequacy, accuracy and/or completeness of any information (whether oral or written) supplied by the Facility Agent, the Mandated Lead Arrangers, the Borrower or any other person given in, or in connection with, any Finance Document or the Information Memorandum;

(b) are responsible for the legality, validity, effectiveness, adequacy or enforceability of any Finance Document or any other agreement, arrangement or document entered into, made or executed in anticipation of or in connection with any Finance Document; or

(c) are responsible for any determination as to whether any information provided or to be provided to any Finance Party is non-public information the use of which may be regulated or prohibited by applicable law or regulation relating to insider dealing or otherwise.

Exclusion of liability

30.27 Without limiting clause 30.28 below (and without prejudice to the provisions of clause 35.17 (*Disruption to Payment Systems*)) the Facility Agent shall not be liable for any action taken by it under, or in connection with, any Finance Document, unless directly caused by its gross negligence or wilful misconduct.

30.28 No Party (other than the Facility Agent) shall take any proceedings against any officer, employee or agent of the Facility Agent in respect of any claim it might have against the Facility Agent or in respect of any act or omission of any kind by that officer, employee or agent in relation to any Finance Document and any officer, employee or agent of the Facility Agent may rely on this clause subject to clause 1.7 *(Third party rights)* and the provisions of the Third Parties Act.

30.29 The Facility Agent will not be liable for any delay (or any related consequences) in crediting an account with an amount required under the Finance Documents to be paid by the Facility Agent if the Facility Agent has taken all necessary steps as soon as reasonably practicable to comply with the regulations or operating procedures of any recognised clearing or settlement system used by the Facility Agent for that purpose.

30.30 Nothing in this Agreement shall oblige the Facility Agent or the Mandated Lead Arrangers to carry out any "know your customer" or other checks in relation to any person on behalf of any Lender and each Lender confirms to the Facility Agent and the Mandated Lead Arranger that it is solely responsible for any such checks it is required to carry out and that it may not rely on any statement in relation to such checks made by the Facility Agent or the Mandated Lead Arrangers.

Lenders' indemnity to the Facility Agent

30.31 Each Lender shall (in proportion to its share of the Total Commitments or, if the Total Commitments are then zero (0), to its share of the Total Commitments immediately prior to their reduction to zero (0)) indemnify the Facility Agent, within three (3) Business Days of demand, against any cost, loss or liability (including, without limitation, in relation to any FATCA-related liability) incurred by the Facility Agent (otherwise than by reason of the Facility Agent's gross

negligence or wilful misconduct) (or, in the case of any cost, loss or liability pursuant to clause 35.17 (*Disruption to payment systems*) notwithstanding the Facility Agent's negligence, gross negligence, or any other category of liability whatsoever but not including any claim based on the fraud of the Facility Agent) in acting as agent under the Finance Documents (unless the Facility Agent has been reimbursed by an Obligor pursuant to a Finance Document).

Resignation of the Facility Agent

30.32 The Facility Agent may resign and appoint one of its Affiliates as successor by giving notice to the other Finance Parties and the Borrower.

30.33 Alternatively, the Facility Agent may resign by giving not less than thirty (30) days written notice to the other Finance Parties and the Borrower, in which case the Majority Lenders (after consultation with the Borrower) may appoint a successor Facility Agent.

30.34 If the Majority Lenders have not appointed a successor Facility Agent in accordance with clause 30.33 above within thirty (30) days after notice of resignation was given, the retiring Facility Agent (after consultation with the Borrower) may appoint a successor Facility Agent.

30.35 The retiring Facility Agent shall, at its own cost, make available to the successor Facility Agent such documents and records and provide such assistance as the successor Facility Agent may reasonably request for the purposes of performing its functions as Facility Agent under the Finance Documents.

30.36 The Facility Agent's resignation notice shall only take effect upon the appointment of a successor.

30.37 Upon the appointment of a successor, the retiring Facility Agent shall be discharged from any further obligation in respect of the Finance Documents but shall remain entitled to the benefit of this clause 30 (*Role of the Facility Agent, the Technical Agent and the Mandated Lead Arrangers*). The Facility Agent's successor and each of the other Parties shall have the same rights and obligations amongst themselves as they would have had if such successor had been an original Party.

30.38 After consultation with the Borrower, the Majority Lenders may, by notice to the Facility Agent, require it to resign in accordance with clause 30.33 above. In this event, the Facility Agent shall resign in accordance with clause 30.33 above.

30.39 The Facility Agent shall resign in accordance with clause 30.33 above (and, to the extent applicable, shall use reasonable endeavours to appoint a successor Facility Agent pursuant to clause 30.34 above) if on or after the date which is three (3) months before the earliest FATCA Application Date relating to any payment to the Facility Agent under the Finance Documents, either:

(a) the Facility Agent fails to respond to a request under clause 12.18 (*FATCA Information*) and a Lender reasonably believes that the Facility Agent will not be (or will have ceased to be) a FATCA Exempt Party on or after that FATCA Application Date;

(b) the information supplied by the Facility Agent pursuant to clause 12.18 (*FATCA Information*) indicates that the Facility Agent will not be (or will have ceased to be) a FATCA Exempt Party on or after that FATCA Application Date; or

(c) the Facility Agent notifies the Borrower and the Lenders that the Facility Agent will not be (or will have ceased to be) a FATCA Exempt Party on or after that FATCA Application Date,

and (in each case) a Lender reasonably believes that a Party will be required to make a FATCA Deduction that would not be required if the Facility Agent were a FATCA Exempt Party, and that Lender, by notice to the Facility Agent, requires it to resign.

Confidentiality

30.40 In acting as agent for the Finance Parties, the Facility Agent shall be regarded as acting through its agency division which shall be treated as a separate entity from any other of its divisions or departments.

30.41 If information is received by another division or department of the Facility Agent, it may be treated as confidential to that division or department and the Facility Agent shall not be deemed to have notice of it.

30.42 Notwithstanding any other provision of any Finance Document to the contrary, neither the Facility Agent nor the Arranger are obliged to disclose to any other person:

(a) any confidential information; or

(b) any other information if the disclosure would or might in its reasonable opinion constitute a breach of any law or a breach of a fiduciary duty.

Relationship with the Lenders

30.43 The Facility Agent may treat the person shown in its records as Lender at the opening of business (in the place of the Facility Agent's principal office as notified to the Finance Parties from time to time) as the Lender acting through its Facility Office:

(a) entitled to or liable for any payment due under any Finance Document on that day; and

(b) entitled to receive and act upon any notice, request, document or communication or make any decision or determination under any Finance Document made or delivered on that day,

unless it has received not less than five (5) Business Days prior notice from that Lender to the contrary in accordance with the terms of this Agreement.

30.44 Each Lender shall supply the Facility Agent with any information required by the Facility Agent in order to calculate the Mandatory Cost in accordance with Schedule 7 (*Mandatory Cost Formula*).

30.45 Each Lender shall supply the Facility Agent with any information that the Security Holder may reasonably specify (through the Facility Agent) as being necessary or desirable to enable the Security Holder to perform its functions as Security Holder.

30.46 Any Lender may by notice to the Facility Agent appoint a person to receive on its behalf all notices, communications, information and documents to be made or despatched to that Lender under the Finance Documents. Such notice shall contain the address, fax number and electronic mail address and/or any other information required to enable the sending and receipt of information by that means (and, in each case, the department or officer, if any, for whose attention communication is to be made) and be treated as a notification of a substitute address, fax number, electronic mail address, department and officer by that Lender for the purposes of clause 37.2 (*Addresses*) and the Facility Agent shall be entitled to treat such person as the person entitled to receive all such notices, communications, information and documents as though that person were that Lender.

Credit appraisal by the Lenders

30.47 Without affecting the responsibility of any Obligor for information supplied by it or on its behalf in connection with any Finance Document, each Finance Party confirms to the Facility Agent and the Mandated Lead Arrangers that it has been, and will continue to be, solely responsible for making its own independent appraisal and investigation of all risks arising under or in connection with any Finance Document including but not limited to:

(a) the financial condition, status and nature of the Borrower, each Relevant Party, each Major Project Party and the counterparties to the Material Project Documents;

(b) the legality, validity, effectiveness, adequacy or enforceability of any Finance Document, the Security Interests and any other agreement, arrangement or document entered into, made or executed in anticipation of, under or in connection with any Finance Document or the Security Interests;

(c) whether that Finance Party has recourse, and the nature and extent of that recourse, against any Party or any of its respective assets under or in connection with any Finance Document or the Security Interests, the transactions contemplated by the Finance Documents or any other agreement, arrangement or document entered into, made or executed in anticipation of, under or in connection with any Finance Document;

(d) the adequacy, accuracy and/or completeness of the information or any reports provided by any adviser and any other information provided by the Facility Agent, any Party or by any other person under or in connection with any Finance Document, the transactions contemplated by the Finance Documents or any other agreement, arrangement or document entered into, made or executed in anticipation of, under or in connection with any Finance Document; and

(e) the right or title of any person in or to, or the value or sufficiency of any part of the assets subject to or intended to be subject to the Security Documents, the priority of any of the Security Interests or the existence of any Security Interests affecting the assets subject to or intended to be subject to the Security Documents.

Deduction from amounts payable by the Facility Agent

30.48 If any Party owes an amount to the Facility Agent under the Finance Documents the Facility Agent may, after giving notice to that Party, deduct an amount not exceeding that amount from any payment to that Party which the Facility Agent would otherwise be obliged to make under the Finance Documents and apply the amount deducted in or towards satisfaction of the amount owed. For the purposes of the Finance Documents that Party shall be regarded as having received any amount so deducted.

Reliance and engagement letters

30.49 Each Finance Party confirms that each of the Mandated Lead Arrangers and the Facility Agent has authority to accept on its behalf (and ratifies the acceptance on its behalf of any letters or reports already accepted by the Mandated Lead Arrangers or Agent) the terms of any reliance letter or engagement letters relating to any reports or letters provided by the advisers or others in connection with the Finance Documents or the transactions contemplated in the Finance Documents and to bind it in respect of those reports or letters and to sign such letters on its behalf and further confirms that it accepts the terms and qualifications set out in such letters.

Agent's time management

30.50 Following an Event of Default, any amount payable to the Facility Agent pursuant to clause 14.4 (*Indemnity to the Facility Agent and Security Holder*), clause 16 (*Costs and Expenses*) and clause 30.31 (*Lenders' Indemnity to the Facility Agent*) shall additionally include the cost of utilising the Facility Agent's management time or other resources and will be calculated on the basis of such reasonable daily or hourly rates as the Facility Agent may notify to the Borrower and the Lenders, and will be in addition to any fees paid or payable pursuant to the Facility Agent under clause 11.5 (*Facility Agent fee*).

Appointment of Consultants

30.51 The Facility Agent may (unless a Default has occurred and is continuing, acting reasonably, and in all cases following consultation with the Borrower and the Finance Parties at the cost and expense of the Borrower):

(a) appoint additional consultants or advisers to act on behalf of the Finance Parties in relation to the Project; and

(b) if any Consultant or the Independent Model Auditor resigns or its appointment ceases or is terminated, appoint a reputable replacement Consultant or Independent Model Auditor.

Appointment of Technical Agent

30.52 Each Finance Party (other than the Technical Agent) appoints the Technical Agent to act as its technical agent under and in connection with the Finance Documents.

30.53 Each Finance Party authorises the Technical Agent to exercise the rights, powers, authorities and discretions specifically given to the Technical Agent under or in connection with the Finance Documents together with any other incidental rights, powers, authorities and discretions.

Duties of the Technical Agent

30.54 Subject to clause 30.55 below, the Technical Agent shall promptly forward to a Party the original or a copy of any document which is delivered to the Technical Agent for that Party by any other Party.

30.55 Except where a Finance Document specifically provides otherwise, the Technical Agent is not obliged to review or check the adequacy, accuracy or completeness of any document it forwards to another Party.

30.56 The Technical Agent's duties under the Finance Documents are solely mechanical and administrative in nature.

30.57 Except as specifically provided in the Finance Documents, the Technical Agent has no obligations of any kind to any other Party under or in connection with any Finance Document.

No fiduciary duties

30.58 Nothing in this Agreement constitutes the Technical Agent as a trustee or fiduciary of any other person.

30.59 The Technical Agent shall not be bound to account to any Lender for any sum or the profit element of any sum received by it for its own account.

Business with the Group

30.60 The Technical Agent may accept deposits from, lend money to and generally engage in any kind of banking or other business with any member of the Group.

Application of certain clauses to Technical Agent

30.61 Clauses 30.15 (*Rights and discretions*) to 30.48 (*Deduction from amounts payable by the Facility Agent*) inclusive (other than 30.21 to 30.25 (*Majority Lenders' instructions*)) shall each extend so as to apply to the Technical Agent in its capacity as such and for that purpose each reference to the "Facility Agent" in these clauses shall extend to include in addition a reference to the "Technical Agent" in its capacity as such.

Instructions to Technical Agent

30.62 Unless a contrary indication appears in a Finance Document, the Technical Agent shall (a) exercise any right, power, authority or discretion vested in it as Technical Agent in accordance with any instructions given to it by the Facility Agent (or, if so instructed by the Facility Agent, refrain from exercising any right, power, authority or discretion vested in it as Technical Agent) and (b) not be liable for any act (or omission) if it acts (or refrains from taking any action) in accordance with such an instruction of the Facility Agent (the Facility Agent in each case acting on the instructions of the relevant Finance Parties in accordance with the Intercreditor Deed.

30.63 Unless a contrary indication appears in a Finance Document, any instructions given by the Facility Agent to the Technical Agent in accordance with clause 30.62 above will be binding on the Finance Parties.

Exclusion of liability of the Technical Agent

30.64 Without limiting clause 30.65 below the Technical Agent shall not be liable for any action taken by it under, or in connection with, any Finance Document, unless directly caused by its gross negligence or wilful misconduct.

30.65 No Party (other than the Technical Agent) shall take any proceedings against any officer, employee or agent of the Technical Agent in respect of any claim it might have against the Technical Agent or in respect of any act or omission of any kind by that officer, employee or agent in relation to any Finance Document and any officer, employee or agent of the Technical Agent may rely on this clause subject to clause 1.7 (*Third party rights*) and the provisions of the Third Parties Act.

Lenders' indemnity to the Technical Agent

30.66 Each Lender shall (in proportion to its share of the Total Commitments or, if the Total Commitments are then zero (0), to its share of the Total Commitments immediately prior to their reduction to zero (0)) indemnify the Technical Agent, within three (3) Business Days of demand,

against any cost, loss or liability incurred by the Technical Agent (otherwise than by reason of the Technical Agent's gross negligence or wilful misconduct) in acting as agent under the Finance Documents including in relation to any determination by an Expert in accordance with Schedule 12 (*Expert determination*) (unless the Technical Agent has otherwise been reimbursed by an Obligor pursuant to a Finance Document or under an award of costs made by an Expert).

Documentation Agent

30.67 Except as specifically provided in the Finance Documents, the Documentation Agent has no obligations of any kind to any other Party under or in connection with any Finance Document.

31 The Security Holder

Security Holder as trustee

31.1 The Security Holder is irrevocably appointed by the Finance Parties (other than the Security Holder) as their security trustee for the purpose of the Foreign Security Documents.

31.2 The Security Holder declares that it holds the Guarantees and Security Interests created or purported to be created by the Foreign Security Documents and this Agreement on trust for the Finance Parties on the terms contained in the Finance Documents.

31.3 Each of the Finance Parties authorises the Security Holder to perform the duties, obligations and responsibilities and to exercise the rights, powers, authorities and discretions specifically given to the Security Holder under or in connection with the Finance Documents together with any other incidental rights, powers, authorities and discretions.

Security Holder as several creditor

31.4 The security under the Turkish Security Documents secures the rights of the Security Holder as direct creditor under the Finance Documents and as several creditor under clause 2.3 (*Finance Parties' Rights and Obligations*) and not as trustee or agent of the Finance Parties.

31.5 Any amount recovered by the Security Holder under the Turkish Security Documents will be held on trust for the benefit of the relevant Finance Party to be applied in accordance with the terms of this Agreement and the other Finance Documents.

Instructions

31.6 Unless a contrary indication appears in a Finance Document, the Security Holder shall (a) exercise any right, power, authority or discretion vested in it as Security Holder in accordance with any instructions given to it by the Facility Agent (or, if so instructed by the Facility Agent, refrain from exercising any right, power, authority or discretion vested in it as Security Holder)

and (b) not be liable for any act (or omission) if it acts (or refrains from taking any action) in accordance with such an instruction of the Facility Agent.

31.7 Unless a contrary indication appears in a Finance Document, any instructions given by the Facility Agent to the Security Holder in accordance with clause 31.6 will be binding on the Finance Parties.

31.8 The Security Holder may refrain from acting in accordance with the instructions of the Facility Agent until it has received such security as it may require for any cost, loss or liability (together with any associated VAT) which it may incur in complying with the instructions.

31.9 In the absence of, or while awaiting, instructions from the Facility Agent, (including in exceptional circumstances where time does not permit the Facility Agent obtaining instructions from the Lenders and urgent action is required) the Security Holder may act (or refrain from taking action) as it considers to be in the best interests of the Finance Parties.

31.10 The Security Holder is not authorised to act on behalf of a Finance Party (without first obtaining that Finance Party's consent) in any legal proceedings relating to any Finance Document but this is without prejudice to clauses 31.6 and 31.9, including without prejudice to the right to enforce the Security Documents in accordance with these clauses.

32 Voting

Changes to Finance Documents

32.1 Subject to the exceptions set out in this Agreement and in the Intercreditor Deed, any term of a Finance Document may be amended or waived, and any consent or approval granted or determination or decision made, taken or given thereunder (including any decision to enforce the security under the Security Documents), with the agreement of the Majority Lenders and in the case of amendments other than pursuant to clauses 32.4 and 32.11, any Obligor party thereto.

32.2 The Facility Agent or, in the case of the Security Documents, the Security Holder (acting on the instructions of the Facility Agent) may effect an amendment or waiver to which the relevant parties have agreed pursuant to this clause 32 (*Voting*).

32.3 The Facility Agent shall promptly notify the Finance Parties (and the Obligor party to the relevant Finance Document in relation to amendments pursuant to clauses 32.4 and 32.11) of any amendment, waiver, consent, approval, decision or determination made pursuant to this clause 32 and any such amendment, waiver, consent, approval, decision or determination shall be deemed to be binding on all the affected parties.

Exceptions to Majority Lender Decision-Making

32.4 *Facility Agent Decisions*. Without prejudice to the other terms of this Agreement and the Intercreditor Deed, the Facility Agent shall be entitled (but not obliged) to exercise any right or make any decision without obtaining the agreement of any Finance Party in circumstances where such exercise or decision relates solely to:

(a) the signing of a Transfer Certificate or an Intercreditor Accession Deed;

(b) amendments, waivers, consents, approvals, decisions and determinations that the Facility Agent reasonably believes to be of a purely mechanical or clerical nature; or

(c) the correction of manifest errors and omissions.

32.5 *Unanimous Consent*. No amendment or waiver of, or consent approval, decision or determination under a Finance Document may be effected without the prior written consent of all Lenders, which:

(a) expressly requires the consent of all Lenders;

(b) would have the effect that any part of the Senior Debt (other than the Hedging Liabilities) would be payable at a lower order in the Payment Cascade as at the date of this Agreement;

(c) relates to the scope or fundamental nature of any Guarantee or Security Interest created or purported to be created by the Finance Documents or releases any such Guarantee or Security Interest (except, insofar as it relates to a sale or disposal of an asset which is the subject of a Security Interest, where such sale or disposal is expressly permitted under this Agreement or any other Finance Document);

(d) relates to the definitions of "Majority Lenders", "Unanimous Lenders", "Hedging Agreement", "Hedging Termination Amount", "Hedge Providers", "Hedging Transaction Date", "Finance Parties", "Senior Debt";

(e) alters the date of payment of any amount under the Finance Documents (except for any decision or determination which may be made by the Supermajority Lenders as provided for in clause 7.3(b) (*Mandatory prepayment - Change of Control*) or by the Majority Lenders as provided for in clauses 7.6 (*Mandatory prepayment - Insurance Proceeds/Compensation Proceeds*), 7.8 and 7.9 (*Mandatory prepayment - cash sweep*),
7.12 (*Voluntary cancellation*) and 7.13 (*Voluntary* prepayment) of this Agreement, but including by any amendment or waiver of such provisions);

(f) increases, reduces, or extends, any commitments under the Facility (except for any decision or determination which may be made by the Supermajority Lenders as provided

for in clause 7.3(b) (*Mandatory prepayment - Change of Control*) or by the Majority Lenders as provided for in clauses 7.6 (*Mandatory prepayment - Insurance Proceeds/Compensation Proceeds*), 7.8 and 7.9 (*Mandatory prepayment - cash sweep*),
7.12 (*Voluntary cancellation*) and 7.13 (*Voluntary prepayment*) of this Agreement, but including by any amendment or waiver of such provisions);

(g) increases or reduces the amount of any principal, Margin, fees or commission payable under the Finance Documents;

(h) relates to any change in currency of payment of any amount under the Finance Documents;

(i) extends the Availability Period;

(j) relates to the following provisions of this Agreement:

(i) the definition of "LIBOR";

(ii) clauses 2.2 to 2.6 (inclusive) (*Finance Parties' Rights and Obligations*);

(iii) clause 3.1 (*Purpose*);

(iv) clause 4.1 (*Initial conditions precedent*);

(v) clause 6 (*Repayment*);

(vi) clause 7 (*Illegality, prepayment and cancellation*) (except for any decision or determination which may be made by the Supermajority Lenders as provided for in clause 7.3(b) (*Mandatory prepayment - Change of Control*) or by the Majority Lenders as provided for in clauses 7.6 (*Mandatory prepayment - Insurance Proceeds/ Compensation Proceeds*), 7.8 and 7.9 (*Mandatory prepayment - cash sweep*), 7.12 (*Voluntary cancellation*) and 7.13 (*Voluntary prepayment*) of this Agreement, but including by any amendment or waiver of such provisions);

(vii) clause 28 (*Changes to the Lenders*);

(viii) clause 41 (*Amendments and waivers*);

(ix) this clause 32 (*Voting*);

(x) clauses 23.10 to 23.12 (*Hedging*);

(xi) definitions of Sanctioned Country, Sanctioned Entity, Sanctioned Transaction, Sanctioning Body, Sanctions or Sanctions List; or

(xii) clauses 14.5 (*Sanctions*), 20.72 (*Anti-Terrorism Laws*), 20.73 and 20.74 (*Sanctions*), 21.32 (*Sanctions*), 24.26 to 24.28 (*Sanctions*), 25.5 (*Material Project Documents*), 27.19 to 27.21 (*Sanctions and Anti-corruption*).

32.6 *Hedge Providers*. No amendment or waiver of, or consent, approval, decision or determination under, a Finance Document which:

(a) relates to the definition of "Hedging Liabilities", "Hedging Agreement", "Hedging Termination Amount", "Hedge Providers", "Hedging Transaction Date", "Hedging Strategy", "Senior Creditor Participation" or "Senior Debt";

(b) relates to clauses 23.10 to 23.12 (*Hedging*) of the Facility Agreement;

(c) relates to this clause 32 (*Voting*) or clause 34 (*Payment Cascade*) to the extent that the amendment, waiver, consent, approval, decision or determination would materially and adversely affect the Hedge Providers;

(d) relates to the scope or fundamental nature of any Guarantee or Security Interest created or purported to be created by the Finance Documents (except, insofar as it relates to a sale or disposal of an asset which is the subject of a Security Interest, where such sale or disposal is expressly permitted under the Intercreditor Deed or any other Finance Document);

(e) would have the effect that any part of the Hedging Liabilities would be payable at a lower order in the Payment Cascade; or

(f) relates to this clause 32.6,

may be effected without the prior written consent of each Hedge Provider.

32.7 No amendment of a Hedging Agreement (other than any amendment of any provision of any Finance Document incorporated by reference into a Hedging Agreement, in relation to which the other provisions of this clause 32 (*Voting*) apply), may be effected without the prior written consent of the relevant Hedge Provider.

32.8 Each Hedge Provider shall be entitled (but not obliged) to make any amendments to any Hedging Agreement to which it is a party if such amendments are of a purely mechanical or clerical nature or are to correct manifest errors or omissions and the Borrower and the Facility Agent hereby give their consent to such amendments. Such Hedge Provider shall promptly notify the Borrower and the Facility Agent of such amendment.

32.9 Any amendment, waiver, consent, approval, decision or determination that limits the rights or increases the obligations of the Facility Agent, the Security Holder, the Technical Agent, the

Onshore Account Bank, the Offshore Account Bank, a Mandated Lead Arranger, or the Documentation Agent in their capacity as such (and not, for the avoidance of doubt, in their capacity as a Lender or Hedge Provider) may not be effected without the prior written consent of such Finance Party.

32.10 The Facility Agent shall provide the Finance Parties with details of any amendment, consent, waiver, approval, decision and determination made, taken or given by the Facility Agent in the exercise of its powers under this clause 32 (*Voting*) promptly, and in any event within ten (10) days, after carrying out any such amendment.

Decisions not affecting the Borrower

32.11 The Finance Parties may amend or waive:

(a) clauses 28.13 to 28.16 (inclusive) (*Procedure for transfer*);

(b) clause 28.18 (*Accession of Hedge Providers*);

(c) clause 30 (*Role of the Facility Agent, the Technical Agent and the Mandated Lead Arrangers*);

(d) clause 33 (*Conduct of business by the Finance Parties*); or

(e) clause 31 (*The Security Holder*),

in the manner required by this Agreement without requiring the consent or approval of the Borrower if such amendment or waiver does not affect the rights or obligations of the Borrower in any material respect.

Preservation and Protection of Security

32.12 The Facility Agent may (but is not obliged to) and the Security Holder shall (if instructed to do so by the Facility Agent) take whatever steps the Facility Agent considers in good faith are necessary to protect or preserve the interests of the Finance Parties without requiring the consent or approval of the Majority Lenders (including, without limitation, taking any of the steps contemplated by clause 27.38 (*Consequences of an Event of Default*) provided that notice has been given to the Borrower in accordance with that clause) if the Facility Agent reasonably believes that:

(a) there is a risk of immediate and material prejudice to the interests of the Finance Parties under the Finance Documents;

(b) the steps taken by the Facility Agent and/or the Security Holder will mitigate, avoid or address the relevant risks; and

(c) there is insufficient time to properly inform the Finance Parties of the relevant risk and to receive instructions from the relevant Lenders in accordance with this Agreement.

Neither the Facility Agent nor the Security Holder shall have any liability or responsibility to any person for any steps taken or for any failure or delay in taking any steps contemplated by this clause (except to the extent arising from any wilful misconduct, gross negligence or fraud).

Instructions

32.13 Unless a contrary indication appears in a Finance Document, the Facility Agent shall:

(a) exercise any right, power, authority or discretion vested in it as Facility Agent in accordance with any instructions given to it by the requisite instructing majority in accordance with this Agreement and the other Finance Documents or, if so instructed by the requisite instructing majority, refrain from exercising any right, power, authority or discretion vested in it as Facility Agent;

(b) refrain from exercising any right, power, authority or discretion vested in it as Facility Agent under the Finance Documents until it has received instructions from the requisite instructing majority in accordance with this Agreement and the other Finance Documents; and

(c) not be liable for any act (or omission) if it acts (or refrains from taking any action) in accordance with an instruction of the requisite instructing majority in accordance with this Agreement and the other Finance Documents.

32.14 Unless a contrary indication appears in a Finance Document, any instructions given by the requisite instructing majority in accordance with this Agreement and the other Finance Documents will be binding on all the Finance Parties.

32.15 The Facility Agent may refrain from acting in accordance with the instructions of the requisite instructing majority in accordance with this Agreement until it has received such security as it may require for any cost, loss or liability (together with any associated VAT) which it may incur in complying with the instructions.

32.16 If:

(a)

(i) any Lender becomes a Non-Consenting Lender (as defined in clause 32.16(d) below); or

(ii) the Borrower becomes obliged to repay any amount in accordance with clause 7.1 (*Illegality*) or to pay additional amounts pursuant to clause 13 (*Increased costs*), clauses 12.2 to 12.6 (*Tax gross-up)* or clauses 12.7 to 12.10 (*Tax Indemnity*) to any Lender,

then the Borrower may, on twenty (20) Business Days' prior written notice to the Facility Agent and such Lender, replace such Lender by requiring such Lender to (and, to the extent permitted by law, such Lender shall) transfer pursuant to clause 28 (*Changes to the Lenders*) all (and not part only) of its rights and obligations under this Agreement to a Lender or other bank, financial institution, trust, fund or other entity (a **Replacement Lender**) selected by the Borrower which is acceptable to the Majority Lenders (acting reasonably) and which confirms its willingness to assume and does assume all the obligations of the transferring Lender in accordance with clause 28 (*Changes to the Lenders*) for a purchase price in cash payable at the time of transfer in an amount equal to the outstanding principal amount of such Lender's participation in the outstanding Loans and all accrued interest, Break Costs and other amounts payable in relation thereto under the Finance Documents.

(b) The replacement of a Lender pursuant to this clause 32.16 shall be subject to the following conditions:

(i) the Borrower shall have no right to replace the Facility Agent or the Security Holder;

(ii) neither the Facility Agent nor any Lender shall have any obligation to the Borrower to find a Replacement Lender;

(iii) in the event of a replacement of a Non-Consenting Lender such replacement must take place no later than thirty (30) days after the date on which that Lender is deemed a Non-Consenting Lender;

(iv) in no event shall the Lender replaced under this clause 32.16 be required to pay or surrender to such Replacement Lender any of the fees received by such Lender pursuant to the Finance Documents; and

(v) the Lender shall only be obliged to transfer its rights and obligations pursuant to paragraph 32.16(a) above once it is satisfied that it has complied with all necessary know your customer or other similar checks under all applicable laws and regulations in relation to that transfer.

(c) A Lender shall perform the checks described in clause 32.16(b)(v) above as soon as reasonably practicable following delivery of a notice referred to in clause 32.16(a) above and shall notify the Facility Agent and the Borrower when it is satisfied that it has complied with those checks.

(d) In the event that:

(i) the Borrower or the Facility Agent (at the request of the Borrower) has requested the Lenders to give a consent in relation to, or to agree to a waiver or amendment of, any provisions of the Finance Documents;

(ii) the consent, waiver or amendment in question requires the approval of all the Lenders; and

(iii) Lenders whose Commitments aggregate, in the case of a consent, waiver or amendment requiring the approval of all the Lenders, more than 80% of the Total Commitments (or, if the Total Commitments have been reduced to zero, aggregated more than 80% of the Total Commitments prior to that reduction), have consented or agreed to such waiver or amendment,

then any Lender who does not and continues not to consent or agree to such waiver or amendment shall be deemed a **Non-Consenting Lender**.

33 Conduct of business by the Finance Parties

33.1 No provision of this Agreement shall:

(a) interfere with the right of any Finance Party to arrange its affairs (tax or otherwise) in whatever manner it thinks fit;

(b) oblige any Finance Party to investigate or claim any credit, relief, remission or repayment available to it or the extent, order and manner of any claim; or

(c) oblige any Finance Party to disclose any information relating to its affairs (tax or otherwise) or any computations in respect of Tax.

34 Payment Cascade

Payment Cascade prior to Enforcement Date

34.1 On and from Financial Close and prior to the Enforcement Date, on any date on which a payment is due to be made by the Borrower, or to the extent required by the Finance Documents, the Borrower shall, to the extent required or permitted by the Finance Documents, apply the balances on the Proceeds Account and the Operating Accounts in or towards payment of the amounts referred to in (a) to (k) (inclusive) below in accordance with the Finance Documents and in the following manner and, if payment is due in respect of more than one such item on such date, in the following order (together in each case with any applicable VAT or other Taxes thereon):

(a) Project Costs (other than any sums referred to below) as set out in the Financial Model or otherwise approved as Project Costs in accordance with the provisions of the Finance Documents;

(b) all costs, charges (other than interest and commissions), fees and expenses of the Finance Parties due under the Finance Documents on a *pari passu* and *pro rata* basis among the Finance Parties;

(c) all interest and all commissions due under the Finance Documents in relation to the Facility and all payments due under the Hedging Agreements (other than Hedging Termination Amounts but including interest on such amounts) on a *pari passu* and *pro rata* basis among the Finance Parties;

(d) all principal amounts due under the Finance Documents in relation to the Facility and any Hedging Termination Amounts on a *pari passu* and *pro rata* basis among the Finance Parties;

(e) any other sum due to the Finance Parties pursuant to the Finance Documents generally on a *pari passu* and *pro rata* basis between the Finance Parties;

(f) any other sum due to a particular Finance Party pursuant to the Finance Documents;

(g) any mandatory prepayments under the Facility (other than pursuant to clauses 7.7 to 7.9 (*Mandatory prepayment - cash sweep*) of this Agreement) and any associated Hedging Termination Amounts pursuant to any termination required by the Hedging Strategy, in the order set out in clause 7.11 (*Application of mandatory prepayment proceeds*) of this Agreement;

(h) any mandatory prepayments under the Facility pursuant to clauses 7.7 and 7.9 (*Mandatory prepayment - cash sweep*) of this Agreement and any associated Hedging Termination Amounts pursuant to any termination required by the Hedging Strategy, in the order set out in clause 7.10 (*Application of mandatory prepayment proceeds*) of this Agreement;

(i) transfers to the Debt Service Reserve Account in accordance with clause 18.5 (*Debt Service Reserve Account*) of this Agreement; and

(j) voluntary prepayments under the Facility and any associated Hedging Termination Amounts pursuant to any termination required by the Hedging Strategy, in the order set out in clause 7.15 (*Voluntary prepayment*) of this Agreement;

(k) payments in respect of Distributions or transfers to the Distribution Account in accordance with clause 7.8 (*Mandatory prepayment - cash sweep*) and clauses 24.23 to 24.24 (*Distributions*) of this Agreement.

Payment Cascade after Enforcement Date

34.2 All (i) proceeds from the enforcement of the Finance Documents and any monies held or received by the Security Holder, the Facility Agent, the Onshore Account Bank or the Offshore Account Bank on and after any Enforcement Date pursuant to the exercise of any of its rights and powers under any Finance Document or received by any liquidator, administrator, administrative receiver, receiver or any similar or equivalent official of the Borrower, and (ii) monies received by any liquidator, administrator, administrative receiver, receiver or any similar or equivalent official of any Obligor recoverable pursuant to any Finance Document shall be applied (after providing for all costs, charges and expenses of any such liquidator, administrator, administrative receiver, receiver or any similar or equivalent official of the Obligors and any other payments ranking in priority to the monies secured by the Finance Documents) in or towards payment of the following items in the following order and manner:

(a) all costs, charges, fees and expenses of the Finance Parties under or pursuant to any Finance Document including, without limitation, legal expenses, reinstatement costs and any costs incurred in recovering assets over which Security Interests have been or are purported to have been granted by the Security Documents, on a *pari passu* and *pro rata* basis;

(b) arrears of interest and all fees and commissions under the Finance Documents and arrears of payments under the Hedging Agreements (other than Hedging Termination Amounts) then due on a *pari passu* and *pro rata* basis among the Finance Parties;

(c) all other interest (including default interest) and all fees and commissions under the Finance Documents and scheduled payments under any Hedging Agreements (other than Hedging Termination Amounts but including interest on such amounts) which have not been terminated or closed out, on a *pari passu* and *pro rata* basis among the Finance Parties;

(d) principal and other sums due under the Finance Documents and Hedging Termination Amounts on a *pari passu* and *pro rata* basis among the Finance Parties; and

(e) provided that the Borrower has no actual or contingent liabilities under the Finance Documents, the balance, if any, in payment to the Borrower or any other person entitled to any surplus.

Payment of Project Costs

34.3 At any time prior to the satisfaction in full of the amounts referred to in clauses 34.2(a), 34.2(b), 34.2(c) and 34.2(d), if the Majority Lenders agree, all or part of such monies may be applied in or towards payment of Construction Costs or Operating Costs in priority to all or any of the items referred to above (other than under 34.2(a) above) as the Facility Agent may direct.

35 Payment mechanics

Payments to the Facility Agent

35.1 On each date on which an Obligor, the Security Holder or a Lender is required to make a payment under a Finance Document, the Obligor, the Security Holder or that Lender shall make the same available to the Facility Agent (unless a contrary indication appears in a Finance Document) for value on the due date at the time and in such funds specified by the Facility Agent as being customary at the time for settlement of transactions in the relevant currency in the place of payment.

35.2 Payment shall be made to such account in the principal financial centre of the country of that currency with such bank as the Facility Agent specifies.

Distributions by the Facility Agent

35.3 Each payment received by the Facility Agent under the Finance Documents for another Party shall, subject to clause 35.4 (*Distributions to the Borrower*) and clauses 35.5 and 35.6 (*Clawback*) be made available by the Facility Agent as soon as practicable after receipt to the Party entitled to receive payment in accordance with this Agreement (in the case of a Lender, for the account of its Facility Office), to such account as that Party may notify to the Facility Agent by not less than five (5) Business Days' notice with a bank in the principal financial centre of the country of that currency.

Distributions to the Borrower

35.4 The Facility Agent may (with the consent of the Obligor or in accordance with clause 36 (*Set- off*)) apply any amount received by it for that Obligor in or towards payment (on the date and in the currency and funds of receipt) of any amount due from that Obligor under the Finance Documents or in or towards purchase of any amount of any currency to be so applied.

Clawback

35.5 Where a sum is to be paid to the Facility Agent under the Finance Documents for another Party, the Facility Agent is not obliged to pay that sum to that other Party (or to enter into or perform any related exchange contract) until it has been able to establish to its satisfaction that it has actually received that sum.

35.6 If the Facility Agent pays an amount to another Party and it proves to be the case that the Facility Agent had not actually received that amount, then the Party to whom that amount (or the proceeds of any related exchange contract) was paid by the Facility Agent shall on demand refund the same to the Facility Agent together with interest on that amount from the date of payment to the date of receipt by the Facility Agent, calculated by the Facility Agent to reflect its cost of funds.

Payment Cascade

35.7 If the Facility Agent receives a payment that is insufficient to discharge all the amounts then due and payable by the Borrower under the Finance Documents, the Facility Agent shall apply that payment towards amounts due from the Borrower to the Finance Parties in the order of priority contemplated by the Payment Cascade.

35.8 Clause 35.7 above shall override any appropriation made by an Obligor.

No set-off by the Borrower

35.9 All payments to be made by an Obligor or the Security Holder under the Finance Documents shall be calculated and be made without (and free and clear of any deduction for) set-off or counterclaim.

Business Days

35.10 Any payment which is due to be made on a day that is not a Business Day shall be made on the next Business Day in the same calendar month (if there is one) or the preceding Business Day (if there is not).

35.11 During any extension of the due date for payment of any principal or Unpaid Sum under this Agreement interest is payable on the principal or Unpaid Sum at the rate payable on the original due date.

Currency of account

35.12 Subject to clauses 35.13 and 35.14 below, Dollars is the currency of account and payment for any sum due from any Obligor or the Security Holder under any Finance Document.

35.13 Each payment in respect of costs, expenses or Tax shall be made in the currency in which the costs, expenses or Tax are incurred.

35.14 Any amount expressed to be payable in a Transaction Document in a currency other than Dollars shall be paid in that other currency.

Change of currency

35.15 Unless otherwise prohibited by law, if more than one currency or currency unit are at the same time recognised by the central bank of any country as the lawful currency of that country, then:

(a) any reference in the Finance Documents to, and any obligations arising under the Finance Documents in, the currency of that country shall be translated into, or paid in, the currency or currency unit of that country designated by the Facility Agent (after consultation with the Borrower); and

(b) any translation from one currency or currency unit to another shall be at the official rate of exchange recognised by the central bank for the conversion of that currency or currency unit into the other, rounded up or down by the Facility Agent (acting reasonably).

35.16 If a change in any currency of a country occurs, this Agreement will, to the extent the Facility Agent (acting reasonably and after consultation with the Borrower) specifies to be necessary, be amended to comply with any generally accepted conventions and market practice in the Relevant Interbank Market and otherwise to reflect the change in currency.

Disruption to payment systems

35.17 If either the Facility Agent determines (in its discretion) that a Disruption Event has occurred or the Facility Agent is notified by the Borrower that a Disruption Event has occurred:

(a) the Facility Agent may, and shall if requested to do so by the Borrower, consult with the Borrower with a view to agreeing with the Borrower such changes to the operation or administration of the Facility as the Facility Agent may deem necessary in the circumstances;

(b) the Facility Agent shall not be obliged to consult with the Borrower in relation to any changes mentioned in clause 35.17(a) above if, in its opinion, it is not practicable to do so in the circumstances and, in any event, shall have no obligation to agree to such changes;

(c) the Facility Agent may consult with the Finance Parties in relation to any changes mentioned in clause 35.17(a) above but shall not be obliged to do so if, in its opinion, it is not practicable to do so in the circumstances;

(d) any such changes agreed upon by the Facility Agent and the Borrower shall (whether or not it is finally determined that a Disruption Event has occurred) be binding upon the Parties as an amendment to (or, as the case may be, waiver of) the terms of the Finance Documents notwithstanding the provisions of clause 41 (*Amendments and waivers*);

(e) the Facility Agent shall not be liable for any damages, costs or losses whatsoever (including, without limitation for negligence, gross negligence or any other category of liability whatsoever but not including any claim based on the fraud of the Facility Agent) arising as a result of its taking, or failing to take, any actions pursuant to or in connection with this clause 35.17; and

(f) the Facility Agent shall notify the Finance Parties of all changes agreed pursuant to clause 35.17(d).

36 Set-off

36.1 A Finance Party (other than a Hedge Provider) may set off any matured obligation due from any Obligor under the Finance Documents (to the extent beneficially owned by that Finance Party) against any matured obligation owed by that Finance Party to that Obligor, regardless of the place of payment, booking branch or currency of either obligation. If the obligations are in different currencies, the Finance Party may convert either obligation at a market rate of exchange in its usual course of business for the purpose of the set-off.

37 Notices

Communications in writing

37.1 Any communication to be made under or in connection with the Finance Documents shall be made in writing and, unless otherwise stated, may be made by fax, letter or e-mail. Notices or communications with Obligors incorporated or formed under Turkish law which are within the scope of Article 18/III of the Turkish Commercial Code numbered 6102 (consisting of notices of default, rescission or termination) shall be sufficiently given only if delivered via a Turkish notary or by registered mail, return receipt requested, telegram or registered email accounts comprising secure electronic signature and shall be deemed to have been given as of the date of proper service in accordance with Turkish law.

Addresses

37.2 The address, fax number and e-mail address (and the department or officer, if any, for whose attention the communication is to be made) of each Party for any communication or document to be made or delivered under or in connection with the Finance Documents:

(a) in the case of each Obligor, is set out in Schedule 2 (*Initial Administrative Details of the Parties*);

(b) in the case of each Lender, is that notified in writing to the Facility Agent on or prior to the date on which it becomes a Party; and

(c) subject to clause 37.2(b) above, in the case of the Finance Parties, is set out in Schedule 2 (*Initial Administrative Details of the Parties*),

or any substitute address, fax number, e-mail address or department or officer as the Party may notify to the Facility Agent (or the Facility Agent may notify to the other Parties, if a change is made by the Facility Agent) by not less than five (5) Business Days' notice. Such changes shall not be effective until such time as the Facility Agent has notified all other Parties of that change in accordance with clause 30.3 (*Duties of the Facility Agent*).

Delivery

37.3 Any communication or document made or delivered by one person to another under or in connection with the Finance Documents will only be effective:

(a) if by way of fax, when received in legible form; or

(b) if by way of letter, when it has been left at the relevant address or five (5) Business Days after being deposited in the post postage prepaid in an envelope addressed to it at that address; or

(c) if by way of e-mail, when it is received in readable form,

and, if a particular department or officer is specified as part of its address details provided under clause 37.2 (*Addresses*), if addressed to that department or officer.

37.4 Any communication or document to be made or delivered to the Facility Agent or the Security Holder will be effective only when actually received by the Facility Agent or the Security Holder and then only if it is expressly marked for the attention of the department or officer identified with the Facility Agent's or Security Holder's administrative details in Schedule 2 (*Initial Administrative Details of the Parties*) (or any substitute department or officer as the Facility Agent or Security Holder shall specify for this purpose).

37.5 All notices from or to an Obligor shall be sent through the Facility Agent.

Notification of address, fax number and e-mail

37.6 Promptly upon receipt of notification of an address, fax number, e-mail address or change of address, fax number or e-mail address pursuant to clause 37.2 (*Addresses*) or changing its own address, fax number or e-mail address, the Facility Agent shall notify the other Parties.

Use of websites

37.7 Each Obligor may satisfy its obligation under this Agreement to deliver any information in relation to those Lenders (the **Website Lenders**) who accept this method of communication by posting this information onto an electronic website designated by the Borrower and the Facility Agent (the **Designated Website**) if:

(a) the Facility Agent expressly agrees (after consultation with each of the Lenders) that it will accept communication of the information by this method;

(b) both the relevant Obligor and the Facility Agent are aware of the address of and any relevant password specifications for the Designated Website; and

(c) the information is in a format previously agreed between the Borrower and the Facility Agent.

37.8 If any Lender (a **Paper Form Lender**) does not agree to the delivery of information electronically then the Facility Agent shall notify the Obligors accordingly and the relevant Obligor shall at its own cost supply the information to the Facility Agent (in sufficient copies for each Paper Form Lender) in paper form.

37.9 The Facility Agent shall supply each Website Lender with the address of and any relevant password specifications for the Designated Website following designation of that website by the Borrower and the Facility Agent.

37.10 Each Obligor shall promptly upon becoming aware of its occurrence notify the Facility Agent if:

(a) the Designated Website cannot be accessed due to technical failure;

(b) the password specifications for the Designated Website change;

(c) any new information which is required to be provided under this Agreement is posted onto the Designated Website;

(d) any existing information which has been provided under this Agreement and posted onto the Designated Website is amended; or

(e) the Borrower becomes aware that the Designated Website or any information posted onto the Designated Website is or has been infected by any electronic virus or similar software.

37.11 If an Obligor notifies the Facility Agent under clauses (a) or (e) above, all information to be provided by that Obligor under this Agreement after the date of that notice shall be supplied in paper form unless and until the Facility Agent and each Website Lender is satisfied that the circumstances giving rise to the notification are no longer continuing.

37.12 Any Website Lender may request, through the Facility Agent, one (1) paper copy of any information required to be provided under this Agreement which is posted onto the Designated Website. Each Obligor shall at its own cost comply with any such request within ten (10) Business Days.

37.13 For the purpose of clauses 37.7 to 37.12 each Lender accepts that (unless otherwise notified), it is a Website Lender.

English language

37.14 Any notice given under, or in connection with, any Finance Document must be in English.

(a) All other documents provided under, or in connection with, any Finance Document must be:

(i) in English; or

(ii) if not in English, and if so required by the Facility Agent, accompanied by a certified English translation and, in this case, the English translation will prevail unless the document is a constitutional, statutory or other official document.

37.15 **Austrian Stamp Duty**

(a) Notwithstanding anything to the contrary in this Agreement, each of the Parties agrees that it shall:

(i) only communicate in accordance with the provisions under this clause 37.15; and

(ii) not produce in, bring into, send to, or cause to be sent to, or otherwise import to, or cause to be imported to, Austria:

(A) any signed original or certified copy of this Agreement or any other Finance Document; or

(B) any written confirmation or reference (including signed e-mails or facsimiles) to this Agreement or any other Finance Documents ((A) and (B) collectively "**Stamp Duty Sensitive Documents**").

(b) Each of the Parties may act contrary to paragraph (a) only to the extent that:

(i) no stamp duty in Austria is triggered thereby; or

(ii) a Party is required to do so by applicable law; or

(iii) a Stamp Duty Sensitive Document is required to be presented in Austria in order to preserve or enforce a right of, or remedy available to, such party arising under or in respect of such Stamp Duty Sensitive Document.

(c) Each of the Parties further agrees not to:

(i) object to the introduction into evidence of any uncertified copy of any Stamp Duty Sensitive Document;

(ii) raise as a defence to any action or exercise of a remedy a failure to introduce an original of any Stamp Duty Sensitive Document into evidence;

(iii) object to the submission of any uncertified copy of any Stamp Duty Sensitive Document in any proceeding; or

(iv) contest the authenticity, and conformity to the original (*Obereinstimmung mit dem echten Original*), of an uncertified copy of any Stamp Duty Sensitive Document,

in each case only if and to the extent that any such uncertified copy actually introduced into evidence accurately reflects the content of such Stamp Duty Sensitive Document.

38 Calculations and certificates

Accounts

38.1 In any litigation proceedings arising out of or in connection with a Finance Document, the entries made in the accounts maintained by a Finance Party are prima facie evidence of the matters to which they relate.

Certificates and Determinations

38.2 Any certification or determination by a Finance Party of a rate or amount under any Finance Document is, in the absence of manifest error, conclusive evidence of the matters to which it relates.

Day count convention

38.3 Any interest, commission or fee accruing under a Finance Document will accrue from day to day and is calculated on the basis of the actual number of days elapsed and a year of three hundred and sixty (360) days or, in any case where the practice in the Relevant Interbank Market differs, in accordance with that market practice.

39 Partial invalidity

39.1 If, at any time, any provision of the Finance Documents is or becomes illegal, invalid or unenforceable in any respect under any law of any jurisdiction, neither the legality, validity or enforceability of the remaining provisions nor the legality, validity or enforceability of such provision under the law of any other jurisdiction will in any way be affected or impaired.

40 Remedies and waivers

40.1 No failure to exercise, nor any delay in exercising, on the part of any Finance Party, any right or remedy under the Finance Documents shall operate as a waiver, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise or the exercise of any other right or remedy. The rights and remedies provided in this Agreement are cumulative and not exclusive of any rights or remedies provided by law.

41 Amendments and waivers

The Finance Documents may be amended or waived only in accordance with the provisions of this Agreement and the Intercreditor Deed and any such amendment or waiver will be binding on all parties.

42 Confidentiality

Confidential Information

42.1 Each Finance Party agrees to keep all Confidential Information confidential and not to disclose it to anyone, save to the extent permitted by clause 42.2 (*Disclosure of Confidential Information*), and to ensure that all Confidential Information is protected with security measures and a degree of care that would apply to its own confidential information.

Disclosure of Confidential Information

42.2 Any Finance Party may disclose:

(a) to any of its Affiliates and Related Funds and any of its or their officers, directors, employees, professional advisers, auditors, partners and Representatives such Confidential Information as that Finance Party shall consider appropriate if any person to whom the Confidential Information is to be given pursuant to this clause 42.2(a) is informed in writing of its confidential nature and that some or all of such Confidential Information may be price-sensitive information except that there shall be no such requirement to so inform if the recipient is subject to professional obligations to maintain the confidentiality of the information or is otherwise bound by requirements of confidentiality in relation to the Confidential Information;

(b) to any other Finance Party;

(c) to any person:

(i) to (or through) whom it assigns or transfers (or may potentially assign or transfer) all or any of its rights and/or obligations under one or more Finance Documents

and to any of that person's Affiliates, Related Funds, Representatives and professional advisers;

(ii) with (or through) whom it enters into (or may potentially enter into), whether directly or indirectly, any sub-participation in relation to, or any other transaction under which payments are to be made or may be made by reference to, one or more Finance Documents and/or one or more Obligors and to any of that person's Affiliates, Related Funds, Representatives and professional advisers;

(iii) appointed by any Finance Party or by a person to whom clauses 42.2(c)(i) or 42.2(c)(ii) above applies to receive communications, notices, information or documents delivered pursuant to the Finance Documents on its behalf (including, without limitation, any person appointed under clauses 30.43 to 30.46 (*Relationship with the Lenders*));

(iv) who invests in or otherwise finances (or may potentially invest in or otherwise finance), directly or indirectly, any transaction referred to clauses 42.2(c)(i) or 42.2(c)(ii) above;

(v) to whom information is required or requested to be disclosed by any court of competent jurisdiction, any Government Agency (including any department or agency of the European Union), any banking, taxation or other regulatory authority or similar body, the rules of any relevant stock exchange or pursuant to any applicable law or regulation;

(vi) to whom information is required to be disclosed in connection with, and for the purposes of, any litigation, arbitration, administrative or other investigations, proceedings or disputes;

(vii) which is publicly available, other than as a result of a breach by that Finance Party of this Clause;

(viii) to whom information is required to be disclosed in order for any Finance Party to be in compliance with the Equator Principles;

(ix) who is a Party;

(x) with the consent of the Borrower or the relevant Major Project Party;

(xi) to any person appointed by that Finance Party or by a person to whom clauses 42.2(c)(i) or 42.2(c)(ii) above applies to provide administration or settlement services in respect of one or more of the Finance Documents including without limitation, in relation to the trading of participations in respect of the Finance

Documents such Confidential Information as may be required to be disclosed to enable such service provider to provide any of the services referred to in this clause 42.2 if the service provider to whom the Confidential Information is to be given has entered into a Confidentiality Undertaking or such other form of confidentiality undertaking agreed between the Borrower and the relevant Finance Party;

(xii) to the International Swaps and Derivatives Association, Inc. (ISDA) or any Credit Derivatives Determination Committee or sub-committee of ISDA where such disclosure is required by them in order to determine whether the obligations under the Finance Documents will be, or in order for the obligations under the Finance Documents to become deliverable under a credit derivative transaction or other credit linked transaction which incorporates the 2009 ISDA Credit Derivatives Determinations Committees and Auction Settlement Supplement or other provisions substantially equivalent thereto; or

(xiii) to the extent necessary for the Hedge Providers to make calculations and to obtain quotes in accordance with the terms of the Hedging Agreements,

in each case, such Confidential Information as that Finance Party shall consider appropriate, provided:

(A) in relation to clauses 42.2(c)(i), 42.2(c)(ii) and 42.2(c)(iii) above, the person to whom the Confidential Information is to be given has entered into a Confidentiality Undertaking except that there shall be no requirement or a Confidentiality Undertaking if the recipient is a professional adviser and is subject to professional obligations to maintain the confidentiality of the Confidential Information;

(B) in relation to clause 42.2(c)(iv) above the person to whom the Confidential Information is to be given has entered into a Confidentiality Undertaking or is otherwise bound by requirements or confidentiality in relation to the Confidential Information they receive and is informed that some or all of such Confidential Information may be price-sensitive information; and

(C) in relation to clauses 42.2(c)(v) and 42.2(c)(vi) above the person to whom the Confidential Information is to be given is informed of its confidential nature and that some or all of such Confidential Information may be price- sensitive information except that there shall be no requirement to so inform if, in the opinion of that Finance Party, it is not practicable so to do in the circumstances;

(d) to professional advisers and service providers of the persons to whom disclosure is permitted by this clause 42.2 (*Disclosure of Confidential Information*), provided such professional advisers and service providers are under a duty of confidentiality to such persons; and

(e) to any rating agency, insurer or insurance broker of, or direct or indirect provider of credit protection to, any Lender or any person to whom disclosure is permitted by this clause 42.2 (*Disclosure of Confidential Information*), if any such rating agencies, insurer, insurance broker or provider of credit protection is informed of its confidential nature and that some or all of such Confidential Information may be price-sensitive information.

Confidentiality Undertaking means a confidentiality undertaking on substantially similar terms to the confidentiality undertaking in this clause 42 (*Confidentiality*) or in any other form agreed between the Borrower and the Facility Agent.

Entire agreement

42.3 This clause 42 (*Confidentiality*) constitutes the entire agreement between the Parties in relation to the obligations of the Finance Parties under the Finance Documents regarding Confidential Information and supersedes any previous agreement, whether express or implied, regarding Confidential Information.

Public Disclosure

42.4 The Finance Parties acknowledge and agree that each of the Obligors may disclose this Agreement, the other Finance Documents or any summary thereof to any of its Affiliate and any of its or their officers, directors, employees, professional advisers, auditors, partners and Representatives and to any other person referred to in Clause 42.2(c)(v) or 42.2(c)(vi)

Inside information

42.5 Each of the Finance Parties acknowledges that some or all of the Confidential Information is or may be price-sensitive information and that the use of such information may be regulated or prohibited by applicable legislation including securities law relating to insider dealing and market abuse and each of the Finance Parties undertakes not to use any Confidential Information for any unlawful purpose.

Notification of disclosure

42.6 Each of the Finance Parties agrees (to the extent permitted by law and regulation) to inform the Parent:

(a) of the circumstances of any disclosure of Confidential Information made pursuant to clause 42.2(c)(v) (*Disclosure of Confidential Information*) except where such disclosure is made to any of the persons referred to in that paragraph during the ordinary course of its supervisory or regulatory function; and

(b) upon becoming aware that Confidential Information has been disclosed in breach of this clause 42 (*Confidentiality*).

Continuing obligations

42.7 The obligations in this clause 42 (*Confidentiality*) are continuing and, in particular, shall survive and remain binding on each Finance Party for a period of twelve (12) months from the earlier of:

(a) the date on which all amounts payable by the Borrower under or in connection with the Finance Documents have been paid in full and all Commitments have been cancelled or otherwise cease to be available; and

(b) the date on which such Finance Party otherwise ceases to be a Finance Party.

43 Counterparts

43.1 Each Finance Document may be executed in any number of counterparts, and this has the same effect as if the signatures on the counterparts were on a single copy of that Finance Document.

44 Governing Law

44.1 This Agreement and any non-contractual obligations connected with or arising out of it are governed by English law.

45 Enforcement

Jurisdiction

45.1 The High Court of Justice of England and Wales in London and any competent English appellate court have exclusive jurisdiction to settle any dispute arising out of, or in connection with, any Finance Document governed by English law or any non-contractual obligations connected with or arising out of any Finance Document governed by English law (including a dispute regarding the existence, validity or termination of any Finance Document governed by English law) (a **Dispute**).

45.2 The Parties agree that the High Court of Justice of England and Wales in London and any competent English appellate court are the most appropriate and convenient courts to settle Disputes and to grant interim remedies or other provisional or protective relief and accordingly no Party will dispute to the contrary.

45.3 Clauses 45.1 and 45.2 above are for the benefit of the Finance Parties only. As a result, no Finance Party shall be prevented from taking proceedings relating to a Dispute or seeking interim remedies or other provisional or protective relief in any other courts with jurisdiction. To the extent allowed by law, the Finance Parties may take concurrent proceedings in any number of jurisdictions, provided that the Finance Parties shall not be entitled to take proceedings in any such other courts if the Finance Parties have initiated proceedings in the English courts and it would be inequitable to cause those proceedings to be stopped.

Service of process

45.4 Without prejudice to any other mode of service allowed under any relevant law, each Obligor:

(a) irrevocably appoints Stikeman Elliott (London) LLP of Dauntsey House, 4B Frederick's Place, London EC2R 8AB or its registered office from time to time as its agent for service of process in relation to any proceedings before the English courts in connection with any Finance Document;

(b) agrees that failure by a process agent to notify the relevant Obligor of the process will not invalidate the proceedings concerned; and

(c) if any person appointed as an agent for service of process is unable for any reason to act as agent for service of process, the relevant Obligor must immediately (and in any event within ten (10) days of such event taking place) appoint another agent on terms acceptable to the Facility Agent. Failing this, the Facility Agent may appoint another agent for this purpose.

Waiver of Immunity

45.5 Each Obligor irrevocably and unconditionally:

(a) agrees not to claim in any jurisdiction, for itself or in respect of its assets, immunity from suit, execution, attachment (whether in aid of execution, before judgment or otherwise) or other legal process and waives such present or future immunity, whether claimed or not; and

(b) consents generally to the giving of any relief or the issue of any process in connection with any proceedings, including the making, enforcement or execution against any property of any nature (irrespective of its use or intended use) of any order or judgment which may be made or given in any proceedings.

46 Limitation of liability

Notwithstanding any other provision of this Agreement or any Finance Document (other than the Intercreditor Deed) to which a Shareholder is party, the sole recourse and remedy of the

Finance Parties against each of the Shareholders under the Finance Documents (other than the Intercreditor Deed) shall be with respect to the Security Interest(s) granted by such Shareholder under and in accordance with the Security Document(s) to which it is a party and the Finance Parties shall not have any right or remedy to execute or enforce any claim against any of the Shareholder's property and assets not subject to (or purported to be subject to) such Security Interest, provided that nothing in this clause shall in any way limit the rights of the Finance Parties in relation to the Security Interests granted under and in accordance with such Security Documents, nor shall this clause be interpreted to limit the validity or enforceability of, or reduce, release or prejudice, the Security Interest(s) granted by such Shareholder under and in accordance with such Security Document(s).

47 Place of performance

The Parties agree that the place of performance (*ErfOllungsort*) for all rights and obligations under mortgages, cessions, assignments by way of security and guarantees, including the guarantee pursuant to clause 19 (*Guarantee*) shall be the Netherlands, or any other place reasonably designated by the Security Holder, but in any case a place outside the Republic of Austria, which means that the payment of amounts by any Obligor shall be to and from a bank account outside the Republic of Austria. It is expressly agreed between the Parties that any such performance within the Republic of Austria will not establish Austria as the place of performance and shall be deemed not effective with respect to any Party hereto.

THIS AGREEMENT has been entered into on the date stated at the beginning of this Agreement.

Schedule 1
Original Lenders and Hedge Providers

Part 1 - The Original Lenders

Name of Lender	Initial Commitment
BNP Paribas (Suisse) SA	US$87,500,000
ING Bank A.S.	US$87,500,000
Societe Generale, London Branch	US$87,500,000
UniCredit Bank Austria AG	US$87,500,000
Initial Total Commitments	**US$350,000,000**

Each Lender's participation in each of the Tranche A Loans and the Tranche B Loans shall be pro rata to its Commitment.

Part 2 - The Original Hedge Providers

Name of Hedge Provider	Hedging Transactions proportion
BNP Paribas SA	25%
ING Bank N.V.	25%
Societe Generale	25%
UniCredit Bank Austria AG	25%
Total	**100%**

chedule 2
Initial Administrative Details of the Parties

Part y	Detail s
ANAGOLD MADENCİLİK SANAYİ VE TİCARET A.Ş. as Borrower	Address: Attention: Telephone: Fax: E-mail:
ALACER GOLD CORP. as Parent	Address: Attention: Telephone: Fax: E-mail:
LİDYA MADENCİLİK SANAYİ VE TİCARET A.Ş. as Shareholder	Address: Attention: Telephone: Fax: E-mail:
ALACER GOLD MADENCİLİK A.Ş. as Shareholder	Address: Attention: Telephone: Fax: E-mail:

BANKA KOMBETARE TREGTARE SHA as Shareholder	Address: Attention: Telephone: Fax: E-mail:
ING BANK N.V. as Facility Agent	Address: Attention: Telephone: Fax: E-mail:
ING BANK N.V. as Security Holder	Address: Attention: Telephone: Fax: E-mail:
ING BANK N.V. as Mandated Lead Arranger	Address: Attention: Telephone: Fax: E-mail:
BNP PARIBAS (SUISSE) SA as Mandated Lead Arranger	Address: Attention: Telephone: Fax: E-mail:

SOCIETE GENERALE, LONDON BRANCH as Mandated Lead Arranger	Address: Attention: Telephone: Fax: E-mail:
UNICREDIT BANK AUSTRIA AG as Mandated Lead Arranger	Address: Attention: Telephone: Fax: E-mail:
SOCIETE GENERALE, LONDON BRANCH as Documentation Agent	Address: Attention: Telephone: Fax: E-mail:
BNP PARIBAS (SUISSE) SA as Technical Agent	Address: Attention: Telephone: Fax: E-mail:
ING BANK N.V. as Original Hedge Provider	Address: Attention: Telephone: Fax: E-mail:

BNP PARIBAS SA as Original Hedge Provider	Address: Attention: Telephone: Fax: E-mail:
SOCIETE GENERALE as Original Hedge Provider	Address: Attention: Telephone: Fax: E-mail:
UNICREDIT BANK AUSTRIA AG as Original Hedge Provider	Address: Attention: Telephone: Fax: E-mail:
ING BANK A.S. as Original Lender	Address: Attention: Telephone: Fax: E-mail:
BNP PARIBAS (SUISSE) SA as Original Lender	Address: Attention: Telephone: Fax: E-mail:

SOCIETE GENERALE, LONDON BRANCH as Original Lender	Address: Attention: Telephone: Fax: E-mail:
UNICREDIT BANK AUSTRIA AG as Original Lender	Address: Attention: Telephone: Fax: E-mail:

[Redacted contact details.]

Schedule 3
Conditions Precedent

Part 1

1 Corporate Documentation

1.1 Certified copies (in respect of each Obligor) of its constitutional documents, including:

(a) the articles of association of the Borrower, Lidya and AGM, all amendments made to these articles of association, as certified by the relevant Trade Registry;

(b) the internal directives of the Borrower, Lidya and AGM, regarding the limited signature authorities adopted by the Board of Directors in accordance with Article 367 of the Turkish Commercial Code No. 6102, as announced in the Turkish Trade Registry Gazette;

(c) the original copies of the Certificates of Activity of the Borrower the Borrower, Lidya and AGM, issued by the relevant Trade Registry.

1.2 Resolutions of the board of directors (or if applicable, a committee of the board of directors), of each of the Obligors (certified as a true copy by a director or officer or notarised by a notary public (as required)):

(a) approving the terms of, and the transactions contemplated by, the Transaction Documents to which it is a party and resolving that it execute, deliver and perform the Transaction Documents to which it is a party and, if required by the Facility Agent, unconditionally ratifying any actions taken in relation to the Transaction Documents prior to the date of the resolutions;

(b) in respect of the Borrower only, approving the Development Plan and the Life of Mine Plan;

(c) authorising a specified person or persons to execute the Transaction Documents to which it is a party on its behalf;

(d) authorising a specified person or persons, on its behalf, to sign and/or despatch all documents and notices (including, in the case of the Borrower, Utilisation Requests) to be signed and/or despatched by it under or in connection with the Transaction Documents to which it is a party; and

(e) in respect of the Borrower, confirming that the board will recognise the persons to whom the shares in the Borrower are to be transferred in the event of any action under the

Borrower Share Pledge, respectively, to transfer such shares, and will approve the transfer to such persons and will give effect thereto.

1.3 The Authorization Certificate of the Borrower, issued by the Trade Registry Offices in accordance with the Turkish Land Registry Law No. 2644.

1.4 Specimen signatures of each person authorised by the resolutions in paragraph 1.2(b) above to sign the Transaction Documents and any other notices or documents under or in connection with the Transaction Documents.

1.5 If required, a copy of a resolution of a general meeting of shareholders of each of the Shareholders and the Borrower approving the terms of, and the transactions contemplated by, the Transaction Documents to which such Shareholder or the Borrower is a party.

1.6 Where a Transaction Document has been signed or will be signed by way of a power of attorney, a certified copy of each such power of attorney in respect of each Obligor (duly notarised and legalised if necessary).

1.7 A certificate of each Obligor (signed by a director or authorised officer) confirming that (i) borrowing or guaranteeing or securing, as appropriate, the Total Commitments would not cause any borrowing, guarantee, security or similar limit binding on that Obligor to be exceeded; (ii) each copy document relating to it specified in Part 1 of Schedule 3 (*Conditions Precedent*) is correct, complete and in full force and effect and has not been amended or superseded as at a date no earlier than the date of this Agreement; and (iii) in the case of a certificate of an Obligor other than the Borrower, all representations and warranties in respect of such Obligor set out in Clause 20 (*Representations*) are true, accurate and complete and, in the case of a certificate of the Borrower, all representations and warranties set out in Clause 20 (*Representations*) are true, accurate and complete; and (iv) in the case of a certificate of the Borrower, no event has occurred and is continuing or would result from the Finance Documents as at the date of this Agreement which constitutes an Event of Default.

2 Finance Documents

2.1 An agreed form original of each Finance Document (other than any Intercreditor Accession Deed and any Transfer Certificate) duly executed by the parties to such document.

2.2 The Borrower and the Lenders have agreed any updates required to Schedule 11 (*Completion Tests*) to account for the terms of the executed EPCM Contract and BOO Contract.

3 Security

3.1 The Obligors have signed all documents, given all notices and taken all actions requested by the Security Holder to enable the security granted or to be granted by the Security Documents to be perfected, including to facilitate:

(a) all filings, stampings, registrations, recordings, notifications and other actions (or documents to effect such actions) in all relevant jurisdictions necessary or, in the opinion of legal advisers to the Facility Agent, advisable, in order to create in favour of the Finance Parties valid perfected first-priority Security Interests over all of the assets purported to be covered by each Security Document (subject to Permitted Security Interests which rank *pari passu* or ahead by operation of law); and

(b) the giving of notices of pledge, assignment or charge, as applicable in relation to the security created under the Security Documents to each of the counterparties to the Material Project Documents and the Refining Contracts and obtaining acknowledgements of receipt of each of the counterparties to the Material Project Documents and the Refining Contracts of such notices.

3.2 Confirmation from the counterparties to the Material Project Documents and the Refining Contracts that they have not received any prior notice of any Security Interest, and that amounts payable in relation to such contractual arrangements shall be paid without set-off or counterclaim.

3.3 Evidence that no liens or encumbrances are registered against the Borrower or its assets purported to be covered by each Security Documents or the shares in the Borrower other than Permitted Security Interests and those in favour of the Finance Parties.

3.4 A copy of all signed notices in agreed form required to be sent under the Security Documents (and where required by the Facility Agent, signed acknowledgements of such notices), including in respect of:

(a) each relevant Material Project Document and each Refining Contract;

(b) the relevant Insurances; and

(c) the Hedging Agreements.

3.5 A copy of all signed notices in agreed form in relation to the security over the Project Accounts (except the Distribution Account) given to each of the Onshore Account Bank and the Offshore Account Bank and a signed acknowledgement from each of the Onshore Account Bank and the Offshore Account Bank (each in the form set out in the relevant Security Document).

3.6 Share certificates representing all of the issued and paid-up share capital of the Borrower (each bearing a pledge endorsement) and stock transfer forms in relation to the same duly endorsed in blank and all other documents required to be provided under the Security Documents.

3.7 Notarized copies of the Borrower's Board of Directors' resolution on approval of the pledge to be established under the Borrower Share Pledge and resolving to register the pledge in its share book in accordance with Borrower Share Pledge.

3.8 Notarized copies of the share ledger pages evidencing that the pledge established under the Borrower Share Pledge is registered in the Borrower's share ledger.

3.9 The original confirmation letter from the relevant Trade Registry Office that the Commercial Enterprise Pledge Agreement was duly signed before a notary public and registered with the relevant Trade Registry.

3.10 Evidence that BKT has procured all regulatory approvals and/or given all regulatory notices required by any law or regulation applicable to it in respect of any Security Interest granted or to be granted by it

4 Material Project Documents

4.1 A certified copy of each Material Project Document, and each Refining Contract executed prior to Financial Close, in agreed form duly executed by the parties to such document.

4.2 Evidence that the Material Project Documents and each Refining Contract are unconditional and in full force and effect.

5 Authorisations and title

5.1 A certificate of an authorised representative of the Borrower, to the effect that:

(a) all Project Authorisations (including the Mining Licences) and Environmental or Social Permits required to be obtained in order to achieve Final Project Completion substantially in accordance with the Development Plan and the Life of Mine Plan, other than those Project Authorisations which are not necessary at the applicable time and which are expected to be obtained in the ordinary course of business by the time they are necessary having regard to the Project's then current stage of construction, have been obtained and each such Project Authorisation (including the Mining Licences) and Environmental or Social Permit is in full force and effect (subject to any matters disclosed in the report provided pursuant to paragraph 7.1 below); and

(b) a true, correct and complete copy of each such Project Authorisation (including the Mining Licences) and Environmental or Social Permit referred to in paragraph (a) above is attached to such certificate.

5.2 Evidence that all notices, registrations, filings, stampings, approvals and consents in relation to the Transaction Documents (to the extent required under any relevant jurisdiction) have been duly obtained, issued and/or completed (as applicable) pursuant to any applicable regulations in that jurisdiction.

6 Insurances

6.1 Evidence satisfactory to the Independent Insurance Consultant that the Borrower has in full force and effect such insurance policies as are required in accordance with this Agreement, with such policies and their terms (including as to amount, risks covered and deductibles) to be to the satisfaction of the Independent Insurance Consultant.

6.2 Insurance Broker's Letter of Undertaking in relation to the relevant Insurances.

6.3 Evidence satisfactory to the Independent Insurance Consultant that each policy of insurance placed pursuant to clauses 25.19 to 25.20 has attached to it an endorsement in a form satisfactory to the Independent Insurance Consultant, including covering the requirements of the Facility Agent pursuant to clauses 25.19(a) to (c).

7 Reports

7.1 A copy of an updated legal due diligence report from the Lenders' Turkish legal advisers in form and substance satisfactory to the Lenders.

7.2 A copy of an updated technical due diligence report from the Independent Technical Consultant which includes confirmation of the adequacy of mineral reserves and resources for the Project and details of the management of the Obligors and the Project in conjunction with the assessment of the contract structure, contracts, contractors and project development philosophy in form and substance satisfactory to the Lenders.

7.3 A copy of an insurance report from the Independent Insurance Consultant, in form and substance satisfactory to the Lenders.

7.4 A copy of an updated Environmental Report from the Independent Technical Consultant in form and substance satisfactory to the Lenders and in accordance with all applicable Environmental Laws, including confirmation from the Independent Technical Consultant that (i) the proposed development, construction, operation and closure of the Project in accordance with the Development Plan will comply with the Equator Principles, (ii) the Integrated Environmental and Social Management Plan, the Environmental Impact Assessment and the Environmental and

Social Impact Assessment comply with applicable Environmental and Social Standards (and, to the extent that any aspect of the Integrated Environmental and Social Management Plan for the construction phase of the Project has to be implemented at a later date, all arrangements necessary for such timely implementation have been set out in the Integrated Environmental and Social Management Plan), and (iii) if applicable, there are no trans-boundary impacts related to the Project or the Development Plan.

8 Legal opinions

8.1 Legal opinions of each of:

(a) Norton Rose Fulbright LLP, legal advisers to the Facility Agent, in relation to the legality, validity and enforceability of the Finance Documents governed by English law;

(b) G0ner Law Office, legal advisers to the Facility Agent, in relation to: (i) the due capacity and authority of the Turkish Obligors to enter into, execute and deliver the Transaction Documents to which each is a party; (ii) the Security Interests registered in Turkey; and
(iii) the legality, validity and enforceability of the Transaction Documents and Project Authorisations governed by the laws of Turkey;

(c) any other legal advisers to the Facility Agent, in relation to the legality, validity and enforceability of the Finance Documents governed by laws other than English law and Turkish law;

(d) Macdonald & Co, legal advisers to the Facility Agent, in relation to the due capacity and authority of the Parent to enter into, execute and deliver the Transaction Documents to which it is a party;

(e) Kalo & Associates, legal advisers to the Facility Agent, in relation to the due capacity and authority of BTK to enter into, execute and deliver the Transaction Documents to which it is a party;

(f) legal advisers or in-house counsel of the BOO Contract, in each case acceptable to the Facility Agent (acting reasonably), in relation to the due capacity and authority of the BOO Contractor to enter into, execute and deliver the Transaction Documents to which it is a party; and

(g) legal advisers acceptable to the Facility Agent (which, if such opinion can be provided by Stikeman Elliott LLP given the governing law of the BOO Contract, may be Stikeman Elliott LLP) in relation to the legality, validity and enforceability of the BOO Contract,

each in form and substance satisfactory to, and addressed to or to be relied upon by, the Finance Parties.

9 Financial Model, Life of Mine Plan, model audit report and Budgets

9.1 An electronic copy of the updated Financial Model which includes the base case financial projections and ratios contemplated by this paragraph 9.1 and an updated assessment of the sources and uses of funds, which demonstrates that as at the date of first Utilisation:

(a) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Historic Debt Service Cover Ratio for the Calculation Period ending on that Scheduled Calculation Date is greater than 1.50:1;

(b) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Forecast Debt Service Cover Ratio for the next Calculation Period is greater than 1.50:1;

(c) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Loan Life Cover Ratio is greater than 1.60:1;

(d) the Ore Reserve Tail Ratio is no less than thirty per cent (30%) and shall at all times on and from Financial Close and on each Scheduled Calculation Date until the Final Scheduled Repayment Date be greater than thirty per cent (30%); and

(e) that no Cost to Complete Shortfall exists.

9.2 A report and audit of the Financial Model from the Independent Model Auditor, in accordance with the terms of engagement of the Model Auditor and in form and substance acceptable to the Independent Technical Consultant illustrating compliance with clause 22 (*Financial undertakings*) at all times up to and including the Final Scheduled Repayment Date and confirming that:

(a) the Assumptions contained or implicit in the Financial Model are reasonable, accurate and appropriate and accurately reflect the Construction Budget and Operating Budget;

(b) the Borrower Compliance Certificate submitted pursuant to paragraph 10 below is true and accurate; and

(c) the Financial Model is in all respects consistent with the provisions of this Agreement, including clause 22 (*Financial undertakings*).

9.3 The Construction Budget, in sufficient detail and in an acceptable format.

9.4 The Operating Budget, in sufficient detail and in an acceptable format.

9.5 Confirmation from the Lenders that the Initial Life of Mine Plan is in form and substance satisfactory to the Mandated Lead Arrangers, acting on the advice of the Independent Technical Consultant.

9.6 Confirmation from the Borrower that no Construction Costs have been incurred to date in relation to the Project which are not included in the Financial Model.

9.7 Confirmation from the Lenders that the forms of, and details to be included in, each of the Construction Report and the Operating Report, are acceptable.

10 Property and environment

10.1 A certified copy of the ESMP satisfactory to the Facility Agent (following consultation with the Independent Technical Consultant) evidencing that:

(a) the Integrated Environmental and Social Management Plan has been implemented by the Borrower; and

(b) the Borrower has made appropriate arrangements for Environmental Rehabilitation Bonding Requirements, if any, in respect of the Project on terms acceptable to the Lenders.

10.2 A certified copy of the Environmental Impact Assessment and the Environmental and Social Impact Assessment.

10.3 Evidence that the EIA has been approved by the Competent Authority.

10.4 A certified copy of the Environmental and Social Management System.

10.5 A certified copy of the GHG Alternatives Analysis.

10.6 Evidence that the Environmental and Social Deliverables required to be delivered or satisfied prior to the anticipated date of Financial Close have been so delivered or satisfied.

11 Compliance Certificate

11.1 A Borrower Compliance Certificate, calculated as at the first Utilisation Date and indicating that:

(a) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Forecast Debt Service Cover Ratio for the next Calculation Period is no less than 1.50:1;

(b) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Loan Life Cover Ratio is no less than 1.60:1; and

(c) the Ore Reserve Tail Ratio is no less than thirty per cent (30%) and shall at all times on and from Financial Close and on each Scheduled Calculation Date until the Final Scheduled Repayment Date be no less than thirty per cent (30%).

12 Hedging

12.1 Evidence satisfactory to the Facility Agent that the Borrower has terminated any hedging agreements and hedging transactions with counterparties other than the Hedge Providers and which are required by it to be terminated prior to the initial Utilisation Date, and any related Security Interests have been released.

13 Equity contributions

13.1 The Lenders (in consultation with the Independent Technical Consultant) have determined the Reserve Amount.

13.2 A certificate of an authorised signatory of the Borrower and the Parent containing details of the expenditure by the Borrower or the Parent of all Equity Contributions made prior to Financial Close in respect of the development and construction of the sulphide expansion of the Çöpler gold mine in a manner which is consistent with the Development Plan, which Equity Contributions shall be in an amount no less than the Initial Equity Contribution.

14 Project Accounts

14.1 Evidence that those Project Accounts which the Facility Agent requires the Borrower to open have been opened.

14.2 Evidence that the aggregate credit balance on the Equity Contribution Accounts is no less than the Reserve Amount.

15 Initial Financial Statements

15.1 Certified copies of the Initial Financial Statements together with all subsequently available audited and unaudited financial statements of the Parent and the Borrower.

15.2 A certificate signed by an authorised signatory of the Parent and the Borrower that there has been no Material Adverse Effect since the preparation of its Initial Financial Statements.

16 General

16.1 Evidence that the Lenders are satisfied that no change or circumstance has occurred between the date of this Agreement and Financial Close which has or could result in a material adverse change in any Obligor's business or financial condition or in relation to the Project.

16.2 A letter executed by a duly authorised officer of the Borrower authorising the Borrower's auditors to communicate directly with the Facility Agent at any time regarding the Borrower's accounts and operations.

16.3 A certified copy of the approval for incentive certificate relating to the Project.

16.4 Evidence of the appointment of an agent for the receipt of service of process in England by each Obligor.

16.5 The Facility Agent is satisfied that the fees payable in accordance with clause 11(*Fees*) or any Fee Letters and all costs and expenses due at that time in accordance with clause 16 (*Costs and expenses)* have been paid, or will be paid simultaneously with the first Utilisation.

16.6 A certified copy of the Group Structure Chart.

16.7 The Facility Agent is satisfied that no event or series of events has occurred (including a change to any law or regulation) since 31 December 2014 which individually or together has a Material Adverse Effect.

16.8 A certified copy of any other Authorisation or other document, opinion or assurance which the Lenders consider to be necessary or desirable (if it has notified the Facility Agent accordingly and the Facility Agent has notified the Borrower) in connection with the entry into and performance of the transactions contemplated by any Finance Document or for the validity and enforceability of any Finance Document.

17 Know Your Customer Information

Provision by each Obligor of all information necessary to comply with any money laundering regulations, know your customer checks and other identification procedures as may be requested by the Facility Agent (including financial statements, if required).

Part 2

Utilisation

1 No Default

No Default has occurred and is continuing or would result from the making of the proposed Loan.

2 Representations

The Repeating Representations to be made by each Obligor are true, accurate and complete in all respects.

3 No Change of Control

No Change of Control has occurred.

4 Purpose

The proposed loan will be used for the purpose specified in clause 3.1 (*Purpose*).

5 Debt to total spend ratio

The ratio, as determined by the Facility Agent in consultation with the Independent Technical Consultant, of:

(a) the total amount utilised under the Facility to date, including amounts to be Utilised on the proposed Utilisation Date to which the calculation is related; to

(b) all amounts spent or to be spent on Construction Costs between 1 January 2015 and the proposed Utilisation Date,

should not be greater than 50% on the proposed Utilisation Date.

6 Costs Certificate

6.1 The Borrower has delivered a Costs Certificate to the Facility Agent and the Technical Agent with the relevant Utilisation Request.

6.2 The Costs Certificate delivered under paragraph 6.1 is counter-signed by the Independent Technical Consultant confirming that it does not disagree with any of the matters set out in the Costs Certificate, and that as at the proposed Utilisation Date, the Projected Project Costs shall be consistent with the Financial Model as then in effect.

7 Cost to Complete

7.1 The Borrower has delivered a Cost to Complete Certificate to the Facility Agent and the Technical Agent with the relevant Utilisation Request, certifying (A) that no Cost to Complete Shortfall exists, has occurred, or is likely to occur, and (B) that Project Completion is expected to occur by the Projected Completion Date, which Cost to Complete Certificate shall set out all relevant calculations in a sufficient level of detail in order for the Independent Technical Consultant to verify such confirmation and shall be countersigned by the Independent Technical Consultant confirming that no Cost to Complete Shortfall exists.

8 Financial Model

There is no ongoing dispute between the Borrower and the Technical Agent in relation to updates proposed to be made to the Financial Model, the Construction Budget or Operating Budget.

Schedule 4
Forms of Utilisation Request and Selection Notice

Part 1
Form of Utilisation Request

From: [Borrower]

To: [Facility Agent]

Dated: [•]

Dear Sirs

Copler Gold Mine Project: Facility Agreement dated [•] (the Agreement)

1 We refer to the Agreement. This is a Utilisation Request. Terms defined in the Agreement have the same meaning in this Utilisation Request unless a different meaning is given to those terms in this Utilisation Request.

2 We wish to borrow a Loan on the following terms:

Proposed Utilisation Date	: [•]
Amount	: [•] or, if less, the Available Facility
Interest Period	: [•] Months
Amount of Eligible Costs	: [•]

3 We confirm that each condition specified in clause 4.4 (*Further conditions precedent to the drawdown of the Loan*) is satisfied on the date of this Utilisation Request.

4 The proceeds of this Loan should be credited to the applicable Copler Project Finance Account.

5 This Utilisation Request is irrevocable.

Yours faithfully,

for [*Borrower*]

. Authorised Signatory

Part 2
Form of Selection Notice

From: [Borrower]

To: [Facility Agent]

Dated: [•]

Dear Sirs

Copler Gold Mine Project: Facility Agreement dated [•] (the Agreement)

1 We refer to the Agreement. This is a Selection Notice. Terms defined in the Agreement have the same meaning in this Selection Notice unless a different meaning is given to those terms in this Selection Notice.

2 We refer to the following Loan with an Interest Period ending on [•]:

[•]

3 We request that the next Interest Period for the above Loan is [•] Months with a maturity date of [•].

4 This Selection Notice is irrevocable.

Yours faithfully,

for [*Borrower*]

. Authorised Signatory

Schedule 5
Certificates

Part 1
Form of Borrower Compliance Certificate

To: [ ] as **Facility Agent**

From: [ ] as **Borrower**

[date]

Dear Sirs

Copler Gold Mine Project - Facility Agreement dated [ ] (the Agreement)

1 We refer to the Agreement. This is a Borrower Compliance Certificate required by [clause 4.1 (*Initial Conditions Precedent*) and paragraph 11.1 of Part 1 of Schedule 3 (*Conditions Precedent*)][clause 21.19 (*Compliance Certificates*)] of the Agreement. Terms defined in the Agreement have the same meaning when used in this Borrower Compliance Certificate unless given a different meaning in this Borrower Compliance Certificate.

2 We confirm that, calculated as at the [first Utilisation Date] [insert relevant Calculation Date]:

(a) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Historic Debt Service Cover Ratio for the Calculation Period ending on that Scheduled Calculation Date [will be] greater than or equal to 1.20:1;

(b) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Forecast Debt Service Cover Ratio for the next Calculation Period [is] greater than or equal to 1.20:1;

(c) on each Scheduled Calculation Date until the Final Scheduled Repayment Date, the Loan Life Cover Ratio is greater than or equal to [1.30:1]; and

(d) the Ore Reserve Tail Ratio shall at all times on and from Financial Close and on each Scheduled Calculation Date until the Final Scheduled Repayment Date be greater than or equal to thirty per cent (30%).

3 Attached hereto are details and calculations of:

(a) the Cash Flow Available for Debt Service / CFADS for each Calculation Period until the Final Scheduled Repayment Date calculated as at each relevant Calculation Date in accordance with the Agreement;

(b) the Forecast CFADS in respect of each Calculation Period until the Final Scheduled Repayment Date commencing on the day after the relevant Calculation Date;

(c) the Historic Debt Service Cover Ratio for each Calculation Date until the Final Scheduled Repayment Date;

(d) the Forecast Debt Service Cover Ratio for each Calculation Date until the Final Scheduled Repayment Date;

(e) the Loan Life Cover Ratio for each Calculation Date until the Final Scheduled Repayment Date;

(f) the Ore Reserve Tail Ratio for each Calculation Date until the Final Scheduled Repayment Date;

(g) Distributions made during the current Calculation Period;

(h) the extent of any Cost to Complete Shortfall;

(i) details of the Assumptions on which this Borrower Compliance Certificate is based to the extent these differ from the Assumptions in the Financial Model;

(j) details of the calculations undertaken by the Borrower to enable the Technical Agent to verify the accuracy of the matters set out in this Borrower Compliance Certificate; and

(k) statement of the balance of all Project Accounts (except the Distribution Account).

4 We confirm that no Default has occurred or is continuing.

5 We confirm that the copies of the information submitted with this Borrower Compliance Certificate are true, correct and complete.

Signed	Signed
.....	.....
[•]	[•]
for and on behalf of	for and on behalf of
[•]	[•]

Part 2

Form of Cash Sweep Calculation Certificate

To: [•]

as **Technical Agent**

To: [•]

as **Technical Agent**

To: [•]

as **Technical Agent**

date]

Dear Sirs

Copler Gold Mine Project: Facility Agreement dated [•] (the Agreement)

1 We refer to the Facility Agreement. This is a Cash Sweep Calculation Certificate delivered in accordance with clause 21.28 of the Facility Agreement.

2 Terms defined in the Facility Agreement have the same meaning when used in this certificate unless given a different meaning in this certificate.

3 We confirm that, as at the most recent Calculation Date, the Excess Cashflow is [•] Dollars (US$[ ]).

4 Provided that all relevant conditions in clauses 7.7 and 7.8 (*Mandatory Prepayment - Cash Sweep*) of the Facility Agreement are satisfied,

(a) the total amount of the Excess Cashflow to be applied in mandatory prepayment of the Tranche B Loans in accordance with clause 7.7 of the Facility Agreement is [•] Dollars (US$[•]);[1] and

(b) the total amount of the Excess Cashflow which may be withdrawn from the Proceeds Account and paid into the Distribution Account in accordance with clause 7.8 of the Facility Agreement is [•] Dollars (US$[•]).

5 The Borrower [will be transferring [•] Dollars (US$[•]) to its Distribution Account as permitted by clause 7.8 (*Mandatory Prepayment - Cash Sweep*)].

6 Attached in Annex A are details of the calculations undertaken by the Borrower and other information necessary to enable the Technical Agent to verify the accuracy of the matters set out in this certificate.

---

[1] Note: If less than $150,000,000 of this Facility is outstanding as at the date of the certificate, this amount will be zero.

Signed

. [•]

for and on behalf of [•]

Signed

. [•]

for and on

behalf of [•]

Annex A

[details of calculations for Excess Cashflow]

Part 3
Form of Costs Certificate

To: [•]

as **Facility Agent**

and

[•]

as **Technical Agent**

From: [•]

as **Borrower**

[date]

Dear Sirs

Copler Gold Mine Project: Facility Agreement dated [•] (the Agreement)

1 Terms and expressions defined in the Facility Agreement have the same meaning when used in this certificate.

2 In accordance with the Facility Agreement, we set out below the Eligible Costs that:

(a) are due and payable; and/or

(b) will become due for payment within ninety (90) days from the Utilisation Date, and

hereby certify that as at the date of this certificate:

(i) the proceeds of the previous Utilisation were used to pay the Eligible Costs referred to in the previous Costs Certificate;[2]

(ii) the aggregate amount of Eligible Costs incurred by the Borrower does not exceed the aggregate amount of Eligible Costs anticipated to be incurred on or prior to the proposed Utilisation Date in the Construction Budget by more than five per cent (5%); and

(iii) the credit balance on the Proceeds Account is [•]; and

(iv) the credit balances on the Operating Accounts

are: [•]

[2] Not required for first Utilisation.

Details of the Eligible Costs

Eligible Costs	**Dollars (US$) Million**
Eligible Costs that have fallen due and are payable	[•]
Eligible Costs that will become due for payment during the next 90 days	[•]

Attached hereto in Annex A are details of the calculations undertaken by the Borrower and other information necessary to enable the Independent Technical Consultant and the Technical Agent to verify the accuracy of the matters set out in this certificate.

As requested and to the extent practical, attached hereto in Annex B are invoices and documentation issued by the Borrower and [•] evidencing such Eligible Costs.

Yours faithfully

.....	..
[•]	[•]
for and on behalf of	for and on behalf of
[•]	[•]

We confirm that we do not disagree with any of the matters set out in this Costs Certificate. As at the proposed Utilisation Date, the Projected Project Costs shall be consistent with the Financial Model now in effect.

.....

[•]

for and on behalf of

Independent Technical Consultant

Annex A

[details of calculations and other information]

Annex B

[Invoices and documentation (if reasonably requested and practical)]

Part 4

Form of Cost to Complete Certificate

To: [•]

as **Facility Agent**

From: [ ]

as **Borrower**

Copy: [•]

as **Independent Technical Consultant**

and

[ ]

as **Technical Agent**

[date]

Dear Sirs,

Copler Gold Mine Project - Cost to Complete Certificate

1 In accordance with the facility agreement dated [ ], entered into between, amongst others, the Facility Agent, the Technical Agent and the Borrower (the **Facility Agreement**), we hereby certify that (i) as at the date of this certificate a Cost to Complete Shortfall [exists with an amount of US$[•]/ does not exist] as set out below; (ii) [no Cost to Complete Shortfall has previously occurred or is likely to occur]; and (iii) Project Completion is expected to occur by the Projected Completion Date.

2 Terms defined in the Facility Agreement shall have the same meaning when used in this Certificate.

3 Set out below are the Available Resources and Projected Project Costs:

Available Resources	**Dollars (US$) Million**
(a) the Available Facility	
(b) the amounts standing to the credit of the Proceeds Account, the Equity Contribution Accounts and the Operating Accounts in accordance with the terms of the FinanceDocuments	
(c) any Revenue forecast in accordance with the Financial Model to be received before projected Project Completion, less any Operating Costs forecast to be incurred in accordance with the Financial Model before projected Project Completion	

Total Available Resources

Projected Project Costs	**Dollars (US$) Million**
(a) the aggregate amount of all Eligible Costs and other costs incurred by the Borrower or to be contributed by the Borrower which, in each case, have fallen due for payment but have not yet been paid	
(b) the aggregate amount of Eligible Costs and any other costs incurred by the Borrower or to be contributed by the Borrower which, in each case, are projected to fall due prior to the date on which Project Completion is expected to occur	
Total Projected Project Costs	

4 Attached hereto in Annex A are details of the calculations, including Economic Assumptions, undertaken by the Borrower and other information necessary to enable the Independent Technical Consultant and the Technical Agent to verify the accuracy of the matters set out in this certificate.

Yours faithfully

..

[ ]

for and on behalf of

[ ]

..

[ ]

for and on behalf of

[ ]

We confirm that no Cost to Complete Shortfall exists.

.....

[•]

for and on behalf of

Independent Technical Consultant

.....

Annex A

[details of calculations and other information]

Part 5
Form of CTNW Certificate

To: [ ] as **Facility Agent**

From: [ ] as **Parent**

[date]

Dear Sirs

Copler Gold Mine Project - Facility Agreement dated [ ] (the Agreement)

1 We refer to the Agreement. This is a CTNW Certificate required by clause 22.2 (*Financial and reserve undertakings*) of the Agreement. Terms defined in the Agreement have the same meaning when used in this CTNW Certificate unless given a different meaning in this CTNW Certificate.

2 We confirm that, calculated as at the [insert relevant Quarter Date]:

(a) the Consolidated Tangible Net Worth is no less than five hundred million Dollars ($500,000,000); and

(b) Consolidated Tangible Net Worth is calculated as follows: [•]

3 We confirm that the information included in, and the copies of any information submitted with, this CTNW Certificate are true, correct and complete.

Signed

[ ]

for and on behalf of

[ ]

Signed

[ ]

for and on behalf of

[ ]

Schedule 6

Form of Transfer Certificate

To: [•], on its own behalf and on behalf of the other parties to the Facility Agreement defined below (the **Facility Agent**)

From: [•] (the **Existing Lender**); and

[•] (the **New Lender**)

Copler Gold Mine Project - Facility Agreement dated [ ] (the Facility Agreement)

1 We refer to the Facility Agreement. This is a Transfer Certificate. Terms defined in the Facility Agreement have the same meaning in this Transfer Certificate unless given a different meaning in this Transfer Certificate.

2 We refer to clauses 28.13 to 28.16 (*Procedure for transfer*) of the Facility Agreement:

(a) The Existing Lender and the New Lender agree to the Existing Lender transferring to the New Lender by novation all or part of the Existing Lender's Commitment, participation in the Facility or rights and obligations referred to in the Schedule to this Transfer Certificate in accordance with clauses 28.13 to 28.16 (*Procedure for transfer*).

(b) The proposed Transfer Date is [ ].

(c) The Facility Office and address, fax number, e-mail and attention details for notices of the New Lender for the purposes of clause 37.2 (Addresses) of the Facility Agreement are set out in the Schedule to this Transfer Certificate.

(d) The Security Holder's rights under clause 2.3 (*Finance Parties' Rights and Obligations*) of the Facility Agreement remain in full force and effect and are not affected by this transfer.

3 The New Lender expressly acknowledges the limitations on the Existing Lender's obligations set out in clause 28.12 (*Limitation of responsibility of Existing Lenders*) of the Facility Agreement.

4 This Transfer Certificate may be executed in any number of counterparts and this has the same effect as if the signatures on the counterparts were on a single copy of this Transfer Certificate.

5 This Transfer Certificate and any non-contractual obligations connected with it are governed by English Law.

6 This Transfer Certificate has been entered into at the date stated at the beginning of this Transfer Certificate.

The Schedule

Commitment/rights and obligations to be transferred

[*insert relevant details*]

[*Facility Office address, fax number, e-mail and attention details for notices and account details for payments*]

[Existing Lender] [New Lender]

By: By:

This Transfer Certificate is accepted by the Facility Agent and the Transfer Date is confirmed as [ ].

[•], as Facility Agent By:

Schedule 7
Mandatory Cost Formula

1 The Mandatory Cost is an addition to the interest rate to compensate Lenders for the cost of compliance with (a) the requirements of the Bank of England and/or the Financial Conduct Authority and/or the Prudential Regulation Authority (or, in each case, any other authority which replaces all or any of its functions); (b) the requirements of the European Central Bank; or (c) the requirements of any similar body or institution in the jurisdiction of a Lender's Facility Office.

2 On the first day of each Interest Period (or as soon as possible thereafter) the Facility Agent shall calculate, as a Percentage rate, a rate (the **Additional Cost Rate**) for each Lender, in accordance with the paragraphs set out below. The Mandatory Cost will be calculated by the Facility Agent as a weighted average of the Lenders' Additional Cost Rates (weighted in proportion to the Percentage participation of each Lender in the relevant Loan) and will be expressed as a Percentage rate per annum.

3 The Additional Cost Rate for any Lender lending from a Facility Office otherwise than in the United Kingdom will be the Percentage notified by that Lender to the Facility Agent. This Percentage will be certified by that Lender in its notice to the Facility Agent to be its reasonable determination of the cost (expressed as a Percentage of that Lender's participation in all Loans made from that Facility Office) of complying with the minimum reserve requirements of the European Central Bank or similar body or institution in the jurisdiction of the Lender's Facility Office or in respect of loans made from that Facility Office.

4 The Additional Cost Rate for any Lender lending from a Facility Office in the United Kingdom will be calculated by the Facility Agent as follows:

(a) in relation to a sterling Loan:

$$\frac{AB + C(B-D) + E \times 0.01}{100 - (A + C)} \text{ per cent. per annum}$$

(b) in relation to a Loan in any currency other than sterling:

$$\frac{E \times 0.01}{300} \text{ per cent. per annum.}$$

Where:

A. is the Percentage of Eligible Liabilities (assuming these to be in excess of any stated minimum) which that Lender is from time to time required to maintain as an interest free cash ratio deposit with the Bank of England to comply with cash ratio requirements.

B is the Percentage rate of interest (excluding the Margin and the Mandatory Cost and, if the Loan is an Unpaid Sum, the additional rate of interest specified in clauses 8.3 to 8.5 (*Default interest*)) payable for the relevant Interest Period on the Loan.

C is the Percentage (if any) of Eligible Liabilities which that Lender is required from time to time to maintain as interest bearing Special Deposits with the Bank of England.

D is the Percentage rate per annum payable by the Bank of England to the Facility Agent on interest bearing Special Deposits.

E is designed to compensate Lenders for amounts payable under the Fees Rules and is calculated by the Facility Agent as being the average of the most recent rates of charge supplied by the Reference Banks to the Facility Agent pursuant to clause 7 below and expressed in pounds per one million pounds (£1,000,000).

5 For the purposes of this Schedule:

(i) Eligible Liabilities and Special Deposits have the meanings given to them from time to time under or pursuant to the Bank of England Act 1998 or (as may be appropriate) by the Bank of England;

(ii) Fees Rules means the rules on periodic fees contained in the Financial Conduct Authority Fees Manual and the Prudential Regulation Authority Fees Manual or such other law or regulation as may be in force from time to time in respect of the payment of fees for the acceptance of deposits;

(iii) Fee Tariffs means the fee tariffs specified in the Fees Rules of the activity group A.1 Deposit acceptors (ignoring any minimum fee or zero (0) rated fee required pursuant to the Fees Rules but taking into account any applicable discount rate);

(iv) Tariff Base has the meaning given to it in, and will be calculated in accordance with, the Fees Rules; and

(v) Participating Member State means any member state of the European Communities that adopts or has adopted the euro as its lawful currency in accordance with legislation of the European Community relating to Economic and Monetary Union

6 In application of the above formulae, A, B, C and D will be included in the formulae as Percentages (i.e. five per cent (5%) will be included in the formula as five (5) and not as nought point nought five (0.05)). A negative result obtained by subtracting D from B shall be taken as zero (0). The resulting figures shall be rounded to four decimal places.

7 If requested by the Facility Agent, each Reference Bank shall, as soon as practicable after publication by the Financial Conduct Authority or the Prudential Regulation Authority, supply to

the Facility Agent, the rate of charge payable by that Reference Bank to the Financial Conduct Authority or the Prudential Regulation Authority pursuant to the Fees Rules in respect of the relevant financial year of the Financial Conduct Authority or the Prudential Regulation Authority (calculated for this purpose by that Reference Bank as being the average of the Fee Tariffs applicable to that Reference Bank for that financial year) and expressed in pounds per one million pounds (£1,000,000) of the Tariff Base of that Reference Bank.

8 Each Lender shall supply any information required by the Facility Agent for the purpose of calculating its Additional Cost Rate. In particular, but without limitation, each Lender shall supply the following information on or prior to the date on which it becomes a Lender:

(a) the jurisdiction of its Facility Office; and

(b) any other information that the Facility Agent may reasonably require for such purpose.

Each Lender shall promptly notify the Facility Agent of any change to the information provided by it pursuant to this clause 8.

9 The Percentages of each Lender for the purpose of A and C above and the rates of charge of each Reference Bank for the purpose of E above shall be determined by the Facility Agent based upon the information supplied to it pursuant to clauses 7 and 8 above and on the assumption that, unless a Lender notifies the Facility Agent to the contrary, each Lender's obligations in relation to cash ratio deposits and Special Deposits are the same as those of a typical bank from its jurisdiction of incorporation with a Facility Office in the same jurisdiction as its Facility Office.

10 The Facility Agent shall have no liability to any person if such determination results in an Additional Cost Rate which over or under compensates any Lender and shall be entitled to assume that the information provided by any Lender or Reference Bank pursuant to clauses 3, 7 and 8 above is true and correct in all respects.

11 The Facility Agent shall distribute the additional amounts received as a result of the Mandatory Cost to the Lenders on the basis of the Additional Cost Rate for each Lender based on the information provided by each Lender and each Reference Bank pursuant to clauses 3, 7 and 8 above.

12 Any determination by the Facility Agent pursuant to this Schedule in relation to a formula, the Mandatory Cost, an Additional Cost Rate or any amount payable to a Lender shall, in the absence of manifest error, be conclusive and binding on all Parties.

13 The Facility Agent may from time to time, after consultation with the Borrower and the Lenders, determine and notify to all Parties any amendments which are required to be made to this Schedule in order to comply with any change in law, regulation or any requirements from time to

time imposed by the Bank of England, the Financial Conduct Authority, the Prudential Regulation Authority, the European Central Bank (or, in any case, any other authority which replaces all or any of its functions) or any similar body or institution in the jurisdiction of a Lender's Facility Office and any such determination shall, in the absence of manifest error, be conclusive and binding on all Parties.

Schedule 8
Repayment Schedule

Repayment Date	Repayment (%) of each of the Tranche A Loans and the Tranche B Loans
21 March 2019	2.70%
21 June 2019	3.70%
21 September 2019	6.70%
21 December 2019	6.00%
21 March 2020	5.00%
21 June 2020	5.50%
21 September 2020	4.00%
21 December 2020	4.50%
21 March 2021	4.00%
21 June 2021	4.00%
21 September 2021	4.00%
21 December 2021	4.50%
21 March 2022	6.00%
21 June 2022	5.10%
21 September 2022	5.20%
21 December 2022	6.30%
21 March 2023	6.30%
21 June 2023	5.50%
21 September 2023	5.50%
21 December 2023	5.50%
TOTAL	**100%**

Schedule 9
Economic Assumptions

Gold price: US$1,000 per ounce

Copper price: US$2.50 per pound

Schedule 10
Reserve Amount Assessment Criteria

1 The Independent Technical Consultant will conduct an up to date assessment of the sources and uses of funds, taking into account the following sources and uses and any others agreed by all the Lenders:

SOURCES OF	USD	%
Anagold initial cash balance (USD equiv.)		
Oxide cash flows		
Equity Contribution Accounts		
Funding gap		
Amount required to balance the		
S&U Facility drawdown		
TOTAL SOURCES		**100%**
USES OF FUNDS		**%**
Sulfide Capex		
Oxide Sustaining Capex + HL expansion		
Anagold Exploration		
Anticipated Cost to Complete Shortfall		
Financing costs		
TOTAL USES		**100%**

2 The Independent Technical Consultant will consider whether there is Cost to Complete Shortfall based on the sources and uses identified under paragraph 1 above.

3 Actual gold, silver and copper prices will be used for historic calculations. Forecast prices for gold and copper will be as set out in Schedule 9 (*Economic Assumptions*), or as otherwise determined by the Majority Lenders for this purpose.

4 Any other criteria the Independent Technical Consultant recommends for determining the potential for a Cost to Complete Shortfall prior to Project Completion.

5 The ratio of the total amount to be drawn under the Facility (**Debt**) to all other amounts spent or to be spent on the Project (**Total Spend**) should not be greater than 50% at any time following Financial Close.

Schedule 11
Completion Tests

The Independent Technical Consultant shall notify the Facility Agent and the Technical Agent promptly upon becoming satisfied that each of the Physical Completion Test, the Operational Completion Test and the Financial Completion Test has been met.

Part 1 - Physical Completion Test

Compliance of the Project with the Physical Completion Test means that the following criteria have been met to the satisfaction of the Independent Technical Consultant:

a) The construction of:
   - Civil works & access
     - Site development
     - Construction/access road
   - Crushing and grinding facilities
     - Sizer-type sulphide ore crusher,
     - SAG and ball mill
   - Processing facilities
     - Acidulation
     - Iron arsenic precipitation
     - Autoclave [POX] feed and pre-heating,
     - Dual autoclave circuits,
     - Autoclave off-gas handling system and seal water system,
     - Counter current decantation [CCD] thickener system,
     - Oxygen plant,
     - CIP tanks,
     - New ADR plant (gold elution, carbon acid wash and carbon regeneration),
   - Tailings storage facilities, including pipelines
     - Tailings and detoxification
     - Tailings storage facility
   - Neutralisation facility
     - Limestone milling and neutralization
     - Lime slaking, neutralization & reagents
   - Air, water and power
     - Water distribution
     - Power distribution & standby power
     - Water well development
   - Workshop & Warehouses
     - Mill maintenance shop
     - Warehouse

- Reagent storage

has been carried out and completed as per the specifications contained in the EPCM Contract, the BOO Contract and any relevant subcontracts in all material respects.

b) In respect to the CSEP infrastructure, development and facilities, the level of completion meets the criteria in the Financial Model in all material respects.

c) All mobile and stationary equipment necessary to support the assumptions in the Financial Model have been purchased and have been or will be commissioned on site, with carve-outs for equipment already purchased and still located offsite.

d) The Borrower has accepted all work performed by the EPCM Contractor and any relevant subcontractors in accordance with the EPCM Contract, and by the BOO Contractor in accordance with the BOO Contract.

e) All performance tests required by the EPCM Contract and BOO Contract, that are deemed to be material as determined by the Independent Technical Consultant and the Technical Agent, have been passed, except where any failures have been waived by the Independent Technical Consultant and the Technical Agent as having no material impact on the Project.

f) The Borrower has provided confirmation to the Independent Technical Consultant that all critical capital spares required are held on site.

g) The Borrower has provided to the Independent Technical Consultant a certificate signed by two directors of the Borrower certifying that all supply and service contracts, and the Project Authorisations necessary for continuous operation are in full force and effect (save that where the relevant Project Authorisation cannot be obtained due to administrative delay by the Competent Authority, a trial or temporary Project Authorisation shall be sufficient for the purposes of this paragraph to the extent such trial or temporary Project Authorisation is acceptable under applicable laws and regulations for the operation of the Project).

h) The water supply system is complete to the extent that the water requirements of the Project can be continued to be adequately met (taking into account any mitigating or action plans proposed by the Borrower to the satisfaction of the Independent Technical Consultant).

Part 2 - Operational Completion Test

Compliance of the Project with the Operational Completion Test means that the following criteria have been met to the satisfaction of the Independent Technical Consultant provided that:

A. The criteria for **Scenario 1** shall apply only if on (i) the first day of, (ii) the last day of, and (iii) every day throughout, the Completion Test Period (as defined in Scenario 1, paragraph (a) below), the Loans outstanding under the Facility are less than or equal to $150,000,000;

B. The criteria for **Scenario 2** shall apply in all other situations; and

C. If at any time during the Completion Test Period (as defined in Scenario 1, paragraph (a) below) the Loans outstanding under the Facility exceed $150,000,000, then Scenario 2 shall apply. The Borrower may elect (i) to continue the current Scenario 1 Completion Test Period then in effect, which shall be extended to 90 consecutive days in accordance with, and results

will be tested against the thresholds of, Scenario 2, or (ii) to recommence the Completion Test Period in accordance with Scenario 2.

a) **Scenario 1:** during any period of 45 consecutive days (the Completion Test Period), the following operational results have been achieved:

   i. Milled Gold Grade -

   Ore milling has been carried out in workplaces as set out in the processing schedule that forms the basis of the Financial Model. The gold grade in grams per tonne (g/t) of the ore stockpiled and hauled to the ROM and processed must be at least 82% of gold grade of ore in grams per tonne (g/t) projected to be milled over that period in the Financial Model. The calculation of this test will be performed using calculated mill feed grade, and the calibrated conveyor weightometer readings over the period.

   ii. Plant Throughput -

   A minimum of 180,000 dry tonnes of ore have been processed through the plant.

   iii. Gold Recovery -

   An average gold recovery rate of 80% has been achieved.

   iv. Operational Availability -

   Plant availability of 75% has been achieved.

b) **Scenario 2:** during any period of 90 consecutive days (the Completion Test Period), the following operational results have been achieved:

   i. Milled Gold Grade -

   Ore milling has been carried out in workplaces as set out in the processing schedule that forms the basis of the Financial Model. The gold grade in grams per tonne (g/t) of the ore stockpiled and hauled to the ROM and processed must be at least 95% of gold grade of ore in grams per tonne (g/t) projected to be milled over the same period in the Financial Model. The calculation of this test will be performed using calculated mill feed grade, and the calibrated conveyor weightometer readings over the period.

   ii. Plant Throughput -

   A minimum of 360,000 dry tonnes of ore have been processed through the plant.

   iii. Gold Recovery -

   An average gold recovery rate of 90% has been achieved.

   iv. Operational Availability -

   A plant availability of 75% has been achieved.

c) At the end of the relevant Completion Test Period, the Independent Technical Consultant is satisfied that there is no material technical factor or environmental issue regarding the Project which is likely to prevent it continuing to operate as set out in the Financial Model.

All Project Authorisations applicable to all of the operations of the Project (as required under paragraph (g) of Part 1 above) are in place and have been adhered to in all material respects

during the applicable Completion Test Period to the extent required by clause 25.7 (*Project Authorisations*) of the Facility Agreement

e) All Environmental and Social Standards applicable to all of the operations of the Project are in place and have been adhered to during the applicable Completion Test Period to the extent required by clause 25.11 (*Environmental and Social Matters*) of the Facility Agreement.

Part 3 - Financial Completion Test

Compliance of the Project with the Financial Completion Test means that the following criteria have been met to the satisfaction of the Independent Technical Consultant.

a) Gold Poured and Operating Costs

As determined from the monthly management accounts supplied,

(i) Actual poured gold from the Project during the relevant Completion Test Period is to be no less than:

if Scenario 1 (above) applies: 80% of forecast gold to be poured from the Project for the corresponding period in the Financial Model;

if Scenario 2 (above) applies: 90% of forecast gold to be poured from the Project for the corresponding period in the Financial Model; and

(ii) Actual average unit mining and processing cost on a per gold ounce produced basis for the Project during the relevant Completion Test Period was no more than:

if Scenario 1 (above) applies: 130% of forecast average unit processing cost (including rehandling) for the corresponding period in the Financial Model.

if Scenario 2 (above) applies: 110% of forecast average unit processing cost (including rehandling) for the corresponding period in the Financial Model.

b) Financial Ratios

(i) The Borrower is in compliance with clauses 22.1 and 22.2 (*Financial and reserve undertakings*) of the Facility Agreement;

(ii) The Debt Service Reserve Account has been funded with the amount equal to the DSRA Minimum Balance for the purposes of Financial Completion Test; and

(iii) No Default or Event of Default has occurred and is continuing.

c) Insurances

The Independent Insurance Consultant is satisfied that the Borrower is in compliance with clause 25.19 and 25.20 (*Insurances*) of the Facility Agreement and has implemented all Insurances required by the Facility Agent in respect of the Project and the Borrower, as applicable.

Other

a) Accounts Payable

All construction and development payments and accounts are current and there are no material liens (or any other arrangements having a similar effect in any relevant jurisdiction) in place under the EPCM Contract, the BOO Contract or any other subcontracts except for Permitted Security Interests.

Schedule 12
Expert determination

1 Where clause 17 of the Facility Agreement provides for determination by an independent expert in relation the matters referred to in such clause, neither Party shall be entitled to refer such dispute to the English courts unless such dispute has first been referred for determination in accordance with this Schedule 12.

2 The procedure for the appointment of an independent expert (the **Expert**) by the Technical Agent and the Borrower (the **Parties**) shall be as follows:

(a) the Party wishing to appoint or to refer a matter to an Expert shall give notice to that effect to the other Party and, with such notice, shall give details of the reason for the appointment of, and the matter to be referred to, the Expert;

(b) the Parties shall meet and endeavour to agree upon a person to be the Expert;

(c) if, within five (5) Business Days from the date of the notice under paragraph 2(a), the Parties have failed to agree upon an Expert, the matter shall be referred by the Party wishing the appointment to be made to the President for the time being of the Institute of Materials, Minerals and Mining (the **Appointor**), who shall be requested to make the appointment of the Expert (based on the Appointor's sole assessment of the type of dispute based on the issues of contention, the subject matter of the dispute, and the provisions of paragraph 3 below) within five (5) Business Days and, in so doing, may take such independent advice as he thinks fit;

(d) upon a person being appointed as Expert under the foregoing provisions, the Parties forthwith shall notify such person of his selection and shall request him to confirm within three (3) Business Days whether or not he is willing and able to accept the appointment;

(e) if such person is either unwilling or unable to accept such appointment, or has not confirmed his willingness and ability to accept such appointment within the said period of three (3) Business Days, then (unless the Parties are able to agree upon the appointment of another Expert) the matter shall be referred (by either Party) to the Appointor who shall be requested to make a further appointment and the process shall be repeated until a person is found who accepts the appointment as Expert; and

(f) if there is any dispute between the Parties as to the remuneration to be offered to the Expert, then such amount shall be determined by the Appointor whose decision shall be final and binding on the Parties.

3 A person shall not be appointed as the Expert:

(a) unless he is qualified by education, experience and training to determine the matter in dispute;

(b) if he has an interest or duty which would materially conflict with his role (including being a director, officer, employee or consultant to a Party or to any Affiliate of a Party); or

(c) if he is a national of the jurisdiction of the Borrower.

4 The following procedures shall apply where an Expert's determination is sought:

(a) not later than five (5) Business Days after the Expert has confirmed to the Parties acceptance of his appointment, the Party which referred the matter for a determination by an independent expert (the **Referring Party**) shall supply to the Expert submissions containing reasonable details to support its case. Not later than five (5) Business Days after receipt of the Referring Party's submission, the other Party shall supply to the Expert submissions containing reasonable details to support its case. Each Party shall promptly provide the Expert with such other information as the Expert may request;

(b) if any Party fails to provide any submission or information within the required time period, the Expert shall nevertheless be entitled to make his determination on the basis of such information as may be available to him;

(c) the Expert shall (subject to paragraph (e) below) make his decision as soon as reasonably practicable after receiving data, information and submissions supplied and made to him by the Parties, but in any event shall do so no later than ten (10) Business Days following the deadline for submissions referred to in paragraph 4(a) above, or five
(5) Business Days after receiving the last of the information requested by him if any such additional information is requested (or such longer period as may be agreed by the Parties);

(d) the Expert shall ignore any data, information or submissions supplied and made after the ten (10) day period referred to in paragraph (c) above unless the data, information or submissions are furnished in response to a specific request from him;

(e) the Expert shall be entitled to obtain such independent professional and/or technical advice as he may reasonably require and to obtain any necessary secretarial assistance as is reasonably necessary; and

(f) the Expert's determination shall be limited to those matters which are referred to him for determination by the Parties in accordance with the Facility Agreement.

(g) the Expert shall consider all reasons and details provided to him and shall give full written reasons for his decision.

5 An Expert's decision rendered in accordance with paragraph 4 shall be final and binding on the Parties save in the case of manifest error or fraud.

6 All communications between the Parties and the Expert or the Appointor shall be made in writing and a copy thereof provided simultaneously to the other Party. No meeting between the Expert or the Appointor and the Parties or either of them, shall take place unless both Parties have a reasonable opportunity to attend any such meeting.

7 The Expert shall be deemed not to be an arbitrator but shall render its decision as an expert.

8 Each Party shall bear the costs of providing all data, information and submissions given by it, and the costs and expenses of all counsel, witnesses and employees retained by it, but (unless the Expert shall make any award of such costs and expenses which award, if made, shall be part of the Expert's decision) the cost and expenses of the Expert and any independent advisers to the Expert, and any costs of his appointment if it is appointed by the Appointor, shall be borne equally by the Parties. The Technical Agent shall be fully indemnified by the Lenders pursuant to clause 30.66 (*Lenders' indemnity to the Technical Agent*) of the Facility Agreement in relation to any costs incurred by it in relation to any determination by an Expert.

Schedule 13
Environmental and Social Deliverables

	Action	Deliverable	Timing
PS1: Assessment and Management of Environmental and Social Risks and Impacts			
1.	Revise 'Environmental Policy' to incorporate social objectives and principles, as part of an ' Environment and Social Sustainability Policy', which identifies responsible parties.	Submit overarching 'Environmental and Social Sustainability Policy' for review.	The earlier of Financial Close and 15 December 2016
2.	Provide documentation on the environmental and social management system(s) (ESMS).	Submit documentation on the ESMS for review.	The earlier of Financial Close and 15 December 2016
3.	Finalize the ESIA	Submit final ESIA	The earlier of Financial Close and 15 December 2016
4.	Consider risks/impacts with primary supply chain.	Submit documentation of primary supply chain risk evaluation.	The earlier of Financial Close and 15 December 2016
5.	Develop lists of existing and planned environmental and social management plans for construction, operation, and closure, and compile available plans. Note: it is understood that some of the plans will need to be updated and/or created in the future for the 'Sulfide Project'.	Submit lists of existing/planned environment and social management plans (SOPs, etc.) covering construction, operation, and closure and also provide copies of available plans for review. For future management plans provide date when they will be available for review.	The earlier of Financial Close and 15 December 2016
6.	Develop/compile 'Action plans' which may be incorporated in Management Plans.	Submit 'Action Plans' for review.	The earlier of Financial Close and 15 December 2016
7.	Compile information on the environmental, social and health & safety organization structure, roles, responsibilities, and authority.	Submit information for review. It is understood this may be a component of the ESMS.	The earlier of Financial Close and 15 December 2016
8.	Establish procedures to monitor and measure the effectiveness of the management program; and compliance with legal, contractual, and regulatory requirements.	Provide updated documentation of monitoring and review procedures for environmental and social programs. It is understood this may be a component of the ESMS.	The earlier of Financial Close and 15 December 2016

	Action	Deliverable	Timing
9.	Conduct inspections/audits and provide senior management with periodic performance reviews of ESMS.	Provide management plan stipulating periodicity of inspections/audits and performance reviews. It is understood this may be a component of the ESMS.	The earlier of Financial Close and 15 December 2016
PS2: Labor and Labor Conditions			
10.	If retrenchment is anticipated, workers should be consulted, a plan should be developed, and dismissals should be non-discriminatory.	Provide updated ' Mine Closure and Reclamation Plan' and retrenchment plan when available.	Provide date for Mine Closure and Reclamation Plan.
11.	Implement policies and plans to ensure child labor requirements are followed - including consideration of contractors and the supply chain.	Provide materials related to procedures for ensuring that forced labor and child labor are enforced	The earlier of Financial Close and 15 December 2016
12.	Develop/implement worker training program.	Provide worker training plan and documentation.	The earlier of Financial Close and 15 December 2016
13.	Provide a safe and health work environment.	Provide 'Çöpler Occupational H&S Plan', incorporating 'EHS General and Mining Guidelines'.	The earlier of Financial Close and 15 December 2016
14.	Ensure contractors and suppliers are in compliance with this 'Performance Standard', and requirements are included in contractual agreements.	Provide documentation of Çöpler requirements for contractors.	The earlier of Financial Close and 15 December 2016
PS3: Resource Efficiency and Pollution Prevention			
15.	Develop management plans, as appropriate, in accordance with EHS Guidelines and GIIP (e.g., for water, air, mine closure, noise/vibration, waste, hazardous materials, etc.)	Submit management plans or dates when management plans will be developed and available for review.	Prior to start of construction and/or operations.
16.	Energy efficiency: Prepare and implement an energy efficiency plan.	Submit a copy of the energy efficiency plan.	The earlier of Financial Close and 15 December 2016
17.	Conduct Greenhouse Gas (GHG) Alternative Analysis per Equator Principles 2 and develop an 'Emission Management Plan'.	Submit the GHG Alternatives Analysis and Emission Management Plan.	The earlier of Financial Close and 15 December 2016

	Actio n	Deliverable	Timing
18.	Mine Reclamation and Closure Plan (MRCP): Prepare a MRCP in accordance with the EHS Guidelines for Mining, to include consideration of post-closure land use, socioeconomic impacts, mitigation measures, monitoring, etc. Establish a form of financial guarantee for closure.	Submit MRCP and evidence of financial guarantee.	Prior to Start of Operations
19.	As applicable, implement pesticide and vector management plans.	Provide pesticide and vector management plans or address why they are not needed.	The earlier of Financial Close and 15 December 2016
PS4: Community Health, Safety and Security			
20.	Evaluate health and safety risks to 'Affected Communities' and established preventative and control measures per GIIP.	Provide 'Health Safety and Security Assessment' of affected communities, including potential community risks (including from various water and vector borne and communicable diseases) and associated avoidance/control measures.	The earlier of Financial Close and 15 December 2016
21.	As appropriate based on risk to communities - have recognized experts conduct structure (e.g., tailings dam) design reviews.	Provide risk evaluation for TSF and independent review arrangements as appropriate, and TSF Management/ Monitoring plans in accordance with GIIP and EHS Guidelines for Mining.	The earlier of Financial Close and 15 December 2016
22.	Identify and avoid or mitigate impacts to ecosystem services that mitigate potential natural hazards and/or prevent degradation of natural resources.	Provide management plans, as appropriate, addressing ecosystem services to avoid, mitigate, and/or monitor impacts.	The earlier of Financial Close and 15 December 2016
23.	Security Personnel: Assess risks posed by security arrangements within and outside project site; conduct background checks of security personnel; and incorporate PS4 requirements into security provider's contract.	Provide risk assessment documentation, background checks, and contracts for security providers.	The earlier of Financial Close and 15 December 2016
PS5: Land Acquisition and Involuntary Resettlement			
24.	Develop 'SIA and RAP Monitoring and Evaluation Report' so a more thorough consideration of PS 5 can be conducted.	Provide 'SIA and RAP Monitoring and Evaluation Report'.	The earlier of Financial Close and 15 December 2016

	Actio n	Deliverable	Timing
25.	Develop 'Land Acquisition, Compensation and Livelihood Restoration Plan for Affected Sabirli and Bahececik' in accordance with PS5 guidelines.	Provide RAP document on 'Land Acquisition, Compensation, and Livelihood Restoration for Sabirli & Bahcecik'.	The earlier of Financial Close and 15 December 2016
PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources			
26.	Integrate Biodiversity Action Plan (BAP) mitigation and monitoring recommendations into management and monitoring plans.	Provide biodiversity management and monitoring plans.	The earlier of Financial Close and 15 December 2016
PS8: Cultural Heritage			
27.	To evaluate compliance with PS 8, additional information on the cultural/ archeological investigations conducted, study findings, and mitigation measures employed is needed.	Provide cultural / archeological study, and management plan, as appropriate. Based on information, additional actions may be required.	The earlier of Financial Close and 15 December 2016
28.	Develop a 'Chance Find Procedure' for the Project based on the updated 'Cultural Heritage Plan'.	Submit updated 'Chance Find Procedure'.	Prior to construction commencing.

SIGNATURE PAGES

[Signature pages redacted.]

Exhibit 10.8

SSR MINING INC.

NON-EMPLOYEE DIRECTORS' DEFERRED SHARE UNIT PLAN

SSR MINING INC.

NON-EMPLOYEE DIRECTORS' DEFERRED SHARE UNIT PLAN

ARTICLE 1.
PURPOSE, INTERPRETATION AND ADMINISTRATION

1.1. Purpose

The Non-Employee Directors' Deferred Share Unit Plan of the Company (the "Plan") has been established:

(a) to promote a greater alignment of interests between directors of the Company and the shareholders of the Company;

(b) to provide a compensation mechanism for directors that appropriately reflects the responsibility, commitment and risk accompanying their service in such capacity;

(c) to assist the Company to attract and retain individuals with experience and ability to serve as directors; and

(d) to allow the directors to participate in the long-term success of the Company.

1.2. Definitions

As used in the Plan, the following terms have the following meanings:

(a) "**Annual DSU Amount**" means, in respect of an Eligible Director for a calendar year, the amount of compensation in respect of such Eligible Director's service as a director of the Company in such calendar year which the Committee has determined to defer into Deferred Share Units;

(b) "**Annual Results**" has the meaning ascribed to that term in Section 2.8;

(c) "**Annual Retainer Amount**" means, in respect of an Eligible Director for a calendar year, the aggregate of all annual retainer amounts (including, if applicable, annual retainers in respect of membership in and chairing any Committee of the Board) which, except for an election under Section 2.1, would be payable by the Company in cash to such Eligible Director in respect of such Eligible Director's service as a director of the Company in such calendar year (and, in respect of the 2008 calendar year, means the balance of such amounts payable to an Eligible Director from and after July 1, 2008).

(d) "**Applicable Withholding Taxes**" has the meaning ascribed to that term in Section 1.6;

(e) "**Beneficiary**" has the meaning ascribed to that term in Section 1.7;

(f) "**Board**" means the Board of Directors of the Company;

(g) "**Committee**" means the Compensation Committee of the Board, or such other committee or persons (including the Board) as may be designated from time to time by the Board to administer the Plan;

(h) "**Common Share**" means a common share of the Company;

(i) "**Company**" means SSR Mining Inc. and its successors and assigns;

(j) "**Deferred Share Unit**" means a right granted by the Company to an Eligible Director to receive, on a deferred payment basis, the cash equivalent of a Common Share on the terms set out herein;

(k) "**Director's Deferred Remuneration**" means, in respect of an Eligible Director for a calendar year, the aggregate of:

(i) the Annual DSU Amount for such Eligible Director for such calendar year; and

(ii) the portion (if any) of the Annual Retainer Amount for such Eligible Director for such calendar year which he or she has elected to defer into Deferred Share Units pursuant to Section 2.1;

(l) "**Dividend Equivalent**" means an amount in cash equivalent to the amount of any dividends paid in respect of a Common Share;

(m) "**Eligible Director**" means a director of the Company who is not an employee of the Company;

(n) "**Market Value**" means, with respect to a Common Share as at any date, the volume weighted average trading price of the Common Shares on the TSX (or any other stock exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) over the five trading days on which a board lot was traded immediately preceding such date, calculated by dividing the total value of all such trades by the total volume of Common Shares so traded, and with respect to a U.S. Director, to the extent required by Section 409A, Market Value means the greater of the volume weighted average trading price of the Common Shares on the TSX (or any other stock exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) over (i) the five trading days on which a board lot was traded immediately preceding such date, calculated as set forth above, or (ii) the single trading day immediately preceding such date; provided that, if the Common Shares are not listed and posted for trading on any stock exchange at the time such calculation is to be made, the Market Value per Common Share shall be the market value of a Common Share as determined by the Committee acting in good faith;

(o) "**Redemption Date**" has the meaning ascribed to that term in Section 2.8(a);

(p) "**Section 409A**" means Section 409A of the U.S. Internal Revenue Code of 1986, as amended, and the Treasury Regulations promulgated thereunder as in effect from time to time;

(q) "**TSX**" means the Toronto Stock Exchange; and

(r) "**U.S. Director**" means an Eligible Director who is a United States citizen or a United States resident as defined under United States tax law.

1.3. Singular and Plural

In the Plan, unless the context requires otherwise, words importing the singular number may be construed to extend to and include the plural number and words importing the plural number may be construed to extend to and include the singular number.

1.4. Effective Date

The Plan, as amended from time to time, shall be effective as of June 30, 2008.

1.5. Administration

The Committee shall, in its sole and absolute discretion, administer the Plan and establish, amend and rescind such rules and regulations, and make such interpretations and determinations and take such other actions, as it deems necessary or desirable for the administration of the Plan. Any interpretation and determination made, and other action taken, by the Committee shall be conclusive and binding on all parties concerned, including, without limitation, the Company and Eligible Directors and, if applicable, their Beneficiaries and legal representatives.

1.6. Taxes and Other Source Deductions

Notwithstanding any other provision of the Plan, the Company shall be authorized to, and shall, deduct from any amount to be paid or credited hereunder such amount of taxes and other amounts as it may be required to withhold pursuant to applicable law, in such manner as it considers appropriate (the "**Applicable Withholding Taxes**").

Each Eligible Director, any beneficiary or the Eligible Director's estate, as the case may be, is solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on or for the account of such Eligible Director in connection with the Plan (including any taxes and penalties under Section 409A or any applicable law), and neither the Company nor any affiliate shall have any obligation to indemnify or otherwise hold such Eligible Director or beneficiary or the Eligible Director's estate harmless from any or all of such taxes or penalties.

1.7. Appointment of Beneficiaries

Subject to the requirements of applicable law, an Eligible Director may designate in writing a beneficiary (a "**Beneficiary**") to receive any benefits that are payable under the Plan upon the death of such Eligible Director and, from time to time, change such designation in writing. Such designation or change shall be in such form, and executed and delivered in such manner, as the Committee may from time to time determine.

ARTICLE 2.
GRANTS AND REDEMPTIONS OF DEFERRED SHARE UNITS

2.1. Elections With Respect to Annual Cash Remuneration

Subject to such rules and regulations as the Committee may from time to time impose, an Eligible Director may elect to defer into Deferred Share Units any portion of his or her Annual Retainer Amount.

2.2. Method of Electing

To elect the deferral of any portion of his or her Annual Retainer Amount into Deferred Share Units as contemplated in Section 2.1, an Eligible Director shall complete and deliver to the Corporate Secretary of the Company a written election in the form attached as Schedule "A" hereto by no later than December 31 of the calendar year preceding the calendar year to which such Annual Retainer Amount relates (or June 30, 2008, in the case of amounts in respect of the 2008 calendar year payable from and after July 1, 2008). In the event that an Eligible Director does not duly complete and deliver such an election within the time prescribed for any calendar year, such Eligible Director shall be deemed not to have elected to defer any portion of the Annual Retainer Amount for such calendar year into Deferred Share Units. In respect of an Eligible Director appointed during a calendar year, such an Eligible Director shall complete and deliver to the Corporate Secretary of the Company a written election in the form attached as Schedule "A" hereto prior to his or her appointment as an Eligible Director.

An Eligible Director shall deliver no more than one election in respect of his or her Annual Retainer Amount for any calendar year and, once delivered to the Corporate Secretary of the Company in accordance with this Section 2.2, the election shall be irrevocable for such calendar year.

2.3. Deferral of Director's Deferred Remuneration

Subject to Section 3.7(b), Director's Deferred Remuneration shall be deferred into Deferred Share Units, as to 25% of the amount of such Director's Deferred Remuneration, on each of January 2, April 1, July 1 and October 1 of the calendar year to which such Director's Deferred Remuneration relates.

2.4. Deferred Share Units

The Deferred Share Units into which Director's Deferred Remuneration is deferred shall be credited to an account maintained by the Company for each Eligible Director. The number of Deferred Share Units (including fractional Deferred Share Units) to be credited to the account of an Eligible Director on each of the dates prescribed by Section 2.3 shall be determined by dividing the amount of Director's Deferred Remuneration for such Eligible Director to be deferred into Deferred Share Units on such date by the Market Value per Common Share on such date.

2.5. Dividends

When dividends are declared on Common Shares, an Eligible Director shall be entitled to receive Dividend Equivalents in respect of the Deferred Share Units credited to such Eligible Director's account as of the record date for the payment of such dividends. Upon the payment of such dividends, the Dividend Equivalents to which an Eligible Director is entitled shall be converted into additional Deferred Share Units (including fractional Deferred Share Units) based on the Market Value per Common Share on the record date and credited to the account of the Eligible Director.

2.6. No Certificates

No certificates shall be issued with respect to Deferred Share Units. All records relating to the Deferred Share Units shall be maintained in the Company's electronic compensation plan system.

2.7. Reorganizations and Other Transactions

In the event of any stock dividend, stock split, combination or exchange of shares, merger, amalgamation, arrangement or other scheme of reorganization, spin-off or other distribution of the Company's assets to shareholders (other than the payment of cash dividends in the ordinary course), or any other change in the capital of the Company affecting Common Shares, such adjustments, if any, as the Committee in its discretion may deem appropriate to preserve proportionately the interests of Eligible Directors under the Plan as a result of such change shall be made with respect to the number of Deferred Share Units outstanding under the Plan. In the event that the Company is not the surviving entity of a merger, amalgamation or arrangement with or involving another company, or in the event of a liquidation or reorganization and in the absence of any surviving company's assumption of outstanding awards made under the Plan, the Committee may provide for the settlement of Deferred Share Units in such manner as it deems appropriate in the circumstances to preserve proportionately the interests of Eligible Directors under the Plan.

2.8 Redemption of Deferred Share Units

(a) Subject to Section 3.7(b), 50% of an Eligible Director's DSUs will be automatically redeemed on each of the date that is: (i) three (3) months following the date the Eligible Director retires from the Board or ceases to be a director of the Company for whatever reason, including without limitation the death of the director, the removal of the director or the failure to elect the director to the Board; and (ii) the earlier of the date that is (A) fifteen (15) months following and (B) December 31 of the calendar year following the date the Eligible Director retires from the Board or ceases to be a director of the Company for whatever reason (each, a "**Redemption Date**"). The Market Value of the DSUs redeemed, determined as at the Redemption Date, subject to Section 3.7(b), shall be paid by the Company to the Eligible Director or his or her estate in the form of a lump sum cash payment, less any applicable taxes and other source deductions required to be withheld by the Company.

(b) In the event that, at the Eligible Director's Redemption Date, there is no public market for the Common Shares, the obligations of the Company under this Plan shall be met by a payment in cash in such amount as is reasonably determined by the Committee to be equitable in the circumstances based on the fair market value of the Common Shares at the time of payment, less applicable withholdings, such determination to be final and binding for all purposes.

(c) In the event that the Eligible Director's Redemption Date would otherwise fall between the record date for a dividend on the Common Shares and the related dividend payment date then, notwithstanding the foregoing provisions, such Eligible Director's Redemption Date shall, subject to Section 2.8(d), be the day immediately following the date of payment of such dividend for purposes of calculating the value of the Eligible Director's Deferred Share Units and recording amounts to be credited to the Eligible Director's account.

(d) In any event and notwithstanding any other provision of this Plan, all amounts payable to, or in respect of, an Eligible Director hereunder shall be paid on or before December 31 of the year commencing immediately following the year in which the Eligible Director ceases to be a director.

ARTICLE 3.
GENERAL

3.1. Adjustments

Notwithstanding any other provision of the Plan, the Committee may make or allow any such additional deferrals into Deferred Share Units, and any such adjustments to deferrals into Deferred Share Units (including by the cancellation of credits of Deferred Share Units), as it considers appropriate, in its sole and absolute discretion, including, without limitation, in connection with compensation for Eligible Directors in respect of the calendar year during which they become Eligible Directors and the calendar year in which they cease to be Eligible Directors.

3.2. Transferability of Awards

Rights with respect to Deferred Share Units shall not be transferable or assignable other than by will or the laws of descent and distribution.

3.3. Unfunded Plan

The Plan is an unfunded obligation of the Company. Neither the establishment of the Plan nor the grant of Deferred Share Units (or any action taken in connection therewith) shall be deemed to create a trust. To the extent any individual holds any rights by virtue of a grant of Deferred Share Units under the Plan, such rights shall be no greater than the rights of an unsecured creditor of the Company.

3.4. Successors and Assigns

The Plan shall be binding on the Company and on Eligible Directors and, if applicable, their Beneficiaries and legal representatives.

3.5. Section 409A

(a) It is intended that the provisions of the Plan comply with Section 409A, and all provisions of this Plan shall be construed and interpreted in a manner consistent with the requirements for avoiding taxes or penalties under Section 409A. Except as permitted under Section 409A, any deferred compensation (within the meaning of Section 409A) payable to or for the benefit of a U.S. Director may not be reduced by, or offset against, any amount owing by the U.S. Director to the Company or any of its affiliates. Notwithstanding anything in the Plan to the contrary, if a U.S. Director becomes entitled to receive payment in respect of any Deferred Share Units as a result of his or her "separation from service" (within the meaning of Section 409A), and the U.S. Director is a "specified employee" (within the meaning of Section 409A) at the time of his or her separation from service, and the Committee makes a good faith determination that (i) all or a portion of the Deferred Share Units constitute "deferred compensation" (within the meaning of Section 409A) and (ii) any such deferred compensation that would otherwise be payable during the six-month period following such separation from service is required to be delayed pursuant to the six-month delay rule set forth in Section 409A in order to avoid taxes or penalties under Section 409A, then payment of such "deferred compensation" shall not be made to the U.S. Director before the date which is six months after the date of his or her separation from service (and shall be paid in a single lump sum on the first day of the seventh month following the date of such separation from service) or, if earlier, the U.S. Director's date of

death; in such event, the lump sum payment will be equal to the number of Deferred Share Units credited to the U.S. Director's account multiplied by the Market Value per Common Share as of the expiration of such six-month period or the date of death.

(b) Notwithstanding any provision of the Plan to the contrary, in the event that the Committee determines that any amounts payable hereunder will be taxable to a U.S. Director under Section 409A prior to payment to such U.S. Director of such amount, the Company may (i) adopt such amendments to the Plan and Deferred Share Units and appropriate policies and procedures, including amendments and policies with retroactive effect, that the Committee determines necessary or appropriate to preserve the intended tax treatment of the benefits provided by the Plan and Deferred Share Units hereunder and/or (ii) take such other actions as the Committee determines necessary or appropriate to avoid or limit the imposition of an additional tax under Section 409A.

3.6. Plan Amendment

The Company may, without notice, at any time and from time to time, amend the Plan or any provisions thereof (prospectively or retrospectively) in such manner as the Company, in its sole discretion, determines appropriate.

3.7. Laws, Regulatory Requirements and Company Policies

(a) The terms of the Plan are subject to any laws and governmental and regulatory requirements (including stock exchange rules), approvals and consents, and the provisions of any applicable policies of the Company that may be or become applicable.

(b) Without limiting the generality of the foregoing, in the event that a blackout period pursuant to applicable securities laws or notice from or any policy of the Company is in effect on the relevant date, the crediting of Deferred Share Units to the accounts of Eligible Directors and/or the redemption of Deferred Share Units shall be deferred to the 10th business day after the date on which such blackout period ends and the applicable Market Value shall be calculated as of such date.

3.8. No Rights as a Shareholder

No Eligible Director has or is entitled to obtain, as a result of any entitlement to Deferred Share Units hereunder, any entitlement to Common Shares or any voting rights, rights to receive any distribution or any other rights as a shareholder of the Company.

3.9. Plan Termination or Suspension

The Board may terminate or suspend the operation of the Plan at any time, but no such termination or suspension shall adversely affect the Deferred Share Units granted to an Eligible Director prior to such termination or suspension without the consent of such Eligible Director.

3.10. Governing Law

The Plan shall be governed by and construed in accordance with the laws of the Province of British Columbia and the federal laws of Canada applicable therein.

SCHEDULE "A"

SSR MINING INC.
NON-EMPLOYEE DIRECTORS' DEFERRED SHARE UNIT PLAN

THIS ELECTION FORM MUST BE DELIVERED TO THE CORPORATE SECRETARY OF SSR MINING INC. (THE "COMPANY") WITHIN THE TIME PERIOD PRESCRIBED BY THE COMPANY'S NON-EMPLOYEE DIRECTORS' DEFERRED SHARE UNIT PLAN (THE "PLAN").

ELECTION FORM

Capitalized terms used herein but not defined shall have the meanings ascribed to them under the Plan.

The undersigned hereby acknowledges that:

1. He or she has received and reviewed a copy of the Plan and is bound by it.

2. The value of a Deferred Share Unit is based on the trading price of a Common Share and is therefore not guaranteed. The value of a Deferred Share Unit at the time it is redeemed may be higher or lower than the value of the Deferred Share Unit at the time it was credited to his or her account under the Plan.

3. It is intended that he or she will be liable for income tax when Deferred Share Units (including Dividend Equivalents converted to Deferred Share Units) are redeemed in accordance with the terms of the Plan. Payments under the Plan will be net of Applicable Withholding Taxes. The undersigned acknowledges that the Company is making no representation to him or her regarding the tax consequences to him or her of participating in the Plan and that he or she has been advised by the Company to confirm such tax consequences with his or her own tax advisor.

4. No funds will be set aside by the Company to guarantee any payments to be made in respect of Deferred Share Units. Future payments under the Plan are an unfunded obligation of the Company. Rights arising under the Plan by virtue of the grant of Deferred Share Units shall be no greater than the rights of an unsecured creditor.

The undersigned hereby irrevocably elects to receive his or her Annual Retainer Amount for the calendar year _____ as follows:

A. $ _____ to be deferred into Deferred Share Units; and

B. $ _____ in cash.

(The total amount of A and B must equal the Annual Retainer Amount.)

_____
Signature of Eligible Director

_____
Name of Eligible Director (please print)

_____
Date

Exhibit 10.9

SSR MINING INC.
(the "**Company**")

SSR MINING INC. 2020 SHARE COMPENSATION PLAN
(as approved by the directors of the Company on the 18th day of March, 2020 and confirmed by the shareholders of the Company on the 14th day of May, 2020)

Article 1.
PURPOSE OF THIS PLAN

This Plan is intended to advance the interests of the Company and its shareholders by attracting, retaining and motivating the performance of selected Eligible Persons of high caliber and potential upon whose judgement, initiative and effort the Company is largely dependent for the successful conduct of its business, and to encourage and enable such Eligible Persons to acquire and retain an equity interest in the Company.

Article 2.
DEFINITIONS

2.1 Definitions. In this Plan, unless there is something in the subject matter or context inconsistent therewith, capitalized words and terms have the following meanings:

(a) "**2017 Plan**" means the Company's 2017 Share Compensation Plan, as approved by the directors of the Company on the 22nd day of March, 2017 and confirmed by the shareholders of the Company on the 4th day of May, 2017 and amended by the directors of the Company on the 15th day of December, 2017;

(b) "**Administrator**" means the Corporate Secretary of the Company or such other director or other senior officer or employee of the Company as may be designated as Administrator by the Board from time to time;

(c) "**Affiliate**" has the meaning ascribed thereto in the *Business Corporations Act* (British Columbia);

(d) "**Aggregate Plans**" means this Plan and all of the Company's other security based compensation arrangements that provide for the issuance from treasury or potential issuance by the Company out of its authorized and unissued Common Shares, including, for the avoidance of doubt, the 2017 Plan;

(e) "**Applicable Options**" has the meaning ascribed thereto in Section 11.3(a)(i);

(f) "**Applicable Restricted Share Units**" has the meaning ascribed thereto in Section 11.3(b)(i);

(g) "**Award**" means any Option, Restricted Share Unit or Performance Share Unit granted under this Plan;

(h) "**Blackout Period**" means an interval of time during which the Company has determined that one or more Participants may not trade securities of the Company because they may be in possession of undisclosed material information pertaining to the Company;

(i) "**Board**" means the board of directors of the Company, as constituted from time to time;

(j) "**Business Combination**" has the meaning ascribed thereto in Section 2.1(n);

(k) "**Business Day**" means a day other than a Saturday, Sunday or other day on which commercial banks in Vancouver, British Columbia are authorized or required by law to close;

(l) "**Cashless Exercise Sale Price**" means the volume weighted average sale price received by the Company upon the sale of Common Shares to cover the Exercise Price of Options that are being exercised pursuant to Section 8.5;

(m) "**Cause**" means "Cause", or an analogous term, as defined in the employment, engagement or consulting agreement, if any, between the relevant Participant and the Company or a Related Entity of the Company and, if there is no such definition or agreement, means any of the following:

(i) a breach by the Participant of a material term of the applicable employment, engagement or consulting agreement (if any);

(ii) the repeated and demonstrated failure by the Participant to perform the material duties of his position in a competent manner;

(iii) the conviction of the Participant for a criminal offence involving fraud or dishonesty, or which otherwise adversely impacts the reputation of the Company or a Related Entity of the Company;

(iv) failure of the Participant to act honestly or in the best interest of the Company or a Related Entity of the Company;

(v) failure of the Participant to comply with any Company rules or policies of a material nature;

(vi) failure of the Participant to obey reasonable instructions provided by him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Company or a Related Entity of the Company; or

(vii) any actions or omissions on the part of the Participant constituting gross misconduct or negligence resulting in a risk of material harm to the Company or a Related Entity of the Company;

(n) "**Change of Control**" means, except as otherwise provided herein with respect to Awards to U.S. Participants, the occurrence of one or more of the following events:

(i) individuals who, as of the Effective Date, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of the Board, provided that any person becoming a director after the Effective Date and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board,

including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

(ii) any change in the holding, direct or indirect, of shares in the capital of the Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holder thereof to cast more than 50% of the voting rights attaching to all shares of the Company which may be cast to elect directors of the Company (the "**Company Voting Securities**"), provided, however, that the events described in this paragraph (ii) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

A. by the Company or a subsidiary;

B. by any employee benefit plan sponsored or maintained by the Company or any subsidiary;

C. by any underwriter temporarily holding securities pursuant to an offering of such securities;

D. pursuant to a Non-Qualifying Transaction (as defined below); or

E. from the Company pursuant to a transaction (other than one described in (iii) below), if a majority of the Incumbent Directors approve a resolution providing expressly that the acquisition pursuant to this clause shall not constitute a Change of Control;

(iii) the consummation of a merger, consolidation, share exchange or similar form of corporate transaction involving the Company or any of its subsidiaries (a "**Business Combination**"), unless immediately following such Business Combination:

A. Company Voting Securities that were outstanding immediately prior to the consummation of such Business Combination (or, if applicable, securities into or for which such Company Voting Securities were converted or exchanged pursuant to such Business Combination) represent more than 50% of the combined voting power of the then outstanding securities eligible to vote for the election of directors or trustees ("**voting power**") of (1) the entity resulting from such Business Combination (the "**Surviving Entity**"), or (2) if applicable, the ultimate parent entity that directly or indirectly has beneficial ownership of 100% of the voting securities eligible to elect directors of the Surviving Entity (the "**Parent Entity**");

B. no person (other than any employee benefit plan sponsored or maintained by the Surviving Entity or the Parent Entity) is the beneficial owner, directly or indirectly, of 50% or more of the voting power of the Parent Entity (or, if there is no Parent Entity, the Surviving Entity); and

C. at least a majority of the members of the board of directors of the Parent Entity (or, if there is no Parent Entity, the Surviving Entity) were Incumbent Directors at the time of the Board's approval of the execution of the initial agreement providing for such Business Combination;

(any Business Combination which satisfies all of the criteria specified in (A), (B) and (C) above shall be deemed to be a "**Non-Qualifying Transaction**");

(iv) the approval by the Board or shareholders of the Company of a complete liquidation or dissolution of the Company;

(v) a sale or other disposition of all or substantially all of the property or assets of the Company, other than to an Affiliate or pursuant to a Non-Qualifying Transaction; or

(vi) any determination by the majority of Incumbent Directors of the Company that a Change of Control has occurred.

(o) "**Closing Price**" of Common Shares at any relevant date means the closing trading price of the Common Shares on the TSX (or any other Stock Exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) on the last Trading Day immediately preceding such date; provided that, if the Common Shares are not listed and posted for trading on any Stock Exchange at the time such calculation is to be made, the "Closing Price" shall be the market price of a Common Share as determined by the Board in good faith;

(p) "**Code**" means the U.S. Internal Revenue Code of 1986, as amended;

(q) "**Committee**" means the Compensation Committee of the Board, or such other committee or Persons (including, in the absence of a committee, the Board) as may be designated from time to time to administer this Plan;

(r) "**Common Shares**" means the common shares without par value in the capital of the Company as constituted on the Effective Date, provided that if the rights of any Participant are subsequently adjusted pursuant to Article 14 hereof, "**Common Shares**" thereafter means the shares or other securities or property which such Participant is entitled to purchase or receive, pursuant to this Plan, after giving effect to such adjustment;

(s) "**Company**" means SSR Mining Inc. and includes any successor company thereto;

(t) "**Company Voting Securities**" has the meaning ascribed thereto in Section 2.1(n);

(u) "**Control**" has the meaning ascribed thereto in Section 2.23 of National Instrument 45-106 – *Prospectus Exemptions*;

(v) "**Disability**" means, in the case of a Participant who is a member of a long-term disability plan of the Company or an Affiliate of the Company, the Participant's physical or mental long-term inability to substantially fulfill his duties and responsibilities on behalf of the Company or, if applicable, an Affiliate of the Company in respect of which the Participant commences receiving, or is eligible to receive, long-term disability benefits under such long-term disability plan of the

Company or an Affiliate of the Company and, in the case of a Participant who is not a member of a long-term disability plan of the Company or an Affiliate of the Company, a physical or mental impairment that prevents the Participant from engaging in any employment for which the Participant is reasonably suited by virtue of the Participant's education, training or experience and that can reasonably be expected to last for the remainder of the Participant's lifetime, as determined by the Board. Notwithstanding the foregoing, for U.S. Participants Disability has the meaning ascribed to it under Section 409A of the Code and applicable regulations.

(w) "**Effective Date**" has the meaning ascribed thereto in Section 4.1;

(x) "**Elected Redemption Date**" means the date elected by a Participant, who is not a U.S. Participant, pursuant to Section 9.12(a) or, as applicable, the date elected by a U.S. Participant pursuant to Section 9.12(b);

(y) "**Election Contest**" has the meaning ascribed thereto in Section 2.1(n);

(z) "**Eligible Person**" means an Employee or a Service Provider of the Company or a Related Entity of the Company;

(aa) "**Employee**" means an individual who is considered an employee under the *Income Tax Act* (Canada) or any equivalent legislation in a jurisdiction in which the Company operates (i.e. for whom income tax, employment insurance and CPP deductions must be made at source);

(ab) "**Exercise Price**" means the price per Common Share at which a Participant may purchase Common Shares pursuant to an Option, provided that if such price is adjusted pursuant to Section 14.1, "Exercise Price" thereafter means the price per Common Share at which such Participant may purchase Common Shares pursuant to such Option after giving effect to such adjustment;

(ac) "**Expiry Date**" the date on which an Award expires;

(ad) "**Good Reason**" means "Good Reason", or an analogous term, as defined in the employment, engagement or consulting agreement, if any, between the relevant Participant and the Company or an Affiliate of the Company and, if there is no such definition or agreement, "Good Reason" will arise within twelve (12) months following a Change of Control where the Participant was induced by the actions of the employer to resign or terminate their employment or engagement other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Participant's written consent, such resignation to be effective only if the Participant has provided written notice of such occurrence to the employer immediately upon occurrence of such an event and the employer has not corrected such occurrence within a thirty (30) day period:

(i) a materially adverse change in the Participant's position, duties or responsibilities,

(ii) a materially adverse change in the Participant's reporting relationship that is inconsistent with the Participant's title or position,

(iii) a reduction by the employer of the base salary of the Participant,

(iv) a material reduction by the employer in the aggregate level of health & welfare benefits made available to the Participant, or

(v) the permanent relocation by the employer of the Participant's principal office by more than eighty (80) kilometers from the location where the Participant worked when the Change of Control occurred;

(ae) "**Incumbent Director**" has the meaning ascribed thereto in Section 2.1(n);

(af) "**Insider**" has the meaning ascribed thereto in the TSX Company Manual;

(ag) "**Legal Representative**" has the meaning ascribed thereto in Section 8.4;

(ah) "**Market Price**" of Common Shares at any relevant date means the volume weighted average trading price of the Common Shares on the TSX (or any other Stock Exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) over the thirty Trading Days on which a board lot of Common Shares was traded immediately preceding such date, calculated by dividing the total value of all such trades by the total volume of Common Shares so traded; provided that, if the Common Shares are not listed and posted for trading on any Stock Exchange at the time such calculation is to be made, the "Market Price" shall be the market price of a Common Share as determined by the Board in good faith. For the purpose of Section 8.1 only, the Market Price shall be calculated using the five Trading Days on which a board lot of Common Shares was traded immediately preceding such date rather than thirty Trading Days;

(ai) "**Non-Qualifying Transaction**" has the meaning ascribed thereto in Section 2.1(n);

(aj) "**Notice of Exercise**" has the meaning ascribed thereto in Section 8.4;

(ak) "**Offer**" means a bona fide arm's length offer made to all holders of voting shares in the capital of the Company to purchase, directly or indirectly, voting shares in the capital of the Company;

(al) "**Option Expiry Date**" has the meaning ascribed thereto in Section 8.2;

(am) "**Options**" means stock options granted hereunder to purchase authorized but unissued Common Shares from the Company pursuant to the terms and conditions hereof, as evidenced by a notice of award, and "Option" means any one of them;

(an) "**Outstanding Common Shares**" at the time of any issuance of Common Shares or the grant of an Award, means the number of Common Shares that are outstanding immediately prior to the share issuance or grant of Awards in question, on a non-diluted basis, or such other number as may be determined under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange;

(ao) "**Parent Entity**" has the meaning ascribed thereto in Section 2.1(n);

(ap) "**Participant**" means an Eligible Person to whom an Award has been granted under this Plan;

(aq) "**Performance Percentage**" has the meaning ascribed thereto in Section 9.6;

(ar) "**Performance Period**" means a period, as determined by the Board in accordance with Section 9.3, in respect of which a Participant may be or become entitled to receive any amount payable in respect of Performance Share Units;

(as) "**Performance Share Unit**" means an unfunded and unsecured right granted to a Participant to receive, upon the satisfaction of certain criteria, a Common Share or payment in accordance with the provisions of this Plan and includes any dividend equivalent Performance Share Units awarded to a Participant in respect of such Performance Share Units;

(at) "**Person**" means and includes any individual, corporation, limited partnership, general partnership, joint stock company, limited liability corporation, unlimited liability company, joint venture, association, company, trust, bank, trust company, pension fund, business trust or other organization, whether or not a legal entity;

(au) "**Plan**" means this SSR Mining Inc. 2020 Share Compensation Plan, including all Schedules hereto, as the same may from time to time be supplemented or amended and in effect;

(av) "**Prior Grants**" has the meaning ascribed thereto in Section 16.8;

(aw) "**Redemption Date**" means the date on which a Share Unit is redeemed;

(ax) "**Redemption Notice**" means a notice, submitted to the Company through its electronic compensation plan system or in such other form designated by the Company, pursuant to which the Participant may elect to redeem Vested Share Units and select the percentage of such redeemed Share Units that are to be redeemed for Common Shares issued from treasury;

(ay) "**Regulatory Authority**" means a Stock Exchange and all securities commissions or similar securities regulatory authorities having jurisdiction over the Company;

(az) "**Related Entity**" means an Affiliate or a "subsidiary" of the Company as defined in the *Business Corporations Act* (British Columbia);

(ba) "**Restricted Share Unit**" means an unfunded and unsecured right granted to a Participant to receive one or more Common Shares or payments in accordance with the provisions of this Plan and includes any dividend equivalent Restricted Share Units awarded to a Participant in respect of such Restricted Share Units;

(bb) "**Retires**" or "**Retirement**" means the resignation of an Eligible Person which the Board, in its sole discretion, determines to treat as a retirement, including subject to any conditions imposed by the Board;

(bc) "**Securities Act**" means the *Securities Act* (British Columbia), as amended from time to time;

(bd) "**Separation from Service**" means separation from service as such term is defined under Section 409A of the Code;

(be) "**Service Provider**", as set out in section 613 of the TSX Company Manual, means a person or company engaged by the Company to provide services for an initial, renewable or extended period of twelve months or more and, for greater certainty, does not include an Employee;

(bf) "**Share Unit Account**" has the meaning ascribed thereto in Section 9.8;

(bg) "**Share Units**" means Performance Share Units and Restricted Share Units, as applicable, and "**Share Unit**" means any one of them;

(bh) "**Share Unit Expiry Date**" has the meaning ascribed thereto in Section 9.11;

(bi) "**Stock Exchange**" means the TSX and the NASDAQ Stock Market, and any other stock exchange on which the Common Shares are listed or posted for trading;

(bj) "**Surviving Entity**" has the meaning ascribed thereto in Section 2.1(n);

(bk) "**Target Milestones**" means performance targets determined pursuant to Section 9.4;

(bl) "**Termination Date**" means:

(i) in the case of a Participant who is not a U.S. Participant, the Participant's last day of active employment with the Company or a Related Entity of the Company or last active day as a Service Provider with the Company or a Related Entity, provided that, if such day is not a Trading Day, the Termination Date shall be the Trading Day immediately preceding such day, notwithstanding Section 3.1(f); and

(ii) in the case of a U.S. Participant, the date on which the U.S. Participant experiences a Separation from Service.

For greater certainty, the determination of the Termination Date of a Participant shall not include any period of statutory, contractual or reasonable notice of termination of employment or any period of salary continuance or deemed employment;

(bm) "**Trading Day**" means any date on which the Stock Exchange is open for the trading of Common Shares and on which at least a board lot of Common Shares is traded, provided that, if the Common Shares are listed on more than one Stock Exchange, "**Trading Day**" means any date on which the Stock Exchange on which the majority of the Company's trading occurs is open for the trading of Common Shares and on which at least a board lot of Common Shares is traded;

(bn) "**TSX**" means the Toronto Stock Exchange;

(bo) "**U.S. Participant**" means an Eligible Person who is a U.S. citizen or a U.S. resident, in each case as defined in Section 7701(a)(3)(A) and Section 7701(b)(1)(A) of the Code;

(bp) "**Vested Performance Share Units**" has the meaning ascribed thereto in Section 9.7;

(bq) "**Vested Restricted Share Units**" has the meaning ascribed thereto in Section 9.1;

(br) "**Vested Share Units**" means Vested Performance Share Units and Vested Restricted Share Units, as applicable, and "Vested Share Unit" means any one of them;

(bs) "**Vesting Date**" means:

(i) each date on which Options granted to a Participant vest as determined by the Board, in its sole discretion, in accordance with Section 8.3;

(ii) for Performance Share Units granted to a Participant, the date on which the Performance Period ends; and

(iii) each date on which Restricted Share Units granted to a Participant vest as determined by the Board, in its sole discretion, in connection with such grant; and

(bt) "**voting power**" has the meaning ascribed thereto in Section 2.1(n).

Article 3.
INTERPRETATION

3.1 Interpretation. In this Plan, except as otherwise expressly provided:

(a) any reference in this Plan to a designated "Article", "Section" or other subdivision or Schedule is a reference to the designated Article, Section or other subdivision of or Schedule to this Plan;

(b) the words "herein", "hereof" and "hereunder" and other words of similar import refer to this Plan as a whole and not to any particular Article, Section or other subdivision of, or Schedule to, this Plan;

(c) the headings are for convenience only and do not form a part of this Plan and are not intended to interpret, define or limit the scope, extent or intent of this Plan;

(d) words importing the singular number only shall include the plural and vice versa and words importing the use of any gender shall include any other gender, the word "or" is not exclusive and the word "including" is not limiting whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto;

(e) unless otherwise provided, all amounts are stated in Canadian dollars and are to be paid in Canadian dollars, U.S. dollars or any other currency that is accepted as legal tender in the countries in which the Company operates; and

(f) where the time for doing an act falls or expires on a day which is not a Business Day, the time for doing such act is extended to the next Business Day.

Article 4.
EFFECTIVE DATE OF PLAN

4.1 Effective Date of this Plan. The effective date (the "**Effective Date**") of this Plan is May 14, 2020, the date on which this Plan was approved by the shareholders of the Company.

4.2 Three Year Shareholder Approval. In accordance with the requirements of the TSX, any unallocated Awards under the rolling 6.5% maximum allowed under Section 6.1 will require the further approval of the Board and shareholders of the Company at least once during each three (3) year period that has elapsed from the Effective Date.

Article 5.
ADMINISTRATION OF PLAN

5.1 **Administration of Plan.** This Plan shall be administered by the Board, taking into consideration any recommendations from the Committee. Subject to the provisions of this Plan, applicable laws and any approvals required of any regulatory authorities to which the Company is subject, including any Stock Exchange, the Board shall have the power and authority to make all decisions relating to the administration and implementation of this Plan including, without limitation, determining the types and number of Awards to be granted and the terms of such Awards. Unless otherwise expressly provided in this Plan, all designations, determinations, interpretations and other decisions under or with respect to this Plan or any Award are within the sole discretion of the Board and may be made at any time. Such designations, determinations, interpretations and other decisions shall be final, conclusive and binding upon any Eligible Person and any holder or beneficiary of any Award.

5.2 **Delegation.** Subject to applicable laws and the rules of any regulatory authorities to which the Company is subject, including the Stock Exchange, the Board may delegate to the Committee or any director, officer or employee of the Company such duties and powers of the Board relating to this Plan as it may see fit. To the extent the Board has delegated any such duties and powers to the Committee or any such individual then all references in this Plan to the Board shall be read as the Committee or any such individual, as applicable, to the extent such reference relate to the duties and powers that have been so delegated.

Article 6.
COMMON SHARES AVAILABLE FOR AWARDS

6.1 **Common Shares Available.** Subject to Section 6.2 and to adjustment as provided in Article 14, the aggregate number of Common Shares that may be issuable pursuant to the Aggregate Plans, shall not at any time exceed 6.5% of the then Outstanding Common Shares.

6.2 **Common Shares Available for Full-Value Awards.** For the purposes of Section 6.1, and subject to Section 6.3, the aggregate number of Common Shares that may be issuable pursuant to Share Units awarded under this Plan shall not at any time exceed 2.2% of the then Outstanding Common Shares, and no Share Unit may be granted if such grant would have the effect of causing the total number of Common Shares potentially issuable in respect of Share Units to exceed the percentage set out above in this Section 6.2.

6.3 **Other Accounting for Award.** Any Common Shares related to an Award which has been exercised or which terminates by expiration, forfeiture, cancellation or otherwise without the issuance of such Common Shares shall again be available for issuance under this Plan. Common Shares shall not be deemed to have been issued pursuant to this Plan with respect to any portion of an Award that is settled in cash or by delivery to a Participant of Common Shares purchased through the facilities of any Stock Exchange, in accordance with the terms of this Plan.

6.4 **Reservation of Shares.** The Board will reserve for allotment, from time to time, out of the authorized but unissued Common Shares, sufficient Common Shares to provide for issuance of all Common Shares which are issuable under all outstanding Awards.

6.5 **No Fractional.** No fractional Common Shares may be purchased or issued under this Plan.

Article 7.
GRANT OF AWARDS

7.1 **Eligible Persons.** Subject to the rules set out below, the Board may, from time to time, grant to any Eligible Person one or more Awards, as the Board deems appropriate, in its sole discretion. A Participant, who holds any Award at the time of the granting of a subsequent Award, may hold more than one type of Award.

7.2 **Date Award Granted.** The date on which an Award will be deemed to have been granted under this Plan will be the date on which the Board authorizes the grant of such Award or such future date as specified by the Board at the time the grant of such Award is authorized.

7.3 **Number of Common Shares / Maximum Grant.** The number of Common Shares that may be purchased under any Award, or the amount of any Award that shall be granted in any form that may result in the issuance of Common Shares, will be determined and fixed by the Board at the date of grant, provided that:

(a) the number of Common Shares reserved for issuance to any one Participant pursuant to the Aggregate Plans within any one (1) year period shall not, in aggregate, exceed 5% of the total number of Outstanding Common Shares; and

(b) the number of Common Shares:

(i) issuable, at any time, to Participants that are Insiders, and

(ii) issued to Participants that are Insiders within any one (1) year period,

pursuant to the Aggregate Plans shall not, in aggregate, exceed 5% of the total number of Outstanding Common Shares.

For the purposes of this Section 7.3, Common Shares issued pursuant to an entitlement granted prior to the grantee becoming an Insider may be excluded in determining the number of Common Shares issuable to Insiders.

7.4 **No Certificates.** No certificates shall be issued with respect to Awards. All records relating to the Awards shall be maintained in the Company's electronic compensation plan system.

Article 8.
OPTIONS

8.1 **Exercise Price.** The Exercise Price per Common Share under each Option shall not be less than the greater of the Market Price of the Common Shares at the time of grant and the Closing Price of the Common Shares at the time of grant. Notwithstanding anything else contained herein, in no case will the Exercise Price per Common Share under each Option be less than the minimum prescribed by any Stock Exchange at the time of grant.

8.2 **Term of Options.** Subject to Article 11 and Section 13.1, the Expiry Date for each Option will be the date determined by the Board and specified in the notice of award pursuant to which such Option is granted (the "**Option Expiry Date**"), provided that such date may not be later than the earlier of: (i) the date which is the seventh (7^{th}) anniversary of the date on which such Option is granted, and (ii) the latest date permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange.

8.3 **Vesting and Other Restrictions.** Subject to the terms and conditions of this Plan, the Board shall, in its sole discretion, determine the Vesting Dates and the proportion of Options to vest on each such Vesting Date applicable to each award of Options at the time of such award. Unless otherwise specified herein or determined by the Board, Options granted to a Participant shall vest, as to one-third of the number of such Options, on each of the first, second and third anniversaries of the date of grant, subject to the Participant continuing to be an Eligible Person.

8.4 **Exercise of Options.** Each Option granted under this Plan may be exercised only by notice ("**Notice of Exercise**") submitted to the Company through its electronic compensation plan system, or in such other form designated by the Company and signed by the Participant, or the legal representative or committee or attorney, as the case may be (the "**Legal Representative**"), of the Participant, and delivering to the Administrator full payment for an amount equal to the aggregate Exercise Price of the Common Shares being purchased. Such consideration may be paid in any combination of the following:

(a) bank draft or certified cheque payable to the Company; or

(b) such other consideration as the Board may permit, consistent with applicable laws.

As soon as practicable after any exercise of an Option, the Company shall issue to the Participant the Common Shares in respect of which such Option is exercised.

8.5 **Cashless Exercise.** Notwithstanding any other provision of the Plan, unless otherwise determined by the Board, in its sole discretion, a Participant may elect "cashless" exercise in a Notice of Exercise. In such case, the Participant will not be required to deliver to the Company the bank draft or certified cheque referred to in Section 8.4(a). Instead, the number of Common Shares to be issued or otherwise provided to the Participant upon such election is the number obtained: by dividing (a) the difference between (i) the difference between the Cashless Exercise Sale Price and the Exercise Price, multiplied by the number of Common Shares in respect of which the Option would otherwise be exercised upon payment of the aggregate Exercise Price and (ii) all applicable fees incurred by the Company in connection with the cashless exercise, by (b) the Cashless Exercise Sale Price. Upon any such election, the Company may, instead of issuing or otherwise providing to the Participant the number of Common Shares calculated in accordance with the preceding sentence, pay the Participant by cheque the amount of money calculated in accordance with clause (a).

1.6 **U.S. Provisions.** Any adjustment to or amendment of an outstanding Option granted to a U.S. Participant (including, but not limited to, amendments or adjustments contemplated under Article 15 or Article 14 with respect to the exercise price and number of Common Shares subject to an Option, and adjustments with respect to extension of the term of an Option, and any other amendments or adjustments otherwise permitted pursuant to Section 5.1) will be made so as to comply with, and not create any adverse consequences under, Section 409A of the Code.

Article 9.
SHARE UNIT AWARDS

Restricted Share Unit Award

9.1 **Vesting Provisions.** The Board shall, in its sole discretion, determine the Vesting Dates and the proportion of Restricted Share Units to vest on each such Vesting Date applicable to each grant of Restricted Share Units at the time of such grant. Unless otherwise specified

herein or determined by the Board, Restricted Share Units granted to a Participant shall vest, as to one-third of the number of such Restricted Share Units, on each of the first, second and third anniversaries of the date on which they were granted, subject to the Participant continuing to be an Eligible Person. Dividend equivalent Restricted Share Units awarded to Participants under Section 9.10 shall vest with the Restricted Share Units in respect of which they were credited to the Participant's Share Unit Account. Except where the context requires otherwise, the Restricted Share Units which have so vested shall be referred to herein as "**Vested Restricted Share Units**".

9.2 **Vesting During Continued Eligibility.** Subject to Article 11 and Article 15, Restricted Share Units granted to a Participant shall vest on the Vesting Dates, in accordance with the provisions of this Article 9, provided the Participant remains an Eligible Person on the applicable Vesting Date.

Performance Share Unit Award

9.3 **Performance Period.** The Board shall, in its sole discretion, determine the Performance Period applicable to each grant of Performance Share Units at the time of such grant. Unless otherwise specified by the Board, the Performance Period applicable to a grant of Performance Share Units shall be a period of 36 months commencing on the 1st of January and ending on December 31st.

9.4 **Determination of Target Milestones.** The Target Milestones for each Performance Period shall be determined by the Board, in its sole discretion, based on measurable performance criteria established by the Board in advance. Unless otherwise determined by the Board the Target Milestones for each Performance Share Unit shall be as set forth in Schedule "A".

9.5 **Vesting During Eligibility.** Subject to Article 11 and Article 15, Performance Share Units granted to a Participant shall vest on the Vesting Date in accordance with this Article 9, provided the Participant remains an Eligible Person on the applicable Vesting Date.

9.6 **Determination of Performance Percentage.** The performance achievement of the Target Milestones for an applicable Performance Period shall be determined by assigning a percentage from 0 per cent to 200 percent (or such other range as the Board may determine from time to time) reflecting such performance (the "**Performance Percentage**").

9.7 **Vesting of Performance Share Units Based on Performance Percentage.** Unless otherwise determined by the Board, and subject to Article 11, the number of Performance Share Units granted to the Participant which shall vest on the Vesting Date shall be calculated by multiplying (a) the aggregate number of such Performance Share Units by (b) the Performance Percentage. Except where the context requires otherwise, the Performance Share Units which have so vested shall be referred to herein as "**Vested Performance Share Units**".

Share Unit Account

9.8 **Share Unit Account.** An account, to be known as a "**Share Unit Account**", shall be maintained by the Company for each Participant and shall be credited with such Share Units that are granted to the Participant.

9.9 **Cancellation of Share Units that Fail to Vest or Are Redeemed.** Share Units that fail to vest or be redeemed in accordance with this Article 9 or Article 11 shall be cancelled and shall cease to be recorded in the Share Unit Account of the relevant Participant as of the

date on which such Share Units are forfeited or redeemed, as the case may be, and the Participant will have no further right, title or interest in or to such Share Units.

9.10 Dividends. Whenever cash dividends are paid on the Common Shares, additional Share Units will be credited to a Participant's Share Unit Account in accordance with this Section 9.10. The number of such additional Restricted Share Units and/or Performance Share Units, as the case may be, to be so credited will be calculated by dividing (a) the cash dividends that would have been paid to such Participant if the Share Units recorded in the Participant's Share Unit Account as at the record date for the dividend had been Common Shares by (b) the Closing Price on the Trading Day immediately preceding the date on which the Common Shares began to trade on an ex-dividend basis, rounded down to the next whole number of Share Units. The additional Share Units granted to a Participant shall be subject to the same terms and conditions, including vesting and settlement terms, as the corresponding Restricted Share Units or Performance Share Units, as the case may be. No fractional Share Units will thereby be created.

Expiry and Redemption of Share Units

9.11 Term of Share Units. Subject to Article 11 and Section 13.2, the Expiry Date for each Share Unit will be the date determined by the Board and specified in the notice of award pursuant to which such Share Unit is granted (the "**Share Unit Expiry Date**"), provided that such date may not be later than the earlier of: (i) the date which is the tenth (10^{th}) anniversary of the date on which such Share Unit is granted, and (ii) the latest date permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange.

9.12 Elected Redemption Date Notice. Except to the extent the award of a Share Unit specifies that redemption will automatically occur on a date prior to the Expiry Date, participants shall elect, by submitting a Redemption Notice, an Elected Redemption Date for Share Units as follows:

(a) Participants that are not U.S. Participants may elect at any time to redeem Vested Share Units on any date or dates after the date the Share Units become Vested Share Units and on or before the Expiry Date; and

(b) U.S. Participants may irrevocably elect to have Vested Share Units redeemed on a fixed date or dates after the date the Share Units become Vested Share Units and on or before the Expiry Date provided that such election must be irrevocably made prior to the earlier of: (i) receipt by the U.S. Participant of each award of Share Units; and (ii) the first day of the taxable year of the U.S. Participant in which the Performance Period, or other period over which the awards is to be earned and vests, begins. For this purpose a "fixed date" may include any permissible payment event under Section 409A of the Code, for example, Separation from Service or a Change of Control (if also a change of control for purposes of Section 409A of the Code).

If a Participant who is not a U.S. Participant does not elect an Elected Redemption Date in respect of an award of Share Units in accordance with Section 9.12(a), the Share Units shall be redeemed on the Expiry Date in accordance with Section 9.13. If a U.S. Participant does not timely elect an Elected Redemption Date in respect of an award of Share Units in accordance with Section 9.12(b), the Vesting Date shall be deemed to be the Elected Redemption Date and the Share Units shall be redeemed in accordance with Section 9.13.

9.13 Redemption of Share Units. The Company shall redeem the Vested Share Units elected to be redeemed by the Participant on the earlier of (i) within fifteen Business Days of the Elected Redemption Date and (ii) the date set out in Article 11 or Section 12.1, if applicable, by, subject to Section 10.5, at the election of the Participant in the Redemption Notice, issuing to the Participant the number of Common Shares equal to the number of Vested Share Units elected to be redeemed. If the Participant does not elect in the Redemption Notice to have the Vested Share Units redeemed by the issuance of Common Shares then, at the Board's sole discretion, the Vested Share Units shall be redeemed on the earlier of (i) within fifteen Business Days of the Elected Redemption Date and (ii) the date set out in Article 11 or Section 12.1, if applicable, by, subject to Section 10.5: (i) issuing to the Participant the number of Common Shares equal to the number of Vested Share Units elected to be redeemed; (ii) paying the Participant a cash amount equal to the Market Price of such Vested Share Units on the Redemption Date; or (iii) purchasing on the open market the number of Common Shares equal to the number of Vested Share Units to be redeemed for delivery to the Participant. Notwithstanding the foregoing or any other provision in the Plan, if Share Units held by a U.S. Participant will be redeemed as a result of the U.S. Participant's Separation from Service, and such U.S. Participant is a Specified Employee as defined under Section 409A of the Code and applicable regulations at the time of such Separation from Service, the redemption of Share Units that are subject to Section 409A of the Code will be delayed until a date that is six months and one day following the date of the Separation from Service.

Article 10.
GENERAL TERMS OF AWARDS

10.1 Consideration for Awards. Awards may be granted for no cash consideration or for any cash or other consideration as determined by the Board and required by applicable law.

10.2 Notice of Award. The Company shall provide the applicable Eligible Person with a notice of an Award promptly after it is granted. If required by the Company, the Eligible Person may be required to return an acknowledgement of such Award in such form as required by the Company.

10.3 Awards May Be Granted Separately or Together. Awards may, in the discretion of the Board, be granted alone, in addition to, or in tandem with, any other Award or any award granted under any plan of the Company or any Affiliate of the Company. Awards granted in addition to or in tandem with other Awards or in addition to or in tandem with awards granted under any such other plan of the Company or any Affiliate of the Company may be granted either at the same time as or at a different time from the grant of such other Awards or awards.

10.4 Forms of Payment under Awards. Subject to the terms of this Plan, payments or transfers to be made by the Company or an Affiliate of the Company upon the grant, exercise or payment of an Award may be made in such form or forms as the Board shall determine (including, without limitation, cash in any currency that is accepted as legal tender in the countries in which the Company operates, Common Shares, promissory notes, other securities, other Awards or other property, or any combination thereof), and may be made in a single payment or transfer, in instalments or on a deferred basis, in each case in accordance with rules and procedures established by the Board. Such rules and procedures may include, without limitation, provisions for the payment or crediting of reasonable interest on instalment or deferred payments or the grant or crediting of dividend equivalents with respect to instalment or deferred payments. Notwithstanding the foregoing, the settlement/pay out with respect to Share Units of U.S. Participants will not be accelerated or delayed unless such acceleration or delay is permitted under applicable U.S. tax

principles, including, but not limited to, Section 409A of the Code to the extent it is applicable.

10.5 Withholding Tax. The Company or an Affiliate of the Company may take such reasonable steps for the deduction and withholding of any taxes and other required source deductions which the Company or an Affiliate of the Company, as the case may be, is required by any law or regulation of any governmental authority whatsoever to remit in connection with this Plan or the grant of any Options or Share Units or any issuance of Common Shares in relation thereto. Without limiting the generality of the foregoing, the Company may, at its discretion:

(a) deduct and withhold those amounts it is required to remit from any cash remuneration or other amount payable to the Participant, whether or not related to this Plan, upon the exercise of any Options, the redemption of any Share Units or the issuance or transfer of any Common Shares in relation to this Plan;

(b) require the Participant to make a cash payment to the Company equal to the amount required to be remitted, which amount shall be remitted by the Company to the appropriate governmental authority for the account of the Participant; or

(c) sell, or engage a broker to sell, on behalf of the Participant, that number of Common Shares to be issued or transferred upon the exercise of Options or redemption of Share Units such that the amount withheld by the Company from the proceeds (net of selling costs) of such sale will be sufficient to satisfy any taxes required to be remitted by the Company for the account of the Participant.

Where the Company considers that the steps undertaken in connection with the foregoing result in inadequate withholding or a late remittance of taxes, the delivery of any Common Shares to be issued to a Participant pursuant to this Plan may be made conditional upon the Participant (or other Person) reimbursing or compensating the Company or making arrangements satisfactory to the Company for the payment in a timely manner of all taxes required to be remitted for the account of the Participant.

Each Participant or his or her Legal Representative, as the case may be, is solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on or for the account of such Participant in connection with the Plan (including any taxes and penalties under section 409A of the Code or any applicable law), and neither the Company nor any Affiliate of the Company shall have any obligation to indemnify or otherwise hold such Participant or the Participant's Legal Representative harmless from any or all of such taxes or penalties.

10.6 Restrictions, Stock Exchange Listing. All Common Shares or other securities delivered under this Plan pursuant to any Award or the exercise thereof shall be subject to any restrictions or repurchase rights as the Board may deem advisable under this Plan, applicable securities laws and regulatory requirements, including the requirements of any Stock Exchange, and applicable Canadian corporate laws, and the Board may direct appropriate restrictions or repurchase rights and cause legends to be placed on the certificates for such Common Shares or other securities to reflect such restrictions or repurchase rights, as applicable. If the Common Shares or other securities are traded a Stock Exchange or Stock Exchanges, the Company shall not be required to deliver any Common Shares or other securities covered by an Award unless and until such Common Shares or other securities have been admitted for trading on such Stock Exchange(s).

10.7 Provisions Relating to Common Share Issuances. Each notice of award will contain such provisions, as in the opinion of the Board, are required to ensure that no Common Shares are issued on the exercise or redemption of an Award, as applicable, unless the Board is satisfied that the issuance of such Common Shares will be exempt from all registration or qualification requirements of applicable securities laws and will be permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange. In particular, if required by any regulatory authority to which the Company is subject, including any Stock Exchange, a notice of award may provide that shareholder approval to the grant of an Award must be obtained prior to the exercise or redemption of the Award, as applicable, or to the amendment of the notice of award.

10.8 Compliance with Section 409A. It is intended that Share Units either will be exempt from Section 409A of the Code, or will comply with the requirements of Section 409A of the Code and the provisions of this Plan and related notice of awards will be construed and administered accordingly.

10.9 Change in Status. A change in the status, office, position or duties of a Participant from the status, office, position or duties held by such Participant on the date on which the Award was granted to such Participant will not result in the termination of the Award granted to such Participant provided that such Participant remains an Eligible Person.

10.10 Non-Transferability of Awards. Awards are not transferable or assignable. Awards may only be exercised by the Participant or in the event of:

(a) the death of the Participant (or, in the case of a Service Provider, the death of the principal in respect of such Service Provider); or

(b) the appointment of a committee or duly appointed attorney of the Participant on the grounds that the Participant is incapable, by reason of physical or mental infirmity, of managing their affairs (or, in the case of a Service Provider, the appointment of a committee or duly appointed attorney of the principal in respect of such Service Provider),

by the Participant's Legal Representative.

10.11 No Interest. For greater certainty, no interest shall be payable to Participants in respect of any amount payable under this Plan.

10.12 Conditions. Notwithstanding any of the provisions contained in this Plan or in any notice of award, the Company's obligation to issue Common Shares to a Participant pursuant to the exercise of an Option, redemption of any Share Units or the granting of any Award will be subject to, if applicable:

(a) completion of such registration or other qualification of such Common Shares or obtaining approval of such governmental authority as the Company will determine to be necessary or advisable in connection with the authorization, issuance or sale thereof; and

(b) the receipt from the Participant of such representations, agreements and undertakings, including as to future dealings in such Common Shares, as the Company or its counsel determines to be necessary or advisable in order to safeguard against the violation of the securities laws of any jurisdiction.

Article 11.
CEASING TO BE AN ELIGIBLE PERSON

11.1 Ceasing to be an Eligible Person. If a Participant ceases to be an Eligible Person (and, in the case of any Participant who is a U.S. Participant, such U.S Participant experiences a Separation from Service) for any reason other than as set out in Sections 11.2 to 11.5 including, without limitation, as a result of such Participant's resignation (other than in circumstances described in Article 15) then:

(a) only the portion of the Option that is vested and exercisable as of the Termination Date may be exercised by the Participant. Any such exercise must be during the period ending on the earlier of (i) thirty (30) days after the Termination Date and (ii) the Option Expiry Date, after which period the Option will expire. For greater certainty, any portion of the Option that is unvested as of the Termination Date shall terminate on the Termination Date;

(b) all Vested Share Units shall be redeemed immediately in accordance with Section 9.13 and all unvested Share Units shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Share Units.

11.2 Termination for Cause. If a Participant is terminated for Cause or a Participant's contract as a Service Provider is terminated by the Company or a Related Entity of the Company before its normal termination date for Cause, including where a Participant resigns from their employment or terminates their contract as a Service Provider after being requested to do so by the Company or a Related Entity of the Company, as an alternative to being terminated for Cause, and as a result the Participant ceases to be an Eligible Person:

(a) then all Options held by such Participant (including those Options that have vested) shall terminate on the Termination Date;

(b) all Vested Share Units and unvested Share Units shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such Share Units.

11.3 Termination without Cause. If a Participant ceases to be an Eligible Person (and, in the case of any Participant who is a U.S. Participant, such U.S. Participant experiences a Separation from Service) as the result of such Participant being terminated as an Employee or Service Provider (prior to the expiry of their term of engagement) without Cause (other than in circumstances described in Article 15):

(a) such portion of the Participant's unvested Options shall vest immediately prior to the Participant's Termination Date, as determined by the formula (A*(B/C)) - D where:

(i) A is the total number of Options (vested and unvested) that were granted on the same date pursuant to the same notice of award as the unvested Options (the "**Applicable Options**");

(ii) B is the number of completed months from the first day the unvested Options were granted to the Termination Date;

(iii) C is the number of months from the date of grant of the Applicable Options to the latest Vesting Date of the Applicable Options as approved by the Board; and

(iv) D is the total number of vested Applicable Options.

The Expiry Date of all vested Options shall be the earlier of (i) ninety (90) days after the Termination Date and (ii) the Option Expiry Date. For greater certainty, any portion of the Option that is unvested on the Termination Date shall terminate on the Termination Date;

(b) such portion of the Participant's unvested Restricted Share Units shall vest immediately prior to the Participant's Termination Date, as determined by the formula (A*(B/C)) - D where:

(i) A is the total number of Restricted Share Units (vested and unvested) that were granted on the same date pursuant to the same notice of award as the unvested Restricted Share Units plus all and related dividend equivalent Restricted Share Units (vested and unvested) (the "**Applicable Restricted Share Units**");

(ii) B is the number of completed months from the first day the unvested Restricted Share Units were granted to the Termination Date;

(iii) C is the number of months from the date of grant of the Applicable Restricted Share Units to the latest Vesting Date of the Applicable Restricted Share Units as approved by the Board; and

(iv) D is the total number of vested Applicable Restricted Share Units.

All Vested Restricted Share Units shall be redeemed immediately in accordance with Section 9.13 and all unvested Restricted Share Units on the Termination Date shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Restricted Share Units;

(c) a pro rata portion of the Participant's unvested Performance Share Units shall vest in accordance with their terms, based on the product of (i) the product of (y) the number of completed months from the first day of the Performance Period to the Termination Date divided by the number of months in the Performance Period and (z) the number of unvested Performance Share Units and (ii) the Performance Percentage. The Performance Percentage shall be determined at the end of the Performance Period using the same factors as if the Participant had remained an Eligible Person until the scheduled vesting date for the Performance Share Units. All Vested Performance Share Units shall be redeemed immediately after the last day of the Performance Period pursuant to Section 9.13 and all unvested Performance Share Units on the Termination Date that will not be vested in accordance with this Section 11.3(c) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant on the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Performance Share Units.

11.4 Death. If a Participant ceases to be an Eligible Person as a result of the Participant's death or if a Participant's contract as a Service Provider is frustrated before its normal termination date due to death, then:

(a) all unvested Options will immediately vest on the Termination Date and the vested Options will continue to be exercisable pursuant to Section 8.2 after the death of the Participant (or, in the case of a Service Provider that is not an individual, the death of the principal which results in the frustration of the Service Provider's contract). The exercise of all vested Options that were granted to the Participant must be effected by a Legal Representative of the Participant's estate (or, in the case of a Service Provider that is not an individual, the Legal Representative of the principal in respect of such Service Provider) or by a Person who acquires the Participant's rights under the Options by bequest or inheritance, and such Options will expire on the earlier of (i) twelve (12) months after the Termination Date and (ii) the Option Expiry Date;

(b) all unvested Share Units granted to the Participant shall vest on the Termination Date and the Termination Date shall be the Vesting Date and all Vested Share Units shall be redeemed immediately pursuant to Section 9.13. The Performance Percentage for each Vested Performance Share Unit shall be 100.

11.5 Retirement of Non U.S. Participants/Disability. If a Participant who is not a U.S. Participant ceases to be an Eligible Person as a result of a Disability or Retirement or if such a Participant's contract as a Service Provider is frustrated before its normal termination date due to a Disability or if a U.S. Participant experiences a Disability then:

(a) all unvested Options shall continue to vest pursuant to their original terms for a period of three years from the Termination Date. The Expiry Date for all Vested Options, including those Options that vest pursuant to the terms of this Section 11.5(a), shall be the period ending on the earlier of (i) three years after the Termination Date and (ii) the Option Expiry Date, after which period the Options will expire;

(b) all unvested Share Units shall continue to vest pursuant to their original terms for a period of three years from the Termination Date. The Expiry Date for all Vested Share Units shall be the earlier of (i) three years after the Termination Date or in the case of a U.S. Participant three years after the Disability or Separation from Service and (ii) the Share Unit Expiry Date. The Performance Percentage for Performance Share Units that vest pursuant to this Section 11.5(b) shall be determined on the same basis as if the Participant continued to be an Eligible Person.

11.6 Retirement of U.S. Participants. If a U.S. Participant experiences a Separation from Service, as a result of the U.S. Participant's Retirement prior to the Vesting Date of any:

(a) Options awarded to the U.S. Participant, the Board shall determine whether, in respect of each grant of Options, the Options, or any portion thereof, granted to such U.S. Participant shall vest on the Termination Date and in such case the Termination Date shall be the Vesting Date; and

(b) unvested Share Units awarded to the U.S. Participant, the Board shall have the discretion to determine that, in respect of each grant of such Share Units, the Share Units, or a portion thereof, granted to such U.S. Participant shall vest on the Termination Date and in such case the Termination Date shall be the Vesting Date. If the Board determines that any Performance Share Units should vest on the

Termination Date then the Board shall determine the Performance Percentage to be applied based on factors determined by the Board in its discretion, including the objective measure of performance toward achievement of the Target Milestones through to the Termination Date and such other factors as the Board determines appropriate in the circumstances. All Vested Restricted Share Units and Restricted Share Units that become vested pursuant to this Section 11.6(b) shall be redeemed immediately in accordance with Section 9.13 and any unvested Restricted Share Units that do not become vested pursuant to this Section 11.6(b) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant U.S. Participant as of the Termination Date, and the U.S. Participant will have no further right, title or interest in or to such unvested Restricted Share Units; and (ii) all Vested Performance Share Units and Performance Share Units that become vested pursuant to this Section 11.6(b) shall be redeemed immediately after the last day of the Performance Period in accordance with Section 9.13 and any unvested Performance Share Units that do not become vested pursuant to this Section 11.6(b) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant U.S. Participant as of the Termination Date, and the U.S. Participant will have no further right, title or interest in or to such unvested Performance Share Units.

Article 12.
CHANGE OF CONTROL

12.1 Change of Control. For purposes of this Section 12.1, with respect to Share Units of U.S. Participants, Change of Control shall mean the events and circumstances described in the Change of Control definition set forth in Section 2.1(n), provided that such event or circumstance also is a "change of control event" within the meaning of Section 409A of the Code. Subject to the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange, and notwithstanding any other provision of this Plan, in the event of a Change of Control, the following provisions shall apply:

(a) in the event of a transaction that would result in a Change of Control the Board may, in its sole discretion, immediately vest all unvested Awards, provided that with respect to Awards granted to U.S. Participants such acceleration of vesting will not change the time of redemption/payment with respect to Share Units that are subject to Section 409A of the Code, except to the extent permitted under Section 409A. If the Board vests any Performance Share Units pursuant to this Section 12.1(a) then, the Performance Percentage for such Vested Performance Share Units shall be between 100 per cent and 200 per cent, as determined by the Board, in its sole discretion; and

(b) in the event of a Change of Control and the termination of an Employee or Service Provider's engagement within 12 months after the Change of Control for any reason other than resignation without Good Reason or termination for Cause:

(i) all unvested Options held by such Participant shall immediately vest on the Termination Date and the Expiry Date of all Vested Options held by the Participant shall be the earlier of (i) twelve months after the Termination Date and (ii) the Option Expiry Date;

(ii) all unvested Restricted Share Units held by such Participant shall immediately be deemed to be Vested Restricted Share Units as of the Termination Date, which, for the purposes of this Section 12.1(b)(ii), shall

be deemed to be the Vesting Date, and the Company shall immediately redeem such Vested Restricted Share Units for, at the election of the Participant, (i) Common Shares issued from treasury, (ii) Common Shares purchased on the open market or (iii) a cash amount equal to the Market Price of such Vested Restricted Share Units as of the Termination Date; and

(iii) all unvested Performance Share Units held by such Participant shall immediately be deemed to be Vested Performance Share Units as of the Termination Date, which, for the purposes of this Section 12.1(b)(iii), shall be deemed to be the Vesting Date, based on an assumed Performance Percentage of (a) 100 per cent or (b) at the Board's discretion, between 100 per cent and 200 per cent and the Company shall immediately redeem such Vested Performance Share Units for, at the election of the Participant, (i) Common Shares issued from treasury, (ii) Common Shares purchased on the open market or (iii) a cash amount equal to the Market Price of such Vested Performance Share Units as of the Termination Date;

Notwithstanding the foregoing provisions of this Article 15, the Board may, in its sole discretion, make such determinations as it considers appropriate in the circumstances upon a Change of Control to ensure the fair treatment of Participants in such circumstances in light of the objectives of this Plan, including, without limitation, with respect to the vesting periods and Performance Percentages applicable to any Share Units, the amounts to be paid to Participants on the redemption of any Share Units and/or the termination of this Plan (and, for greater certainty, such determinations may result in different vesting, redemption or payment terms than would result from the operation of Sections 12.1(a) and (b) without such determinations).

1.2 Change of Control – Exercise to Participate in Transaction. Notwithstanding Section 12.1, the Board may, in its sole discretion, allow a Participant to exercise an Option or redeem a Share Unit that has not otherwise vested for Common Shares, and

(a) if a "take-over bid" (within the meaning of applicable securities legislation) made by any Person for the voting securities of the Company would, if successful, result in a Change of Control, then the Participant may exercise such Option or redeem such Share Unit for Common Shares during the period ending on the earlier of the expiration of the take-over bid and the Expiry Date solely for the purpose of depositing the Common Shares related to such Option or Share Unit pursuant to the take-over bid, and

(b) if any other transaction or series of transactions is contemplated, which would, if successful, result in a Change of Control, then the Participant may exercise their Option or redeem their Share Unit for Common Shares during such period as is determined by the Board to be reasonable in the circumstances solely for the purpose of participating in the transaction or series of transactions;

provided that if such Change of Control does not occur then the Participant shall promptly return the Common Shares (or the portion that are not taken up and paid for) to the Company for cancellation, the Option or Share Unit respecting such Common Shares shall be deemed not to have been exercised or redeemed, as applicable, the Common Shares shall be deemed not to have been issued and in the case of an Option, the Company shall refund to the Participant the aggregate Exercise Price for the Common Shares (unless the Participant elected cashless exercise).

Article 13.
BLACKOUT EXTENSIONS

13.1 **Options.** Where the Expiry Date for an Option occurs during or within nine (9) Business Days following the end of a Blackout Period, the Expiry Date for such Option automatically shall be extended to the date which is ten (10) Business Days following the end of such Blackout Period.

13.2 **Share Units.** If the Redemption Date for a Vested Share Unit occurs during or within nine (9) Business Days following the end of a Blackout Period, then, notwithstanding any other provision of this Plan, the Vested Share Unit shall instead be redeemed on, and "**Redemption Date**" shall mean the date which is ten (10) Business Days after the date on which the Blackout Period ends. In such case, the Company shall redeem all such Vested Share Units in accordance with Section 9.13 as of the Redemption Date, determined in accordance with this Section 13.2, except that if the Vested Share Units are to be redeemed for cash pursuant to Section 9.13(ii) the definition of Market Price shall be amended so that it is calculated based on the volume weighted average trading price of the Common Shares from and including the Trading Day immediately following the end of the Blackout Period up to and including the Trading Day immediately preceding the Redemption Date. Notwithstanding the foregoing, with respect to Share Units of U.S. Participants this Section 13.2 shall not operate to establish a Redemption Date later than December 31st of the calendar year in which the Redemption Date, as determined without reference to this Section 13.2, occurs.

Article 14.
ADJUSTMENTS

14.1 **Adjustments.** Adjustments will be made at the discretion of the Board to (x) the Exercise Price of an Option, (y) the number of Common Shares or other securities issuable to a Participant upon exercise or redemption of an Award and/or (z) the maximum number of Common Shares that, pursuant to Sections 6.1 and 6.2, may at any time be reserved for issuance pursuant to Awards granted under this Plan in the following events and manner, subject to any required regulatory approvals and the right of the Board to make such other or additional adjustments as the Board considers to be appropriate in the circumstances:

(a) upon (i) a subdivision of the Common Shares into a greater number of Common Shares, (ii) a consolidation of the Common Shares into a lesser number of Common Shares, or (iii) the issue of a stock dividend to holders of the Common Shares (excluding a stock dividend paid in lieu of a cash dividend in the ordinary course), the Exercise Price will be adjusted accordingly and the Company will deliver, upon exercise of an Option, in addition to or in lieu of the number of Common Shares in respect of which the right to purchase is being exercised, such greater or lesser number of Common Shares as result from the subdivision, consolidation or stock dividend;

(b) upon (i) a capital reorganization, reclassification or change of the Common Shares, or (ii) if the outstanding Common Shares are changed into or exchanged for a different number of shares or into or for other securities of the Company or securities of another company or entity or for other consideration, whether through an arrangement, amalgamation or other similar procedure or otherwise, then on each exercise of the Option which occurs following such events, for each Common Share for which the Option is exercised, the Participant shall instead receive the number and kind of shares or other securities of the Company or other company or other consideration into which such Common Shares would have been changed or for

which such Common Shares would have been exchanged if it had been outstanding on the date of such event;

(c) upon the distribution by the Company to holders of the Common Shares of (i) shares of any class (whether of the Company or another Person) other than Common Shares, (ii) rights, options or warrants, (iii) evidences of indebtedness, or (iv) cash (excluding a cash dividend paid in the ordinary course), securities or other property or assets, the Exercise Price will be adjusted accordingly but no adjustment will be made to the number of Common Shares to be delivered upon exercise of an Option;

(d) adjustments to the Exercise Price of an Option will be rounded up to the nearest one cent and adjustments to the number of Common Shares delivered to a Participant upon exercise of an Option and the maximum number of Common Shares that, pursuant to Section 6.1, may at any time be reserved for issuance pursuant to Awards granted under this Plan will be rounded down to the nearest whole Common Share; and

(e) an adjustment will take effect at the time of the event giving rise to the adjustment, and the adjustments provided for in this Section 14.1 are cumulative.

Appropriate adjustments that are substantially similar in effect to the foregoing will be made at the discretion of the Board in respect of Share Units in the foregoing events and manner, subject to any required regulatory approvals and the right of the Board to make such other or additional adjustments as the Board considers to be appropriate in the circumstances.

14.2 Cancellation. The Board may, in its sole discretion, cancel any or all outstanding Awards and pay to the holders of any such Awards that are otherwise vested, in cash, the value of such Awards based upon the price per Common Share received or to be received by other shareholders of the Company in such event, provided that with respect to Awards to U.S. Participants, such cancellation and payout will be in a manner that does not violate Section 409A of the Code, to the extent it is applicable.

14.3 No Limitation. The grant of any Awards under this Plan will in no way affect the Company's right to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, amalgamate, reorganize, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets or engage in any like transaction.

14.4 No Fractional Shares. No adjustment or substitution provided for in this Article 14 will require the Company to issue a fractional Common Share or any other security in respect of any Awards and the total substitution or adjustment with respect to each Award will be limited accordingly.

Article 15.
SUSPENSION, AMENDMENT OR TERMINATION OF PLAN

15.1 Suspension, Amendment or Termination of Plan. The Board will have the right, at any time, to suspend or terminate this Plan and, subject to Section 15.2, may:

(a) only to the extent approved by the shareholders of the Company, by ordinary resolution, make any amendment to any Award or this Plan that would:

(i) increase the number of Common Shares, or rolling maximum, reserved for issuance under this Plan as set out in Section 6.1,

(ii) increase the number of Common Shares, or rolling maximum, reserved for issuance for the award of full-value awards as set out in Section 6.2,

(iii) reduce the Exercise Price per Common Share under any Option or cancel any Option and replace such Option with a lower Exercise Price per Common Share under such replacement Option,

(iv) extend the term of an Award beyond its original expiry time,

(v) permit an Award to be transferable or assignable to any Person other than in accordance with Section 10.10,

(vi) expand the scope of persons eligible to participate in the Plan to include non-employee directors, or

(vii) amend this Article 15, or

(b) approve all amendments to the Plan or Awards granted under the Plan, other than those amendments specified in Section 15.1(a), in its discretion without the prior approval of shareholders of the Company. Without limiting the generality of the foregoing, the following types of amendments would not require shareholder approval:

(i) amendments of a clerical nature, including, but not limited, to the correction of grammatical or typographical errors or clarification of terms,

(ii) amendments that are necessary for Awards to qualify for favourable treatment under applicable tax laws,

(iii) amendments to reflect any requirements of any regulatory authorities to which the Company is subject, including any Stock Exchange,

(iv) amendments to any vesting provisions of an Award,

(v) amendments to the expiration date of an Award that does not extend the term of an Award past the original date of expiration for such Award,

(vi) amendments which increase the Exercise Price of an Option,

(vii) amendments to the Target Milestones,

(viii) amendments to the Performance Periods,

(ix) amendments to expand the scope of persons eligible to participate in the Plan other than to non-employee directors,

(x) amendments regarding the administration of the Plan, and

(xi) amendments necessary to suspend or terminate the Plan.

Notwithstanding the foregoing, all procedures and necessary approvals required under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange, shall be complied with and obtained in connection with any such suspension, termination or amendment to this Plan or amendments to any

notice of award. Notwithstanding the foregoing and any other provision in the Plan, with respect to Share Units of U.S. Participants, any action to modify, amend or terminate such Share Units or the Plan will be undertaken in a manner that complies with Section 409A of the Code, to the extent it is applicable, and to the extent required to avoid adverse tax treatment.

15.2 **Limitations.** In exercising its rights pursuant to Section 15.1, the Board will not have the right to affect in a manner that is materially adverse to, or that materially impairs, the benefits and rights of any Participant under any Award previously granted under this Plan (except: (a) with the consent of such Participant; (b) as permitted pursuant to Article 14; or (c) for the purpose of complying with the requirements of any regulatory authorities to which the Company is subject, including any Stock Exchange).

15.3 **Powers of the Board Survive Termination.** The full powers of the Board as provided for in this Plan will survive the termination of this Plan until all Awards have been exercised, redeemed in full, forfeited or have otherwise expired.

Article 16.
GENERAL

16.1 **No Rights as Shareholder.** Nothing herein or otherwise shall be construed so as to confer on any Participant any rights as a shareholder of the Company with respect to any Common Shares reserved for the purpose of any Award.

16.2 **Agreement.** The Company and every Award awarded hereunder shall be bound by and subject to the terms and conditions of this Plan. By accepting an Award granted hereunder, the Participant expressly agrees with the Company to be bound by the terms and conditions of the Plan.

16.3 **No Effect on Employment.** Nothing in this Plan or any notice of award will confer upon any Participant any right to continue in the employ of or under contract with the Company or its Affiliates, or affect in any way the right of the Company or its Affiliates, to terminate their employment or engagement at any time or terminate their consulting contract, nor will anything in this Plan or any notice of award be deemed or construed to constitute an agreement or an expression of intent, on the part of the Company or its Affiliates to extend the employment of any Participant beyond the time that he or she would normally be retired pursuant to the provisions of any present or future retirement plan of the Company or its Affiliates, or any present or future retirement policy of the Company or its Affiliates, or beyond the time at which he or she would otherwise be retired pursuant to the provisions of any employment, engagement or consulting agreement with the Company or its Affiliates. Neither any period of notice nor any payment in lieu thereof upon termination of employment shall be considered as extending the period of employment for the purposes of this Plan.

16.4 **No Obligation to Fund or Secure.** Unless otherwise determined by the Board, the Plan, including any right of a Participant hereunder, shall remain an unfunded and unsecured obligation of the Company and any applicable Affiliates of the Company. Neither the establishment of the Plan nor the grant of Awards (or any action taken in connection therewith) shall be deemed to create a trust.

16.5 **Administration Costs.** The Company will be responsible for all costs relating to the administration of the Plan.

16.6 **No Salary Deferral Arrangement.** Notwithstanding any other provision of the Plan, it is intended that the Plan and the Awards granted thereunder not be considered "salary deferral arrangements" under the *Income Tax Act* (Canada) and the Plan shall be administered in accordance with such intention. Without limiting the generality of the foregoing, the Board may make such amendments to the terms of outstanding Awards (including, without limitation, changing the Vesting Dates, Expiry Dates and Redemption Dates thereof) as may be necessary or desirable, in the sole discretion of the Board, so that the Plan and the Awards outstanding thereunder are not considered "salary deferral arrangements".

16.7 **No Fettering of Directors' Discretion.** Nothing contained in this Plan will restrict or limit or be deemed to restrict or limit the right or power of the Board in connection with any allotment and issuance of Common Shares which are not allotted and issued under this Plan including, without limitation, with respect to other compensation arrangements.

16.8 **Prior Plans.** All options, restricted share units and performance share units granted by the Company prior to the Effective Date shall continue to be governed by the terms of the plans under which such options, restricted share units and performance share units were granted (the "**Prior Grants**"). For greater certainty, all Common Shares issuable pursuant to the terms of the Prior Grants shall be included when calculating the aggregate number of Common Shares that may be issuable pursuant to Section 6.1.

16.9 **Applicable Law.** The Plan and any notice of award granted hereunder will be governed, construed and administered in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein. Any actions, proceedings or claims in any way relating to the Plan shall be commenced in the courts of the Province of British Columbia and the courts of the Province of British Columbia will have the exclusive jurisdiction to entertain any such action, proceeding or claim. The Company, each Participant and his or her Legal Representative, if applicable, hereby attorn to the jurisdiction of the courts of the Province of British Columbia.

Schedule "A"

SSR MINING INC. 2020 SHARE COMPENSATION PLAN

TARGET MILESTONES FOR PERFORMANCE SHARE UNITS

Target Milestone

The Target Milestone for Performance Share Units granted shall be based on the total shareholder return ("**TSR**") of the Company over the Performance Period compared with the TSR of a peer group of companies approved by the Committee over the same time period.

Performance Percentage

The Performance Percentage shall be determined as follows:

Performance level (relative TSR)	Payout (% of grant vesting)
>P50 to P100	101% - 200% (linear basis)
=P50	100%
>P33 but <P50	51% - 99% (linear basis)
=P33	50%
<P33	Nil

SSR MINING INC.
(the "**Company**")

SSR MINING INC. 2017 SHARE COMPENSATION PLAN
(as approved by the directors of the Company on the 22nd day of March, 2017 and confirmed by the shareholders of the Company on the 4th day of May, 2017 and amended by the directors of the Company on the 15th day of December, 2017)

Article 1.
PURPOSE OF THIS PLAN

This Plan is intended to advance the interests of the Company and its shareholders by attracting, retaining and motivating the performance of selected Eligible Persons of high caliber and potential upon whose judgement, initiative and effort the Company is largely dependent for the successful conduct of its business, and to encourage and enable such Eligible Persons to acquire and retain an equity interest in the Company.

Article 2.
DEFINITIONS

2.1 Definitions. In this Plan, unless there is something in the subject matter or context inconsistent therewith, capitalized words and terms have the following meanings:

(a) "**Administrator**" means the Corporate Secretary of the Company or such other director or other senior officer or employee of the Company as may be designated as Administrator by the Board from time to time;

(b) "**Affiliate**" has the meaning ascribed thereto in the *Business Corporations Act* (British Columbia);

(c) "**Aggregate Plans**" means this Plan and all of the Company's other security based compensation arrangements that provide for the issuance from treasury or potential issuance by the Company out of its authorized and unissued Common Shares;

(d) "**Applicable Options**" has the meaning ascribed thereto in Section 11.3(a)(i);

(e) "**Applicable Restricted Share Units**" has the meaning ascribed thereto in Section 11.3(b)(i);

(f) "**Award**" means any Option, Restricted Share Unit or Performance Share Unit granted under this Plan;

(g) "**Blackout Period**" means an interval of time during which the Company has determined that one or more Participants may not trade securities of the Company because they may be in possession of undisclosed material information pertaining to the Company;

(h) "**Board**" means the board of directors of the Company, as constituted from time to time;

(i) "**Business Combination**" has the meaning ascribed thereto in Section 2.1(m);

(j) "**Business Day**" means a day other than a Saturday, Sunday or other day on which commercial banks in Vancouver, British Columbia are authorized or required by law to close;

(k) "**Cashless Exercise Sale Price**" means the volume weighted average sale price received by the Company upon the sale of Common Shares to cover the Exercise Price of Options that are being exercised pursuant to Section 8.5;

(l) "**Cause**" means "Cause", or an analogous term, as defined in the employment, engagement or consulting agreement, if any, between the relevant Participant and the Company or a Related Entity of the Company and, if there is no such definition or agreement, means any of the following:

(i) a breach by the Participant of a material term of the applicable employment, engagement or consulting agreement (if any);

(ii) the repeated and demonstrated failure by the Participant to perform the material duties of his position in a competent manner;

(iii) the conviction of the Participant for a criminal offence involving fraud or dishonesty, or which otherwise adversely impacts the reputation of the Company or a Related Entity of the Company;

(iv) failure of the Participant to act honestly or in the best interest of the Company or a Related Entity of the Company;

(v) failure of the Participant to comply with any Company rules or policies of a material nature;

(vi) failure of the Participant to obey reasonable instructions provided by him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Company or a Related Entity of the Company; or

(vii) any actions or omissions on the part of the Participant constituting gross misconduct or negligence resulting in a risk of material harm to the Company or a Related Entity of the Company;

(m) "**Change of Control**" means, except as otherwise provided herein with respect to Awards to U.S. Participants, the occurrence of one or more of the following events:

(i) individuals who, as of the Effective Date, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of the Board, provided that any person becoming a director after the Effective Date and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

(ii) any change in the holding, direct or indirect, of shares in the capital of the Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holder thereof to cast more than 50% of the voting rights attaching to all shares of the Company which may be cast to elect directors of the Company (the "**Company Voting Securities**"), provided, however, that the events described in this paragraph (ii) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

A. by the Company or a subsidiary;

B. by any employee benefit plan sponsored or maintained by the Company or any subsidiary;

C. by any underwriter temporarily holding securities pursuant to an offering of such securities;

D. pursuant to a Non-Qualifying Transaction (as defined below); or

E. from the Company pursuant to a transaction (other than one described in (iii) below), if a majority of the Incumbent Directors approve a resolution providing expressly that the acquisition pursuant to this clause shall not constitute a Change of Control;

(iii) the consummation of a merger, consolidation, share exchange or similar form of corporate transaction involving the Company or any of its subsidiaries (a "**Business Combination**"), unless immediately following such Business Combination:

A. Company Voting Securities that were outstanding immediately prior to the consummation of such Business Combination (or, if applicable, securities into or for which such Company Voting Securities were converted or exchanged pursuant to such Business Combination) represent more than 50% of the combined voting power of the then outstanding securities eligible to vote for the election of directors or trustees ("**voting power**") of (1) the entity resulting from such Business Combination (the "**Surviving Entity**"), or (2) if applicable, the ultimate parent entity that directly or indirectly has beneficial ownership of 100% of the voting securities eligible to elect directors of the Surviving Entity (the "**Parent Entity**");

B. no person (other than any employee benefit plan sponsored or maintained by the Surviving Entity or the Parent Entity) is the beneficial owner, directly or indirectly, of 50% or more of the voting power of the Parent Entity (or, if there is no Parent Entity, the Surviving Entity); and

C. at least a majority of the members of the board of directors of the Parent Entity (or, if there is no Parent Entity, the Surviving Entity)

were Incumbent Directors at the time of the Board's approval of the execution of the initial agreement providing for such Business Combination;

(any Business Combination which satisfies all of the criteria specified in (A), (B) and (C) above shall be deemed to be a "**Non-Qualifying Transaction**");

(iv) the approval by the Board or shareholders of the Company of a complete liquidation or dissolution of the Company;

(v) a sale or other disposition of all or substantially all of the property or assets of the Company, other than to an Affiliate or pursuant to a Non-Qualifying Transaction; or

(vi) any determination by the majority of Incumbent Directors of the Company that a Change of Control has occurred.

(n) "**Closing Price**" of Common Shares at any relevant date means the closing trading price of the Common Shares on the TSX (or any other Stock Exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) on the last Trading Day immediately preceding such date; provided that, if the Common Shares are not listed and posted for trading on any Stock Exchange at the time such calculation is to be made, the "Closing Price" shall be the market price of a Common Share as determined by the Board in good faith;

(o) "**Code**" means the U.S. Internal Revenue Code of 1986, as amended;

(p) "**Committee**" means the Compensation Committee of the Board, or such other committee or Persons (including, in the absence of a committee, the Board) as may be designated from time to time to administer this Plan;

(q) "**Common Shares**" means the common shares without par value in the capital of the Company as constituted on the Effective Date, provided that if the rights of any Participant are subsequently adjusted pursuant to Article 14 hereof, "**Common Shares**" thereafter means the shares or other securities or property which such Participant is entitled to purchase or receive, pursuant to this Plan, after giving effect to such adjustment;

(r) "**Company**" means SSR Mining Inc. and includes any successor company thereto;

(s) "**Company Voting Securities**" has the meaning ascribed thereto in Section 2.1(m);

(t) "**Control**" has the meaning ascribed thereto in Section 2.23 of National Instrument 45-106 – *Prospectus Exemptions*;

(u) "**Disability**" means, in the case of a Participant who is a member of a long-term disability plan of the Company or an Affiliate of the Company, the Participant's physical or mental long-term inability to substantially fulfill his duties and responsibilities on behalf of the Company or, if applicable, an Affiliate of the Company in respect of which the Participant commences receiving, or is eligible to receive, long-term disability benefits under such long-term disability plan of the Company or an Affiliate of the Company and, in the case of a Participant who is not a member of a long-term disability plan of the Company or an Affiliate of the

Company, a physical or mental impairment that prevents the Participant from engaging in any employment for which the Participant is reasonably suited by virtue of the Participant's education, training or experience and that can reasonably be expected to last for the remainder of the Participant's lifetime, as determined by the Board. Notwithstanding the foregoing, for U.S. Participants Disability has the meaning ascribed to it under Section 409A of the Code and applicable regulations.

(v) "**Effective Date**" has the meaning ascribed thereto in Section 4.1;

(w) "**Elected Redemption Date**" means the date elected by a Participant, who is not a U.S. Participant, pursuant to Section 9.12(a) or, as applicable, the date elected by a U.S. Participant pursuant to Section 9.12(b);

(x) "**Election Contest**" has the meaning ascribed thereto in Section 2.1(m);

(y) "**Eligible Person**" means an Employee or a Service Provider of the Company or a Related Entity of the Company;

(z) "**Employee**" means an individual who is considered an employee under the *Income Tax Act* (Canada) or any equivalent legislation in a jurisdiction in which the Company operates (i.e. for whom income tax, employment insurance and CPP deductions must be made at source);

(aa) "**Exercise Price**" means the price per Common Share at which a Participant may purchase Common Shares pursuant to an Option, provided that if such price is adjusted pursuant to Section 14.1, "Exercise Price" thereafter means the price per Common Share at which such Participant may purchase Common Shares pursuant to such Option after giving effect to such adjustment;

(ab) "**Expiry Date**" the date on which an Award expires;

(ac) "**Good Reason**" means "Good Reason", or an analogous term, as defined in the employment, engagement or consulting agreement, if any, between the relevant Participant and the Company or an Affiliate of the Company and, if there is no such definition or agreement, "Good Reason" will arise within twelve (12) months following a Change of Control where the Participant was induced by the actions of the employer to resign or terminate their employment or engagement other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Participant's written consent, such resignation to be effective only if the Participant has provided written notice of such occurrence to the employer immediately upon occurrence of such an event and the employer has not corrected such occurrence within a thirty (30) day period:

(i) a materially adverse change in the Participant's position, duties or responsibilities,

(ii) a materially adverse change in the Participant's reporting relationship that is inconsistent with the Participant's title or position,

(iii) a reduction by the employer of the base salary of the Participant,

(iv) a material reduction by the employer in the aggregate level of health & welfare benefits made available to the Participant, or

(v) the permanent relocation by the employer of the Participant's principal office by more than eighty (80) kilometers from the location where the Participant worked when the Change of Control occurred;

(ad) "**Incumbent Director**" has the meaning ascribed thereto in Section 2.1(m);

(ae) "**Insider**" has the meaning ascribed thereto in the TSX Company Manual;

(af) "**Legal Representative**" has the meaning ascribed thereto in Section 8.4;

(ag) "**Market Price**" of Common Shares at any relevant date means the volume weighted average trading price of the Common Shares on the TSX (or any other Stock Exchange on which the majority of the volume of trading of the Common Shares has occurred over the relevant period) over the thirty Trading Days on which a board lot of Common Shares was traded immediately preceding such date, calculated by dividing the total value of all such trades by the total volume of Common Shares so traded; provided that, if the Common Shares are not listed and posted for trading on any Stock Exchange at the time such calculation is to be made, the "Market Price" shall be the market price of a Common Share as determined by the Board in good faith. For the purpose of Section 8.1 only, the Market Price shall be calculated using the five Trading Days on which a board lot of Common Shares was traded immediately preceding such date rather than thirty Trading Days;

(ah) "**Non-Qualifying Transaction**" has the meaning ascribed thereto in Section 2.1(m);

(ai) "**Notice of Exercise**" has the meaning ascribed thereto in Section 8.4;

(aj) "**Offer**" means a bona fide arm's length offer made to all holders of voting shares in the capital of the Company to purchase, directly or indirectly, voting shares in the capital of the Company;

(ak) "**Option Expiry Date**" has the meaning ascribed thereto in Section 8.2;

(al) "**Options**" means stock options granted hereunder to purchase authorized but unissued Common Shares from the Company pursuant to the terms and conditions hereof, as evidenced by a notice of award, and "Option" means any one of them;

(am) "**Outstanding Common Shares**" at the time of any issuance of Common Shares or the grant of an Award, means the number of Common Shares that are outstanding immediately prior to the share issuance or grant of Awards in question, on a non-diluted basis, or such other number as may be determined under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange;

(an) "**Parent Entity**" has the meaning ascribed thereto in Section 2.1(m);

(ao) "**Participant**" means an Eligible Person to whom an Award has been granted under this Plan;

(ap) "**Performance Percentage**" has the meaning ascribed thereto in Section 9.6;

(aq) "**Performance Period**" means a period, as determined by the Board in accordance with Section 9.3, in respect of which a Participant may be or become entitled to receive any amount payable in respect of Performance Share Units;

(ar) "**Performance Share Unit**" means an unfunded and unsecured right granted to a Participant to receive, upon the satisfaction of certain criteria, a Common Share or payment in accordance with the provisions of this Plan and includes any dividend equivalent Performance Share Units awarded to a Participant in respect of such Performance Share Units;

(as) "**Person**" means and includes any individual, corporation, limited partnership, general partnership, joint stock company, limited liability corporation, unlimited liability company, joint venture, association, company, trust, bank, trust company, pension fund, business trust or other organization, whether or not a legal entity;

(at) "**Plan**" means this SSR Mining Inc. 2017 Share Compensation Plan, including all Schedules hereto, as the same may from time to time be supplemented or amended and in effect;

(au) "**Prior Grants**" has the meaning ascribed thereto in Section 16.8;

(av) "**Redemption Date**" means the date on which a Share Unit is redeemed;

(aw) "**Redemption Notice**" means a notice, submitted to the Company through its electronic compensation plan system or in such other form designated by the Company, pursuant to which the Participant may elect to redeem Vested Share Units and select the percentage of such redeemed Share Units that are to be redeemed for Common Shares issued from treasury;

(ax) "**Regulatory Authority**" means a Stock Exchange and all securities commissions or similar securities regulatory authorities having jurisdiction over the Company;

(ay) "**Related Entity**" means an Affiliate or a "subsidiary" of the Company as defined in the *Business Corporations Act* (British Columbia);

(az) "**Restricted Share Unit**" means an unfunded and unsecured right granted to a Participant to receive one or more Common Shares or payments in accordance with the provisions of this Plan and includes any dividend equivalent Restricted Share Units awarded to a Participant in respect of such Restricted Share Units;

(ba) "**Retires**" or "**Retirement**" means the resignation of an Eligible Person which the Board, in its sole discretion, determines to treat as a retirement, including subject to any conditions imposed by the Board;

(bb) "**Securities Act**" means the *Securities Act* (British Columbia), as amended from time to time;

(bc) "**Separation from Service**" means separation from service as such term is defined under Section 409A of the Code;

(bd) "**Service Provider**", as set out in section 613 of the TSX Company Manual, means a person or company engaged by the Company to provide services for an initial, renewable or extended period of twelve months or more and, for greater certainty, does not include an Employee;

(be) "**Share Unit Account**" has the meaning ascribed thereto in Section 9.8;

(bf) "**Share Units**" means Performance Share Units and Restricted Share Units, as applicable, and "**Share Unit**" means any one of them;

(bg) "**Share Unit Expiry Date**" has the meaning ascribed thereto in Section 9.11;

(bh) "**Stock Exchange**" means the TSX and the NASDAQ Stock Market, and any other stock exchange on which the Common Shares are listed or posted for trading;

(bi) "**Surviving Entity**" has the meaning ascribed thereto in Section 2.1(m);

(bj) "**Target Milestones**" means performance targets determined pursuant to Section 9.4;

(bk) "**Termination Date**" means:

(i) in the case of a Participant who is not a U.S. Participant, the Participant's last day of active employment with the Company or a Related Entity of the Company or last active day as a Service Provider with the Company or a Related Entity, provided that, if such day is not a Trading Day, the Termination Date shall be the Trading Day immediately preceding such day, notwithstanding Section 3.1(f); and

(ii) in the case of a U.S. Participant, the date on which the U.S. Participant experiences a Separation from Service.

For greater certainty, the determination of the Termination Date of a Participant shall not include any period of statutory, contractual or reasonable notice of termination of employment or any period of salary continuance or deemed employment;

(bl) "**Trading Day**" means any date on which the Stock Exchange is open for the trading of Common Shares and on which at least a board lot of Common Shares is traded, provided that, if the Common Shares are listed on more than one Stock Exchange, "**Trading Day**" means any date on which the Stock Exchange on which the majority of the Company's trading occurs is open for the trading of Common Shares and on which at least a board lot of Common Shares is traded;

(bm) "**TSX**" means the Toronto Stock Exchange;

(bn) "**U.S. Participant**" means an Eligible Person who is a U.S. citizen or a U.S. resident, in each case as defined in Section 7701(a)(3)(A) and Section 7701(b)(1)(A) of the Code;

(bo) "**Vested Performance Share Units**" has the meaning ascribed thereto in Section 9.7;

(bp) "**Vested Restricted Share Units**" has the meaning ascribed thereto in Section 9.1;

(bq) "**Vested Share Units**" means Vested Performance Share Units and Vested Restricted Share Units, as applicable, and "Vested Share Unit" means any one of them;

(br) "**Vesting Date**" means:

(i) each date on which Options granted to a Participant vest as determined by the Board, in its sole discretion, in accordance with Section 8.3;

(ii) for Performance Share Units granted to a Participant, the date on which the Performance Period ends; and

(iii) each date on which Restricted Share Units granted to a Participant vest as determined by the Board, in its sole discretion, in connection with such grant; and

(bs) "**voting power**" has the meaning ascribed thereto in Section 2.1(m).

Article 3.
INTERPRETATION

3.1 Interpretation. In this Plan, except as otherwise expressly provided:

(a) any reference in this Plan to a designated "Article", "Section" or other subdivision or Schedule is a reference to the designated Article, Section or other subdivision of or Schedule to this Plan;

(b) the words "herein", "hereof" and "hereunder" and other words of similar import refer to this Plan as a whole and not to any particular Article, Section or other subdivision of, or Schedule to, this Plan;

(c) the headings are for convenience only and do not form a part of this Plan and are not intended to interpret, define or limit the scope, extent or intent of this Plan;

(d) words importing the singular number only shall include the plural and vice versa and words importing the use of any gender shall include any other gender, the word "or" is not exclusive and the word "including" is not limiting whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto;

(e) unless otherwise provided, all amounts are stated in Canadian dollars and are to be paid in Canadian dollars, U.S. dollars or any other currency that is accepted as legal tender in the countries in which the Company operates; and

(f) where the time for doing an act falls or expires on a day which is not a Business Day, the time for doing such act is extended to the next Business Day.

Article 4.
EFFECTIVE DATE OF PLAN

4.1 Effective Date of this Plan. The effective date (the "**Effective Date**") of this Plan is May 4, 2017, the date on which this Plan was approved by the shareholders of the Company.

4.2 Three Year Shareholder Approval. In accordance with the requirements of the TSX, any unallocated Awards under the rolling 6.5% maximum allowed under Section 6.1 will require the further approval of the Board and shareholders of the Company at least once during each three (3) year period that has elapsed from the Effective Date.

Article 5.
ADMINISTRATION OF PLAN

5.1 **Administration of Plan.** This Plan shall be administered by the Board, taking into consideration any recommendations from the Committee. Subject to the provisions of this Plan, applicable laws and any approvals required of any regulatory authorities to which the Company is subject, including any Stock Exchange, the Board shall have the power and authority to make all decisions relating to the administration and implementation of this Plan including, without limitation, determining the types and number of Awards to be granted and the terms of such Awards. Unless otherwise expressly provided in this Plan, all designations, determinations, interpretations and other decisions under or with respect to this Plan or any Award are within the sole discretion of the Board and may be made at any time. Such designations, determinations, interpretations and other decisions shall be final, conclusive and binding upon any Eligible Person and any holder or beneficiary of any Award.

5.2 **Delegation.** Subject to applicable laws and the rules of any regulatory authorities to which the Company is subject, including the Stock Exchange, the Board may delegate to the Committee or any director, officer or employee of the Company such duties and powers of the Board relating to this Plan as it may see fit. To the extent the Board has delegated any such duties and powers to the Committee or any such individual then all references in this Plan to the Board shall be read as the Committee or any such individual, as applicable, to the extent such reference relate to the duties and powers that have been so delegated.

Article 6.
COMMON SHARES AVAILABLE FOR AWARDS

6.1 **Common Shares Available**. Subject to Section 6.2 and to adjustment as provided in Article 14, the aggregate number of Common Shares that may be issuable pursuant to the Aggregate Plans, shall not at any time exceed 6.5% of the then Outstanding Common Shares.

6.2 **Common Shares Available for Full-Value Awards**. For the purposes of Section 6.1, and subject to Section 6.3, the aggregate number of Common Shares that may be issuable pursuant to Share Units awarded under this Plan shall not at any time exceed 2% of the then Outstanding Common Shares, and no Share Unit may be granted if such grant would have the effect of causing the total number of Common Shares potentially issuable in respect of Share Units to exceed the percentage set out above in this Section 6.2.

6.3 **Other Accounting for Award**. Any Common Shares related to an Award which has been exercised or which terminates by expiration, forfeiture, cancellation or otherwise without the issuance of such Common Shares shall again be available for issuance under this Plan. Common Shares shall not be deemed to have been issued pursuant to this Plan with respect to any portion of an Award that is settled in cash or by delivery to a Participant of Common Shares purchased through the facilities of any Stock Exchange, in accordance with the terms of this Plan.

6.4 **Reservation of Shares**. The Board will reserve for allotment, from time to time, out of the authorized but unissued Common Shares, sufficient Common Shares to provide for issuance of all Common Shares which are issuable under all outstanding Awards.

6.5 **No Fractional**. No fractional Common Shares may be purchased or issued under this Plan.

Article 7.
GRANT OF AWARDS

7.1 **Eligible Persons**. Subject to the rules set out below, the Board may, from time to time, grant to any Eligible Person one or more Awards, as the Board deems appropriate, in its sole discretion. A Participant, who holds any Award at the time of the granting of a subsequent Award, may hold more than one type of Award. No grants of Performance Share Units shall be made by the Board more than 90 days following the commencement of the applicable Performance Period.

7.2 **Date Award Granted**. The date on which an Award will be deemed to have been granted under this Plan will be the date on which the Board authorizes the grant of such Award or such future date as specified by the Board at the time the grant of such Award is authorized.

7.3 **Number of Common Shares / Maximum Grant**. The number of Common Shares that may be purchased under any Award, or the amount of any Award that shall be granted in any form that may result in the issuance of Common Shares, will be determined and fixed by the Board at the date of grant, provided that:

(a) the number of Common Shares reserved for issuance to any one Participant pursuant to the Aggregate Plans within any one (1) year period shall not, in aggregate, exceed 5% of the total number of Outstanding Common Shares; and

(b) the number of Common Shares:

(i) issuable, at any time, to Participants that are Insiders, and

(ii) issued to Participants that are Insiders within any one (1) year period,

pursuant to the Aggregate Plans shall not, in aggregate, exceed 5% of the total number of Outstanding Common Shares.

For the purposes of this Section 7.3, Common Shares issued pursuant to an entitlement granted prior to the grantee becoming an Insider may be excluded in determining the number of Common Shares issuable to Insiders.

7.4 **No Certificates.** No certificates shall be issued with respect to Awards. All records relating to the Awards shall be maintained in the Company's electronic compensation plan system.

Article 8.
OPTIONS

8.1 **Exercise Price**. The Exercise Price per Common Share under each Option shall not be less than the greater of the Market Price of the Common Shares at the time of grant and the Closing Price of the Common Shares at the time of grant. Notwithstanding anything else contained herein, in no case will the Exercise Price per Common Share under each Option be less than the minimum prescribed by any Stock Exchange at the time of grant.

8.2 **Term of Options**. Subject to Article 11 and Section 13.1, the Expiry Date for each Option will be the date determined by the Board and specified in the notice of award pursuant to which such Option is granted (the "**Option Expiry Date**"), provided that such date may not be later than the earlier of: (i) the date which is the seventh (7^{th}) anniversary of the date on which such Option is granted, and (ii) the latest date permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange.

8.3 **Vesting and Other Restrictions**. Subject to the terms and conditions of this Plan, the Board shall, in its sole discretion, determine the Vesting Dates and the proportion of Options to vest on each such Vesting Date applicable to each award of Options at the time of such award. Unless otherwise specified herein or determined by the Board, Options granted to a Participant shall vest, as to one-third of the number of such Options, on each of the first, second and third anniversaries of the date of grant, subject to the Participant continuing to be an Eligible Person.

8.4 **Exercise of Options**. Each Option granted under this Plan may be exercised only by notice ("**Notice of Exercise**") submitted to the Company through its electronic compensation plan system, or in such other form designated by the Company and signed by the Participant, or the legal representative or committee or attorney, as the case may be (the "**Legal Representative**"), of the Participant, and delivering to the Administrator full payment for an amount equal to the aggregate Exercise Price of the Common Shares being purchased. Such consideration may be paid in any combination of the following:

(a) bank draft or certified cheque payable to the Company; or

(b) such other consideration as the Board may permit, consistent with applicable laws.

As soon as practicable after any exercise of an Option, the Company shall issue to the Participant the Common Shares in respect of which such Option is exercised.

8.5 **Cashless Exercise**. Notwithstanding any other provision of the Plan, unless otherwise determined by the Board, in its sole discretion, a Participant may elect "cashless" exercise in a Notice of Exercise. In such case, the Participant will not be required to deliver to the Company the bank draft or certified cheque referred to in Section 8.4(a). Instead, the number of Common Shares to be issued or otherwise provided to the Participant upon such election is the number obtained: by dividing (a) the difference between (i) the difference between the Cashless Exercise Sale Price and the Exercise Price, multiplied by the number of Common Shares in respect of which the Option would otherwise be exercised upon payment of the aggregate Exercise Price and (ii) all applicable fees incurred by the Company in connection with the cashless exercise, by (b) the Cashless Exercise Sale Price. Upon any such election, the Company may, instead of issuing or otherwise providing to the Participant the number of Common Shares calculated in accordance with the preceding sentence, pay the Participant by cheque the amount of money calculated in accordance with clause (a).

1.6 **U.S. Provisions.** Any adjustment to or amendment of an outstanding Option granted to a U.S. Participant (including, but not limited to, amendments or adjustments contemplated under Article 15 or Article 14 with respect to the exercise price and number of Common Shares subject to an Option, and adjustments with respect to extension of the term of an Option, and any other amendments or adjustments otherwise permitted pursuant to Section 5.1) will be made so as to comply with, and not create any adverse consequences under, Section 409A of the Code.

Article 9.
SHARE UNIT AWARDS

Restricted Share Unit Award

9.1 **Vesting Provisions**. The Board shall, in its sole discretion, determine the Vesting Dates and the proportion of Restricted Share Units to vest on each such Vesting Date applicable to each grant of Restricted Share Units at the time of such grant. Unless otherwise specified

herein or determined by the Board, Restricted Share Units granted to a Participant shall vest, as to one-third of the number of such Restricted Share Units, on each of the first, second and third anniversaries of the date on which they were granted, subject to the Participant continuing to be an Eligible Person. Dividend equivalent Restricted Share Units awarded to Participants under Section 9.10 shall vest with the Restricted Share Units in respect of which they were credited to the Participant's Share Unit Account. Except where the context requires otherwise, the Restricted Share Units which have so vested shall be referred to herein as "**Vested Restricted Share Units**".

9.2 **Vesting During Continued Eligibility.** Subject to Article 11 and Article 15, Restricted Share Units granted to a Participant shall vest on the Vesting Dates, in accordance with the provisions of this Article 9, provided the Participant remains an Eligible Person on the applicable Vesting Date.

Performance Share Unit Award

9.3 **Performance Period**. The Board shall, in its sole discretion, determine the Performance Period applicable to each grant of Performance Share Units at the time of such grant. Unless otherwise specified by the Board, the Performance Period applicable to a grant of Performance Share Units shall be a period of 36 months commencing on the 1st of January and ending on December 31st.

9.4 **Determination of Target Milestones**. The Target Milestones for each Performance Period shall be determined by the Board, in its sole discretion, based on measurable performance criteria established by the Board in advance. Unless otherwise determined by the Board the Target Milestones for each Performance Share Unit shall be as set forth in Schedule "A".

9.5 **Vesting During Eligibility**. Subject to Article 11 and Article 15, Performance Share Units granted to a Participant shall vest on the Vesting Date in accordance with this Article 9, provided the Participant remains an Eligible Person on the applicable Vesting Date.

9.6 **Determination of Performance Percentage**. The performance achievement of the Target Milestones for an applicable Performance Period shall be determined by assigning a percentage from 0 per cent to 200 per cent reflecting such performance (the "**Performance Percentage**").

9.7 **Vesting of Performance Share Units Based on Performance Percentage**. Unless otherwise determined by the Board, and subject to Article 11, the number of Performance Share Units granted to the Participant which shall vest on the Vesting Date shall be calculated by multiplying (a) the aggregate number of such Performance Share Units by (b) the Performance Percentage. Except where the context requires otherwise, the Performance Share Units which have so vested shall be referred to herein as "**Vested Performance Share Units**".

Share Unit Account

9.8 **Share Unit Account**. An account, to be known as a "**Share Unit Account**", shall be maintained by the Company for each Participant and shall be credited with such Share Units that are granted to the Participant.

9.9 **Cancellation of Share Units that Fail to Vest or Are Redeemed**. Share Units that fail to vest or be redeemed in accordance with this Article 9 or Article 11 shall be cancelled and shall cease to be recorded in the Share Unit Account of the relevant Participant as of the

date on which such Share Units are forfeited or redeemed, as the case may be, and the Participant will have no further right, title or interest in or to such Share Units.

9.10 Dividends. Whenever cash dividends are paid on the Common Shares, additional Share Units will be credited to a Participant's Share Unit Account in accordance with this Section 9.10. The number of such additional Restricted Share Units and/or Performance Share Units, as the case may be, to be so credited will be calculated by dividing (a) the cash dividends that would have been paid to such Participant if the Share Units recorded in the Participant's Share Unit Account as at the record date for the dividend had been Common Shares by (b) the Closing Price on the Trading Day immediately preceding the date on which the Common Shares began to trade on an ex-dividend basis, rounded down to the next whole number of Share Units. The additional Share Units granted to a Participant shall be subject to the same terms and conditions, including vesting and settlement terms, as the corresponding Restricted Share Units or Performance Share Units, as the case may be. No fractional Share Units will thereby be created.

Expiry and Redemption of Share Units

9.11 Term of Share Units. Subject to Article 11 and Section 13.2, the Expiry Date for each Share Unit will be the date determined by the Board and specified in the notice of award pursuant to which such Share Unit is granted (the "**Share Unit Expiry Date**"), provided that such date may not be later than the earlier of: (i) the date which is the tenth (10^{th}) anniversary of the date on which such Share Unit is granted, and (ii) the latest date permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange.

9.12 Elected Redemption Date Notice. Except to the extent the award of a Share Unit specifies that redemption will automatically occur on a date prior to the Expiry Date, participants shall elect, by submitting a Redemption Notice, an Elected Redemption Date for Share Units as follows:

(a) Participants that are not U.S. Participants may elect at any time to redeem Vested Share Units on any date or dates after the date the Share Units become Vested Share Units and on or before the Expiry Date; and

(b) U.S. Participants may irrevocably elect to have Vested Share Units redeemed on a fixed date or dates after the date the Share Units become Vested Share Units and on or before the Expiry Date provided that such election must be irrevocably made prior to the earlier of: (i) receipt by the U.S. Participant of each award of Share Units; and (ii) the first day of the taxable year of the U.S. Participant in which the Performance Period, or other period over which the awards is to be earned and vests, begins. For this purpose a "fixed date" may include any permissible payment event under Section 409A of the Code, for example, Separation from Service or a Change of Control (if also a change of control for purposes of Section 409A of the Code).

If a Participant who is not a U.S. Participant does not elect an Elected Redemption Date in respect of an award of Share Units in accordance with Section 9.12(a), the Share Units shall be redeemed on the Expiry Date in accordance with Section 9.13. If a U.S. Participant does not timely elect an Elected Redemption Date in respect of an award of Share Units in accordance with Section 9.12(b), the Vesting Date shall be deemed to be the Elected Redemption Date and the Share Units shall be redeemed in accordance with Section 9.13.

9.13 Redemption of Share Units. The Company shall redeem the Vested Share Units elected to be redeemed by the Participant on the earlier of (i) within fifteen Business Days of the Elected Redemption Date and (ii) the date set out in Article 11 or Section 12.1, if applicable, by, subject to Section 10.5, at the election of the Participant in the Redemption Notice, issuing to the Participant the number of Common Shares equal to the number of Vested Share Units elected to be redeemed. If the Participant does not elect in the Redemption Notice to have the Vested Share Units redeemed by the issuance of Common Shares then, at the Board's sole discretion, the Vested Share Units shall be redeemed on the earlier of (i) within fifteen Business Days of the Elected Redemption Date and (ii) the date set out in Article 11 or Section 12.1, if applicable, by, subject to Section 10.5: (i) issuing to the Participant the number of Common Shares equal to the number of Vested Share Units elected to be redeemed; (ii) paying the Participant a cash amount equal to the Market Price of such Vested Share Units on the Redemption Date; or (iii) purchasing on the open market the number of Common Shares equal to the number of Vested Share Units to be redeemed for delivery to the Participant. Notwithstanding the foregoing or any other provision in the Plan, if Share Units held by a U.S. Participant will be redeemed as a result of the U.S. Participant's Separation from Service, and such U.S. Participant is a Specified Employee as defined under Section 409A of the Code and applicable regulations at the time of such Separation from Service, the redemption of Share Units that are subject to Section 409A of the Code will be delayed until a date that is six months and one day following the date of the Separation from Service.

Article 10.
GENERAL TERMS OF AWARDS

10.1 Consideration for Awards. Awards may be granted for no cash consideration or for any cash or other consideration as determined by the Board and required by applicable law.

10.2 Notice of Award. The Company shall provide the applicable Eligible Person with a notice of an Award promptly after it is granted. If required by the Company, the Eligible Person may be required to return an acknowledgement of such Award in such form as required by the Company.

10.3 Awards May Be Granted Separately or Together. Awards may, in the discretion of the Board, be granted alone, in addition to, or in tandem with, any other Award or any award granted under any plan of the Company or any Affiliate of the Company. Awards granted in addition to or in tandem with other Awards or in addition to or in tandem with awards granted under any such other plan of the Company or any Affiliate of the Company may be granted either at the same time as or at a different time from the grant of such other Awards or awards.

10.4 Forms of Payment under Awards. Subject to the terms of this Plan, payments or transfers to be made by the Company or an Affiliate of the Company upon the grant, exercise or payment of an Award may be made in such form or forms as the Board shall determine (including, without limitation, cash in any currency that is accepted as legal tender in the countries in which the Company operates, Common Shares, promissory notes, other securities, other Awards or other property, or any combination thereof), and may be made in a single payment or transfer, in instalments or on a deferred basis, in each case in accordance with rules and procedures established by the Board. Such rules and procedures may include, without limitation, provisions for the payment or crediting of reasonable interest on instalment or deferred payments or the grant or crediting of dividend equivalents with respect to instalment or deferred payments. Notwithstanding the foregoing, the settlement/pay out with respect to Share Units of U.S. Participants will not be accelerated or delayed unless such acceleration or delay is permitted under applicable U.S. tax

principles, including, but not limited to, Section 409A of the Code to the extent it is applicable.

10.5 Withholding Tax. The Company or an Affiliate of the Company may take such reasonable steps for the deduction and withholding of any taxes and other required source deductions which the Company or an Affiliate of the Company, as the case may be, is required by any law or regulation of any governmental authority whatsoever to remit in connection with this Plan or the grant of any Options or Share Units or any issuance of Common Shares in relation thereto. Without limiting the generality of the foregoing, the Company may, at its discretion:

(a) deduct and withhold those amounts it is required to remit from any cash remuneration or other amount payable to the Participant, whether or not related to this Plan, upon the exercise of any Options, the redemption of any Share Units or the issuance or transfer of any Common Shares in relation to this Plan;

(b) require the Participant to make a cash payment to the Company equal to the amount required to be remitted, which amount shall be remitted by the Company to the appropriate governmental authority for the account of the Participant; or

(c) sell, or engage a broker to sell, on behalf of the Participant, that number of Common Shares to be issued or transferred upon the exercise of Options or redemption of Share Units such that the amount withheld by the Company from the proceeds (net of selling costs) of such sale will be sufficient to satisfy any taxes required to be remitted by the Company for the account of the Participant.

Where the Company considers that the steps undertaken in connection with the foregoing result in inadequate withholding or a late remittance of taxes, the delivery of any Common Shares to be issued to a Participant pursuant to this Plan may be made conditional upon the Participant (or other Person) reimbursing or compensating the Company or making arrangements satisfactory to the Company for the payment in a timely manner of all taxes required to be remitted for the account of the Participant.

Each Participant or his or her Legal Representative, as the case may be, is solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on or for the account of such Participant in connection with the Plan (including any taxes and penalties under section 409A of the Code or any applicable law), and neither the Company nor any Affiliate of the Company shall have any obligation to indemnify or otherwise hold such Participant or the Participant's Legal Representative harmless from any or all of such taxes or penalties.

10.6 Restrictions, Stock Exchange Listing. All Common Shares or other securities delivered under this Plan pursuant to any Award or the exercise thereof shall be subject to any restrictions or repurchase rights as the Board may deem advisable under this Plan, applicable securities laws and regulatory requirements, including the requirements of any Stock Exchange, and applicable Canadian corporate laws, and the Board may direct appropriate restrictions or repurchase rights and cause legends to be placed on the certificates for such Common Shares or other securities to reflect such restrictions or repurchase rights, as applicable. If the Common Shares or other securities are traded a Stock Exchange or Stock Exchanges, the Company shall not be required to deliver any Common Shares or other securities covered by an Award unless and until such Common Shares or other securities have been admitted for trading on such Stock Exchange(s).

10.7 Provisions Relating to Common Share Issuances. Each notice of award will contain such provisions, as in the opinion of the Board, are required to ensure that no Common Shares are issued on the exercise or redemption of an Award, as applicable, unless the Board is satisfied that the issuance of such Common Shares will be exempt from all registration or qualification requirements of applicable securities laws and will be permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange. In particular, if required by any regulatory authority to which the Company is subject, including any Stock Exchange, a notice of award may provide that shareholder approval to the grant of an Award must be obtained prior to the exercise or redemption of the Award, as applicable, or to the amendment of the notice of award.

10.8 Compliance with Section 409A. It is intended that Share Units either will be exempt from Section 409A of the Code, or will comply with the requirements of Section 409A of the Code and the provisions of this Plan and related notice of awards will be construed and administered accordingly.

10.9 Change in Status. A change in the status, office, position or duties of a Participant from the status, office, position or duties held by such Participant on the date on which the Award was granted to such Participant will not result in the termination of the Award granted to such Participant provided that such Participant remains an Eligible Person.

10.10 Non-Transferability of Awards. Awards are not transferable or assignable. Awards may only be exercised by the Participant or in the event of:

(a) the death of the Participant (or, in the case of a Service Provider, the death of the principal in respect of such Service Provider); or

(b) the appointment of a committee or duly appointed attorney of the Participant on the grounds that the Participant is incapable, by reason of physical or mental infirmity, of managing their affairs (or, in the case of a Service Provider, the appointment of a committee or duly appointed attorney of the principal in respect of such Service Provider),

by the Participant's Legal Representative.

10.11 No Interest. For greater certainty, no interest shall be payable to Participants in respect of any amount payable under this Plan.

10.12 Conditions. Notwithstanding any of the provisions contained in this Plan or in any notice of award, the Company's obligation to issue Common Shares to a Participant pursuant to the exercise of an Option, redemption of any Share Units or the granting of any Award will be subject to, if applicable:

(a) completion of such registration or other qualification of such Common Shares or obtaining approval of such governmental authority as the Company will determine to be necessary or advisable in connection with the authorization, issuance or sale thereof; and

(b) the receipt from the Participant of such representations, agreements and undertakings, including as to future dealings in such Common Shares, as the Company or its counsel determines to be necessary or advisable in order to safeguard against the violation of the securities laws of any jurisdiction.

Article 11.
CEASING TO BE AN ELIGIBLE PERSON

11.1 Ceasing to be an Eligible Person. If a Participant ceases to be an Eligible Person (and, in the case of any Participant who is a U.S. Participant, such U.S Participant experiences a Separation from Service) for any reason other than as set out in Sections 11.2 to 11.5 including, without limitation, as a result of such Participant's resignation (other than in circumstances described in Article 15) then:

(a) only the portion of the Option that is vested and exercisable as of the Termination Date may be exercised by the Participant. Any such exercise must be during the period ending on the earlier of (i) thirty (30) days after the Termination Date and (ii) the Option Expiry Date, after which period the Option will expire. For greater certainty, any portion of the Option that is unvested as of the Termination Date shall terminate on the Termination Date;

(b) all Vested Share Units shall be redeemed immediately in accordance with Section 9.13 and all unvested Share Units shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Share Units.

11.2 Termination for Cause. If a Participant is terminated for Cause or a Participant's contract as a Service Provider is terminated by the Company or a Related Entity of the Company before its normal termination date for Cause, including where a Participant resigns from their employment or terminates their contract as a Service Provider after being requested to do so by the Company or a Related Entity of the Company, as an alternative to being terminated for Cause, and as a result the Participant ceases to be an Eligible Person:

(a) then all Options held by such Participant (including those Options that have vested) shall terminate on the Termination Date;

(b) all Vested Share Units and unvested Share Units shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such Share Units.

11.3 Termination without Cause. If a Participant ceases to be an Eligible Person (and, in the case of any Participant who is a U.S. Participant, such U.S. Participant experiences a Separation from Service) as the result of such Participant being terminated as an Employee or Service Provider (prior to the expiry of their term of engagement) without Cause (other than in circumstances described in Article 15):

(a) such portion of the Participant's unvested Options shall vest immediately prior to the Participant's Termination Date, as determined by the formula (A*(B/C)) - D where:

(i) A is the total number of Options (vested and unvested) that were granted on the same date pursuant to the same notice of award as the unvested Options (the "**Applicable Options**");

(ii) B is the number of completed months from the first day the unvested Options were granted to the Termination Date;

(iii) C is the number of months from the date of grant of the Applicable Options to the latest Vesting Date of the Applicable Options as approved by the Board; and

(iv) D is the total number of vested Applicable Options.

The Expiry Date of all vested Options shall be the earlier of (i) ninety (90) days after the Termination Date and (ii) the Option Expiry Date. For greater certainty, any portion of the Option that is unvested on the Termination Date shall terminate on the Termination Date;

(b) such portion of the Participant's unvested Restricted Share Units shall vest immediately prior to the Participant's Termination Date, as determined by the formula (A*(B/C)) - D where:

(i) A is the total number of Restricted Share Units (vested and unvested) that were granted on the same date pursuant to the same notice of award as the unvested Restricted Share Units plus all and related dividend equivalent Restricted Share Units (vested and unvested) (the "**Applicable Restricted Share Units**");

(ii) B is the number of completed months from the first day the unvested Restricted Share Units were granted to the Termination Date;

(iii) C is the number of months from the date of grant of the Applicable Restricted Share Units to the latest Vesting Date of the Applicable Restricted Share Units as approved by the Board; and

(iv) D is the total number of vested Applicable Restricted Share Units.

All Vested Restricted Share Units shall be redeemed immediately in accordance with Section 9.13 and all unvested Restricted Share Units on the Termination Date shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant as of the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Restricted Share Units;

(c) a pro rata portion of the Participant's unvested Performance Share Units shall vest in accordance with their terms, based on the product of (i) the product of (y) the number of completed months from the first day of the Performance Period to the Termination Date divided by the number of months in the Performance Period and (z) the number of unvested Performance Share Units and (ii) the Performance Percentage. The Performance Percentage shall be determined at the end of the Performance Period using the same factors as if the Participant had remained an Eligible Person until the scheduled vesting date for the Performance Share Units. All Vested Performance Share Units shall be redeemed immediately after the last day of the Performance Period pursuant to Section 9.13 and all unvested Performance Share Units on the Termination Date that will not be vested in accordance with this Section 11.3(c) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant Participant on the Termination Date, and the Participant will have no further right, title or interest in or to such unvested Performance Share Units.

11.4 Death. If a Participant ceases to be an Eligible Person as a result of the Participant's death or if a Participant's contract as a Service Provider is frustrated before its normal termination date due to death, then:

(a) all unvested Options will immediately vest on the Termination Date and the vested Options will continue to be exercisable pursuant to Section 8.2 after the death of the Participant (or, in the case of a Service Provider that is not an individual, the death of the principal which results in the frustration of the Service Provider's contract). The exercise of all vested Options that were granted to the Participant must be effected by a Legal Representative of the Participant's estate (or, in the case of a Service Provider that is not an individual, the Legal Representative of the principal in respect of such Service Provider) or by a Person who acquires the Participant's rights under the Options by bequest or inheritance, and such Options will expire on the earlier of (i) twelve (12) months after the Termination Date and (ii) the Option Expiry Date;

(b) all unvested Share Units granted to the Participant shall vest on the Termination Date and the Termination Date shall be the Vesting Date and all Vested Share Units shall be redeemed immediately pursuant to Section 9.13. The Performance Percentage for each Vested Performance Share Unit shall be 100.

11.5 Retirement of Non U.S. Participants/Disability. If a Participant who is not a U.S. Participant ceases to be an Eligible Person as a result of a Disability or Retirement or if such a Participant's contract as a Service Provider is frustrated before its normal termination date due to a Disability or if a U.S. Participant experiences a Disability then:

(a) all unvested Options shall continue to vest pursuant to their original terms for a period of three years from the Termination Date. The Expiry Date for all Vested Options, including those Options that vest pursuant to the terms of this Section 11.5(a), shall be the period ending on the earlier of (i) three years after the Termination Date and (ii) the Option Expiry Date, after which period the Options will expire;

(b) all unvested Share Units shall continue to vest pursuant to their original terms for a period of three years from the Termination Date. The Expiry Date for all Vested Share Units shall be the earlier of (i) three years after the Termination Date or in the case of a U.S. Participant three years after the Disability or Separation from Service and (ii) the Share Unit Expiry Date. The Performance Percentage for Performance Share Units that vest pursuant to this Section 11.5(b) shall be determined on the same basis as if the Participant continued to be an Eligible Person.

11.6 Retirement of U.S. Participants. If a U.S. Participant experiences a Separation from Service, as a result of the U.S. Participant's Retirement prior to the Vesting Date of any:

(a) Options awarded to the U.S. Participant, the Board shall determine whether, in respect of each grant of Options, the Options, or any portion thereof, granted to such U.S. Participant shall vest on the Termination Date and in such case the Termination Date shall be the Vesting Date; and

(b) unvested Share Units awarded to the U.S. Participant, the Board shall have the discretion to determine that, in respect of each grant of such Share Units, the Share Units, or a portion thereof, granted to such U.S. Participant shall vest on the Termination Date and in such case the Termination Date shall be the Vesting Date. If the Board determines that any Performance Share Units should vest on the

Termination Date then the Board shall determine the Performance Percentage to be applied based on factors determined by the Board in its discretion, including the objective measure of performance toward achievement of the Target Milestones through to the Termination Date and such other factors as the Board determines appropriate in the circumstances. All Vested Restricted Share Units and Restricted Share Units that become vested pursuant to this Section 11.6(b) shall be redeemed immediately in accordance with Section 9.13 and any unvested Restricted Share Units that do not become vested pursuant to this Section 11.6(b) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant U.S. Participant as of the Termination Date, and the U.S. Participant will have no further right, title or interest in or to such unvested Restricted Share Units; and (ii) all Vested Performance Share Units and Performance Share Units that become vested pursuant to this Section 11.6(b) shall be redeemed immediately after the last day of the Performance Period in accordance with Section 9.13 and any unvested Performance Share Units that do not become vested pursuant to this Section 11.6(b) shall be forfeited and cancelled and cease to be recorded in the Share Unit Account of the relevant U.S. Participant as of the Termination Date, and the U.S. Participant will have no further right, title or interest in or to such unvested Performance Share Units

Article 12.
CHANGE OF CONTROL

12.1 Change of Control. For purposes of this Section 12.1, with respect to Share Units of U.S. Participants, Change of Control shall mean the events and circumstances described in the Change of Control definition set forth in Section 2.1(m), provided that such event or circumstance also is a "change of control event" within the meaning of Section 409A of the Code. Subject to the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange, and notwithstanding any other provision of this Plan, in the event of a Change of Control, the following provisions shall apply:

(a) in the event of a transaction that would result in a Change of Control the Board may, in its sole discretion, immediately vest all unvested Awards, provided that with respect to Awards granted to U.S. Participants such acceleration of vesting will not change the time of redemption/payment with respect to Share Units that are subject to Section 409A of the Code, except to the extent permitted under Section 409A. If the Board vests any Performance Share Units pursuant to this Section 12.1(a) then, the Performance Percentage for such Vested Performance Share Units shall be between 100 per cent and 200 per cent, as determined by the Board, in its sole discretion; and

(b) in the event of a Change of Control and the termination of an Employee or Service Provider's engagement within 12 months after the Change of Control for any reason other than resignation without Good Reason or termination for Cause:

(i) all unvested Options held by such Participant shall immediately vest on the Termination Date and the Expiry Date of all Vested Options held by the Participant shall be the earlier of (i) twelve months after the Termination Date and (ii) the Option Expiry Date;

(ii) all unvested Restricted Share Units held by such Participant shall immediately be deemed to be Vested Restricted Share Units as of the Termination Date, which, for the purposes of this Section 12.1(b)(ii), shall

be deemed to be the Vesting Date, and the Company shall immediately redeem such Vested Restricted Share Units for, at the election of the Participant, (i) Common Shares issued from treasury, (ii) Common Shares purchased on the open market or (iii) a cash amount equal to the Market Price of such Vested Restricted Share Units as of the Termination Date; and

(iii) all unvested Performance Share Units held by such Participant shall immediately be deemed to be Vested Performance Share Units as of the Termination Date, which, for the purposes of this Section 12.1(b)(iii), shall be deemed to be the Vesting Date, based on an assumed Performance Percentage of (a) 100 per cent or (b) at the Board's discretion, between 100 per cent and 200 per cent and the Company shall immediately redeem such Vested Performance Share Units for, at the election of the Participant, (i) Common Shares issued from treasury, (ii) Common Shares purchased on the open market or (iii) a cash amount equal to the Market Price of such Vested Performance Share Units as of the Termination Date;

Notwithstanding the foregoing provisions of this Article 15, the Board may, in its sole discretion, make such determinations as it considers appropriate in the circumstances upon a Change of Control to ensure the fair treatment of Participants in such circumstances in light of the objectives of this Plan, including, without limitation, with respect to the vesting periods and Performance Percentages applicable to any Share Units, the amounts to be paid to Participants on the redemption of any Share Units and/or the termination of this Plan (and, for greater certainty, such determinations may result in different vesting, redemption or payment terms than would result from the operation of Sections 12.1(a) and (b) without such determinations).

1.2 Change of Control – Exercise to Participate in Transaction. Notwithstanding Section 12.1, the Board may, in its sole discretion, allow a Participant to exercise an Option or redeem a Share Unit that has not otherwise vested for Common Shares, and

(a) if a "take-over bid" (within the meaning of applicable securities legislation) made by any Person for the voting securities of the Company would, if successful, result in a Change of Control, then the Participant may exercise such Option or redeem such Share Unit for Common Shares during the period ending on the earlier of the expiration of the take-over bid and the Expiry Date solely for the purpose of depositing the Common Shares related to such Option or Share Unit pursuant to the take-over bid, and

(b) if any other transaction or series of transactions is contemplated, which would, if successful, result in a Change of Control, then the Participant may exercise their Option or redeem their Share Unit for Common Shares during such period as is determined by the Board to be reasonable in the circumstances solely for the purpose of participating in the transaction or series of transactions;

provided that if such Change of Control does not occur then the Participant shall promptly return the Common Shares (or the portion that are not taken up and paid for) to the Company for cancellation, the Option or Share Unit respecting such Common Shares shall be deemed not to have been exercised or redeemed, as applicable, the Common Shares shall be deemed not to have been issued and in the case of an Option, the Company shall refund to the Participant the aggregate Exercise Price for the Common Shares (unless the Participant elected cashless exercise).

Article 13.
BLACKOUT EXTENSIONS

13.1 **Options.** Where the Expiry Date for an Option occurs during or within nine (9) Business Days following the end of a Blackout Period, the Expiry Date for such Option automatically shall be extended to the date which is ten (10) Business Days following the end of such Blackout Period.

13.2 **Share Units**. If the Redemption Date for a Vested Share Unit occurs during or within nine (9) Business Days following the end of a Blackout Period, then, notwithstanding any other provision of this Plan, the Vested Share Unit shall instead be redeemed on, and "**Redemption Date**" shall mean the date which is ten (10) Business Days after the date on which the Blackout Period ends. In such case, the Company shall redeem all such Vested Share Units in accordance with Section 9.13 as of the Redemption Date, determined in accordance with this Section 13.2, except that if the Vested Share Units are to be redeemed for cash pursuant to Section 9.13(ii) the definition of Market Price shall be amended so that it is calculated based on the volume weighted average trading price of the Common Shares from and including the Trading Day immediately following the end of the Blackout Period up to and including the Trading Day immediately preceding the Redemption Date. Notwithstanding the foregoing, with respect to Share Units of U.S. Participants this Section 13.2 shall not operate to establish a Redemption Date later than December 31st of the calendar year in which the Redemption Date, as determined without reference to this Section 13.2, occurs.

Article 14.
ADJUSTMENTS

14.1 **Adjustments**. Adjustments will be made at the discretion of the Board to (x) the Exercise Price of an Option, (y) the number of Common Shares or other securities issuable to a Participant upon exercise or redemption of an Award and/or (z) the maximum number of Common Shares that, pursuant to Sections 6.1 and 6.2, may at any time be reserved for issuance pursuant to Awards granted under this Plan in the following events and manner, subject to any required regulatory approvals and the right of the Board to make such other or additional adjustments as the Board considers to be appropriate in the circumstances:

(a) upon (i) a subdivision of the Common Shares into a greater number of Common Shares, (ii) a consolidation of the Common Shares into a lesser number of Common Shares, or (iii) the issue of a stock dividend to holders of the Common Shares (excluding a stock dividend paid in lieu of a cash dividend in the ordinary course), the Exercise Price will be adjusted accordingly and the Company will deliver, upon exercise of an Option, in addition to or in lieu of the number of Common Shares in respect of which the right to purchase is being exercised, such greater or lesser number of Common Shares as result from the subdivision, consolidation or stock dividend;

(b) upon (i) a capital reorganization, reclassification or change of the Common Shares, or (ii) if the outstanding Common Shares are changed into or exchanged for a different number of shares or into or for other securities of the Company or securities of another company or entity or for other consideration, whether through an arrangement, amalgamation or other similar procedure or otherwise, then on each exercise of the Option which occurs following such events, for each Common Share for which the Option is exercised, the Participant shall instead receive the number and kind of shares or other securities of the Company or other company or other consideration into which such Common Shares would have been changed or for

which such Common Shares would have been exchanged if it had been outstanding on the date of such event;

(c) upon the distribution by the Company to holders of the Common Shares of (i) shares of any class (whether of the Company or another Person) other than Common Shares, (ii) rights, options or warrants, (iii) evidences of indebtedness, or (iv) cash (excluding a cash dividend paid in the ordinary course), securities or other property or assets, the Exercise Price will be adjusted accordingly but no adjustment will be made to the number of Common Shares to be delivered upon exercise of an Option;

(d) adjustments to the Exercise Price of an Option will be rounded up to the nearest one cent and adjustments to the number of Common Shares delivered to a Participant upon exercise of an Option and the maximum number of Common Shares that, pursuant to Section 6.1, may at any time be reserved for issuance pursuant to Awards granted under this Plan will be rounded down to the nearest whole Common Share; and

(e) an adjustment will take effect at the time of the event giving rise to the adjustment, and the adjustments provided for in this Section 14.1 are cumulative.

Appropriate adjustments that are substantially similar in effect to the foregoing will be made at the discretion of the Board in respect of Share Units in the foregoing events and manner, subject to any required regulatory approvals and the right of the Board to make such other or additional adjustments as the Board considers to be appropriate in the circumstances.

14.2 **Cancellation**. The Board may, in its sole discretion, cancel any or all outstanding Awards and pay to the holders of any such Awards that are otherwise vested, in cash, the value of such Awards based upon the price per Common Share received or to be received by other shareholders of the Company in such event, provided that with respect to Awards to U.S. Participants, such cancellation and payout will be in a manner that does not violate Section 409A of the Code, to the extent it is applicable.

14.3 **No Limitation**. The grant of any Awards under this Plan will in no way affect the Company's right to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, amalgamate, reorganize, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets or engage in any like transaction.

14.4 **No Fractional Shares**. No adjustment or substitution provided for in this Article 14 will require the Company to issue a fractional Common Share or any other security in respect of any Awards and the total substitution or adjustment with respect to each Award will be limited accordingly.

Article 15.
SUSPENSION, AMENDMENT OR TERMINATION OF PLAN

15.1 **Suspension, Amendment or Termination of Plan**. The Board will have the right, at any time, to suspend or terminate this Plan and, subject to Section 15.2, may:

(a) only to the extent approved by the shareholders of the Company, by ordinary resolution, make any amendment to any Award or this Plan that would:

(i) increase the number of Common Shares, or rolling maximum, reserved for issuance under this Plan as set out in Section 6.1,

(ii) increase the number of Common Shares, or rolling maximum, reserved for issuance for the award of full-value awards as set out in Section 6.2,

(iii) reduce the Exercise Price per Common Share under any Option or cancel any Option and replace such Option with a lower Exercise Price per Common Share under such replacement Option,

(iv) extend the term of an Award beyond its original expiry time,

(v) permit an Award to be transferable or assignable to any Person other than in accordance with Section 10.10,

(vi) expand the scope of persons eligible to participate in the Plan to include non-employee directors, or

(vii) amend this Article 15, or

(b) approve all amendments to the Plan or Awards granted under the Plan, other than those amendments specified in Section 15.1(a), in its discretion without the prior approval of shareholders of the Company. Without limiting the generality of the foregoing, the following types of amendments would not require shareholder approval:

(i) amendments of a clerical nature, including, but not limited, to the correction of grammatical or typographical errors or clarification of terms,

(ii) amendments that are necessary for Awards to qualify for favourable treatment under applicable tax laws,

(iii) amendments to reflect any requirements of any regulatory authorities to which the Company is subject, including any Stock Exchange,

(iv) amendments to any vesting provisions of an Award,

(v) amendments to the expiration date of an Award that does not extend the term of an Award past the original date of expiration for such Award,

(vi) amendments which increase the Exercise Price of an Option,

(vii) amendments to the Target Milestones,

(viii) amendments to the Performance Periods,

(ix) amendments to expand the scope of persons eligible to participate in the Plan other than to non-employee directors,

(x) amendments regarding the administration of the Plan, and

(xi) amendments necessary to suspend or terminate the Plan.

Notwithstanding the foregoing, all procedures and necessary approvals required under the applicable rules and regulations of all regulatory authorities to which the Company is subject, including any Stock Exchange, shall be complied with and obtained in connection with any such suspension, termination or amendment to this Plan or amendments to any

notice of award. Notwithstanding the foregoing and any other provision in the Plan, with respect to Share Units of U.S. Participants, any action to modify, amend or terminate such Share Units or the Plan will be undertaken in a manner that complies with Section 409A of the Code, to the extent it is applicable, and to the extent required to avoid adverse tax treatment.

15.2 **Limitations**. In exercising its rights pursuant to Section 15.1, the Board will not have the right to affect in a manner that is materially adverse to, or that materially impairs, the benefits and rights of any Participant under any Award previously granted under this Plan (except: (a) with the consent of such Participant; (b) as permitted pursuant to Article 14; or (c) for the purpose of complying with the requirements of any regulatory authorities to which the Company is subject, including any Stock Exchange).

15.3 **Powers of the Board Survive Termination**. The full powers of the Board as provided for in this Plan will survive the termination of this Plan until all Awards have been exercised, redeemed in full, forfeited or have otherwise expired.

Article 16.
GENERAL

16.1 **No Rights as Shareholder**. Nothing herein or otherwise shall be construed so as to confer on any Participant any rights as a shareholder of the Company with respect to any Common Shares reserved for the purpose of any Award.

16.2 **Agreement**. The Company and every Award awarded hereunder shall be bound by and subject to the terms and conditions of this Plan. By accepting an Award granted hereunder, the Participant expressly agrees with the Company to be bound by the terms and conditions of the Plan.

16.3 **No Effect on Employment**. Nothing in this Plan or any notice of award will confer upon any Participant any right to continue in the employ of or under contract with the Company or its Affiliates, or affect in any way the right of the Company or its Affiliates, to terminate their employment or engagement at any time or terminate their consulting contract, nor will anything in this Plan or any notice of award be deemed or construed to constitute an agreement or an expression of intent, on the part of the Company or its Affiliates to extend the employment of any Participant beyond the time that he or she would normally be retired pursuant to the provisions of any present or future retirement plan of the Company or its Affiliates, or any present or future retirement policy of the Company or its Affiliates, or beyond the time at which he or she would otherwise be retired pursuant to the provisions of any employment, engagement or consulting agreement with the Company or its Affiliates. Neither any period of notice nor any payment in lieu thereof upon termination of employment shall be considered as extending the period of employment for the purposes of this Plan.

16.4 **No Obligation to Fund or Secure.** Unless otherwise determined by the Board, the Plan, including any right of a Participant hereunder, shall remain an unfunded and unsecured obligation of the Company and any applicable Affiliates of the Company. Neither the establishment of the Plan nor the grant of Awards (or any action taken in connection therewith) shall be deemed to create a trust.

16.5 **Administration Costs.** The Company will be responsible for all costs relating to the administration of the Plan.

16.6 **No Salary Deferral Arrangement.** Notwithstanding any other provision of the Plan, it is intended that the Plan and the Awards granted thereunder not be considered "salary deferral arrangements" under the *Income Tax Act* (Canada) and the Plan shall be administered in accordance with such intention. Without limiting the generality of the foregoing, the Board may make such amendments to the terms of outstanding Awards (including, without limitation, changing the Vesting Dates, Expiry Dates and Redemption Dates thereof) as may be necessary or desirable, in the sole discretion of the Board, so that the Plan and the Awards outstanding thereunder are not considered "salary deferral arrangements".

16.7 **No Fettering of Directors' Discretion**. Nothing contained in this Plan will restrict or limit or be deemed to restrict or limit the right or power of the Board in connection with any allotment and issuance of Common Shares which are not allotted and issued under this Plan including, without limitation, with respect to other compensation arrangements.

16.8 **Prior Plans.** All options, restricted share units and performance share units granted by the Company prior to the Effective Date shall continue to be governed by the terms of the plans under which such options, restricted share units and performance share units were granted (the "**Prior Grants**"). For greater certainty, all Common Shares issuable pursuant to the terms of the Prior Grants shall be included when calculating the aggregate number of Common Shares that may be issuable pursuant to Section 6.1.

16.9 **Applicable Law**. The Plan and any notice of award granted hereunder will be governed, construed and administered in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein. Any actions, proceedings or claims in any way relating to the Plan shall be commenced in the courts of the Province of British Columbia and the courts of the Province of British Columbia will have the exclusive jurisdiction to entertain any such action, proceeding or claim. The Company, each Participant and his or her Legal Representative, if applicable, hereby attorn to the jurisdiction of the courts of the Province of British Columbia.

SCHEDULE "A"

SSR MINING INC. 2017 SHARE COMPENSATION PLAN

TARGET MILESTONES FOR PERFORMANCE SHARE UNITS

Target Milestone

The Target Milestone for Performance Share Units granted shall be based on the total shareholder return ("**TSR**") of the Company over the Performance Period compared with the TSR of a peer group of companies approved by the Committee (the "**Comparator Companies**") over the same time period.

Performance Percentage

The Performance Percentage shall be determined as follows:

a) for achievement of the Company's TSR above the 50th percentile and up to the 100th percentile compared to the TSR of the Comparator Companies, the Performance Percentage will range from 101% to 200% calculated on a linear basis;

b) if the Company's TSR is equal to the 50th percentile compared to the TSR of the Comparator Companies, the Performance Percentage will be 100%;

c) for achievement of the Company's TSR above the 33rd percentile but less than the 50th percentile compared to the TSR of the Comparator Companies, the Performance Percentage will range from 51% to 75% calculated on a linear basis;

d) if the Company's TSR is equal to the 33rd percentile as compared to the TSR of the Comparator Companies, the Performance Percentage will be 50%; or

e) if the Company's TSR is less than the 33rd percentile as compared to the TSR of the Comparator Companies, 0%.

Performance level (relative TSR)	**Payout (% of grant vesting)**
>P50 to P100	101% - 200% (linear basis)
=P50	100%
>P33 but <P50	51% - 75% (linear basis)
=P33	50%
<P33	Nil

Exhibit 10.11

ALACER GOLD CORP.

2017 RESTRICTED STOCK UNIT PLAN

April 28, 2017

ALACER GOLD CORP.

2017 RESTRICTED STOCK UNIT PLAN

1. PURPOSE OF THE PLAN

The purpose of the Plan is to promote the long term success of Alacer Gold Corp. (the "**Corporation**") by providing for the payment of performance bonuses in the form of Shares to Participants, or at the option of the Corporation, cash. The Plan is designed to encourage Participants to acquire a propriety interest in the Corporation through ownership of Shares, to provide them with additional incentive to further the growth and development of the Corporation and to encourage them to remain in the employment or service of the Corporation.

2. DEFINITIONS

For the purposes of the Plan, the terms contained in this Section shall have the following meanings.

"Administrator" means such administrator as may be appointed by the Board of Directors from time to time under the Plan.

"Affiliate" has the meaning ascribed to that term under section 1(2) of the *Securities Act* (Ontario), as now in effect, or such other meaning, and shall include such other entities, as may be determined by the Board of Directors.

"Australian Participant" means any person that is the subject of an "offer", as that term is defined in ASIC Class Order CO 14/1000 (being generally a person ordinarily situated within Australia or its Territories).

"ASX" means ASX Limited (ACN 008 624 691).

"ASX Listing Rules" means the official listing rules of the ASX.

"Board of Directors" means the board of directors of the Corporation.

"Business Day" means a day, other than a Saturday or Sunday, on which banking institutions in Canada are not authorized or obligated by law to close.

"CDI" means a CHESS Depositary Interest, being a unit of beneficial ownership in a Share that is registered in the name of CHESS Depositary Nominees Pty Ltd ACN 071 346 506.

"Change in Control" means a transaction or a series of transactions whereby directly or indirectly:

(i) any person or combination of persons obtains a sufficient number of voting securities of the Corporation to materially affect the control of the Corporation;

(ii) the incumbent directors cease to represent a majority of the members of the Board of Directors;

(iii) a resolution is adopted by the Board of Directors to wind-up, dissolve or liquidate the Corporation; or

(iv) all or substantially all of the assets of the Corporation are sold to a person or combination of persons.

For the purposes of clause (i) above, a person or combination of persons holding shares or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast 50% or more of the votes attaching to all shares of the Corporation which may be cast to elect directors of the Corporation, shall be deemed to be in a position to materially affect the control of the Corporation, except where such may occur in the course of a financing.

"CIC Date" means the date of any Change in Control.

"Committee" means the Board of Directors or, if the Board of Directors determines in accordance with the Plan, the Compensation Committee.

"Compensation Committee" means the Compensation Committee of the Board of Directors.

"Corporation" means Alacer Gold Corp. or its successors.

"Corporations Act" means the Corporations Act 2001 (Commonwealth of Australia).

"Disability" means a Participant who is permanently disabled (as determined by the Board in good faith).

"Effective Date" means the date on which the Committee grants the RSUs or such later date which the Committee determines will be the date on which a grant of RSUs shall take effect.

"Eligible Persons" has the meaning given to the term "eligible participant" in ASIC Class Order CO 14/1000 (as amended or replaced from time to time).

"Grant" means the grant of RSUs allocated to a Participant at any time in accordance with Section 5 hereof.

"Grant Agreement" means the written agreement entered into by the Corporation and the Participant in accordance with Section 5 hereof, in a form substantially similar to that attached as Appendix "A".

"Grant Period" means, in respect of each Grant or portion thereof, the period of time commencing on the Effective Date and ending on the date designated by the Committee as specified in the Grant Agreement.

"Insider" shall have the meaning ascribed thereto in the *Securities Act* (Ontario) or its successor, as amended from time to time.

"Market Value" means, with respect to a Payment Date, (i) if Shares are readily tradable on the TSX, the volume weighted average trading price of a Share for the five trading days immediately preceding the Payment Date; (ii) if Shares are readily tradable on a stock exchange other than the TSX, the volume weighted average trading price of a Share on the principal stock exchange on which Shares are traded for the five trading days immediately preceding the Payment Date; or (iii) if Shares are not readily tradable on any stock exchange, the valuation of a Share determined in good faith by the Board of Directors.

"Participant" means a full-time or part-time employee or senior officer of the Corporation or of any of its Affiliates to whom a Grant has been made in accordance with Section 5 hereof.

"Payment Date" means, in respect of each Grant or portion thereof, a date determined by the Committee that occurs no later than 74 days after the end of the applicable Grant Period or such other date as required under Sections 6(f) or 6(g) hereof.

"Performance Criteria" means criteria established by the Committee which, without limitation, may include criteria based on the financial performance of the Corporation and/ or an Affiliate.

"Person" means, without limitation, an individual, sole proprietorship, partnership, unincorporated association, unincorporated syndicate, unincorporated organization, trust, body corporate, trustee executor, administrator, or other legal representative.

"Plan" means this Alacer Gold Corp. 2017 Restricted Stock Unit Plan, as set forth herein and as may be amended from time to time.

"RSU" means a restricted stock unit allocated to a Participant pursuant to a Grant in accordance with Section 5 hereof which shall, upon the Payment Date, in accordance with and subject to the provisions of the Plan and relevant Grant Agreement, entitle the holder thereof to receive one RSU Security.

"RSU Securities" means the Shares or CDIs issued to or acquired for Participants in accordance with the provisions of the Plan in settlement of RSUs granted under the Plan.

"Shares" means the common shares of the Corporation.

"TSX" means The Toronto Stock Exchange.

3. ADMINISTRATION

The Committee is responsible for the administration of the Plan. The Committee may, subject to the terms of the Plan, delegate to the Administrator (if one is appointed), the whole or any part of the administration of the Plan and will determine the scope of such delegation. Any decision made by the Committee in carrying out its responsibilities with respect to the administration of the Plan will be final and binding on the Participants.

Any of the powers exercisable hereunder by the Board of Directors may, to the extent permitted by applicable law and as determined by resolution of the Board of Directors, be exercised by the Compensation Committee.

In addition to the other powers granted under the Plan and subject to the terms of the Plan, the Committee will have authority to interpret the Plan. The Committee may from time to time prescribe such rules and regulations and make all determinations necessary or desirable for the administration of the Plan. In particular, the Committee will determine the Participants to whom Grants may be made under the Plan and will determine the amounts and terms of the Grants (including the related Performance Criteria, if any), and the extent to which the Performance Criteria to be achieved during the Grant Period, if any, have been achieved. Any such interpretation, rule, determination or other act of the Committee will be conclusively binding upon all persons, including the Participants and their legal representatives and beneficiaries.

Neither the Administrator nor any member of the Board of Directors or the Compensation Committee will be liable to any Person for any action or determination made in good faith pursuant to the Plan. To the fullest extent permitted by law, the Corporation shall indemnify and save harmless each Person made, or threatened to be made, a party to any action or proceeding by reason of the fact that such Person is or was a member of the Board of Directors, is or was a member of the Compensation Committee or is or was the

Administrator and, as such, is or was required or entitled to perform or not perform any action pursuant to the terms of the Plan.

Except as otherwise set forth in this Plan or as Participants may otherwise be advised by prior written notice of at least thirty (30) days, all costs of the Plan, including any administration fees, shall be paid by the Corporation.

4. RSU SECURITIES SUBJECT TO THE PLAN

The Corporation will not be required to issue Shares or CDIs or issue and/or cause to be delivered certificates evidencing Shares or CDIs to be delivered pursuant to the Plan unless and until such issuance and delivery is in compliance with all applicable laws, regulations, rules, orders of governmental or regulatory authorities and the requirements of any stock exchange upon which Shares or CDIs of the Corporation are listed. The Corporation will in no event be obligated to take any action to comply with any such laws, regulations, rules, orders or requirements. Subject to the foregoing, the Board of Directors may authorize from time to time the treasury issuance by the Corporation of Shares. The aggregate number of Shares (including for the purpose of issuing CDIs) issuable pursuant to the Plan, together with the aggregate number of Shares issuable pursuant to any other previously established or proposed share compensation arrangement of the Corporation, shall not exceed 5% of the total number of issued and outstanding Shares (calculated on a non-diluted basis).

The maximum number of Shares or CDIs issued to Insiders under the Plan, or when combined with any other previously established or proposed share compensation arrangements, within any one-year period, may not exceed 5% of the outstanding issue (calculated on a non-diluted basis).

The maximum number of Shares or CDIs issuable to Insiders under the Plan, or when combined with any other previously established or proposed share compensation arrangements, at any time or within any 12 month period, may not exceed 5% of the outstanding issue (calculated on a non-diluted basis).

The number of Shares that are the subject of an offer or invitation made to Australian Participants under the Plan or that are to be received in accordance with the terms of an RSU when aggregated with:

(a) the number of Shares in the same class which would be issued were each outstanding offer of Shares, units of Shares and options to acquire unissued Shares to Australian Participants under an employee share scheme (including the Plan) to be accepted or exercised; and

(b) the number of Shares in the same class issued during the previous three (3) years pursuant to the Plan or any other employee share scheme extended only to Eligible Persons by the Corporation,

but disregarding any offer made, or option acquired or Share issued, by way of or as a result of offers made to Participants:

(c) situated outside of Australia (including non-Australian Participants) at the time of receipt of the offer; or

(d) that did not require disclosure to investors because of section 708 of the Corporations Act; or

(e) that did not require the giving of a "Product Disclosure Statement" (as that term is defined in the Corporations Act) because of section 1012D of the Corporations Act; or

(f) made under a "disclosure document" or a "Product Disclosure Statement" (as those terms are defined in the Corporations Act),

must not exceed 5% of the total number of Shares issued (calculated on a non-diluted basis) in the same class at the time of offer or grant of the Shares or RSUs to the Australian Participants.

5. GRANTS

Subject to the provisions of the Plan, the Committee will determine the Participants to whom a Grant will be made based on their current and potential contribution to the success of the Corporation. At such time, the Committee will also determine in connection with each Grant:

(a) the number of RSUs to be allocated to each such Participant;

(b) the Effective Date;

(c) the Grant Period or, where a Grant is subject to more than one Grant Period, the portion of RSUs granted to the Participant that is subject to each Grant Period;

(d) the Performance Criteria, if any, to be achieved during the Grant Period in order for RSU Securities to be issued on the Payment Date; and

(e) any other terms and conditions (which need not be identical and which, without limitation, may include non-competition provisions) of any RSUs or RSU Securities covered by any Grant.

Each Grant shall be evidenced by a Grant Agreement between the Corporation and the Participant which shall contain the terms and conditions specified by this Section 5 and such other terms and conditions as the Committee specifies.

6. TERMS AND CONDITIONS OF RESTRICTED STOCK UNITS

(a) **Certificates and Records**

Certificates need not be issued by the Corporation with respect to any RSUs granted under the Plan. The Corporation or the Administrator shall maintain records showing the number of RSUs allocated to each Participant under the Plan.

(b) **Payment**

RSUs granted to a Participant for services rendered will entitle the Participant, subject to the Participant's satisfaction of any conditions, restrictions or limitations imposed under the Plan or Grant Agreement, to receive a payment in fully paid Shares or CDIs (at the election of the Participant) or, at the option of the Corporation or as otherwise required by the Plan, in cash on the Payment Date.

(c) **Redemption – Fully Paid Shares or CDIs to the Participant**

Subject to Sections 6(d) and 9, the Corporation will satisfy its payment obligation, net of any applicable taxes and other source deductions required to be withheld by the Corporation, on the Payment Date with the issue of fully paid Shares or causing CDIs to be issued from treasury, or by having the Administrator acquire Shares or CDIs in the open market on behalf of the Participant, in the event that the Corporation elects not to issue Shares or cause CDIs to be issued from treasury. In the case of Shares or CDIs to be acquired on the open market, prior to the Payment Date, the Corporation shall notify the Administrator of the number of Shares or CDIs of the Corporation to be purchased by the Administrator on the Participant's behalf and the Administrator will purchase such Shares or CDIs as soon as practical thereafter. The Administrator will thereupon deliver such Shares or CDIs to the Participant, as applicable, on the Payment Date.

(d) **Redemption – Cash Payment to the Participant**

In the event that the Corporation elects to satisfy all or part of its payment obligation in cash, or if an RSU is otherwise required by the terms of the Plan to be settled in cash, on the Payment Date the RSUs shall be redeemed at Market Value and paid by the Corporation to the Participant subject to Section 9. The Market Value of the vested RSUs so redeemed shall, after deduction of any applicable taxes and other source deductions required to be withheld by the Corporation, be paid in cash, in Canadian dollars, in accordance with Section 6(b). If the Participant requests payment in a currency other than Canadian dollars, such payment will be converted to such other requested currency based on the Bank of Canada noon rate on the Payment Date.

(e) **Where Performance Criteria Not Met**

Where the Committee determines in its sole discretion that the Performance Criteria applicable to a Grant or portion thereof were not achieved during the relevant Grant Period, the RSUs subject to such Performance Criteria shall be forfeited as of the end of the Grant Period and no RSU Securities shall be issued or acquired for transfer or payment made to the Participant in respect of such Grant or portion thereof. Notwithstanding the foregoing, the Board of Directors may, in compliance with all applicable laws, regulations, rules, orders of governmental or regulatory authorities and the requirements of any stock exchange upon which Shares or CDIs of the Corporation are listed, choose to waive the Performance Criteria applicable to a Grant or portion thereof but will be under no obligation whatsoever to do so or to consider doing so.

(f) **Right to RSUs in the Event of Death, Disability or Termination of Employment or Service**

Unless otherwise determined by the Committee:

(i) In the event of the death of an individual Participant while in the employment of the Corporation or any of its Affiliates, the deceased Participant's estate or designated beneficiary shall be issued or paid on or before the 74th day following such Participant's death, with respect to each Grant to such Participant for which the established Grant Period had not ended and for which RSU Securities have not otherwise been issued prior to the date of death, RSU Securities or cash (in accordance with and subject to Section 6(b)) as if the Grant Period had ended and the Performance Criteria for any such Grant, if any, had been met (but not exceeded) on the day preceding the date of the Participant's death.

In the event of the death of an individual Participant following the end of the Grant Period with respect to a Grant of RSUs but prior to the Payment Date with respect to such Grant, the number of such RSU Securities or the amount of cash that would otherwise be issued to such Participant shall be so issued and delivered to the Participant's estate or designated beneficiary in accordance with and subject to paragraph (b) of this Section, as if the Participant had continued in the employment of the Corporation or one of its Affiliates until the Payment Date.

(ii) In the event a Participant's employment with the Corporation or one of its Affiliates terminates by reason of Disability, the Participant shall be issued or paid on or before the 74th day following such termination, with respect to each Grant to such Participant for which the established Grant Period had not ended and for which RSU Securities have not otherwise been issued prior to the date of termination, RSU Securities or cash (in accordance with and subject to Section 6(b)) as if the Grant Period had ended and the Performance Criteria for any such Grant, if any, had been met (but not exceeded) on the day preceding the date of termination.

In the event a Participant's employment with the Corporation or one of its Affiliates terminates by reason of Disability following the end of the Grant Period with respect to a Grant of RSUs but prior to the Payment Date with respect to such Grant, the number of such RSU Securities or the amount of cash that would otherwise be issued to such Participant shall be so issued and delivered to the Participant in accordance with and subject to paragraph (b) of this Section, as if the Participant had continued in the employment of the Corporation or one of its Affiliates until the Payment Date.

(iii) In the event a Participant's employment with the Corporation or one of its Affiliates terminates for any reason other than death or the Disability of the Participant, the RSUs covered by any Grant to such Participant with respect to which the Payment Date has not occurred and for which RSU Securities have not been issued prior to such termination shall be forfeited as of such termination of employment or service and any such termination of employment or service for whatever reason shall not entitle a Participant to any compensation for loss of any benefit under the Plan. For purposes of the Plan, termination of employment or service shall be deemed to occur on the Participant's last date of actual and active employment or service, whether that date is selected unilaterally by the Corporation or Affiliate or by mutual agreement. No period of notice, if any, or payment in lieu of notice that is given or ought to be given, under applicable law in respect to such termination of employment or service that follows or is in respect of a period after such last date of actual and active employment, will be considered as extending the Participant's period of employment or service for purposes of determining his or her entitlement under the Plan.

(g) **Right to RSUs in the Event of a Change in Control**

Notwithstanding any other provision of the Plan, in the event of the occurrence of a Change in Control, with respect to all Grants that are outstanding on the CIC Date, (i) any and all requirements that any level of Performance Criteria, if any, be achieved for any purpose applicable to such Grants shall be waived as of the CIC Date, (ii) except as may be otherwise provided under the terms of any other employee benefit plan approved by the Board of Directors, each Participant who has received any such Grants shall be entitled to receive, in full settlement of an RSU covered by a Grant, the number of RSU Securities or cash (in accordance

with and subject to Section 6(b)) that would have been issued to a Participant on any Payment Date during the applicable Grant Period and settled in the form of RSU Securities or cash, as applicable had (x) the Participant continued in the employment of the Corporation or one of its Affiliates or service of the Corporation or one of its Affiliates until such Payment Date and (y) all Performance Criteria, if any, applicable to such Grant (determined without regard to the occurrence of the Change in Control) had been met (but not exceeded) during the applicable Grant Period, and (iii) the Payment Date shall be ten (10) Business Days following the CIC Date, provided that such Participant has been continuously employed by the Corporation or one of its Affiliates from the Effective Date of such Grant to the CIC Date.

(h) **Non-Transferability**

The rights or interests of a Participant under the Plan shall not be assignable or transferable, otherwise than by will or the laws governing the devolution of property in the event of death, and such rights or interests shall not be encumbered.

(i) **RSUs Not Shares or CDIs**

Under no circumstances shall RSUs be considered Shares or CDIs, nor entitle any Participant to the exercise of voting rights, the receipt of dividends or the exercise of any other rights attaching to ownership of Shares or CDIs, as applicable (including, to avoid doubt, to participate in any new issue of securities of the Corporation).

7. EFFECTS OF ALTERATION OF SHARE CAPITAL

In the event:

(a) a dividend is declared upon the Shares payable in Shares;

(b) the outstanding Shares shall be changed into or exchanged for a different number or kind of shares or other securities of the Corporation or of another corporation, whether through an arrangement, amalgamation or other similar statutory procedure, or a share recapitalization, subdivision or consolidation;

(c) there is any change, other than those specified in paragraphs (a) and (b) of this Section, in the number or kind of outstanding Shares or of any shares or other securities into which such Shares are exchanged or for which they are to be exchanged; or

(d) there is a distribution of assets or Shares to shareholders of the Corporation out of the ordinary course of business,

then, if the Board of Directors, in its sole discretion, determines that such change equitably requires an adjustment in the number of RSUs with respect to which Grants may be made pursuant to the Plan but not yet covered by Grants, of the RSUs then covered by Grants, of the RSUs generally available for Grants under the Plan and of the RSUs available for Grant under the Plan in any calendar year, such adjustment may be made by the Board of Directors and will be effective and binding for all purposes, provided that, if the Corporation has CDIs listed on ASX, such adjustment shall be made in accordance with and subject to the ASX Listing Rules.

No adjustment provided for in this Section will entitle a Participant to be allocated a fractional RSU, or receive a fractional RSU Security or any payment in lieu thereof, and the

total adjustment with respect to each RSU will be limited accordingly (rounded down to the nearest whole number).

8. AMENDMENT AND TERMINATION

The Board of Directors may from time to time amend, suspend or terminate the Plan in whole or in part, without shareholder approval. Subject to applicable securities laws, the Board of Directors may from time to time amend the terms of Grants made under the Plan without shareholder approval but subject to the obtaining of any required regulatory or other approvals and, if any such amendment will materially adversely affect the rights of a Participant with respect to a Grant, the obtaining of the written consent of such Participant to such amendment. Notwithstanding the foregoing, (i) the obtaining of the written consent of any Participant to an amendment which materially adversely affects the rights of such Participant with respect to a Grant will not be required if such amendment is required to comply with applicable laws, regulations, rules, orders of governmental or regulatory authorities or the requirements of any stock exchange on which Shares or CDIs are listed and (ii) no amendment may be made to Section 6(g) of the Plan or to the defined terms referred to in such Section 6(g) on or after the CIC Date.

The Committee may, subject to the receipt of requisite regulatory approval, in its sole discretion make all other amendments to the Plan without shareholder approval including:

(i) Amendments of a housekeeping nature;

(ii) The addition or a change to the vesting provisions of an RSU or the Plan;

(iii) A change to the termination provisions of an RSU or the Plan;

(iv) Amendments to reflect changes to applicable securities laws; and

(v) Amendments to ensure that the RSUs granted under the Plan will comply with any provisions respecting income tax and other laws in force in any country or jurisdiction in which a Participant may from time to time be resident or a citizen.

Notwithstanding the foregoing, the following amendments to the Plan require shareholder approval:

(i) Any increase in the number of Shares reserved for issuance under the Plan;

(ii) Any amendment to eligible participants under the Plan that may permit the introduction or reintroduction of non-executive directors or contracting entities which are not service providers on a discretionary basis;

(iii) Any amendment that may increase limits previously imposed on non-executive director participation under the Plan;

(iv) Any amendment which may permit equity-based awards granted under the Plan to be transferable or assignable other than for normal estate settlement purposes;

(v) Permit awards, other than RSUs, to be made under the Plan; and

(vi) Any amendment to this Section 8.

9. TAX WITHHOLDING AND OTHER DEDUCTIONS

(a) The Corporation or an Affiliate may withhold from any amount payable to a Participant, either under the Plan or otherwise, such amounts as are required by law to be withheld, deducted or remitted by the Corporation or an Affiliate as a consequence of his or her participation in this Plan ("**Withholding Amount**"). Participants are obligated to deliver to the Corporation or an Affiliate upon the settlement of an RSU a cash payment in an amount equal to the Withholding Amount. In the event that a Participant does not deliver to the Corporation or an Affiliate upon the settlement of an RSU a cash payment in an amount equal to the Withholding Amount, the Participant shall be deemed to have elected that the Corporation shall have the right, in its discretion, to satisfy any Withholding Amount by:

(i) selling or causing to be sold by the Corporation or by a broker or otherwise, on behalf of any Participant and at such Participant's expense, such number of Shares or CDIs issuable to the Participant, as applicable, on the redemption of RSUs as is sufficient to fund the Withholding Amount and to apply the cash received on such sale of underlying Shares or CDIs to fund the Withholding Amount;

(ii) retaining the amount necessary to satisfy the Withholding Amount from any cash amount which would otherwise be delivered, provided or paid to the Participant by the Corporation or an Affiliate, whether under this Plan or otherwise;

(iii) requiring the Participant to reimburse the Corporation or an Affiliate for any such Withholding Amount (but only to the extent of such Withholding Amount); and/or

(iv) making such other arrangements as the Corporation may reasonably require.

(b) The sale of Shares or CDIs, by the Corporation, or by a broker engaged by the Corporation (the "**Broker**"), under Section 9(a)(i) above will be made on the principal exchange on which the Shares or CDIs are then listed for trading.

10. MISCELLANEOUS PROVISIONS

(a) **Participation Voluntary**

Participation in the Plan by a Participant is voluntary.

(b) **No Right to Continued Employment**

No individual will have any claim or right to receive Grants under the Plan, and the Grant of RSUs and issuance of RSU Securities under the Plan will not be construed as giving a Participant any right to continue in the employment or affect the right of the Corporation or its Affiliates to terminate the employment of any Participant.

(c) **Acceptance of Terms by Participant**

Participation in the Plan by any Participant will be construed as acceptance of the terms and conditions of the Plan by the Participant and the Participant's agreement to be bound thereby.

(d) **Governing Law**

The Plan will be construed in accordance with, and governed by, the laws of the Province of Ontario and the federal laws of Canada applicable therein.

(e) **Number, etc.**

In this Plan, whenever the context so requires, the masculine gender includes the feminine gender and a singular number includes the plural number.

(f) **No Representation or Warranty**

The Corporation makes no representation or warranty as to the future market value of any Shares or CDIs issued in accordance with the Plan.

(g) **Necessary Approvals**

The Plan is subject to the approval of shareholders of the Corporation to be given by resolution passed at a meeting of the shareholders of the Corporation and acceptance by the TSX, ASX or any regulatory authority having jurisdiction over the securities of the Corporation.

11. EFFECTIVE DATE AND TERM OF THE PLAN

The Plan will become effective upon its adoption by the Board of Directors and receipt of required regulatory and shareholder approval. The Plan will terminate on the date determined by the Board of Directors pursuant to Section 8 hereof and no Grants may become effective under the Plan after the date of termination, but such termination will not affect any Grants which became effective pursuant to the Plan prior to such termination.

ADDENDUM FOR DESIGNATED EMPLOYEES SUBJECT TO UNITED STATES TAXATION

The purpose of this Addendum is to establish certain rules and limitations applicable to an award of RSUs to a Designated Employee (as defined hereinafter) who is subject to taxation in the United States ("**U.S. Grantee**").

1. In the event of any contradiction, whether explicit or implied, between the provisions of this Addendum and the remainder of the Plan, the provisions of this Addendum shall prevail with respect to a grant of RSUs to a U.S. Grantee.

2. The provisions specified in this Addendum shall apply solely to RSUs granted to U.S. Grantees and shall form an integral part of the Plan with respect to such RSUs, subject to any restrictions or limitations as provided in applicable law.

3. All RSUs issued under the Plan to a U.S. Grantee are intended to comply with the requirements of Section 409A of the Code, and the regulations thereunder, and all provisions hereunder shall be read, interpreted and applied with that purpose in mind. No recipient of RSUs shall be permitted to select the taxable year in which payments are made under the RSUs. No provision of this Addendum to the Plan shall be given effect to the extent that such provision would cause any tax to become due under Section 409A of the Code, including, in the event Shares are publicly traded on an established securities market, the Corporation's right to delay payment of the RSU to the extent, and only for so long as, necessary to comply with the requirements of Section 409A of the Code. Each recipient of RSUs hereunder who is or who becomes a U.S. Grantee is advised to consult with his or her personal tax advisor with respect to the tax consequences under federal, state, local and other tax laws of the receipt of an RSU hereunder.

4. **DEFINITIONS.**

   As used in this Addendum to the Plan and, unless otherwise specified, the following terms have the following meanings:

   (a) "**Board of Directors**" means the board of directors of the Corporation.

   (b) **"Code**" means the U.S. Internal Revenue Code of 1986, as amended, and regulations and other guidance thereunder.

   (c) "**Corporation"** means Alacer Gold Corp.

   (d) "**Director**" means a member of the Board of Directors.

   (e) "**Designated Employee**" means any person, including Officers, employed by the Corporation or Subsidiary, whose status of employment is determined based upon such minimum number of hours or periods worked as shall be determined by the Administrator in its discretion, subject to any requirements of the Code. The payment of a director's fee by the Company to a Director shall not be sufficient to constitute "employment" of the Director by the Company.

   (f) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

   (g) "**Fair Market Value**" shall be determined in good faith upon a reasonable valuation method that is in compliance with applicable legal, tax (including, without limitation, Section 409A of the Code and the regulations issued thereunder) and accounting requirements.

   (h) "**Officer**" means an officer of the Corporation or Subsidiary.

   (i) **"Shares"** means the common shares of the Corporation.

(j) **"Subsidiary**" or "**Subsidiaries**" mean those subsidiaries of the Corporation which meet the definition of "subsidiary corporations" set forth in Section 424(f) of the Code, or any successor provision.

5. **SATISFACTION OF WITHHOLDING TAXES**.

(a) *In General.* Whenever Shares or CDIs are to be issued to a U.S. Grantee in settlement of RSUs, the U.S. Grantee must remit to the Corporation an amount in cash, by wire transfer of immediately available funds or certified cheque, sufficient to satisfy any applicable U.S. federal, state and local and non-U.S. tax withholding requirements.

(b) *Satisfaction of Withholding Taxes.* In the event the U.S. Grantee fails to remit to the Corporation an amount in cash, by wire transfer of immediately available funds or certified cheque, sufficient to satisfy any applicable U.S. federal, state and local and non-U.S. tax withholding requirements, the Corporation may, in its discretion, withhold Shares or CDIs that would otherwise be issued to the U.S. Grantee in connection with such settlement of RSUs.

(c) Notwithstanding the foregoing, the aggregate amount of such cash or the Fair Market Value of any Shares withheld, in either case, as of the date of settlement of the RSUs, must be equal to the full minimum statutory tax withholding amount payable by the U.S. Grantee in connection with such settlement. Any Shares or CDIs withheld to satisfy the U.S. Grantee's minimum statutory tax withholding obligations will be valued at the Fair Market Value of such Shares on the settlement date**.**

6. **UNFUNDED STATUS OF PLAN**.

The Plan is intended to constitute an "unfunded" plan for incentive compensation. With respect to any payment not yet made to a Participant by the Corporation under the Plan, nothing contained herein shall give any such Participant any rights that are greater than those of a general creditor of the Corporation.

7. SHAREHOLDER APPROVAL.

Continuance of the Plan shall be subject to approval by the shareholders of the Corporation within twelve (12) months before or after the date the Plan is adopted. Such shareholder approval shall be obtained in the manner and to the degree required under applicable law including, if applicable, the Code, and the rules of any stock exchange upon which the Shares or CDIs are listed.

8. ADMINISTRATION.

Without derogating from the powers and authorities of the Board of Directors detailed in the Plan, and unless specifically required under applicable law,

(a) The Board of Directors shall also have the sole and full discretion and authority, without the need to submit its determinations or actions for approval by the shareholders of the Corporation, to administer this Addendum and all actions related thereto including, in addition to any powers and authorities specified in the Plan, the performance, from time to time and at any time, of the following:

(i) determining the terms and conditions, not inconsistent with the terms of this Addendum to the Plan, of any award of RSUs granted hereunder, including, but not limited to, the Share price, the vesting of any RSUs or the acceleration of vesting or waiver of a forfeiture restriction, based in

each case on such factors as the Administrator shall determine, in its sole discretion; and

(ii) adopting standard forms of notices or other communications which may be, or are required to be, given to U.S. Grantees, incorporating and reflecting, *inter alia*, relevant provisions regarding the award of RSUs in accordance with this Addendum, and amending or modifying the terms of such standard forms from time to time.

Appendix "A"
FORM OF GRANT AGREEMENT

On behalf of the Board of Directors of Alacer Gold Corp. (the "Company") I am pleased to advise that you have received a grant award (the "Grant") pursuant to the Company's 2017 Restricted Stock Unit Plan (the "Plan").

The particulars of your Grant, including the date of your Grant, the number of restricted stock units ("RSUs") comprising your Grant, the Grant Period, and the vesting schedule and conditions applicable to your Grant are set forth in Exhibit A attached hereto. Your Grant is subject to the provisions of the Plan (as it may be amended from time to time), a copy of which is appended hereto, and the terms and conditions outlined below, including Exhibit A. Any capitalized terms not defined herein have the meaning ascribed thereto in the Plan.

Subject to the terms and conditions of the Plan, the Grant and the Grant Period, the RSUs will be redeemed by the Company and RSU Securities will be issued (for nil consideration) to you on the Payment Date. All Australian Participants should be advised that the Grant of RSUs is occurring under a "foreign scheme" that is subject to the laws of the Province of Ontario, Canada, and that this may inhibit an Australian Participant's ability to make any claim or enforce any right arising out of or in connection with this Grant.

You shall make appropriate arrangements with the Company to provide for payment of all federal, state, local or foreign taxes of any kind required by law to be withheld upon the issuance, vesting or payment of any Shares or CDIs. Such arrangements may include, but are not limited to, the payment of cash directly to the Company or its transfer agent, withholding by the Company from other cash payments of any kind otherwise due to you, or share withholding as described below. Subject to the approval of the Company, which may be withheld by the Company in its sole discretion, you may elect to satisfy any minimum statutory withholding obligations, in whole or in part, by having the Company withhold Shares or CDIs otherwise issuable to you. The Fair Market Value of the withheld Shares used to satisfy the withholding obligation shall be determined by the Company as of the date that the amount of tax to be withheld is to be determined.

By signing below, or otherwise acknowledging agreement, you represent to the Company that (i) your participation in the Plan is voluntary, and has not been induced by the expectation of employment or continued employment with the Company or an Affiliate of the Company, (ii) you agree to be bound by the terms of the Plan, including the forfeiture provisions in Section 6 of the Plan; and (iii) neither this Grant, nor the RSUs contemplated pursuant to this Agreement gives you the right to continued employment or service with the Company or its affiliates in any capacity and that the Company and its affiliates reserve the right to terminate your employment or service at any time and for any reason not prohibited by law.

Yours sincerely,

Alacer Gold Corp.

Exhibit 10.12

ALACER GOLD CORP.

PERFORMANCE SHARE UNIT PLAN

June 6, 2017

TABLE OF CONTENTS

Section 1	Purpose of the Plan.	1
Section 2	Definitions.	1
Section 3	Performance Share Units Subject to the Plan.	3
Section 4	Administration of Plan.	4
Section 5	Grants of Performance Share Units.	4
Section 6	Terms and Conditions of Performance Share Units	5
Section 7	Taxes and Other Source Deductions.	7
Section 8	Award of Dividend Equivalents.	8
Section 9	Adjustments and Reorganizations.	8
Section 10	Unfunded Plan.	9
Section 11	Plan Amendment.	9
Section 12	Plan Termination.	10
Section 13	Final Determination.	10
Section 14	Participation Voluntary.	10
Section 15	No Right to Continued Employment.	10
Section 16	Acceptance of Terms by Participant.	11
Section 17	No Other Benefit.	11
Section 18	No Shareholder Rights.	11
Section 19	Reorganization of the Corporation.	11
Section 20	Successors and Assigns.	11
Section 21	General Restrictions and Assignment.	11
Section 22	Section 409A.	12
Section 23	Interpretation.	13
Section 24	Governing Law.	13
Section 25	Currency.	13
Section 26	Severability.	13
Section 27	Notice.	13

PERFORMANCE SHARE UNIT PLAN

Section 1 Purpose of the Plan.

The purpose of the Plan is to provide eligible Participants with compensation opportunities, to enhance the Corporation's ability to attract, motivate and retain key personnel, to reward the Participants for significant performance and associated growth in value for the shareholders of the Corporation, and to align the interests of the Participants with those of the shareholders of the Corporation.

Section 2 Definitions.

As used in the Plan, the following terms have the following respective meanings:

"Account" means an account maintained for each Participant on the books of the Corporation which will be credited with Performance Share Units and Dividend Equivalents, in accordance with the terms of the Plan.

"Affiliate" has the meaning ascribed to that term under section 1(2) of the *Securities Act* (Ontario), as now in effect, or such other meaning, and shall include such other entities, as may be determined by the Board.

"ASX" means ASX Limited (ACN 008 624 691).

"ASX Listing Rules" means the official listing rules of the ASX.

"Board" means the Board of Directors of the Corporation.

"CDI" means a CHESS Depositary Interest, being a unit of beneficial ownership in a Common Share that is registered in the name of CHESS Depositary Nominees Pty Ltd ACN 071 346 506.

"Change in Control" means a transaction or a series of transactions whereby directly or indirectly: (i) any person or combination of persons obtains a sufficient number of voting securities of the Corporation to materially affect the control of the Corporation; (ii) the incumbent directors cease to represent a majority of the members of the Board; (iii) a resolution is adopted by the Board to wind-up, dissolve or liquidate the Corporation; or (iv) all or substantially all of the assets of the Corporation are sold to a person or combination of persons. For the purposes of clause (i) above, a person or combination of persons holding shares or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast 50% or more of the votes attaching to all shares of the Corporation which may be cast to elect directors of the Corporation, shall be deemed to be in a position to materially affect the control of the Corporation, except where such may occur in the course of a financing.

"CIC Date" means the date of any Change in Control.

"Committee" means the Compensation Committee of the Board.

"Common Shares" means the common shares of the Corporation.

"Corporation" means Alacer Gold Corp. or its successors.

"Disability" means a Participant who is permanently disabled (as determined by the Board in good faith).

"Dividend Equivalent" means a bookkeeping entry equivalent in value to a dividend paid on a Common Share credited to a Participant's Account in accordance with Section 8 of the Plan.

"Effective Date" means the date on which the Committee grants the Performance Share Units or such later date which the Committee determines will be the date on which a grant of Performance Share Units shall take effect, as specified in the Grant Agreement.

"Grant" means any Performance Share Unit credited to the Account of a Participant in accordance with Section 5 of the Plan.

"Grant Agreement" means the written agreement entered into by the Corporation and the Participant in accordance with Section 5 hereof, in a form substantially similar to that attached as Appendix "A".

"Grant Period" means, in respect of each Grant or portion thereof, the period of time commencing on the Effective Date and ending on the date designated by the Committee as specified in the Grant Agreement.

"Insider" shall have the meaning ascribed thereto in the *Securities Act* (Ontario) or its successor, as amended from time to time.

"Non-U.S. Eligible Participant" is any Participant other than a U.S. Eligible Participant.

"Participant" means a full-time senior employee or senior officer of the Corporation or an Affiliate who is designated by the Committee as eligible to participate in the Plan.

"Payment Date" means, in respect of each Grant or portion thereof, a date determined by the Committee that occurs no later than 74 days after the end of the applicable Grant Period or such other date as required under Section 6(5) and Section 6(6) hereof.

"Performance Criteria" means criteria established by the Committee which, without limitation, may include criteria based on the financial performance of the Corporation and/or an Affiliate.

"Performance Share Unit" means a bookkeeping entry equivalent in value to a Common Share credited to a Participant's Account in accordance with Section 5 of the Plan.

"Plan" means this Alacer Gold Corp. Performance Share Unit Plan as set forth herein and as may be amended from time to time.

"Section 409A" means Section 409A of the *U.S. Internal Revenue Code of 1986, as amended*, and the Treasury Regulations promulgated thereunder as in effect from time to time.

"Share Price" means the volume weighted average trading price of the Common Shares on the Toronto Stock Exchange for the five (5) consecutive trading days immediately preceding either (a) the date on which a Performance Share Unit is granted (for the purposes of Section 5 below), (b) the Payment Date (for the purposes of Section 6 below) or (c) the date of the expiration of the six-month period referenced in Section 22 or the date of death (for the purposes of Section 22 below), as applicable, or in the event such Common Shares are not traded on the Toronto Stock Exchange, the fair market value of such Common Shares as determined by the Committee acting in good faith.

"U.S. Eligible Participant" refers to a Participant who, at any time during the period from the date Performance Share Units are granted to the Participant to the date such Performance Share Units are redeemed by the Participant, is subject to income taxation in the United States on the income received for his or her services as an employee of the Corporation or an Affiliate and who is not otherwise exempt from U.S. income taxation under the relevant provisions of the *U.S. Internal Revenue Code of 1986, as amended*, or the *Canada-U.S. Income Tax Convention, as amended from time to time*.

Section 3 Performance Share Units Subject to the Plan.

(1) The aggregate value of Performance Share Units awarded to Participants within any one-year period under the Plan together with all other security based compensation arrangements of the Corporation, if any, shall not exceed 5% of the total number of issued and outstanding Common Shares (calculated on a non-diluted basis).

(2) The maximum number of Performance Shares Units issued to Insiders under the Plan, or when combined with any other previously established or proposed share compensation arrangements, within any one-year period, may not exceed 5% of the outstanding issue (calculated on a non-diluted basis).

Section 4 Administration of Plan.

The Committee (or such senior officer of the Corporation as the Committee may designate for the purposes of Section 4(a) and (c) hereof) shall have the power, where consistent with the general purpose and intent of the Plan and subject to the specific provisions of the Plan:

(a) to establish policies and to adopt rules and regulations for carrying out the purposes, provisions and administration of the Plan and to amend and rescind such rules and regulations from time to time;

(b) to interpret and construe the Plan and to determine all questions arising out of the Plan, and any such interpretation, construction or

determination made by the Committee shall be final, binding and conclusive for all purposes;

(c) to prescribe the form of the instruments used in conjunction with the Plan; and

(d) to determine which employees are eligible to participate in the Plan.

Section 5 Grants of Performance Share Units.

Subject to the provisions of the Plan, the Committee will determine the Participants to whom a Grant will be made based on their current and potential contribution to the success of the Corporation. At such time, the Committee will also determine in connection with each Grant:

(a) the number of Performance Share Units to be allocated to each such Participant;

(b) the Effective Date;

(c) the Grant Period or, where a Grant is subject to more than one Grant Period, the portion of Performance Share Units granted to the Participant that is subject to each Grant Period;

(d) the Performance Criteria, if any, to be achieved during the Grant Period in order for Performance Share Units to be eligible for redemption on the Payment Date; and

(e) any other terms and conditions (which need not be identical and which, without limitation, may include non-competition provisions) of any Performance Share Units covered by any Grant.

Each Grant shall be evidenced by a Grant Agreement between the Corporation and the Participant which shall contain the terms and conditions specified by this Section 5 and such other terms and conditions as the Committee specifies.

Section 6 Terms and Conditions of Performance Share Units.

(1) **Records.** The Corporation shall maintain records showing the number of Performance Share Units allocated to each Participant under the Plan.

(2) **Payment.** Performance Share Units granted to a Participant for services rendered will entitle the Participant, subject to the Participant's satisfaction of any conditions, restrictions or limitations imposed under the Plan or Grant Agreement, to receive a payment in cash on the Payment Date.

(3) **Redemption – Cash Payment to the Participant.** On the Payment Date, the Performance Share Units shall be redeemed at the Share Price and paid by the Corporation to the Participant subject to Section 7. The Share Price of the vested Performance Share Units so redeemed shall, after

deduction of any applicable taxes and other source deductions required to be withheld by the Corporation, be paid in cash, in Canadian dollars, in accordance with Section 6(2). If the Participant requests payment in a currency other than Canadian dollars, such payment will be converted to such other requested currency based on the Bank of Canada noon rate on the Payment Date. Upon making such payment to the Participant, the Performance Share Units upon which such payment was based shall be cancelled and no further payments shall be made from the Plan in relation to such Performance Share Units.

(4) **Where Performance Criteria Not Met.** Where the Committee determines in its sole discretion that the Performance Criteria applicable to a Grant or portion thereof were not achieved during the relevant Grant Period, the Performance Share Units subject to such Performance Criteria shall be forfeited as of the end of the Grant Period and no payment shall be made to the Participant in respect of such Grant or portion thereof. Notwithstanding the foregoing, the Board may, in compliance with all applicable laws, regulations, rules, orders of governmental or regulatory authorities and the requirements of any stock exchange upon which Common Shares or CDIs of the Corporation are listed, choose to waive the Performance Criteria applicable to a Grant or portion thereof but will be under no obligation whatsoever to do so or to consider doing so.

(5) **Right to Performance Share Units in the Event of Death, Disability or Termination of Employment.**

Unless otherwise determined by the Committee:

(a) In the event of the death of an individual Participant while in the employment of the Corporation or any of its Affiliates, the deceased Participant's estate or designated beneficiary shall be paid on or before the 74th day following such Participant's death, with respect to each Grant to such Participant for which the established Grant Period had not ended and for which Performance Share Units have not otherwise been redeemed prior to the date of death, cash as if the Grant Period had ended and the Performance Criteria for any such Grant, if any, had been met (but not exceeded) on the day preceding the date of the Participant's death.

(b) In the event of the death of an individual Participant following the end of the Grant Period with respect to a Grant of Performance Share Units but prior to the Payment Date with respect to such Grant, the amount of cash that would otherwise be paid to such Participant shall be made to the Participant's estate or designated beneficiary in accordance with and subject to Section 6(2) within 74 days after the date of death of a Participant, as if the Participant had continued in the employment of the Corporation.

(c) In the event a Participant's employment with the Corporation or one of its Affiliates terminates by reason of Disability, the Participant shall be paid on or before the 74th day following such termination, with respect to each Grant to such Participant for which the established Grant Period had not ended and for which

Performance Share Units have not otherwise been redeemed prior to the date of termination, cash as if the Grant Period had ended and the Performance Criteria for any such Grant, if any, had been met (but not exceeded) on the day preceding the date of the termination.

(d) In the event a Participant's employment with the Corporation or one of its Affiliates terminate by reason of Disability following the end of the Grant Period with respect to a Grant of Performance Share Units but prior to the Payment Date with respect to such Grant, the amount of cash that would otherwise be paid to such Participant shall be so paid to the Participant with and subject to Section 6(2) on or before the 74th day following such termination as if the Participant had continued in the employment of the Corporation or one of its Affiliates until the Payment Date.

(e) In the event a Participant's employment with the Corporation or one of its Affiliates terminates for any reason other than death or the Disability of the Participant, the Performance Share Units covered by any Grant to such Participant with respect to which the Payment Date has not occurred and for which Performance Share Units have not been redeemed prior to such termination shall be forfeited as of such termination of employment and any such termination of employment for whatever reason shall not entitle a Participant to any compensation for loss of any benefit under the Plan. For purposes of the Plan, termination of employment shall be deemed to occur on the Participant's last date of actual and active employment, whether that date is selected unilaterally by the Corporation or Affiliate or by mutual agreement. No period of notice, if any, or payment in lieu of notice that is given or ought to be given, under applicable law in respect to such termination of employment that follows or is in respect of a period after such last date of actual and active employment, will be considered as extending the Participant's period of employment for purposes of determining his or her entitlement under the Plan.

(6) **Right to Performance Share Units in the Event of a Change in Control.** Notwithstanding any other provision of the Plan, in the event of the occurrence of a Change in Control, with respect to all Grants that are outstanding on the CIC Date, (i) any and all requirements that any level of Performance Criteria, if any, be achieved for any purpose applicable to such Grants shall be waived as of the CIC Date, (ii) except as may be otherwise provided under the terms of any other employee benefit plan approved by the Board, each Participant who has received any such Grants shall be entitled to receive, in full settlement of a Performance Share Unit covered by a Grant, cash that would have been paid to a Participant on any Payment Date during the applicable Grant Period had (x) the Participant continued in the employment of the Corporation or one of its Affiliates until such Payment Date and (y) all Performance Criteria, if any, applicable to such Grant (determined without regard to the occurrence of the Change in Control) had been met (but not exceeded) during the applicable Grant Period, and (iii) the Payment Date shall be ten (10) Business Days following the CIC Date, provided that such Participant

has been continuously employed by the Corporation or one of its Affiliates from the Effective Date of such Grant to the CIC Date.

(7) **Non-Transferability.** The rights or interests of a Participant under the Plan shall not be assignable or transferable, otherwise than by will or the laws governing the devolution of property in the event of death, and such rights or interests shall not be encumbered.

Section 7 Taxes and Other Source Deductions.

(1) The Corporation or an Affiliate may withhold from any amount payable to a Participant, either under the Plan or otherwise, such amounts as are required by law to be withheld, deducted or remitted by the Corporation or an Affiliate as a consequence of his or her participation in this Plan ("**Withholding Amount**"). In the event that a Participant does not deliver to the Corporation or an Affiliate upon the settlement of a Performance Share Unit a cash payment in an amount equal to the Withholding Amount as required in Section 6(3), the Participant shall be deemed to have elected that the Corporation shall have the right, in its discretion, to satisfy any Withholding Amount by:

(a) retaining the amount necessary to satisfy the Withholding Amount from any cash amount which would otherwise be delivered, provided or paid to the Participant by the Corporation or an Affiliate, whether under this Plan or otherwise;

(b) requiring the Participant, as a condition of redemption under Section 6(3) to reimburse the Corporation or an Affiliate for any such Withholding Amount; and/or

(c) making such other arrangements as the Corporation may reasonably require.

Section 8 Award of Dividend Equivalents.

Dividend Equivalents will be awarded in respect of Performance Share Units in a Participant's Account on the same basis as dividends declared and paid on Common Shares as if the Participant was a shareholder of record of Common Shares on the relevant record date. These Dividend Equivalents will be credited to the Participant's Account as additional Performance Share Units (or fractions thereof), with the number of additional Performance Share Units equal to (a) the actual amount of dividends that would have been paid if the Participant had held Common Shares under the Plan on the applicable record date divided by (b) the closing price for Common Shares on the Toronto Stock Exchange on the date on which the dividends on Common Shares are payable. For greater certainty, no Performance Share Units representing Dividend Equivalents will be credited to a Participant's Account in relation to Performance Share Units that have been previously cancelled or paid out of the Plan.

Section 9 Adjustments and Reorganizations.

In the event of any stock dividend, stock split, combination or exchange of shares, merger, consolidation, spin-off or other distribution (other than normal

cash dividends) of Corporation assets to shareholders, or any other change affecting shares, such proportionate adjustments, if any, as the Committee in its discretion may deem appropriate to reflect such change, shall be made with respect to the number of Performance Share Units outstanding under the Plan, provided that, if the Corporation has CDIs listed on the ASX, such adjustments shall be made in accordance with, and subject to, the ASX Listing Rules.

Section 10 Unfunded Plan.

The Plan shall be unfunded. To the extent any Participant or his or her estate holds any rights by virtue of a grant of Performance Share Units under the Plan, such rights shall be no greater than the rights of an unsecured creditor of the Corporation.

Section 11 Plan Amendment.

(1) The Board may from time to time amend, suspend or terminate the Plan in whole or in part, without shareholder approval. Subject to applicable securities laws, the Board may from time to time amend the terms of Grants made under the Plan without shareholder approval but subject to the obtaining of any required regulatory or other approvals and, if any such amendment will materially adversely affect the rights of a Participant with respect to a Grant, the obtaining of the written consent of such Participant to such amendment. Notwithstanding the foregoing, (i) the obtaining of the written consent of any Participant to an amendment which materially adversely affects the rights of such Participant with respect to a Grant will not be required if such amendment is required to comply with applicable laws, regulations, rules, orders of governmental or regulatory authorities or the requirements of any stock exchange on which Common Shares or CDIs are listed and (ii) no amendment may be made to Section 6(6) of the Plan or to the defined terms referred to in such Section 6(6) on or after the CIC Date.

(2) The Board may at any time, and from time to time, and without shareholder approval, amend any provision of the Plan, subject to any regulatory or stock exchange requirement at the time of such amendment, including, without limitation:

(a) amendments to the termination provisions of Section 12;

(b) amendments necessary or advisable because of any change in application securities laws;

(c) amendments to Section 4 relating to the administration of the Plan;

(d) the addition or a change to the vesting provisions of a Performance Share Unit or the Plan;

(e) a change to the termination provisions of a Performance Share Unit;

(f) amendments to ensure that the Performance Share Units granted under the Plan will comply with any provisions respecting income

tax and other laws in force in any country or jurisdiction in which a Participant may from time to time be resident or a citizen; and

(g) any other amendment, fundamental or otherwise, not requiring shareholder approval under applicable laws or the rules of the Toronto Stock Exchange or the ASX, including amendments of a "clerical" or "housekeeping" nature.

(3) No amendment shall be made which prevents the Plan from continuously meeting the requirements of paragraph 6801(d) of the *Income Tax Regulations* (Canada) or any successor provision thereto.

Section 12 Plan Termination.

The Committee may decide to discontinue granting awards under the Plan at any time in which case no further Performance Share Units shall be awarded or credited under Section 4 of the Plan. Any Performance Share Units which remain outstanding in a Participant's Account at that time shall continue to be dealt with according to the terms of the Plan. For greater certainty, Dividend Equivalents shall continue to be awarded, as appropriate, in respect of such outstanding Performance Share Units pursuant to Section 8 of the Plan. The Plan shall terminate when all payments owing pursuant to Section 6 of the Plan have been made and all Performance Share Units have been cancelled in all Participants' Accounts.

Section 13 Final Determination.

Any determination or decision by or opinion of the Committee made or held pursuant to the terms of the Plan shall be final, conclusive and binding on all parties concerned. All rights, entitlements and obligations of Participants under the Plan are set forth in the terms of the Plan and cannot be modified by any other documents, statements or communications, except by Plan amendments referred to in Section 11 of the Plan.

Section 14 Participation Voluntary.

Participation in the Plan by a Participant is voluntary.

Section 15 No Right to Continued Employment.

Participation in the Plan shall not be construed to give any Participant a right to continue in the employment of the Corporation or its Affiliates or affect the right of the Corporation or its Affiliates to terminate the employment of any Participant.

Section 16 Acceptance of Terms by Participant.

Participation in the Plan by any Participant will be construed as acceptance of the terms and conditions of the Plan by the Participant and the Participant's agreement to be bound thereby.

Section 17 No Other Benefit.

No amount will be paid to, or in respect of, a Participant under the Plan to compensate for a downward fluctuation in the price of Common Shares nor will any other form of benefit be conferred upon, or in respect of, a Participant for such purpose.

Section 18 No Shareholder Rights.

Under no circumstances shall Performance Share Units be considered Common Shares or CDIs nor shall they entitle any Participant to exercise voting rights or any other rights attaching to the ownership of Common Shares or CDIs nor shall any Participant be considered the owner of Common Shares or CDIs by virtue of the award of Performance Share Units.

Section 19 Reorganization of the Corporation.

The existence of any Performance Share Units shall not affect in any way the right or power of the Corporation or its shareholders to make or authorize any adjustment, recapitalization, reorganization or other change in the Corporation's capital structure or its business, or any amalgamation, combination, merger or consolidation involving the Corporation or to create or issue any bonds, debentures, shares or other securities of the Corporation or the rights and conditions attaching thereto or to affect the dissolution or liquidation of the Corporation or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar nature or otherwise.

Section 20 Successors and Assigns.

The Plan shall be binding on all successors and assigns of the Corporation.

Section 21 General Restrictions and Assignment.

Except as required by law, the rights of a Participant under the Plan are not capable of being anticipated, assigned, transferred, alienated, sold, encumbered, pledged, mortgaged or charged and are not capable of being subject to attachment or legal process for the payment of any debts or obligations of the Participant.

Section 22 Section 409A.

(1) It is intended that the provisions of this Plan comply with Section 409A, and all provisions of this Plan shall be construed and interpreted in a manner consistent with the requirements for avoiding taxes or penalties under Section 409A. Except as permitted under Section 409A, any deferred compensation (within the meaning of Section 409A) payable to or for the benefit of a U.S. Eligible Participant may not be reduced by, or offset against, any amount owing by the U.S. Eligible Participant to the Corporation or any of its affiliates.

(2) Notwithstanding anything in this Plan to the contrary, if a U.S. Eligible Participant becomes entitled to receive payment in respect of any

Performance Share Units as a result of his or her "separation from service" (within the meaning of Section 409A), and the U.S. Eligible Participant is a "specified employee" (within the meaning of Section 409A) at the time of his or her separation from service, and the Committee makes a good faith determination that (i) all or a portion of the Performance Share Units constitute "deferred compensation" (within the meaning of Section 409A) and (ii) any such deferred compensation that would otherwise be payable during the six-month period following such separation from service is required to be delayed pursuant to the six-month delay rule set forth in Section 409A in order to avoid taxes or penalties under Section 409A, then payment of such "deferred compensation" shall not be made to the U.S. Eligible Participant before the date which is six months after the date of his or her separation from service (and shall be paid in a single lump sum on the first day of the seventh month following the date of such separation from service) or, if earlier, the U.S. Eligible Participant's date of death; in such event, the final payment will be equal to the number of Performance Share Units credited to the U.S. Eligible Participant's Account multiplied by the Share Price as of the expiration of such six-month period or the date of death. (For illustrative purposes only, if a U.S. Eligible Participant who is a specified employee subject to the provisions of the previous sentence incurs a separation from service on January 16 of a calendar year, any payments of deferred compensation that would be payable to such U.S. Eligible Participant during the six-month period from such January 16 through July 16 shall be accumulated and paid in a single lump sum to such U.S. Eligible Participant on July 17 of such calendar year, or, if earlier, such U.S. Eligible Participant's date of death.)

(3) Each U.S. Eligible Participant, any beneficiary or the U.S. Eligible Participant's estate, as the case may be, is solely responsible and liable for the satisfaction of all taxes and penalties that may be imposed on or for the account of such U.S. Eligible Participant in connection with this Plan (including any taxes and penalties under Section 409A), and neither the Corporation nor any affiliate shall have any obligation to indemnify or otherwise hold such U.S. Eligible Participant or beneficiary or the U.S. Eligible Participant's estate harmless from any or all of such taxes or penalties. Notwithstanding any provision of the Plan to the contrary, in the event that the Committee determines that any amounts payable hereunder will be taxable to a Participant under Section 409A prior to payment to such Participant of such amount, the Corporation may (i) adopt such amendments to the Plan and Performance Share Units and appropriate policies and procedures, including amendments and policies with retroactive effect, that the Committee determines necessary or appropriate to preserve the intended tax treatment of the benefits provided by the Plan and Performance Share Units hereunder and/or (ii) take such other actions as the Committee determines necessary or appropriate to avoid or limit the imposition of an additional tax under Section 409A.

Section 23 Interpretation.

In this Plan words importing the singular meaning shall include the plural and vice versa, and words importing the masculine shall include the feminine and neuter genders.

Section 24 Governing Law.

The validity, construction and effect of the Plan and any actions taken or relating to the Plan shall be governed by the laws of the Province of Ontario and the federal laws of Canada applicable therein.

Section 25 Currency.

All amounts paid or values to be determined under the Plan shall be in Canadian dollars.

Section 26 Severability.

The invalidity or unenforceability of any provision of the Plan shall not affect the validity or enforceability of any other provision of the Plan and any invalid or unenforceable provision shall be severed from the Plan.

Section 27 Notice.

Any notice, direction, payment or other communication required, permitted or contemplated by the Plan shall be in writing and shall be sufficiently given if mailed by prepaid registered mail or delivered to the Corporation at its head office (presently 9635 Maroon Circle, Suite 300, Englewood, Colorado, 80112) and to the Participant at his or her address as shown on the books and records of the Corporation. Any such notice or other communication, if mailed, shall be deemed to have been given on the fifth day (including Saturdays, Sundays and statutory holidays) after the date of mailing and, if delivered, at the time of delivery, as the case may be. Any party may, at any time or from time to time by notice given as aforesaid to the parties, change its address for such notice or other communication.

Appendix "A"

GRANT AGREEMENT

[Date]

[Name & Address]

Dear [Name]:

This is to advise you that in recognition of your contribution to our endeavors, you have been selected to participate in the Alacer Gold Corp. Performance Share Unit Plan (the "**Plan**").

Any capitalized terms not defined herein have the meaning ascribed thereto in the Plan.

On ● (the "**Effective Date**"), you were granted (the "**Grant**") ● Performance Share Units ("**PSUs**"). Your Grant is subject to the provisions of the Plan (as it may be amended from time to time), a copy of which is appended hereto, and the terms and conditions outlined below.

The last day of the Grant Period applicable to **100**% of your Grant is ● and the Performance Criteria in respect of your Grant is as follows: **●.**

Provided you meet or exceed the Performance Criteria stipulated above during the relevant Grant Period, and subject to the terms and conditions of the Plan, the PSUs subject to such Performance Criteria and Grant Period will be redeemed by the Corporation and you will receive a cash payment for the equivalent of such PSUs.

The Participant acknowledges and agrees that **[he/she]** must remit to the Corporation a cash payment in an amount equal to the Withholding Amount as a consequence of **[his/her**] participation in the Plan, and hereby agrees to be bound by the terms of Section 7 (Taxes and Other Source Deductions) of the Plan. Any failure to remit the Withholding Amount to the Corporation will result in the Corporation exercising its rights pursuant to Section 7 (Taxes and Other Source Deductions) of the Plan.

By signing below, you represent to the Corporation that (i) your participation in the Plan is voluntary, and has not been induced by the expectation of employment or service or continued employment with the Corporation or an Affiliate of the Corporation, and (ii) you agree to be bound by the terms of the Plan.

Yours sincerely,

Acknowledgement

I confirm my acceptance of this grant of PSUs under the terms and conditions described above and under the Plan.

Accepted, this ____ day of _____, 20___.

_____

Name:

Exhibit 10.13

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 1st day of October 2020 **BETWEEN:**

SSR Mining Inc.

(the "**Company**")

- and -

Gregory Martin

(the "**Executive**")

RECITALS

A. The Executive has been employed by the Company since January 31, 2012. Alacer Gold Corp. and the Company entered into a merger of equals effective September 16, 2020. SSR Mining (as defined below) desires to continue to employ the Executive as its Executive Vice President, Chief Financial Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's continued employment with the Company.

C. The Executive agrees to continue to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

ARTICLE 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Company.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) the breach by the Executive of a material term of this Agreement;

b) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

c) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of an indictable offense;

d) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Company;

e) the failure by the Executive to obey reasonable instructions provided to him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Company or a related entity of the Company; or

f) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Company which may be cast to elect directors of the Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

(i) by the Company or any subsidiary;

(ii) by any employee benefit plan sponsored or maintained by the Company or any subsidiary; or

(iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Company of a complete liquidation or dissolution of the Company;

d) a sale or other disposition of all or substantially all of the property or assets of the Company, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Company that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Company and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Company and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Company which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the Location.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Company and confirmed by the shareholders of the Company on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Company on the 14th of May, 2020, or any further amendment or replacement to that plan.

"**Territory**" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

ARTICLE 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from October 1, 2020 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Company's Executive Vice President, Chief Financial Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the President and Chief Executive Officer and shall have such duties and responsibilities as are customary for such position and as are delegated to him by the President and Chief Executive Officer from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Company. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to him;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct himself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Company's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Company's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Company. If the Company introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Vancouver (the "**Location**"). The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

ARTICLE 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of USD $490,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Company's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 75% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 150% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be actively employed at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in accordance with the normal course of the business. For purposes of this Agreement "actively employed" does not include any period of notice of termination from the Company or payment in lieu of notice, except for the Executive's minimum statutory notice period under applicable employment standards legislation and the Executive waives the right to receive damages or payment in lieu of any forfeited Bonus payment.

Subject to approval by the Board, the Executive will also be eligible to participate in the Company's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 175% of Base Salary. The Executive acknowledges and agrees that any agreement entered into in connection with the LTIP is a separate agreement from this Agreement.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Company establishes from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Company's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed USD $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in Canada.

ARTICLE 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice, it being understood that if the Company makes such an election, it shall not constitute a termination of employment by the Company;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon Executive's knowledge of occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's accrued wages earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans.

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination; and

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four (24) month period.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by him at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans; and

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four (24) month period.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Company's subsidiaries held by the Executive to be assigned as directed by the Company. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, its affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "**Releasees**") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

ARTICLE 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Company, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

ARTICLE 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Company or any of its affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Company or any of its affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Company or any of its affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Company or any of its affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in a capacity that is the same as or similar to the position occupied by the Executive while an employee of the Company, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

ARTICLE 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Company, its affiliates or its and their management, agents or employees.

ARTICLE 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

(a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced, made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Company (the "**Intellectual Property**"), shall vest in and be the exclusive property of the Company.

(b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company shall have full knowledge and ownership of the working and practical applications of such right.

(c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

(d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

(e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

ARTICLE 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting him from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

ARTICLE 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: Gregory Martin
[REDACTED]
[REDACTED]

The Company: SSR Mining Inc.
7001 E Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Section 10.2 Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.3 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive's employment, for any reason.

Section 10.4 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company may collect, use and disclose the Executive's personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive's specific consent to the collection, use or disclosure of the Executive's personal employee information is required in the future, the Executive hereby agrees to provide such consent. If the Executive refuses or withdraws the Executive's consent, the Executive acknowledges that the Executive's employment with the Company may be negatively affected.

Section 10.5 Governing Law

This Agreement will be governed by and construed in accordance with the laws of the Province of British Columbia and the laws of Canada applicable therein (the "**Forum**"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the provincial courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.6 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control.

Section 10.7 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.8 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.9 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.10 Compliance with Employment Standards Legislation

In the event that the minimum standards set out in the applicable employment standards legislation (as may be amended from time to time) are more favourable to the Executive in any respect than a term or provision provided for in this Agreement, including without limitation the terms set out in Article 4 above, the Executive and the Company agree that the statutory provisions will apply in respect of that term or provision.

Section 10.11 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.12 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.13 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.14 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.15 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Mining Inc.

By: _____
Rod Antal
President & CEO

Executive

_____
Gregory Martin

February 26, 2021

WITHOUT PREJUDICE PERSONAL & CONFIDENTIAL

Gregory Martin
c/o SSR Mining Inc.
Suite 800 – 1055 Dunsmuir Street Vancouver, BC Canada V7X 1G4

Dear Greg:

Re: Termination of Employment

As discussed in our meeting of February 26, 2021, SSR Mining Inc. (the "**Company**") has made the difficult decision to terminate your employment without cause effective immediately (the "**Termination Date**"). This decision has been made after very careful consideration and is irrevocable.

The Company will pay you US$47,435.89, less applicable deductions required by law, representing all accrued but unpaid wages, and accrued but unpaid vacation pay owing to you up to and including the Termination Date. Additionally, the Company will provide you with payment in lieu of termination notice in an amount equal to US$75,384.62, less applicable deductions required by law, representing eight (8) weeks pay in lieu of termination notice as required by the *Employment Standards Act* (British Columbia). Additionally, in accordance with section 4.3 of your employment agreement dated October 1, 2020 (as amended) (the "**Employment Agreement**"), and subject to your prior execution of the enclosed release, the Company will provide you with the following:

a. US$980,000.00, representing twenty-four (24) months of your base salary as at the Termination Date;

b. US$666,432.22, representing twenty-four (24) months of your average annual bonus (prorated monthly), based on the average bonus earned in the two (2) years immediately preceding the Termination Date;

c. US$59,486.06, representing a pro-rated bonus for the portion of 2021 that you were actively employed, calculated using the product of: (A) the average annual bonus paid to you in the two (2) fiscal years preceding the Termination Date, multiplied by (B) the number of months you were actively employed in the fiscal year in which your employment is terminated;

d. the merger with Alacer Gold Corp. was deemed a change of control event and as such, given this termination is within 12 months of that event, any long term incentive grants provided to you under the Company's Share Compensation Plans will be deemed to be vested on the Termination Date and treated accordingly under the terms of the Share Compensation Plan. Please see Schedule A for a summary of your long term incentives.

e. continued participation in certain Company benefit plans until the earlier of (x) February 26, 2023, or (y) the date you become eligible for substantially similar benefits under a benefit plan, program or arraignment through a different employer or through your spouse; specifically, BC Medical services plan, the Company's extended health and dental benefit plans, and the Company's life insurance plan. Continued coverage under the aforementioned plans shall be conditional on you continuing to satisfy the terms and conditions of such plans. Notwithstanding the foregoing, your entitlement to short and long term disability benefits will cease on the Termination Date. You are responsible to replace these benefits for you and your family should you wish to continue them beyond their respective expiration dates. You may be eligible to convert your group life insurance coverage to an individual life insurance policy. In this regard, we invite you to communicate with Lynn Smith, lynn.smith@ssrmining.com, Payroll Specialist, for additional details; and

f. reimbursement of any accrued but unpaid business expenses as at the Termination Date, in accordance with the Company's expense reimbursement policy.

In accordance with Section 4.5 of your Employment Agreement, you are deemed to have resigned from all corporate offices, including all directorships, that you hold with the Company and all affiliates of the Company effective no later than the Termination Date. The appropriate documentation in this regard will be provided to you shortly. Kindly execute these in the space provided and return the document(s) to me.

You are reminded of your continuing obligations under your Employment Agreement that survive the termination of your employment, including those set out in Article 5 (Confidential Information), Article 6 (Non-Solicitation & Non-Competition), Article 7 (Non-Disparagement), Article 8 (Intellectual Property), as well as your duties as a fiduciary of the Company at common law. Further, you agree that you will, immediately following the Termination Date, return to the Company all Company property which you currently have in your possession, including but not limited to:

a. any Company keys, your laptop (without deleting any information therefrom except for personal emails unrelated to employment with the Company) and cell phone;

b. any literature, software, documentation or passwords for computers or files belonging to the Company; and

c. any other documentation and/or property of the Company which you have in your control or possession including all business contact names and phone numbers.

Would you please indicate your acceptance of the Company's offer as outlined above by signing and returning a copy of this letter and the enclosed Release to Susan Gehoski, Vice President, Human Resources, susan.gehoski@ssrmining.com by no later than March 5, 2021. If you decide not to accept this offer, the Company will only provide you with accrued but unpaid entitlements and termination notice as required by the *Employment Standards Act* (British Columbia). If you have any questions regarding the above or any matter, please speak to Susan Gehoski.

Greg, we thank you for your contribution to the Company and wish you the very best in your future endeavours.

Yours truly,

Rod Antal
President & Chief Executive Officer

++++++++++++++++++++++++++++++++++

I acknowledge receipt of a copy of this letter and agree that the foregoing terms are acceptable to me.

Dated_____, 2021

_____
Gregory Martin

SCHEDULE A - Summary of Long Term Incentives

[Redacted]

R E L E A S E

1. RELEASE

In consideration of the payment to me of $1,705,918.28 and other administrative arrangements referenced in the attached correspondence, dated February 26, 2021, I, Gregory Martin, on behalf of myself, my heirs, administrators and assigns, hereby release and forever discharge SSR Mining Inc. its parent, subsidiaries and affiliates and each of its and their respective officers, directors, employees, servants and agents, and their successors and assigns (hereinafter collectively referred to as the **"Company"**), jointly and severally from any and all actions, causes of actions, contracts, (whether express or implied), claims and demands for damage, loss or injury, suits, debts, sums of money, indemnity, expenses, interest, costs and claims of any and every kind and nature whatsoever, at law, in equity, or pursuant to statute, which against the Company, I ever had, now have, or can hereafter have by reasons of or existing out of any causes whatsoever existing up to and inclusive of the date of this Release, including, but without limiting the generality of the foregoing:

a. my employment agreement dated October 1, 2020;

b. my hiring by, or my employment with the Company and the termination thereof;

c. any and all claims for damages, salary, wages, termination pay, severance pay, vacation pay, overtime pay, commissions, bonuses, interest, expenses, RSP, pension, performance warrants, stock options, allowances, incentive payments, or any other benefits arising out of my employment with the Company;

d. loss of position, status, future job opportunity, or reputation; and,

e. any and all claims arising out of or by virtue of the *Human Rights Code* (British Columbia) (having discussed or otherwise canvassed any and all human rights complaints, concerns or issues arising out of or with respect to my relationship with the Company).

2. NO ADMISSION

I acknowledge that the payment given to me pursuant to the above paragraph does not constitute any admission of liability by the Company, said liability in fact being denied.

3. INDEMNITY FOR TAXES, ETC.

I further agree that I will save harmless and indemnify the Company from and against all claims, charges, taxes, interest or penalties and demands which may be made by the appropriate taxing authorities in Canada and British Columbia requiring the Company to pay income tax, charges or penalties under the applicable statutes and regulations in respect of income tax payable by me for services that I rendered to the Company; and in respect of any and all claims, charges, taxes, interest, or penalties and demands which may be made on behalf of or related to governmentally regulated or other employment insurance or pension plan programs.

4. EMPLOYMENT STANDARDS ACT

I acknowledge that this settlement includes payment for any and all claims arising out of or by virtue of the *Employment Standards Act* (British Columbia). I further acknowledge receipt of all wages, damages, overtime pay, vacation pay, general and statutory holiday pay, and pay in place of notice of termination of employment that I am entitled to by virtue of the *Employment Standards Act* (British Columbia). I acknowledge and agree that the amounts provided to me are intended to be inclusive of, and not in addition to, any benefits and allowances or obligations prescribed by applicable employment standards legislation and are to be in full payment of the obligations under such legislation, including the notice and termination pay entitlements of such legislation.

5. BENEFITS AND INSURANCE CLAIMS

I acknowledge and agree that the consideration paid to me includes full compensation and consideration for loss of employment benefits and that my entitlement to short-term and long-term disability benefits ceased effective February 26, 2021, and that all other benefits will terminate on the earlier of (x) February 26, 2023, or (y) the date I become eligible for substantially similar benefits under a benefit plan, program or arraignment through a different employer or through my spouse. I expressly declare that I have no claim of any nature or kind to any entitlement whatsoever arising under or from any disability benefit policy maintained by the Company for the benefit of its employees and hereby release the Company from any further obligations or liabilities arising from all disability benefits. I fully accept sole responsibility to replace those benefits that I wish to continue and to exercise conversion privileges where applicable with respect to benefits. In the event that I become disabled, I covenant not to sue the Company for insurance or other benefits, or for loss of benefits. I hereby release the Company from any further obligations or liabilities arising from my employment benefits.

6. NON-DISCLOSURE

I agree that I will not divulge or disclose directly or indirectly the contents of this Release or the terms of settlement relating to the termination of my employment with the Company to any person, including but without limiting the generality of the foregoing, to employees or former employees of the Company, except my legal and financial advisors, and my spouse, on the condition that they maintain the confidentiality thereof, or as required by law.

7. SOCIAL MEDIA

I will ensure that my employment status on all social media sites on which I hold an account or am a member, including without limitation LinkedIn, Facebook, Instagram and Twitter, does not indicate or otherwise suggest that I am a current employee of the Company.

8. CONFIDENTIALITY

I recognize and acknowledge that during my employment with the Company I had access to certain confidential and proprietary information, the disclosure of which could be harmful to the interests of the Company. I acknowledge that I have taken and will in future take appropriate precautions to safeguard the confidential information of the Company.

I recognize and agree that all written and electronic drawings, manuals, letters, notebooks, reports records and similar collections of confidential and proprietary information of the Company (hereinafter collectively called "**Documents**"), are the property of the Company and I expressly acknowledge and it is a condition of the payment of the consideration, that I have delivered all such Documents to the Company.

9. UNDERSTANDING

And I hereby declare that I have had the opportunity to seek independent legal advice with respect to the matters addressed in this Release and the terms of settlement which have been agreed to by myself and the Company and I fully understand them. I hereby voluntarily accept the said terms for the purpose of making full and final compromise, adjustment and settlement of all claims as aforesaid.

10. FURTHER CLAIMS

I agree not to make claim or take proceedings against any other person, corporation or entity, that might claim contribution or indemnity under the provisions of any statute or otherwise against the Company.

11. COMPLETE AGREEMENT

It is understood by the Company and I that this Release contains the entire agreement between us with respect to the subject matter hereof and that the terms of this Release are contractual and not a mere recital.

DATED at the City of_____, in the Province of British Columbia, this_____day of_____, 2021.

_____ _____
Witness (Signature) Gregory Martin

_____
Witness (Print)

_____
Witness (Address)

Exhibit 10.15

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 1st day of October, 2020 **BETWEEN:**

SSR Management Inc.

(the "**Company**")

- and -

Rodney P. Antal

(the "**Executive**")

RECITALS

A. On or about March 20, 2012, the Executive commenced employment with Alacer Gold Corp. ("**Alacer**"). Alacer and SSR Mining Inc. (the "**Parent**") entered into a merger of equals effective September 16, 2020, whereby the Company became a subsidiary of the Parent. SSR Mining (as defined below) desires to employ the Executive as its President and Chief Executive Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's employment with the Company.

C. The Executive agrees to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

Article 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Parent.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company, Parent, and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) the breach by the Executive of a material term of this Agreement;

b) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

c) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of a felony;

d) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Parent;

e) the failure by the Executive to obey reasonable instructions provided to him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Parent or a related entity of the Parent; or

f) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Parent or Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Parent or Company which may be cast to elect directors of the Parent or Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

   (i) by the Parent or any subsidiary;

   (ii) by any employee benefit plan sponsored or maintained by the Parent or any subsidiary; or

   (iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Parent of a complete liquidation or dissolution of the Parent;

d) a sale or other disposition of all or substantially all of the property or assets of the Parent, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Parent that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Parent and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Parent and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Corporation which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the Location.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Parent and confirmed by the shareholders of the Parent on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Parent on the 14th of May, 2020, or any further amendment or replacement to that plan.

"Territory" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

Article 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from October 1, 2020 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Parent's President and Chief Executive Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the Board and shall have such duties and responsibilities as are customary for such position and as are delegated to him by the Board from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Parent. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to him;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct himself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Parent's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Parent's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Parent. If the Parent introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Denver, Colorado. The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

Article 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of US $932,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Parent's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 115% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 230% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be an active employee at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in accordance with the normal course of the business.

Subject to approval by the Board, the Executive will also be eligible to participate in the Parent's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 300% of Base Salary.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Parent or the Company establish from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Parent's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed US $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in the United States.

Article 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon Executive's knowledge of occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's Base Salary earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated.

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination; and

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by him at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans;

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period; and

i) in the event of a Change of Control, any reasonable relocation or moving expenses, including one-way airfare for the Executive and his immediate family, which the Executive incurs if he/they should elect to move to Australia from Denver within six (6) months after the Change of Control.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company and Parent, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company or Parent. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Parent's subsidiaries held by the Executive to be assigned as directed by the Parent. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, Parent, their affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "Releasees") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees. To the extent such amounts represent deferred compensation subject to Section 409A of the Code, and the timing of the Executive's execution of the release required by this Section 4.6 could result in their payment in either of two calendar years, they shall always be paid to the Executive in the second of those two calendar years, regardless of when the Executive executes the release.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

Section 4.8 Delay in Payments Pursuant to Section 409A

The parties agree that the timing of any post-termination payment(s) of deferred compensation to the Executive shall be delayed for six (6) months after the Executive's separation from service to the extent necessary to avoid any violation(s) of Section 409A(a)(2)(B)(i) of the Code (ie. the six-month delay will apply if (i) the payment is subject to Section 409A of the Code, (ii) the employer has stock that is publicly traded on an established securities market, and (iii) the payment is being made due to the Executive's separation from service).

.

Article 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Parent, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company or the Parent, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

Article 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Parent, Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Parent, Company or any of their affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Parent or Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Parent, Company or any of their affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in any capacity whatsoever, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

Article 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Parent, its affiliates or its and their management, agents or employees.

Article 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

(a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced, made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Parent or the Company (the "Intellectual Property"), shall vest in and be the exclusive property of the Company.

(b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company and/or Parent shall have full knowledge and ownership of the working and practical applications of such right.

(c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

(d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

(e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

Article 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting him from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

Article 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: Rod Antal
[REDACTED]
[REDACTED]

The Company: SSR Management Inc.
7001 E Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Section 10.2 Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.3 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive’s employment, for any reason.

Section 10.4 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company and Parent may collect, use and disclose the Executive's personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive's specific consent to the collection, use or disclosure of the Executive's personal employee information is required in the future, the Executive hereby agrees to provide such consent. If the Executive refuses or withdraws the Executive's consent, the Executive acknowledges that the Executive's employment with the Company may be negatively affected.

Section 10.5 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the U.S. state or commonwealth encompassing the Location (the "Forum"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the state and/or federal courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.6 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company and Parent shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company and/or Parent to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control

Section 10.7 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.8 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.9 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.10 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.11 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.12 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.13 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.14 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Management Corp.

By: _____
Michael J. Sparks
Chief Legal and Administrative Officer

Executive

_____
Rodney P. Antal

Acknowledged and Agreed by:

SSR Mining Inc.

By: _____
Michael J. Sparks
Chief Legal and Administrative Officer

Exhibit 10.16

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 1st day of October, 2020 **BETWEEN**

SSR Management Inc.

(the "**Company**")

- and -

Stewart Beckman

(the "**Executive**")

RECITALS

A. On or about May 1, 2016, the Executive commenced employment with Alacer Gold Corp. ("**Alacer**"). Alacer and SSR Mining Inc. (the "**Parent**") entered into a merger of equals effective September 16, 2020, whereby the Company became a subsidiary of the Parent. SSR Mining (as defined below) desires to employ the Executive as its Executive Vice President - Chief Operating Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's employment with the Company.

C. The Executive agrees to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

ARTICLE 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Parent.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company, Parent, and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) the breach by the Executive of a material term of this Agreement;

b) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

c) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of a felony;

d) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Parent;

e) the failure by the Executive to obey reasonable instructions provided to him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Parent or a related entity of the Parent; or

f) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Parent or Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Parent or Company which may be cast to elect directors of the Parent or Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

   (i) by the Parent or any subsidiary;

   (ii) by any employee benefit plan sponsored or maintained by the Parent or any subsidiary; or

   (iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Parent of a complete liquidation or dissolution of the Parent;

d) a sale or other disposition of all or substantially all of the property or assets of the Parent, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Parent that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Parent and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Parent and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Corporation which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the Location.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Parent and confirmed by the shareholders of the Parent on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Parent on the 14th of May, 2020, or any further amendment or replacement to that plan.

"Territory" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

ARTICLE 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from October 1, 2020 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Parent's Executive Vice President - Chief Operating Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the President and Chief Executive Officer and shall have such duties and responsibilities as are customary for such position and as are delegated to him by the President and Chief Executive Officer from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Parent. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to him;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct himself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Parent's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Parent's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Parent. If the Parent introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Denver, Colorado. The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

ARTICLE 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of US $520,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Parent's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 75% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 150% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be an active employee at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in accordance with the normal course of the business.

Subject to approval by the Board, the Executive will also be eligible to participate in the Parent's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 175% of Base Salary.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Parent or the Company establish from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Parent's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed US $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in the United States.

ARTICLE 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's Base Salary earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement; and

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans.

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination;

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period; and

(v) in the event the Executive elects to move to Australia from Denver within six (6) months of termination of this Agreement pursuant to 4.1(d) or (e), the Company agrees to pay and/or reimburse the Executive for any reasonable relocation or moving expenses, including one-way airfare for the Executive and his immediate family.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by him at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans;

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period; and

i) in the event of a Change of Control, any reasonable relocation or moving expenses, including one-way airfare for the Executive and his immediate family, which the Executive incurs if he/they should elect to move to Australia from Denver within six (6) months after the Change of Control.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company and Parent, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company or Parent. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Parent's subsidiaries held by the Executive to be assigned as directed by the Parent. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, Parent, their affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "Releasees") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees. To the extent such amounts represent deferred compensation subject to Section 409A of the Code, and the timing of the Executive's execution of the release required by this Section 4.6 could result in their payment in either of two calendar years, they shall always be paid to the Executive in the second of those two calendar years, regardless of when the Executive executes the release.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

Section 4.8 Delay in Payments Pursuant to Section 409A

The parties agree that the timing of any post-termination payment(s) of deferred compensation to the Executive shall be delayed for six (6) months after the Executive's separation from service to the extent necessary to avoid any violation(s) of Section 409A(a)(2)(B)(i) of the Code (ie. the six-month delay will apply if (i) the payment is subject to Section 409A of the Code, (ii) the employer has stock that is publicly traded on an established securities market, and (iii) the payment is being made due to the Executive's separation from service).

.

ARTICLE 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Parent, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company or the Parent, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

ARTICLE 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Parent, Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Parent, Company or any of their affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Parent or Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Parent, Company or any of their affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in any capacity whatsoever, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

ARTICLE 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Parent, its affiliates or its and their management, agents or employees.

ARTICLE 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

(a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced,

made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Parent or the Company (the "Intellectual Property"), shall vest in and be the exclusive property of the Company.

(b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company and/or Parent shall have full knowledge and ownership of the working and practical applications of such right.

(c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

(d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

(e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, Turkey and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

ARTICLE 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting him from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

ARTICLE 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: Stewart Beckman
[REDACTED]
[REDACTED]

The Company: SSR Management Inc.
7001 E Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Section 10.2 Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.3 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive’s employment, for any reason.

Section 10.4 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company and Parent may collect, use and disclose the Executive’s personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive’s specific consent to the collection, use or disclosure of the Executive’s personal employee information is required in the future, the Executive hereby agrees to provide such consent. If the Executive refuses or withdraws the Executive’s consent, the Executive acknowledges that the Executive’s employment with the Company may be negatively affected.

Section 10.5 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the U.S. state or commonwealth encompassing the Location (the "Forum"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the state and/or federal courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.6 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company and Parent shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company and/or Parent to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control

Section 10.7 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.8 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.9 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.10 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.11 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.12 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.13 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.14 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Management Corp.

By: _____
Rod Antal
President and Chief Executive Officer

Executive

_____

Stewart Beckman

Acknowledged and Agreed by:

SSR Mining Inc.

By: _____
Michael J. Sparks
Chief Legal and Administrative Officer

Exhibit 10.17

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 1st day of October, 2020 **BETWEEN:**

SSR Mining Inc.

(the "**Company**")

- and -

F. Edward Farid

(the "**Executive**")

RECITALS

A. On or about April 1, 2017, the Executive commenced employment with Alacer Management Corp. ("**AGM**"), a subsidiary of Alacer Gold Corp. ("**Alacer**"). Alacer and the Company entered into a merger of equals effective September 16, 2020, whereby AGM became a subsidiary of the Company. SSR Mining (as defined below) desires to continue to employ the Executive as its Executive Vice President, Chief Corporate Development Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's continued employment with the Company.

C. The Executive agrees to continue to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

ARTICLE 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Company.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) any wilful misconduct, disobedience or wilful neglect of duty by the Executive that is not trivial and has not been condoned by the Company or for any other reason which would permit the Company to terminate the Executive's employment without notice of termination, termination pay, or severance pay under Part XV of the *Employment Standards Act, 2000* (Ontario) ("ESA Cause");

b) the breach by the Executive of a material term of this Agreement;

c) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

d) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of an indictable offense;

e) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Company;

f) the failure by the Executive to obey reasonable instructions provided to him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Company or a related entity of the Company; or

g) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Company which may be cast to elect directors of the Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

   (i) by the Company or any subsidiary;

   (ii) by any employee benefit plan sponsored or maintained by the Company or any subsidiary; or

   (iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Company of a complete liquidation or dissolution of the Company;

d) a sale or other disposition of all or substantially all of the property or assets of the Company, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Company that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Company and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Company and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Company which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the Location.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Company and confirmed by the shareholders of the Company on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Company on the 14th of May, 2020, or any further amendment or replacement to that plan.

"**Territory**" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

ARTICLE 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from October 1, 2020 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Company's Executive Vice President, Chief Corporate Development Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the President and Chief Executive Officer and shall have such duties and responsibilities as are customary for such position and as are delegated to him by the President and Chief Executive Officer from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Company. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to him;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct himself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Company's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Company's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Company. If the Company introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Toronto, Canada (the "**Location**"). The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

ARTICLE 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of USD $490,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Company's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 75% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 150% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be actively employed at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in accordance with normal course of business. For purposes of this Agreement "actively employed" does not include any period of notice of termination from the Company or payment in lieu of notice, except for the Executive's minimum statutory notice period under applicable employment standards legislation and the Executive waives the right to receive damages or payment in lieu of any forfeited Bonus payment.

Subject to approval by the Board, the Executive will also be eligible to participate in the Company's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 150% of Base Salary. The Executive acknowledges and agrees that any agreement entered into in connection with the LTIP is a separate agreement from this Agreement.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Company establishes from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Company's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed US $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in Canada.

ARTICLE 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice, it being understood that if the Company makes such an election, it shall not constitute a termination of employment by the Company;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon Executive's knowledge of occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's accrued wages earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans.

In respect of a termination for Cause, in the event that the Executive's conduct or actions giving rise to Cause do not constitute ESA Cause, in addition to the payments and benefits stipulated in Section 4.2(a), the Company will only provide the Executive with such termination and severance payments required by the *Employment Standards Act*, *2000*, as amended from time to time (the "ESA") (with vacation pay calculated to the end of the statutory notice period and continuation of all benefits (as existed on the date notice of termination is provided) for such period as may be required by the ESA).

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination; and

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four (24) month period.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by him at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans; and

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four (24) month period.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Company's subsidiaries held by the Executive to be assigned as directed by the Company. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, its affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "**Releasees**") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

ARTICLE 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Company, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

ARTICLE 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Company or any of its affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Company or any of its affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Company or any of its affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Company or any of its affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in a capacity that is the same as or similar to the position occupied by the Executive while an employee of the Company, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

ARTICLE 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Company, its affiliates or its and their management, agents or employees.

ARTICLE 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

(a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced, made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Company (the "**Intellectual Property**"), shall vest in and be the exclusive property of the Company.

(b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company shall have full knowledge and ownership of the working and practical applications of such right.

(c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

(d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

(e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

ARTICLE 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting him from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

ARTICLE 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: F. Edward Farid
[REDACTED]
[REDACTED]

The Company: SSR Mining Inc.
7001 E Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.2 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive's employment, for any reason.

Section 10.3 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company may collect, use and disclose the Executive's personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive's specific consent to the collection, use or disclosure of the Executive's personal employee information is required in the future, the Executive hereby agrees to provide such consent. If the Executive refuses or withdraws the Executive's consent, the Executive acknowledges that the Executive's employment with the Company may be negatively affected.

Section 10.4 Governing Law

This Agreement will be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein (the "**Forum**"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the provincial courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.5 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control.

Section 10.6 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.7 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.8 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.9 Compliance with Employment Standards Legislation

In the event that the minimum standards set out in the applicable employment standards legislation (as may be amended from time to time) are more favourable to the Executive in any respect than a term or provision provided for in this Agreement, including without limitation the terms set out in Article 4 above, the Executive and the Company agree that the statutory provisions will apply in respect of that term or provision.

Section 10.10 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.11 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.12 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.13 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.14 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Mining Inc.

By: _____
Rod Antal
President & CEO

Executive

_____
F. Edward Farid

Exhibit 10.18

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 1st day of October, 2020 **BETWEEN:**

SSR Management Inc.

(the "**Company**")

- and -

Michael J. Sparks

(the "**Executive**")

RECITALS

A. On or about December 17, 2012, the Executive commenced employment with Alacer Gold Corp. ("**Alacer**"). Alacer and SSR Mining Inc. (the "**Parent**") entered into a merger of equals effective September 16, 2020, whereby the Company became a subsidiary of the Parent. SSR Mining (as defined below) desires to employ the Executive as its Executive Vice President - Chief Legal and Administrative Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's employment with the Company.

C. The Executive agrees to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

ARTICLE 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Parent.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company, Parent, and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) the breach by the Executive of a material term of this Agreement;

b) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

c) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of a felony;

d) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Parent;

e) the failure by the Executive to obey reasonable instructions provided to him in the course of employment, within five calendar days after receiving written notice of such disobedience from the Parent or a related entity of the Parent; or

f) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Parent or Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Parent or Company which may be cast to elect directors of the Parent or Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

   (i) by the Parent or any subsidiary;

   (ii) by any employee benefit plan sponsored or maintained by the Parent or any subsidiary; or

   (iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Parent of a complete liquidation or dissolution of the Parent;

d) a sale or other disposition of all or substantially all of the property or assets of the Parent, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Parent that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Parent and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Parent and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Corporation which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the location where the Executive worked when the Change of Control occurred.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Parent and confirmed by the shareholders of the Parent on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Parent on the 14th of May, 2020, or any further amendment or replacement to that plan.

"Territory" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

ARTICLE 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from October 1, 2020 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Parent's Executive Vice President - Chief Legal and Administrative Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the President and Chief Executive Officer and shall have such duties and responsibilities as are customary for such position and as are delegated to him by the President and Chief Executive Officer from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Parent. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to him;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct himself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Parent's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Parent's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Parent. If the Parent introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Denver, Colorado. The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

ARTICLE 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of US $460,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Parent's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 75% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 150% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be an active employee at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in the normal course of business.

Subject to approval by the Board, the Executive will also be eligible to participate in the Parent's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 150% of Base Salary.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Parent or the Company establish from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Parent's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed US $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in the United States.

ARTICLE 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's Base Salary earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement; and

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans.

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination; and

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by him at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans;

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of him or his spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period; and

i) in the event of a Change of Control, any reasonable relocation or moving expenses, including one-way airfare for the Executive and his immediate family, which the Executive incurs if he/they should elect to move to Australia from Denver within six (6) months after the Change of Control.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company and Parent, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company or Parent. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Parent's subsidiaries held by the Executive to be assigned as directed by the Parent. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, Parent, their affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "Releasees") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees. To the extent such amounts represent deferred compensation subject to Section 409A of the Code, and the timing of the Executive's execution of the release required by this Section 4.6 could result in their payment in either of two calendar years, they shall always be paid to the Executive in the second of those two calendar years, regardless of when the Executive executes the release.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

Section 4.8 Delay in Payments Pursuant to Section 409A

The parties agree that the timing of any post-termination payment(s) of deferred compensation to the Executive shall be delayed for six (6) months after the Executive's separation from service to the extent necessary to avoid any violation(s) of Section 409A(a)(2)(B)(i) of the Code (ie. the six-month delay will apply if (i) the payment is subject to Section 409A of the Code, (ii) the employer has stock that is publicly traded on an established securities market, and (iii) the payment is being made due to the Executive's separation from service).

.

ARTICLE 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Parent, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company or the Parent, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

ARTICLE 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Parent, Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Parent, Company or any of their affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Parent or Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Parent, Company or any of their affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in any capacity whatsoever, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

ARTICLE 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Parent, its affiliates or its and their management, agents or employees.

ARTICLE 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

(a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced, made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Parent or the Company (the "Intellectual Property"), shall vest in and be the exclusive property of the Company.

(b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company and/or Parent shall have full knowledge and ownership of the working and practical applications of such right.

(c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

(d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

(e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

ARTICLE 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting him from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

ARTICLE 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: Michael J. Sparks
[REDACTED]
[REDACTED]

The Company: SSR Management Inc.
7001 E Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Section 10.2 Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.3 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive’s employment, for any reason.

Section 10.4 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company and Parent may collect, use and disclose the Executive’s personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive's specific consent to the collection, use or disclosure of the Executive's personal employee information is required in the future, the Executive hereby agrees to provide such consent. If the Executive refuses or withdraws the Executive's consent, the Executive acknowledges that the Executive's employment with the Company may be negatively affected.

Section 10.5 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the U.S. state or commonwealth encompassing the Location (the "Forum"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the state and/or federal courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.6 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company and Parent shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company and/or Parent to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control

Section 10.7 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.8 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.9 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.10 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.11 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.12 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.13 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.14 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Management Corp.

By: _____
Rod Antal
President and Chief Executive Officer

Executive

By:Michael J. Sparks

Michael J. Sparks

Acknowledged and Agreed by:

SSR Mining Inc.

By: _____
Rod Antal
President and Chief Executive Officer

Exhibit 10.19

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT is made this 26th day of February, 2021

BETWEEN:

SSR Management Inc.

(the "**Company**")

- and –

Alison White

(the "**Executive**")

RECITALS

A. SSR Mining Inc. (the "**Parent**") desires to employ the Executive as its Executive Vice President – Chief Financial Officer through the Company and the Executive wishes to accept such employment.

B. The parties wish to set forth the terms and conditions relating to the Executive's employment with the Company.

C. The Executive agrees to be employed by the Company on the terms of this employment agreement (the "**Agreement**").

In consideration of the mutual covenants and agreements contained in this Agreement, and other good and valuable consideration, the receipt and adequacy of which are acknowledged by both parties, the parties agree as follows.

ARTICLE 1
DEFINITIONS

Section 1.1 Defined Terms

As used in this Agreement, the following terms have the following meanings:

"Board" means the Board of Directors of the Parent.

"Business" means: (a) mining and mining exploration; (b) any other business conducted by the Company, Parent, and/or any affiliated entity (collectively, "**SSR Mining**") at the time the Executive's employment is terminated; and (c) any business that SSR Mining is in the process of developing (as reflected in a written business or strategic plan of SSR Mining known to the Executive) at the time the Executive's employment is terminated.

"**Cause**" means:

a) the breach by the Executive of a material term of this Agreement;

b) the repeated and demonstrated failure by the Executive to perform the material duties of his position in a competent manner;

c) the conviction of the Executive of a criminal offense involving fraud or dishonesty, or the conviction of a felony;

d) a material breach by the Executive of his obligations under any written code of ethics, any other written code of business conduct or any written lawful policies or written procedures of the Parent;

e) the failure by the Executive to obey reasonable instructions provided to her in the course of employment, within five calendar days after receiving written notice of such disobedience from the Parent or a related entity of the Parent; or

f) any actions or omissions on the part of the Executive constituting gross negligence or wilful misconduct, resulting in a risk of material harm to SSR Mining.

"Change of Control" means the occurrence of one or more of the following events:

a) individuals who, as of the date of this Agreement, constitute the Board (the "**Incumbent Directors**") cease for any reason to constitute at least a majority of such Board, provided that any person becoming a director after the date of this Agreement and whose election or nomination for election was approved by a vote of at least a majority of the Incumbent Directors then on the Board shall be an Incumbent Director; provided, however, that no individual initially elected as a director of the Company as a result of an actual or threatened election contest with respect to the election or removal of directors ("**Election Contest**") or other actual or threatened solicitation of proxies or consents by or on behalf of any person other than the Board, including by reason of any agreement intended to avoid or settle any Election Contest or proxy contest, shall be deemed an Incumbent Director;

b) any change in the holding, direct or indirect, of shares in the capital of the Parent or Company as a result of which a person or group of persons acting jointly or in concert, or person associated or affiliated with any such person or group within the meaning of the *Securities Act* (British Columbia), becomes the beneficial owner, directly or indirectly, of shares and/or other securities in excess of the number which, directly or following conversion thereof, would entitle the holders thereof to cast more than 50% of the votes attaching to all shares of the Parent or Company which may be cast to elect directors of the Parent or Company (the "**Company Voting Securities**"); provided, however, that the event described in this paragraph (b) shall not be deemed to be a Change of Control by virtue of any of the following acquisitions of Company Voting Securities:

(i) by the Parent or any subsidiary;

(ii) by any employee benefit plan sponsored or maintained by the Parent or any subsidiary; or

(iii) by any underwriter temporarily holding securities pursuant to an offering of such securities.

c) the approval by directors or shareholders of the Parent of a complete liquidation or dissolution of the Parent;

d) a sale or other disposition of all or substantially all of the property or assets of the Parent, other than to an affiliate within the meaning of the *Securities Act* (British Columbia); or

e) any determination by the majority of Incumbent Directors of the Parent that a Change of Control has occurred.

"Confidential Information" means all information owned, possessed or controlled by the Parent and/or its affiliates, including, without limitation, all information related to developments, inventions, enhancements, finances, scientific data, technical data, manufacturing, process know-how and marketing information, howsoever received by the Executive and in whatever form (whether oral, written, machine readable or otherwise), which pertains to the Parent and/or its affiliates; provided, however, that the phrase "Confidential Information" shall not include information which:

a) was in the public domain prior to the date of receipt by the Executive;

b) is properly within the legitimate possession of the Executive prior to its disclosure during the Term, and without any obligation of confidence attaching thereto;

c) becomes part of the public domain by publication or otherwise, not due to any unauthorized act or omission of the Executive;

d) after disclosure, is lawfully received by the Executive from another Entity who is lawfully in possession of such Confidential Information and such other Entity was not restricted from disclosing the said information to the Executive;

e) is approved, in writing, by the Board for disclosure prior to its actual disclosure; or

f) the Executive is required by law to disclose, provided that, unless prohibited by law, the Executive first notifies the Board at the first reasonable opportunity that the Executive is required to disclose such Confidential Information.

"**Development**" means any discovery, invention, design, improvement, concept, design, specification, creation, development, treatment, computer program, method, process, apparatus, specimen, formula, formulation, product, hardware or firmware, any drawing, report, memorandum, article, letter, notebook and any other work of authorship and ideas (whether or not patentable or copyrightable) and legally recognized proprietary rights (including, but not limited to, patents, copyrights, trademarks, topographies, know-how and trade secrets), and all records and copies of records relating to the foregoing, that:

a) result or derive from the Executive's employment or from the Executive's knowledge or use of Confidential Information;

b) are conceived or made by the Executive (individually or in collaboration with others) in the course of the Executive's employment;

c) result from or derive from the use or application of the resources of SSR Mining; or

d) relate to the business operations of actual or demonstrably anticipated research and development by SSR Mining.

"**Disability**" means the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for a continuous period of three (3) months or more or the Executive's inability to substantially fulfill the Executive's duties on behalf of the Company for an aggregate period of three (3) months or more during any consecutive six (6) month period. If there is any disagreement between the Company and the Executive as to the Executive's Disability or as to the date(s) any such Disability began or ended, the same shall be determined by a physician mutually acceptable to the Company and the Executive (and/or his representatives) whose determination shall be conclusive evidence of any such Disability and of the date(s) any such Disability began or ended.

"**Entity"** means a natural person, partnership, limited liability partnership, company, joint stock company, trust, unincorporated association, joint venture or other entity or governmental entity, and pronouns have a similarly extended meaning.

"**Good Reason**" means the Executive was induced by the actions of the Company to resign or terminate his employment other than on a purely voluntary basis as a result of the occurrence of one or more of the following events without the Executive's written consent:

a) a materially adverse change in the Executive's position, duties, powers, rights, discretion, or responsibilities;

b) a materially adverse change in the Executive's reporting relationship that is inconsistent with the Executive's title or position;

c) a reduction by the Company of the target compensation of the Executive or a material reduction by the Company in the aggregate level of health & welfare benefits made available to the Executive, except where the reduction in compensation or benefits is part of a general reduction affecting all or substantially all of the Executives of the Corporation which affects the Executive in substantially the same manner as the other Executives who are also affected by such adverse reduction; or

d) the permanent relocation by the Company of the Executive's principal office by more than 80 kilometers from the location where the Executive worked when the Change of Control occurred.

"Incumbent Directors" means the members of the Board holding office as at the date hereof and any additional directors appointed by or with the consent of the Incumbent Directors during the Term.

"Share Compensation Plan" means the SSR Mining Inc. 2017 Share Compensation Plan approved by the directors of the Parent and confirmed by the shareholders of the Parent on the 4th day of May, 2017, as amended and confirmed by the shareholders of the Parent on the 14th of May, 2020, or any further amendment or replacement to that plan.

"Territory" means within 35 kilometers of any of SSR Mining's mineral and property rights and interests as of the date of termination of the Executive's employment for any reason.

ARTICLE 2
EMPLOYMENT

Section 2.1 Term and Commencement

This Agreement shall be effective from March 31, 2021 and shall continue for an indefinite period unless terminated earlier in accordance with Article 4 hereof (the "**Term**").

Section 2.2 Position

Subject to the terms and conditions hereinafter contained, the Executive will be employed with the Company as the Parent's Executive Vice President - Chief Financial Officer.

Section 2.3 Duties of Employment

The Executive shall report to and be subject to the general direction of the President and Chief Executive Officer and shall have such duties and responsibilities as are customary for such position and as are delegated to her by the President and Chief Executive Officer from time to time.

Section 2.4 Performance Standards

During the Term, the Executive shall

(i) devote his full time, attention and energy to the Parent. The Executive shall not, directly or indirectly, render services to any other Entity during the Term, with the exception of family organizations, charitable or community service organizations, and services provided to such other Entities as SSR Mining may approve from time to time provided such activities do not interfere with the Executive's duties under this Agreement;

(ii) diligently and to the best of his abilities perform the duties and responsibilities assigned to her;

(iii) deal at all times in good faith with SSR Mining, its employees, contractors, officers, directors, clients and suppliers;

(iv) act and conduct herself at all times in the best interest of SSR Mining.

Section 2.5 Policies

The Executive acknowledges that he has received a copy of the Parent's workplace and compensation policies, including the Share Compensation Plan, Executive Incentive Compensation Recoupment Policy, which are incorporated into and form part of this Agreement. The Executive agrees to comply with all policies applying to the Parent's executive employees that may be reasonably issued by SSR Mining from time to time. The Executive agrees that the introduction, amendment and administration of such policies are within the sole discretion of the Parent. If the Parent introduces, amends or deletes any such policies as conditions warrant, such introduction, deletion or amendment shall not constitute a constructive dismissal or breach of this Agreement. If there is a direct conflict between this Agreement and any such policy, this Agreement shall prevail to the extent of the inconsistency.

The Executive also agrees to comply with all applicable laws, rules and regulations, and all requirements of all applicable regulatory, self-regulatory and administrative bodies.

Section 2.6 Location

The Executive will be based in the corporate office in Denver, Colorado. The Company may require the Executive to travel to other locations for the business of the Company (including overseas) from time to time, as necessary, in the sole discretion of the Company. The Executive expressly acknowledges and agrees that such travel requirements do not constitute constructive dismissal or termination for Good Reason.

ARTICLE 3
REMUNERATION AND BENEFITS

Section 3.1 Salary

The Company shall pay to the Executive a salary (the "**Base Salary**") at the rate of US $400,000 per annum, payable to the Executive in accordance with the payroll practices of the Company for its senior management as are in effect from time to time. The Executive's Base Salary will be reviewed on an annual basis by the compensation committee of the Board and may be increased by the Board from time to time and once increased shall thereafter be the Base Salary hereunder.

Section 3.2 Bonuses

The Executive shall be eligible to participate in the Parent's short-term incentive plan, which consists of an annual bonus program (the "**Bonus**"). The annual bonus target will be 75% of Base Salary, to be adjusted based on annual achievement of SSR Mining and individual performance as measured against established goals, with a maximum opportunity of 150% of Base Salary for exceptional company and individual achievement. Any award is subject to Board approval. Except as provided herein, the Executive must be an active employee at the date of payment of such award to be eligible to receive a bonus award. Any approved Bonus shall be payable during the calendar year following the calendar year in which the Bonus was earned and shall be paid in the normal course of business.

Subject to approval by the Board, the Executive will also be eligible to participate in the Parent's long-term incentive plan(s) ("**LTIP**"), as may be approved by the Board from time to time. The annual long-term incentive target value will be 150% of Base Salary.

Subject to Board approval, the Executive will be awarded an initial LTIP grant equal to USD $1,200,000. Such LTIP grant shall be granted as soon as practical after the start date.

All performance targets and results for these incentive plans shall be approved by the Board.

Section 3.3 Benefit, Share Purchase and Retirement Savings Plans

a) The Executive will be eligible to participate in the Company's benefit plans the Company may have in effect for its employees from time to time. The Company reserves the right to amend, alter or vary the benefit plan, and/or change benefit carriers, from time to time.

b) The Executive will be eligible to participate in any employee share purchase plan and any retirement savings plan which the Parent or the Company establish from time to time.

Section 3.4 Perquisites and Expenses

The Company will pay or reimburse the Executive for all reasonable travelling and other out-of-pocket expenses incurred by the Executive in connection with the Executive's employment hereunder in accordance with the policies of the Company in effect from time to time.

Section 3.5 Vacation

During each full calendar year during the Term, the Executive will be entitled to twenty-five (25) days of paid vacation to be taken at times mutually agreeable to the Executive and the Company. The Executive will be allowed to carry forward any unused vacation time into the next year. In addition, the Executive shall be entitled to those holidays which are customarily observed by the Company at the Location, as reflected in the Company's policies.

Section 3.6 Incentive Compensation Recoupment

In the event that the Executive receives an overcompensation amount as defined under the Parent's Executive Incentive Compensation Recoupment Policy and as amended from time to time, the Executive agrees to repay such overcompensation amount to the Company and further agrees that any such required payment will constitute a debt due and owing to the Company, which debt may be set off against any payment the Company owes to the Executive under this Agreement.

Section 3.7 Taxes

The Company further agrees to reimburse the Executive for financial advice and tax preparation services during the term of this Agreement. Such amounts shall not exceed US $15,000 per calendar year.

The Company will provide the Executive with tax equalization, if applicable, to account for any tax liabilities above US tax liabilities, resulting from the performance of the Executive's duties hereunder, to ensure that he will pay neither more nor less taxes than he would have had he remained in his home location in the United States.

ARTICLE 4
TERMINATION

Section 4.1 Termination

This Agreement and the employment contemplated hereunder may (and in the case of Subsection 4.1(c), shall) be terminated, in the following manner and in the following circumstances:

a) by the Executive, at any time, by providing at least 60 days written notice of resignation, including retirement, to the Company in which case this Agreement and the Executive's employment shall terminate (i) upon the date set forth in the notice from the Executive to the Company, or (ii) at such earlier date as the Company may elect following its receipt of the Executive's notice;

b) by the Company, for Cause, in which case this Agreement and the Executive's employment shall terminate immediately upon the Executive's receipt of a written notice from the Company setting out the basis for termination;

c) automatically, and without further notice, upon the death of the Executive;

d) by the Company, without Cause, for reasons other than death or Disability as provided in subsection 4.1(c) and (f), in which case this Agreement and the Executive's employment shall terminate immediately upon receipt by the Executive of a written notice of termination from the Company;

e) by the Executive, for Good Reason, provided the Executive has provided written notice of such occurrence to the Company immediately upon occurrence of such an event and the Company has not corrected such occurrence within 30 days; in which case the Executive's employment and this Agreement shall terminate at the end of the 30 day period.

f) in the event of the Disability of the Executive, as defined herein, this Agreement and the Executive's employment will terminate upon the Executive's receipt of a written notice from the Company confirming termination as a result of Disability.

Section 4.2 Payment Upon Termination

In the event the Executive's employment is terminated pursuant to Section 4.1, the following shall constitute the full monetary or other entitlement owing to the Executive upon termination:

a) In the event this Agreement is terminated for any reason, the Executive shall be entitled to the following:

(i) payment of the Executive's Base Salary earned up to the date of termination;

(ii) payment of the value of the Executive's accrued vacation entitlement that has not been used by the Executive at the time of termination;

(iii) except for termination pursuant to Section 4.1(b), a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

(iv) payment of any accrued and unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement; and

(v) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall be dealt with in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans.

b) Should the Agreement be terminated pursuant to Subsection 4.1(d) or 4.1(e), the Executive shall also be entitled to:

(i) Payment of a lump sum amount equal to 24 month's Base Salary;

(ii) payment of a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

(iii) the payments specified in Sections 4.2 shall be made in a lump sum, less deductions required by law, on the next regular payroll date of the Company following the date of termination; and

(iv) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of her or her spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the

terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period.

Section 4.3 Other Termination Rights

In lieu of and not in addition to the termination payments and benefits provided for in Section 4.2 herein, if within twelve (12) months following a Change of Control, the Executive's employment with the Company is terminated by the Company without Cause (including a resignation by the Executive for Good Reason) but not for reasons of death, Disability, or voluntary resignation, the Company shall pay or provide to the Executive following the date of such termination the following which shall constitute the Executive's full monetary or other entitlement upon termination:

a) the Executive's Base Salary earned up to the date of termination;

b) the value of the Executive's accrued vacation that has not been used by her at the time of termination;

c) any accrued unpaid business expenses at the date of termination required to be reimbursed under Section 3.4 of this Agreement;

d) a lump sum amount equal to 24 months' Base Salary;

e) a lump sum amount in lieu of any Bonus entitlement to be calculated as follows: 24 months' average annual Bonus, earned by the Executive in the two (2) years immediately preceding termination. If this Agreement is terminated before the Executive completes two (2) years' service under this Agreement, the average annual Bonus shall be calculated based on the target Bonus for any incomplete year(s) of service and the actual Bonus earned for each completed year of service;

f) a prorated Bonus for that portion of the year in which the Executive was actively employed. The amount of any such Bonus shall be calculated as follows: the product of (A) the average Bonus paid to the Executive for the two (2) fiscal years prior to the fiscal year in which his employment is terminated or, if such information is not available, Executive's target bonus divided by twelve (12), multiplied by (B) the number of months the Executive was actively employed in the fiscal year in which his employment is terminated;

g) any rights in respect of any equity based compensation to which the Executive may be entitled to at the time of such termination shall automatically vest to the Executive as of the date of termination in accordance with the terms of the Share Compensation Plan or other form of equity-based compensation in accordance with the respective plans;

h) continued participation in the insurance benefits in which the Executive was participating pursuant to Section 3.3, above, as of the date of termination, until the earlier of (x) the date twenty-four (24) months after the date of termination, or (y) the date the Executive becomes eligible for substantially similar benefits under a benefit plan, program or arrangement through a different employer of her or her spouse. In the event that the Executive's continued participation in any such plan, program or arrangement of the Company is prohibited by the terms of such plan or applicable benefit-continuation laws, the Company shall arrange to provide the Executive with an amount equal to the value to the Executive (as determined by the Company's auditors) of such benefits calculated for the remainder of the twenty-four month period; and

i) in the event of a Change of Control, any reasonable relocation or moving expenses, including one-way airfare for the Executive and his immediate family, which the Executive incurs if he/they should elect to move to Australia from Denver within six (6) months after the Change of Control.

Section 4.4 Mitigation

The Executive shall not be required to mitigate the amount of any payments or the entitlement to any benefits provided for under Section 4.2(b) or 4.3 by seeking other employment nor shall any payment or benefit provided for in such Section be reduced by any compensation or remuneration and/or benefits earned by the Executive as a result of employment by another employer or the rendering of services after the date of termination.

Section 4.5 Effect of Termination

Upon termination of the Executive's employment for any reason whatsoever, the Executive shall thereupon be deemed to have immediately resigned any position the Executive may have as an officer or director of the Company and Parent, together with any other office, position or directorship which the Executive may hold with any affiliates or related entities of the Company or Parent. In such event, the Executive shall, at the request of the Company, forthwith execute any and all documents appropriate to evidence such resignations, and in any event irrevocably authorises the Company Secretary of the Company to execute these documents on his behalf, and cause any shares of the Parent's subsidiaries held by the Executive to be assigned as directed by the Parent. The Executive shall not be entitled to any payments in respect of such resignations in addition to those provided for herein.

Section 4.6 Release

The Executive agrees that the post-termination payment by the Company of any amounts provided for in Sections 4.2 or 4.3, above (except for payments mandated by applicable law), shall be intended to be in full and final settlement of any and all actions, causes of actions, suits, claims, demands and entitlements whatsoever which the Executive then has or may have against the Company, Parent, their affiliates and/or any of their respective directors, officers, employees, representatives, successors and assigns (collectively, the "Releasees") arising out of or relating to the Executive's hiring, the Executive's employment and/or the termination of the Executive's employment or this Agreement. In keeping with that intention, the Executive's receipt of any such post-termination amounts to which he would not otherwise be entitled shall be conditional on the Executive executing a fully integrated general release in favor of the Releasees. To the extent such amounts represent deferred compensation subject to Section 409A of the Code, and the timing of the Executive's execution of the release required by this Section 4.6 could result in their payment in either of two calendar years, they shall always be paid to the Executive in the second of those two calendar years, regardless of when the Executive executes the release.

Section 4.7 Suspension or Termination of Benefits and Compensation

In the event that the Executive has breached any provisions of Articles 5, 6, 7, 8 or 9, the Company shall have the right to suspend or terminate any or all remaining payments and/or benefits, if any, referenced in Sections 4.2 and 4.3 of this Agreement. Such suspension or termination of payments and/or benefits shall be in addition to and shall not limit any and all other rights and remedies as set out in Section 9.2 of this Agreement that the Company may have against the Executive.

Section 4.8 Delay in Payments Pursuant to Section 409A

The parties agree that the timing of any post-termination payment(s) of deferred compensation to the Executive shall be delayed for six (6) months after the Executive's separation from service to the extent necessary to avoid any violation(s) of Section 409A(a)(2)(B)(i) of the Code (ie. the six-month delay will apply if (i) the payment is subject to Section 409A of the Code, (ii) the employer has stock that is publicly traded on an established securities market, and (iii) the payment is being made due to the Executive's separation from service).

ARTICLE 5
CONFIDENTIAL INFORMATION

Section 5.1 Confidentiality

a) During the Term and indefinitely following termination thereof, the Executive shall not use, divulge, diffuse, sell, transfer, give, circulate, or otherwise distribute to any Entity whatsoever or whomsoever, or otherwise make public, any Confidential Information.

b) Notwithstanding any provision of this Agreement to the contrary, the Executive shall have the right to use, reproduce or disclose Confidential Information in furtherance of the performance of the Executive's duties if the Executive reasonably believes that such use, reproduction or disclosure is in the best interests of the Parent, in which event, the Executive shall, at all times, take all reasonable measures in order to prevent further disclosure, reproduction or non-authorized use of such Confidential Information.

c) Except when impliedly authorized by the nature of the Executive's duties, under no circumstances shall the Executive reproduce any Confidential Information without the prior written consent of the Board. All reproductions of Confidential Information shall be governed by this Agreement and shall be treated as Confidential Information hereunder.

d) The Executive shall not publish or release or allow the publication or release of any material containing Confidential Information without the prior written consent of the Board.

e) The Executive shall not install, copy or receive any Confidential Information into the Executive's own or any other computer or computer system not owned and controlled by the Company or the Parent, without the express written permission of the Board. Where the Executive has received permission from the Board to so install, copy or receive Confidential Information, the Executive shall be solely responsible to the Company for the security of such Confidential Information and shall follow any and all directions given by the Board.

Section 5.2 Company Property

Confidential Information (including any reproduction thereof) shall remain the sole property of the Company and shall be returned to the Company immediately upon request or upon the termination of the Executive's employment, for any reason.

ARTICLE 6
NON-SOLICITATION & NON-COMPETITION

Section 6.1 Non-Solicitation of Employees

The Executive shall not, during the Term and for a period that is the greater of (i) twelve (12) months or (ii) the number of months of termination pay received by the Executive pursuant to Section 4.2(b)(i) or 4.3(d) of this Agreement, immediately following the termination of the Executive's employment, for any reason, on the Executive's own behalf or on behalf of or in connection with any other Entity, without the prior written consent of the Company, directly or indirectly, in any capacity whatsoever, alone through or in connection with any Entity:

a) seek in any way to persuade or entice any employee of the Parent, Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to leave his or her employment with the Parent, Company or any of their affiliates;

b) seek in any way to persuade or entice any contractor engaged by the Parent or Company or any of their affiliates with whom the Executive has dealt during his employment with the Company to terminate his engagement with the Parent, Company or any of their affiliates

Section 6.2 Non-Competition

The Executive shall not, during the Term and for a post-employment period of twelve (12) months, on the Executive's own behalf or on behalf of any Entity, whether directly or indirectly, in any capacity whatsoever, alone, through or in connection with any Entity, carry on or be engaged in or have any financial or other interest in or be otherwise commercially involved in any endeavor, activity or business in all or part of the Territory which is competitive, in any way, with the Business.

The Executive shall, however, not be in violation of Section 6.1, above, solely by virtue of the Executive holding, strictly for portfolio purposes and as a passive investor, no more than one percent (1%) of the issued and outstanding shares of or any other interest in, any body corporate which is listed on any recognized stock exchange, the business of which body corporate is in competition, in whole or in part, with SSR Mining.

ARTICLE 7
NON-DISPARAGEMENT

Section 7.1 Non-Disparagement

The Executive covenants and agrees that during the Term and indefinitely thereafter the Executive shall not engage in any pattern of conduct that involves the making or publishing of written or oral statements or remarks (including, without limitation, the repetition or distribution of derogatory rumours, allegations, negative reports or comments) which are disparaging, deleterious or damaging to the integrity, reputation or goodwill of the Parent, its affiliates or its and their management, agents or employees.

ARTICLE 8
INTELLECTUAL PROPERTY

Section 8.1 Ownership of Intellectual Property

a) All worldwide rights, title and interest in any and all advances, computer programs, concepts, compositions, data, database technologies, designs, discoveries, domain names, drawings, formulae, ideas, improvements, integrated circuit typographies, inventions, know-how, mask works, sketches, software, practices, processes, research materials, trade-secrets, work methods, patents, trade-marks, copyright works and any other intellectual property (whether registrable or not) produced, made, composed, written, performed, or designed by the Executive, either alone or jointly with others, in the course of the Executive's employment with the Company and in any way relating to the business of the Parent or the Company (the "Intellectual Property"), shall vest in and be the exclusive property of the Company.

b) Both during the Term and following termination of employment with the Company, the Executive will fully and promptly disclose to the Company, complete details of any Intellectual Property right arising in connection with the Executive's employment, with the intention that the Company and/or Parent shall have full knowledge and ownership of the working and practical applications of such right.

c) At the expense of the Company, the Executive will co-operate in executing all necessary deeds and documents and shall co-operate in all other such acts and things as the Company may reasonably require in order to vest such Intellectual Property rights in the name of the Company.

d) The Executive hereby waives any and all author's, moral, and proprietary rights that the Executive may now or in the future have in any Intellectual Property developed in the course of the Executive's employment with the Company.

e) The Company shall have the sole and exclusive ownership of and right of control over any and all business, customers, and goodwill created or developed by the Executive in the course of the Executive's employment with the Company, including all information, records, and documents concerning business and customer accounts and all other instruments, documents, records, data, and information concerning or relating to the Company's business activities, interests and pursuits.

Section 8.2 Moral Rights

The Executive hereby irrevocably waives, in favour of the Company, its successors, assigns and nominees, all rights arising under the copyright laws of Canada, the United States of America, Argentina, Peru, and Mexico, pursuant to legislation or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that the Executive may have now or in the future with respect to the Development.

ARTICLE 9
RECOGNITION

Section 9.1 Recognition

a) The Executive recognizes and expressly acknowledges that: (i) the application of the Articles 5, 6, 7, and 8 of this Agreement will not have the effect of prohibiting her from earning a living in a satisfactory manner in the event of the termination of the Executive's employment and of this Agreement, and (ii) the Company would be subject to an irreparable prejudice should one or several of said Articles be infringed, or should the Executive be in breach of any of the Executive's obligations thereunder.

b) The Executive further recognizes and expressly acknowledges that Articles 5, 6, 7, and 8 of this Agreement grant to the Company only such reasonable protection as is reasonably necessary to preserve the legitimate interests of the Company and the Executive equally recognizes, in this respect, that the description of the Business and the extent of any restraint on his post-employment activities is reasonable.

Section 9.2 Remedies

The Executive hereby recognizes and expressly acknowledges that the Company would be subject to irreparable harm should any of the provisions of Article 5, 6, 7, and 8 be infringed, or should any of the Executive's obligations thereunder be breached by the Executive, and that damages alone will be an inadequate remedy for any breach or violation thereof and that the Company, in addition to all other remedies, shall be entitled as a matter of right to equitable relief, including temporary or permanent injunction to restrain such breach.

ARTICLE 10
GENERAL

Section 10.1 Notice Provisions

Except as otherwise expressly provided herein, all notices relating to this Agreement shall be in writing and either delivered by hand, courier service or email transmission and addressed as follows:

The Executive: Alison White
[REDACTED]
[REDACTED]

The Company: SSR Management Inc.
7001 E. Bellevue Ave
Suite 800
Denver, CO 80112

Attention: Vice President, Human Resources

Any address referred to in this Section 10.1 may be changed by notice given in accordance with the provisions of this Section. Any notice which is delivered by hand, courier service or facsimile transmission shall be effective when delivered.

Section 10.2 Entire Agreement

This Agreement, its schedules and the documents expressly referenced herein constitutes the entire agreement between the Company and the Executive and sets out all the covenants, promises, representations, conditions and agreements between the Company and the Executive in connection with the subject matter of this Agreement and supersedes and replaces all prior agreements, understandings, negotiations and discussions, whether oral or written, pre-contractual or otherwise. There are no covenants, promises, representations, conditions or other agreements, whether oral or written, pre-contractual or otherwise, express, implied or collateral, whether statutory or otherwise, between the Company and the Executive in connection with the subject matter of this Agreement except as specifically set forth in this Agreement.

Section 10.3 Survival

It is expressly agreed by the parties hereto that the provisions of Articles 5, 6, 7, 8, 9 and 10 shall survive the termination of this Agreement and the termination of the Executive's employment, for any reason.

Section 10.4 Privacy

By accepting employment with the Company, the Executive acknowledges and agrees that the Company and Parent may collect, use and disclose the Executive's personal information for purposes relating to the establishment and maintenance of the employment relationship.

If the Executive's specific consent to the collection, use or disclosure of the Executive's personal employee information is required in the future, the Executive hereby agrees to provide suchconsent. If the Executive refuses or withdraws the Executive's consent, the Executive acknowledges that the Executive's employment with the Company may be negatively affected.

Section 10.5 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the U.S. state or commonwealth encompassing the Location (the "Forum"). Any dispute or controversy arising under or relating to this Agreement shall be submitted to the exclusive jurisdiction of the state and/or federal courts sitting in the Forum, whether or not any of the parties (or any third-party beneficiary) is now or hereafter becomes a resident or citizen of a different jurisdiction, subject to Section 9.2, above.

Section 10.6 Successors and Assigns

This Agreement may not be assigned by either party. In the event of a Change of Control, the Company and Parent shall use their best efforts to require any successor(s), whether direct or indirect, to all or substantially all of the shares or assets of the Company and/or Parent to expressly agree to assume and to perform this Agreement in the same manner that the Company would have been required to perform if no such Change of Control had occurred. If the Company fails to obtain any successor's express agreement prior to the effective date of Change of Control, such failure shall be deemed to be an event of Good Reason in respect of the Executive's employment with the Company and such event shall be deemed to have occurred on the effective date of the Change of Control

Section 10.7 Execution of Further Documents

The Company and Executive agree that they shall, from time to time and at all times, do all such further acts and execute and deliver all such further documents and assurances as shall be reasonably required in order to fully perform and carry out the terms of this Agreement.

Section 10.8 Amendments and Waivers

No supplement, modification, amendment or waiver of this Agreement shall be binding unless executed in writing by the Executive and the Company. No waiver of any of the provisions of this Agreement shall be deemed to constitute a waiver of any other provision (whether or not similar), nor shall such waiver constitute a waiver or continuing waiver unless otherwise expressly provided in writing.

Section 10.9 Severability

In the event that any provision or any part of any provision hereof is deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed thereon by a court, this Agreement shall be construed as not containing such provision or part of such provision and the invalidity of such provision or such part shall not affect the validity of any other provision or the remainder of such provision hereof. All other provisions hereof which are otherwise lawful and valid shall remain in full force and effect.

Section 10.10 Legal Advice

The Executive acknowledges that the Executive has been afforded the opportunity to obtain independent legal advice with respect to this Agreement and that the Executive fully understands the nature and consequences of this Agreement.

Section 10.11 Currency

All amounts expressed herein are in United States dollars unless otherwise noted and all payments hereunder are subject to all applicable and required deductions.

Section 10.12 Preamble/Recital

The Executive and the Company acknowledge and agree that the provisions contained in the preamble/recital section of this Agreement shall form part of this Agreement and may be relied upon by either party.

Section 10.13 Gender

Whenever the context of this Agreement so requires or permits, the masculine gender includes the feminine gender.

Section 10.14 Counterparts

This Agreement may be executed by the parties in one or more counterparts, each of which when so executed and delivered shall be deemed to be an original and such counterparts shall together constitute one and the same instrument.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF the parties have caused this Agreement to be executed as of the effective date first above written.

SSR Management Corp.

By: /s/ Rod Antal
Rod Antal
President and Chief Executive Officer

Executive

/s/ Alison White
Alison White
Executive

Acknowledged and Agreed by:

SSR Mining Inc.

By: /s/ Michael J. Sparks
Michael J Sparks
Chief Legal & Administrative Officer.

Exhibit 10.20

SSR MINING INC. 2020 SHARE COMPENSATION PLAN

AGREEMENT FOR RESTRICTED SHARE UNITS

###PARTICIPANT_NAME### (the "Participant")

Pursuant to the SSR Mining Inc. 2020 Share Compensation Plan effective May 14, 2020 (the "Plan") and in consideration of services provided to the Company by the Participant, SSR Mining Inc. hereby grants to the Participant ###TOTAL_AWARDS### Restricted Share Units under the Plan on ###GRANT_DATE###.

All capitalized terms not defined in this Agreement have the meaning set out in the Plan. No cash or other compensation shall at any time be paid in respect of any Restricted Share Units which have been forfeited or terminated under the Plan or on account of damages relating to any Restricted Share Units which have been forfeited or terminated under the Plan. Your Grant is subject to the provisions of the Plan (as it may be amended from time to time) and the terms and conditions in this Agreement.

The Vesting schedule for this award is ###VEST_SCHEDULE_TABLE###.

Vested Restricted Share Units will be redeemed on the Vesting Dates. SSR Mining Inc. may, at its election, choose to redeem your Vested Restricted Share Units in the form of Common Shares issued from treasury, Common Shares purchased on the market or cash with a value equal to the Market Price of a Common Share for each Restricted Share Unit.

By accepting this grant, the Participant agrees (i) to be bound by the terms of the Plan, including the forfeiture provisions in Article 11 of the Plan, (ii) that participation in the Plan is voluntary and the Participant has not been induced by the expectation of employment or service or continued employment with the Company, and (iii) that neither this Grant nor the Restricted Share Units contemplated pursuant to this agreement gives the Participant the right to continued employment or service with the Company or its affiliates in any capacity.

SSR Mining Inc. and the Participant understand and agree that the granting and redemption of these Restricted Share Units are subject to the terms and conditions of the Plan, a copy of which has been provided to the Participant all of which are incorporated into and form a part of this Agreement. For greater certainty, the Participant authorizes the sale of a sufficient number of Common Shares to pay withholdings taxes on the redemption of any Restricted Share Units.

DATED ###GRANT_DATE###.

SSR MINING INC.

By accepting this grant, I agree (i) to be bound by the terms of the Plan, including the forfeiture provisions in Article 11 of the Plan, (ii) that my participation in the Plan is voluntary and I have not been induced by the expectation of employment or service or continued employment with the Company, and (iii) that neither this Grant nor the Restricted Share Units contemplated pursuant to this agreement gives me the right to continued employment or service with the Company or its affiliates in any capacity.

_____

Name ###PARTICIPANT_NAME###

Exhibit 10.21

SSR MINING INC. 2020 SHARE COMPENSATION PLAN

AGREEMENT FOR PERFORMANCE SHARE UNITS

###PARTICIPANT_NAME### (the "Participant")

Pursuant to the SSR Mining Inc. 2020 Share Compensation Plan effective May 14, 2020 (the "Plan") and in consideration of services provided to the Company by the Participant, SSR Mining Inc. hereby grants to the Participant ###TOTAL_AWARDS### Performance Share Units under the Plan on ###GRANT_DATE###.

All capitalized terms not defined in this Agreement have the meaning set out in the Plan. No cash or other compensation shall at any time be paid in respect of any Performance Share Units which have been forfeited or terminated under the Plan or on account of damages relating to any Performance Share Units which have been forfeited or terminated under the Plan. Your Grant is subject to the provisions of the Plan (as it may be amended from time to time) and the terms and conditions in this Agreement.

The Target Milestones for Performance Share Units is determined per **SCHEDULE A** attached to this Agreement.

The Vesting Date for this award is 01-Jan-2024. The Performance Period for the award is 01-Jan-2021 to 01-Jan-2024.

Vested Performance Share Units will be redeemed on the Vesting Date. SSR Mining Inc. may, at its election, choose to redeem your Vested Restricted Share Units in the form of Common Shares issued from treasury, Common Shares purchased on the market or cash with a value equal to the Market Price of a Common Share for each Restricted Share Unit.

By accepting this grant, the Participant agrees (i) to be bound by the terms of the Plan, including the forfeiture provisions in Article 11 of the Plan, (ii) that participation in the Plan is voluntary and the Participant has not been induced by the expectation of employment or service or continued employment with the Company, and (iii) that neither this Grant nor the Performance Share Units contemplated pursuant to this agreement gives the Participant the right to continued employment or service with the Company or its affiliates in any capacity.

SSR Mining Inc. and the Participant understand and agree that the granting and redemption of these Performance Share Units are subject to the terms and conditions of the Plan, a copy of which has been provided to the Participant all of which are incorporated into and form a part of this Agreement. For greater certainty, the Participant authorizes the sale of a sufficient number of Common Shares to pay withholdings taxes on the redemption of any Performance Share Units.

DATED ###GRANT_DATE###.

SSR MINING INC.

By accepting this grant, I agree (i) to be bound by the terms of the Plan, including the forfeiture provisions in Article 11 of the Plan, (ii) that my participation in the Plan is voluntary and I have not been induced by the expectation of employment or service or continued employment with the Company, and (iii) that neither this Grant nor the Performance Share Units contemplated pursuant to this agreement gives me the right to continued employment or service with the Company or its affiliates in any capacity.

_____

Name: ###PARTICIPANT_NAME###

SCHEDULE A

SSR MINING INC.
2020 PERFORMANCE SHARE UNITS (PSU) GRANT
PSU Target Milestones

[__]

Exhibit 10.22

PSU GRANT AGREEMENT

On behalf of the Board of Directors of Alacer Gold Corp. (the "Company"), I am pleased to advise you that you have received a grant award (the "Grant") pursuant to the Company's 2017 Performance Share Unit Plan (the "Plan"). Any capitalized terms not defined herein have the meaning ascribed thereto in the Plan.

The particulars of your Grant, including the date of your Grant, the number of performance share units ("PSUs") comprising your Grant, the Grant Period, the Performance Criteria and the vesting schedule and conditions applicable to your Grant are set forth in Exhibit A and Exhibit B attached hereto. Your Grant is subject to the provisions of the Plan (as it may be amended from time to time) and the terms and conditions outlined in this Grant Agreement.

Provided you meet or exceed the Performance Criteria set forth in Exhibit A during the relevant Grant Period, and subject to the terms and conditions of the Plan, the PSUs subject to such Performance Criteria and Grant period will be redeemed by the Company at the end of the Grant Period and you will receive a cash payment for the equivalent of such PSUs.

As a Participant in the Plan, you acknowledge and agree that you must remit to the Company a cash payment in an amount equal to the Withholding Amount as a consequence of your participation in the Plan and hereby agree to be bound by the terms of Section 7 (Taxes and Other Source Deductions) of the Plan. Any failure to remit the Withholding Amount to the Company will result in the Company exercising its rights pursuant to Section 7 (Taxes and Other Source Deductions) of the Plan.

By accepting this Grant, you also agree (i) to be bound by the terms of the Plan, including the forfeiture provisions in Section 6 of the Plan; (ii) that your participation in the Plan is voluntary and that you have not been induced by the expectation of employment or service or continued employment with the Company; and
(iii) that neither this Grant nor the PSUs contemplated pursuant to this Agreement give you the right to continued employment or service with the Company or its affiliates in any capacity.

Thank you for your ongoing efforts on behalf of the Company and its shareholders.

Yours sincerely,

Alacer Gold Corp.

Exhibit A

PSU PERFORMANCE CRITERIA

[Redacted]

Exhibit B

See attached Notice of Performance Share Units of Alacer Gold Corp.

Exhibit 10.23

GRANT AGREEMENT

On behalf of the Board of Directors of Alacer Gold Corp. (the "Company") I am pleased to advise that you have received a grant award (the "Grant") pursuant to the Company's 2017 Restricted Stock Unit Plan (the "Plan").

The particulars of your Grant, including the date of your Grant, the number of restricted stock units ("RSUs") comprising your Grant, the Grant Period, and the vesting schedule and conditions applicable to your Grant are set forth in Exhibit A attached hereto. Your Grant is subject to the provisions of the Plan (as it may be amended from time to time), a copy of which is appended hereto, and the terms and conditions outlined below, including Exhibit A. Any capitalized terms not defined herein have the meaning ascribed thereto in the Plan.

Subject to the terms and conditions of the Plan, the Grant and the Grant Period, the RSUs will be redeemed by the Company and RSU Securities will be issued (for nil consideration) to you on the Payment Date. All Australian Participants should be advised that the Grant of RSUs is occurring under a "foreign scheme" that is subject to the laws of the Province of Ontario, Canada, and that this may inhibit an Australian Participant's ability to make any claim or enforce any right arising out of or in connection with this Grant.

You shall make appropriate arrangements with the Company to provide for payment of all federal, state, local or foreign taxes of any kind required by law to be withheld upon the issuance, vesting or payment of any Shares or CDIs. Such arrangements may include, but are not limited to, the payment of cash directly to the Company or its transfer agent, withholding by the Company from other cash payments of any kind otherwise due to you, or share withholding as described below. Subject to the approval of the Company, which may be withheld by the Company in its sole discretion, you may elect to satisfy any minimum statutory withholding obligations, in whole or in part, by having the Company withhold Shares or CDIs otherwise issuable to you. The Fair Market Value of the withheld Shares used to satisfy the withholding obligation shall be determined by the Company as of the date that the amount of tax to be withheld is to be determined.

By signing below, or otherwise acknowledging agreement, you represent to the Company that (i) your participation in the Plan is voluntary, and has not been induced by the expectation of employment or continued employment with the Company or an Affiliate of the Company, (ii) you agree to be bound by the terms of the Plan, including the forfeiture provisions in Section 6 of the Plan; and (iii) neither this Grant, nor the RSUs contemplated pursuant to this Agreement gives you the right to continued employment or service with the Company or its affiliates in any capacity and that the Company and its affiliates reserve the right to terminate your employment or service at any time and for any reason not prohibited by law.

Thank you for your ongoing efforts on behalf of the Company and its shareholders.

Yours sincerely, Alacer Gold Corp.

Exhibit A

[__]

Exhibit 21

Subsidiaries of SSR Mining Inc.

As of January 31, 2021

Entity Name	Jurisdiction of Formation	Ownership
0694758 B.C. Ltd.	British Columbia, Canada	100.00%
Alacer Gold Corp.	Yukon, Canada	100.00%
Alacer Gold Corp. S.a.r.l.	Luxembourg	100.00%
Alacer Gold Holdings Corp. S.a.r.l.	Luxembourg	100.00%
Alacer Gold Madencilik A.Ş.	Turkey	100.00%
Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi	Turkey	80.00%
Bakirtepe Madencilik Sanayi ve Ticaret Anonim Şirketi	Turkey	70.00%
Candelaria Mining Company	Delaware, U.S.	100.00%
Fossores Ltd.	Cayman Islands	100.00%
Intertrade Metals Corp.	British Columbia, Canada	100.00%
Intertrade Metals Limited Partnership	British Columbia, Canada	100.00%
Kartaltepe Madencilik Sanayi ve Ticaret Anonim Şirketi	Turkey	50.00%
M-18 Gold S.A.	Argentina	100.00%
Marigold Mining Company	Delaware, U.S.	100.00%
Maverick Silver Inc.	Nevada, U.S.	100.00%
Mina Pirquitas Sociedad Anonima	Argentina	100.00%
Puna Exploraciones S.A.	Argentina	100.00%
Puna Operations Inc.	British Columbia, Canada	100.00%
Reliant Ventures S.A.C.	Peru	100.00%
San Luis Minerals (BVI) Inc.	British Virgin Islands	100.00%
San Luis Resource (BVI) Inc.	British Virgin Islands	100.00%
SGO Mining Inc.	British Columbia, Canada	100.00%
Silver Standard Canada Holdings Ltd.	British Columbia, Canada	100.00%
Silver Standard Marigold Inc.	Delaware, U.S.	100.00%
Silver Standard Mexico, S.A. de C.V.	Mexico	100.00%
Silver Standard Peru (BVI) Inc.	British Virgin Islands	100.00%
Silver Standard U.S. Inc.	Nevada, U.S.	100.00%
Silver Standard U.S. Services Inc.	Nevada, U.S.	100.00%
Silver Standard US Holdings Inc.	Delaware, U.S.	100.00%
Silver Standard Ventures Inc.	British Columbia, Canada	100.00%
Sociedad Minera Berenguela S.A.	Peru	100.00%
SS Canada Finance Inc.	British Columbia, Canada	100.00%
SSR Durango, S.A. de C.V.	Mexico	100.00%
SSR Management Inc.	Colorado, U.S.	100.00%
Tunçpınar Madencilik Sanayi ve Ticaret Anonim Şirketi	Turkey	30.00%
Valle del Cura S.A. de C.V.	Argentina	100.00%

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the registration statements on Form S-8 (File Nos. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813, 333-259280) of SSR Mining Inc. of our report dated February 23, 2022 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, Canada
February 23, 2022

Exhibit 23.2

CONSENT OF EXPERT

I hereby consent to the use of and reference to my name, Dr. Cengiz Y. Demirci, AIPG (CPG), and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "Cengiz Y. Demirci"
Cengiz Y. Demirci, AIPG (CPG)

Exhibit 23.3

CONSENT OF EXPERT

I hereby consent to the use of and reference to my name, Gregory Gibson, SME Registered Member, and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "Gregory Gibson"
Gregory Gibson, SME Registered Member

Exhibit 23.4

CONSENT OF EXPERT

I hereby consent to the use of and reference to my name, Bernard Peters, BEng (Mining), FAusIMM, and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "B F Peters"
Bernard Peters, BEng (Mining), FAusIMM
Technical Director – Mining
OreWin Pty Ltd.

Exhibit 23.5

CONSENT OF EXPERT

I hereby consent to the use of and reference to my name, Karthik Rathnam, MAusIMM (CP), and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "Karthik Rathnam"
Karthik Rathnam, MAusIMM (CP)

Exhibit 23.6

CONSENT OF EXPERT

I hereby consent to the use of and reference to my name, Sharron Sylvester, B.Sc. (Geol), RPGeo AIG, and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "S T Sylvester"
Sharron Sylvester, B.Sc. (Geol), RPGeo AIG
Technical Director – Geology
OreWin Pty Ltd

Exhibit 23.7

CONSENT OF EXPERT

I hereby consent to the use of and reference to the name, OreWin Pty Ltd, and the information that I reviewed and approved, as described or incorporated by reference in (i) SSR Mining Inc.'s Annual Report on Form 10-K for the year ended December 31, 2021, and (ii) SSR Mining Inc.'s Registration Statements on Form S-8 (File No. 333-219848, 333-185498, 333-196116, 333-198092, 333-248813 and 333-259280), filed with the United States Securities and Exchange Commission.

Dated this 23rd day of February, 2022.

Yours very sincerely,

/s/ "S T Sylvester"
Sharron Sylvester
Director
OreWin Pty Ltd

Exhibit 31.1

SSR Mining Inc.

Certification of Chief Executive Officer Certification Pursuant to Rule 13a-14 or 15d-14 of The Securities Exchange Act Of 1934, as Adopted Pursuant to Section 302 of The Sarbanes-Oxley Act of 2002

I, Rodney P. Antal, certify that:

1. I have reviewed this Annual Report on Form 10-K of SSR Mining Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent function):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2022

/s/ Rodney P. Antal
Rodney P. Antal
President and Chief Executive Officer

Exhibit 31.2

SSR Mining Inc.

Certification of Chief Financial Officer Pursuant to Rule 13a-14 or 15d-14 of The Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of The Sarbanes-Oxley Act of 2002

I, Alison White, certify that:

1. I have reviewed this Annual Report on Form 10-K of SSR Mining Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent function):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2022

/s/ Alison White
Alison White
Executive Vice President, Chief Financial Officer

Exhibit 32.1

SSR Mining Inc.

Certification of Chief Executive Officer Pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report on Form 10-K of SSR Mining Inc. (the "**Company**") for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "**Annual Report**"), I, Rodney P. Antal, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Annual Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: */s/ Rodney P. Antal*
Rodney P. Antal
President and Chief Executive Officer

Dated: February 23, 2022

Exhibit 32.2

SSR Mining Inc.

Certification of Chief Financial Officer Pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report on Form 10-K of SSR Mining Inc. (the "**Company**") for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "**Annual Report**"), I, Alison White, Executive Vice President, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Annual Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ Alison White
Alison White
Executive Vice President, Chief Financial Officer

Dated: February 23, 2022

Exhibit 95

Mine Safety Information

The following disclosures are provided pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Act") and Item 104 of Regulation S-K, which require certain disclosures by companies required to file periodic reports under the Securities Exchange Act of 1934, as amended, that operate mines regulated under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). The disclosures reflect our U.S. mining operations only as the requirements of the Act and Item 104 of Regulation S-K do not apply to our mines operated outside the United States.

Mine Safety Information. Whenever the Federal Mine Safety and Health Administration ("MSHA") believes a violation of the Mine Act, any health or safety standard or any regulation has occurred, it may issue a citation which describes the alleged violation and fixes a time within which a U.S. mining operator must abate the alleged violation. In some situations, such as when MSHA believes that conditions pose a hazard to miners, MSHA may issue an order removing miners from the area of the mine affected by the condition until the alleged hazards are corrected. When MSHA issues a citation or order, it generally proposes a civil penalty, or fine, as a result of the alleged violation, that the operator is ordered to pay. Citations and orders can be contested and appealed, and as part of that process, are often reduced in severity and amount, and are sometimes dismissed. The number of citations, orders and proposed assessments vary depending on the size and type (underground or surface) of the mine as well as by the MSHA inspector(s) assigned. In addition to civil penalties, the Mine Act also provides for criminal penalties for an operator who willfully violates a health or safety standard or knowingly violates or fails or refuses to comply with an order issued under Section 107(a) or any final decision issued under the Act.

The below table reflects citations and orders issued to us by MSHA during the year and quarter ended December 31, 2021. The proposed assessments for the year ended December 31, 2021 were taken from the MSHA data retrieval system as of February 14, 2022.

Additional information about the Act and MSHA references used in the table follows.

- *Section 104(a) Significant and Substantial ("S&S") Citations*. Citations received from MSHA under section 104(a) of the Mine Act for violations of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a mine safety or health hazard.

- *Section 104(b) Orders*. Orders issued by MSHA under section 104(b) of the Mine Act, which represents a failure to abate a citation under section 104(a) within the period of time prescribed by MSHA. This results in an order of immediate withdrawal from the area of the mine affected by the condition until MSHA determines that the violation has been abated.

- *Section 104(d) S&S Citations and Orders*. Citations and orders issued by MSHA under section 104(d) of the Mine Act for unwarrantable failure to comply with mandatory, significant and substantial health or safety standards.

- *Section 110(b)(2) Violations*. Flagrant violations issued by MSHA under section 110(b)(2) of the Mine Act.

- *Section 107(a) Orders*. Orders issued by MSHA under section 107(a) of the Mine Act for situations in which MSHA determined an "imminent danger" (as defined by MSHA) existed.

Year Ended December 31, 2021							
Mine	Section 104(a) S&S Citations	Section 104(b) Orders	Section 104(d) S&S Citations and Orders	Section 110(b)(2) Violations	Section 107(a) Orders	($ in thousands) Proposed MSHA Assessments	Fatalities
Marigold Mine (MSHA ID# 2602081)	1	0	0	0	0	$0.50	0

Pattern or Potential Pattern of Violations. During the year ended December 31, 2021, none of the mines operated by the Company received written notice from MSHA of (a) a pattern of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of mine health or safety hazards under section 104(e) of the Mine Act or (b) the potential to have such a pattern.

Pending Legal Actions. Legal actions pending before the Federal Mine Safety and Health Review Commission (the "Commission"), an independent adjudicative agency that provides administrative trial and appellate review of legal disputes arising under the Mine Act, may involve, among other questions, challenges by operators to citations, orders and penalties they have received from MSHA or complaints of discrimination by miners under section 105 of the Mine Act. The following is a brief description of the types of legal actions that may be brought before the Commission.

- *Contests of Citations and Orders*. A contest proceeding may be filed with the Commission by operators, miners or miners' representatives to challenge the issuance of a citation or order issued by MSHA.
- *Contests of Proposed Penalties (Petitions for Assessment of Penalties)*: A contest of a proposed penalty is an administrative proceeding before the Commission challenging a civil penalty that MSHA has proposed for the alleged violation contained in a citation or order. The validity of the citation may also be challenged in this proceeding as well.
- *Complaints for Compensation:* A complaint for compensation may be filed with the Commission by miners entitled to compensation when a mine is closed by certain withdrawal orders issued by MSHA. The purpose of the proceeding is to determine the amount of compensation, if any, due miners idled by the orders.
- *Complaints of Discharge, Discrimination or Interference*: A discrimination proceeding is a case that involves a miner's allegation that he or she has suffered a wrong by the operator because he or she engaged in some type of activity protected under the Mine Act, such as making a safety complaint.
- *Applications for Temporary Relief*: An application for temporary relief from any modification or termination of any order or from any order issued under section 104 of the Mine Act.
- *Appeals of Judges' Decisions or Orders to the Commission*: A filing with the Commission of a petition for discretionary review of a Judge's decision or order by a person who has been adversely affected or aggrieved by such decision or order.

During the year ended December 31, 2021, none of the mines operated by the Company had any pending legal actions before the Commission, any legal actions instituted, or any legal actions resolved.

OreWin
Independent Mining Consultants

SSR MINING INC.

Çöpler District Master Plan 2021

Technical Report Summary

February 2022

Job No. 21007

IMPORTANT NOTICE

This notice is an integral component of the Çöpler District Master Plan 2021 Technical Report Summary (CDMP21TRS) and should be read in its entirety and must accompany every copy made of the report. The CDMP21TRS has been prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The CDMP21TRS has been prepared for SSR Mining Inc. (SSR) by OreWin Pty Ltd (OreWin). The CDMP21TRS is based on information and data supplied to OreWin by SSR and other parties and where necessary OreWin has assumed that the supplied data and information are accurate and complete.

This report is a Feasibility Study (FS) that represents forward-looking information. The forward-looking information includes metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and other assumptions used in the FS. Readers are cautioned that actual results may vary from those presented. The factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially are presented in the body of this report under each relevant section.

The conclusions and estimates stated in the CDMP21TRS are to the accuracy stated in the CDMP21TRS only and rely on assumptions stated in the CDMP21TRS. The results of further work may indicate that the conclusions, estimates and assumptions in the CDMP21TRS need to be revised or reviewed.

OreWin has used its experience and industry expertise to produce the estimates and approximations in the CDMP21TRS. Where OreWin has made those estimates and approximations, it does not warrant the accuracy of those amounts and it should also be noted that all estimates and approximations contained in the CDMP21TRS will be prone to fluctuations with time and changing industry circumstances.

The CDMP21TRS should be construed considering the methods, procedures, and techniques used to prepare the CDMP21TRS. Sections or parts of the CDMP21TRS should not be read or removed from their original context.

The CDMP21TRS is intended to be used by SSR, subject to the terms and conditions of its contract with OreWin. Recognising that SSR has legal and regulatory obligations, OreWin has consented to the filing of the CDMP21TRS with US Securities Administrators and its Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). Except for the purposes legislated, any other use of this report by any third party is at that party's sole risk.

Title Page

Project Name:	Çöpler District Master Plan 2021
Title:	Çöpler District Master Plan 2021 Technical Report Summary
Location:	Erzincan Province, Turkey
Effective Date of Technical Report Summary:	31 December 2021
Effective Date of Mineral Resources:	31 December 2021
Effective Date of Mineral Reserves:	31 December 2021

Qualified Persons:

- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining, was responsible for the overall preparation of the CDMP21TRS and, the Mineral Reserve estimates, Sections 1 to 5; Sections 10; Section 12 to 25.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3; Section 6 to 9; Section 11; Sections 22 to 25.

Signature Page

Project Name:	Çöpler District Master Plan 2021
Title:	Çöpler District Master Plan 2021 Technical Report Summary
Location:	Erzincan Province, Turkey
Date of Signing:	23 February 2022
Effective Date of Technical Report Summary:	31 December 2021

/s/ Bernard Peters

Bernard Peters, Technical Director – Mining, OreWin Pty Ltd, BEng (Mining), FAusIMM (201743)

/s/ Sharron Sylvester

Sharron Sylvester, Technical Director – Geology, OreWin Pty Ltd, BSc (Geol), RPGeo AIG (10125)

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1

1.1 Introduction 1

1.2 Mineral and Surface Rights 6

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography 6

1.4 History 6

1.5 Geological Setting and Mineralisation 7

1.6 Exploration 8

1.7 Drilling 9

1.8 Sampling Method, Approach and Analyses 10

1.9 Data Verification 10

1.10 Metallurgical Testwork 11

1.10.1 Oxide Testwork 11

1.10.2 Sulfide Testwork 12

1.11 Mineral Resources 12

1.11.1 Resource Modelling 12

1.11.2 Reasonable Prospects for Eventual Economic Extraction 16

1.11.3 Mineral Resources Estimates 16

1.12 Mineral Reserves Estimates 19

1.13 Mining Method 22

1.14 Recovery Methods 23

1.14.1 Sulfide Plant 23

1.14.2 Oxide Ore Heap Leach Processing 25

1.14.3 Project Infrastructure 27

1.15 Market Studies 27

1.16 Environmental and Permitting 27

1.17 Capital and Operating Costs 29
1.18 Capital Costs 29
1.19 Operating Costs 30
1.20 CDMP21TRS Reserve Case 30
1.21 CDMP21TRS Initial Assessment Case 35
1.22 Interpretation and Conclusions 41
1.23 Recommendations 41
2 INTRODUCTION 43
2.1 SSR Mining Inc. 43
2.2 Terms of Reference and Purpose of the Report 43
2.3 Qualified Persons 43
2.4 Site Visits and Scope of Personal Inspection 44
2.5 Effective Dates 44
2.6 Information Sources and References 44
3 PROPERTY DESCRIPTION 45
3.1 Location 45
3.2 Ownership 48
3.3 Mineral Tenure 49
3.4 Surface Rights 51
3.5 Taxation 52
3.6 Royalties 52
3.7 Environmental Liabilities 53
3.8 Permits 54
4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY 55
4.1 Accessibility 55

4.2 Local Resources and Infrastructure 55
4.3 Climate 56
4.4 Hydrogeology 57
4.4.1 Existing Data Evaluation, Field Investigation, and Hydrogeology Conceptual Model 57
4.4.2 Well Installation 58
4.5 Physiography 59
5 HISTORY 60
5.1 Previous NI 43-101 Technical Reports 61
6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT 62
6.1 Geological Setting – Çöpler Deposit 63
6.1.1 Geology – Çöpler Deposit 63
6.1.2 Mineralisation – Çöpler Deposit 66
6.1.3 Structure – Çöpler Deposit 71
6.2 Geological Setting – Çakmaktepe Deposit 72
6.2.1 Geology – Çakmaktepe Deposit 72
6.2.2 Mineralisation – Çakmaktepe Deposit 73
6.3 Geological Setting – Ardich Deposit 74
6.3.1 Geology – Ardich Deposit 74
6.3.2 Mineralisation – Ardich Deposit 75
6.4 Geological Setting – Bayramdere Deposit 75
6.4.1 Geology – Bayramdere Deposit 75
6.4.2 Mineralisation – Bayramdere Deposit 76
6.5 Geological Setting – Regional Prospects and Targets 76
6.5.1 Geology – Çöpler Saddle 77
6.5.2 Geology – Meşeburnu and Elmadere 78

6.5.3 Geology – Mavialtin Porphyry Belt Prospects 78
6.6 Deposit Types 80
7 EXPLORATION 81
7.1 Exploration – Çöpler Deposit 81
7.1.1 Geological Mapping – Çöpler Deposit 81
7.1.2 Geochemical Sampling – Çöpler Deposit 82
7.1.3 Geophysics – Çöpler Deposit 82
7.2 Exploration – Çakmaktepe Deposit 83
7.2.1 Geological Mapping – Çakmaktepe Deposit 83
7.2.2 Geochemical Sampling – Çakmaktepe Deposit 84
7.3 Exploration – Ardich Deposit 84
7.3.1 Geological Mapping – Ardich Deposit 84
7.3.2 Geochemical Sampling – Ardich Deposit 85
7.4 Drilling 85
7.4.1 Drilling – Çöpler Deposit 85
7.4.2 Drilling – Çakmaktepe Deposit 88
7.4.3 Drilling – Ardich Deposit 89
7.4.4 Drilling – Mavialtin Porphyry Belt Prospects 91
7.4.5 Grid Coordinate Systems 91
7.4.6 Collar and Down-hole Surveys 91
8 SAMPLE PREPARATION, ANALYSES, AND SECURITY 94
8.1 Sample Collection 94
8.1.1 Reverse Circulation Drilling Sample Collection 94
8.1.2 Diamond Drilling Sample Collection 95
8.1.3 Drillhole Logging and Data Collection 96
8.2 Sample Preparation 96

8.2.1 Reverse Circulation Sample Preparation 96
8.2.2 Diamond Drilling Sample Preparation 96
8.3 Sample Analysis 97
8.4 Sample Security 97
8.5 QA/QC Procedures 97
9 DATA VERIFICATION 99
9.1 Çöpler Deposit Data Verification 99
9.2 Çakmaktepe Deposit Data Verification 99
9.3 Ardich Deposit Data Verification 100
9.3.1 Data Verification – Ardich 100
9.3.2 Collar Location – Ardich 100
9.3.3 Down-hole Surveys – Ardich 101
9.3.4 Geology, Density, and Geotechnical Logs – Ardich 101
9.3.5 Assays – Ardich 101
9.3.6 Witness Samples – Ardich 102
9.3.7 Quality Assurance / Quality Control (QA/QC) Results – Ardich 102
9.3.8 Discussion – Ardich 105
9.4 Bayramdere Deposit Data Verification 105
10 MINERAL PROCESSING AND METALLURGICAL TESTING 106
10.1 Oxide Ore for Heap Leaching 106
10.1.1 Testwork – Çöpler Oxide 106
10.1.2 Testwork – Çakmaktepe Oxide 106
10.1.3 Testwork – Ardich Oxide 106
10.1.4 Testwork – Bayramdere Oxide 107
10.1.5 Heap Leach Gold Recovery 107
10.2 Sulfide Ores 109

10.2.1 Historical Testwork – Çöpler Sulfide 109
10.2.2 Sulfide Mineralogy 109
10.2.3 Direct Cyanidation 110
10.2.4 Flotation Testwork 111
10.2.5 Testwork – Comminution 112
10.2.6 Testwork – POX 113
10.2.7 Testwork: Pyrite Recovery from Copper-Rich Ores 113
10.2.8 Overall Circuit Performance 114
10.3 Mineral Processing and Metallurgical Discussion 118
11 MINERAL RESOURCES ESTIMATES 119
11.1 Çöpler Deposit 119
11.1.1 Çöpler Mineral Resource Estimate – Key Assumptions 119
11.1.2 Çöpler Base Indicator Model 121
11.1.3 Çöpler Domains 121
11.1.4 Çöpler Geological Model 122
11.1.5 Çöpler Data Summary 122
11.1.6 Çöpler Exploratory Data Analysis 123
11.1.7 Çöpler Top Cutting 124
11.1.8 Çöpler Drillhole Compositing 125
11.1.9 Çöpler Variography 126
11.1.10 Çöpler Resource Model Estimation 126
11.1.11 Çöpler Sulfur Model 126
11.1.12 Çöpler Gold and Other Metal Models 127
11.1.13 Çöpler Density Model 128
11.1.14 Çöpler Oxidation Model 129
11.1.15 Çöpler Model Validation 130

11.1.16 Çöpler Mineral Resource Classification 131
11.1.17 Çöpler Model Validation 132
11.1.18 Çöpler Assessment of Reasonable Prospects of Eventual Economic Extraction 133
11.1.19 Çöpler Deposit Mineral Resource Tabulation 133
11.2 Çakmaktepe 133
11.2.1 Çakmaktepe Domains 134
11.2.2 Çakmaktepe Data Summary 136
11.2.3 Çakmaktepe Exploratory Data Analysis 136
11.2.4 Çakmaktepe Top Cutting 137
11.2.5 Çakmaktepe Resource Model Estimation 138
11.2.6 Çakmaktepe Density Model 139
11.2.7 Çakmaktepe Model Validation 140
11.2.8 Çakmaktepe Comparison to Production Data 140
11.2.9 Çakmaktepe Mineral Resource Classification 141
11.2.10 Çakmaktepe Assessment of Reasonable Prospects of Eventual Economic Extraction 141
11.2.11 Çakmaktepe Mineral Resource Tabulation 142
11.3 Ardich 142
11.3.1 Ardich Geological Model 143
11.3.2 Ardich Structural Interpretation 143
11.3.3 Ardich Lithological Interpretation 146
11.3.4 Ardich Mineralisation 147
11.3.5 Ardich Database Extract 148
11.3.6 Ardich 2021 Resource Modelling Dataset Summary 148
11.3.7 Ardich Exploratory Data Analysis 149
11.3.8 Ardich Core Recovery 155

11.3.9 Ardich Top Cutting 155
11.3.10 Ardich Drillhole Compositing 157
11.3.11 Ardich Resource Model Estimation 159
11.3.12 Ardich Density Model 164
11.3.13 Ardich Resource Classification 166
11.3.14 Ardich Model Validation 169
11.3.15 Ardich Change of Support 170
11.3.16 Ardich Assessment of Reasonable Prospects of Eventual Economic Extraction 170
11.3.17 Ardich Mineral Resource Tabulation 171
11.4 Bayramdere Deposit 171
11.4.1 Bayramdere Domains 172
11.4.2 Bayramdere Geological Model 172
11.4.3 Bayramdere Data Summary 173
11.4.4 Bayramdere Drillhole Compositing 173
11.4.5 Bayramdere Top Cutting 174
11.4.6 Bayramdere Cell Model 174
11.4.7 Bayramdere Estimation Method 174
11.4.8 Bayramdere Density Model 174
11.4.9 Bayramdere Resource Classification 175
11.4.10 Bayramdere Validation 176
11.4.11 Bayramdere Assessment of Reasonable Prospects of Eventual Economic Extraction 176
11.5 Mineral Resources Statement 177
11.6 Comparison of 2021 Mineral Resource to Previous Mineral Resource 180
11.7 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 181

12 MINERAL RESERVES ESTIMATES 182
12.1 Summary 182
12.2 Mineral Reserves Statement 182
12.3 Comparison of 2021 Mineral Reserves to 2020 Mineral Reserves 185
12.4 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 186
13 MINING METHODS 187
13.1 Geotechnical 187
13.1.1 Pit Slope Stability – Çöpler 187
13.1.2 Review of 2021 Geotechnical Studies 187
13.1.3 RQD Model 195
13.1.4 Pit Slope Design Parameters 195
13.1.5 Mine Operations Monitoring and Management 196
13.1.6 Geotechnical Domains 197
13.1.7 Pit Dewatering 197
13.2 Mine Plan 198
13.2.1 Ore Definition 199
13.2.2 Ore Cut-off Grades 202
13.2.3 Pit Design 203
13.2.4 Waste Dump and Stockpile Design 204
13.2.5 Ore Stockpiles, Rehandle and Blending 209
13.2.6 Grade Control 210
13.3 Mine Production Schedule 211
13.3.1 Scheduling Assumptions 212
13.3.2 Production Schedule 213
13.3.3 Processing Schedule 215

14 PROCESSING AND RECOVERY METHODS 218
14.1 Sulfide Ore Processing 218
14.1.1 Sulfide Plant Performance 220
14.1.2 Sulfide Plant Description 220
14.2 Oxide Heap Leach Processing 230
14.2.1 Oxide Heap Leach Performance 230
15 INFRASTRUCTURE 232
15.1 Introduction 232
15.1.1 Existing Infrastructure 233
15.1.2 Flotation Building 234
15.2 Site Water Management 235
15.2.1 Hydrology Background 235
15.2.2 Site-Wide Surface Water Hydrology 235
15.2.3 Surface Water Management Structures 235
15.2.4 Fresh Water Supply 236
15.2.5 Potable Water Treatment 237
15.2.6 Waste Management 237
15.3 Power to Site 237
15.4 Emergency Backup Power 237
15.5 Communications 238
15.6 Site Roads 238
15.7 Plant Fire Protection System 238
15.8 Site Water Management 238
15.8.1 Hydrology Background 238
15.9 Heap Leach Facility 239
15.9.1 Heap Leach Pad Development 239

15.10 Tailings Storage Facility 239
15.10.1 TSF Development and Summary of Current Operations 240
15.10.2 Site Classification 241
15.10.3 Monitoring and Inspection 247
15.10.4 TSF Design 248
15.10.5 Seismic Deformation Evaluation 248
15.10.6 Tailings Consolidation and Capacity 249
15.10.7 TSF Schedule Assumptions 249
15.10.8 Further Work 250
16 MARKET STUDIES 251
16.1 Markets 251
16.2 Contracts 251
17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS 252
17.1 Environmental Studies and Material Impacts 252
17.2 Physical Features 253
17.2.1 Land Use 254
17.2.2 Biological Features 255
17.3 Social and Community Plans 258
17.4 Mine Closure 259
17.4.1 Closure Cost Estimate Assumptions – Waste Rock Dumps 259
17.4.2 Closure Cost Estimate Assumptions – Pits 260
17.4.3 Heap Leach Pad 260
17.4.4 Tailings Storage Facility 261
17.4.5 Other 261
17.4.6 Monitoring 262

17.4.7 Closure Planning 262
17.4.8 Construction Management 262
17.4.9 Human Resources 262
17.4.10 Closure Schedule 262
17.4.11 Further Work 262
17.5 Sustainability 263
17.5.1 Stakeholder Engagement 263
17.5.2 Health and Safety 264
17.5.3 Training and Development 264
17.5.4 Industrial Relations 265
17.5.5 Diversity and Inclusion 265
17.5.6 Sustainable Community Development 265
17.5.7 Environmental Management 267
17.5.8 Water Risk 268
17.5.9 Energy and Climate Change 268
17.5.10 Tailings Dam Management 268
17.5.11 Water Management 269
17.5.12 Cyanide Management 269
17.5.13 Biodiversity 269
17.5.14 Air Quality 270
18 CAPITAL AND OPERATING COSTS 271
18.1 Capital Costs 271
18.2 Operating Costs 272
18.3 Mining Cost Summary 273
18.4 Processing and Infrastructure Cost Summary 273
18.5 General and Administration Cost Summary 274

19 ECONOMIC ANALYSIS 276
19.1 Reserve Case Economic Analysis Results 276
19.1.1 Project Cash Flow 281
19.2 Economic Assumptions 283
19.2.1 Metal Prices 283
19.2.2 Taxation 283
19.2.3 Royalties 284
20 ADJACENT PROPERTIES 285
21 OTHER RELEVANT DATA AND INFORMATION 286
21.1 Çöpler Resource Initial Assessment 286
21.2 Copper Recovery Processing Assumptions 289
21.2.1 Copper Concentrator 290
21.2.2 NaSH Copper Recovery Circuit 291
21.2.3 NSR Inputs and Cut-off Grade Calculations 291
21.3 Initial Assessment Case Mining 295
21.4 Initial Assessment Case Production Schedule and Cash Flow 295
21.5 Initial Assessment Summary Results 300
21.5.1 Impact of Inferred Mineral Resources 304
22 INTERPRETATION AND CONCLUSIONS 306
23 RECOMMENDATIONS 307
23.1 Mineral Resources 307
23.2 Mineral Reserves 308
24 REFERENCES 310
25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT 314

TABLES

Table 1.1 CDMP21TRS Results Summary 5

Table 1.2 Gold Price Sensitivity 6

Table 1.3 Summary of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves as at 31 December 2021 Based on $1,750/oz Gold Price 17

Table 1.4 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves (as at 31 December 2021) Based on Gold Price $1,750/oz, Silver Price $22.00/oz Ag and Copper Price $3.95/lb 18

Table 1.5 Summary of CDMP21TRS Mineral Reserves Estimates (as at 31 December 2021) Based on $1,350/oz Gold Price 20

Table 1.6 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 21

Table 1.7 Summary of LOM Average Operating Costs 30

Table 1.8 CDMP21TRS Reserve Case Results Summary 31

Table 1.9 CDMP21TRS Reserve Case Before and After-Tax NPV 32

Table 1.10 CDMP21TRS Reserve Case Cash Costs 34

Table 1.11 CDMP21TRS Economic Analysis Metal Price Assumptions 34

Table 1.12 Initial Assessment Case Results Summary 38

Table 1.13 CDMP21TRS Initial Assessment Case Before and After-Tax NPV 39

Table 3.1 Granted Licences and Operating Permits 50

Table 3.2 Gold Royalty Rates 53

Table 7.1 Number of Geochemical Samples within the Çakmaktepe Deposit 84

Table 7.2 Number of Geochemical Samples within the Ardich Deposit 85

Table 7.3 Drilling History – Çöpler Deposit 87

Table 7.4 Drilling History – Çakmaktepe Deposit 88

Table 7.5 Drilling History – Ardich Deposit 90

Table 7.6 Drilling History – Mavialtin Porphyry Belt Prospects 93

Table 10.1 Çöpler Gold Recovery Assumptions for Heap Leaching of Oxide 107

Table 10.2 Çakmaktepe Gold Recovery Assumptions for Heap Leaching of Oxide (incl. Bayramdere) 108

Table 10.3 Ardich Gold Recovery Assumptions for Heap Leaching of Oxide 108

Table 10.4 Gold Deportment in Flotation Separated Streams 111

Table 10.5 Gold POX Recovery Model Parameters 117

Table 10.6 Commissioning and Ramp-up Allowances 117

Table 11.1 Çöpler Block Model Parameters 121

Table 11.2 Çöpler Top Cuts for Au 125

Table 11.3 Çöpler Top Cuts for Non-Au Elements, Applied Globally 125

Table 11.4 Çöpler Upper and Lower Density Limits by Lithology 128

Table 11.5 Density Values Assigned to the Çöpler Cell Model by Lithology and Vertical Depth Below Surface 129

Table 11.6 Summary of Key Parameters Used in 2021 Conceptual Pit Shell at Çöpler 133

Table 11.7 Çakmaktepe Top Cuts for Au, Cu, and Ag 137

Table 11.8 Çakmaktepe Cell Model Parameters 138

Table 11.9 Çakmaktepe Upper and Lower Density Limits by Lithology 139

Table 11.10 Density Values Assigned to the Çakmaktepe Cell Model by Lithology 139

Table 11.11 Summary of Key Parameters Used in Conceptual Pit Shell at Çakmaktepe 142

Table 11.12 Interpreted Fault Trends 144

Table 11.13 Ardich Drilling History in 2021 Resource Modelling Dataset 148

Table 11.14 Key Element Statistics of Uncomposited Drillhole Data (length weighted) 149

Table 11.15 Au Summary Statistics by Lithology based on Uncomposited Samples (length weighted) 150

Table 11.16 Sulfur Summary Statistics by Lithology based on Length Weighted Uncomposited Samples 154

Table 11.17 Au Top Cut Values and Effect on Statistics 156

Table 11.18 Drillhole Au Statistics for Uncomposited (Raw) and Composited (Comp.) Sample Data – Jasperoid 158

Table 11.19 Drillhole Au Statistics for Uncomposited (Raw) and Composited (Comp.) Sample Data – Listwanite 159

Table 11.20 Ardich Cell Model Prototype Parameters 160

Table 11.21 Ardich Search Volume Criteria for Grades Estimation in All Domains 162

Table 11.22 Gold Variogram Parameters 163

Table 11.23 Sulfur Variogram Parameters 164

Table 11.24 Ardich Search Volume Criteria for Density Estimation in All Domains 165

Table 11.25 Summary of Key Parameters Used in Conceptual Pit Shell at Ardich 170

Table 11.26 Bayramdere Cell Model Prototype Parameters 174

Table 11.27 Bayramdere Density Values for Mineralisation Domains 175

Table 11.28 Bayramdere Density Values for Lithology Domains 175

Table 11.29 Summary of Key Parameters Used in Conceptual Pit Shell at Bayramdere 177

Table 11.30 Summary of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves as at 31 December 2021 Based on $1,750/oz Gold Price 178

Table 11.31 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserve (as at 31 December 2021) Based on Gold Price $1,750/oz, Silver Price $22.00/oz Ag and Copper Price $3.95/lb 179

Table 11.32 EOY 2020 Mineral Resources Summary – Exclusive of Mineral Reserves (as at 31 December 2020) 180

Table 12.1 Summary of CDMP21TRS Mineral Reserves Estimates (as at 31 December 2021) Based on $1,350/oz Gold Price 183

Table 12.2 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 184

Table 12.3 EOY 2020 Mineral Reserves Summary as at 31 December 2020 186

Table 13.1 Golder Intact Strength Estimates 188

Table 13.2	Çöpler Mine Pit Slope Parameters	195
Table 13.3	Heap Leach – Gold Recoveries	199
Table 13.4	Heap Leach – Silver Recoveries	199
Table 13.5	Heap Leach – Copper Recoveries	200
Table 13.6	Oxide Operating Costs	200
Table 13.7	Plant Throughput Limits	201
Table 13.8	POX – Gold Recovery Parameters	201
Table 13.9	Sulfide Operating Costs	202
Table 13.10	Au Cut-off Grade Revenue and Realisation Assumptions	202
Table 13.11	Internal Au Cut-off Grades	203
Table 13.12	Waste Rock Dump (WRD) Design Factor of Safety (FOS)	207
Table 13.13	Waste Rock Geochemical Classification	208
Table 13.14	CDMP21TRS Reserve Case Mining Schedule	214
Table 13.15	CDMP21TRS Reserve Case Production Schedule	217
Table 18.1	Capital and Reclamation Costs	272
Table 18.2	Average Operating Costs Unit Rates	272
Table 18.3	Summary of LOM Average Operating Costs	272
Table 19.1	CDMP21TRS Reserve Case Results Summary	277
Table 19.2	CDMP21TRS Reserve Case Before and After-Tax NPV	278
Table 19.3	CDMP21TRS Reserve Case Cash Costs	279
Table 19.4	CDMP21TRS Reserve Case Metal Price Assumptions	280
Table 19.5	CDMP21TRS Reserve Case Gold Price Sensitivity	280
Table 19.6	CDMP21TRS Reserve Case Cost Sensitivity	281
Table 19.7	CDMP21TRS Reserve Case Cash Flow	282
Table 19.8	CDMP21TRS Economic Analysis Metal Price Assumptions	283
Table 19.9	Gold Royalty Rates	284

Table 21.1 Çöpler Initial Assessment Case Results Summary 288

Table 21.2 Çöpler Initial Assessment Case Before and After-Tax NPV 289

Table 21.3 CDMP21TRS Initial Assessment Case Process Types 292

Table 21.4 Heap Leach Recoveries 292

Table 21.5 Copper Concentrate Recoveries 292

Table 21.6 Pyrite Concentrate Recoveries 292

Table 21.7 POX Plant Recoveries 293

Table 21.8 Operating Costs 293

Table 21.9 Copper Concentrator and NaSH Capital Cost 293

Table 21.10 Other Capital Costs 294

Table 21.11 CDMP21TRS Economic Analysis Metal Prices Assumptions 294

Table 21.12 Transport and Treatment Charges 294

Table 21.13 Payable Metal Assumptions 294

Table 21.14 Çöpler Initial Assessment Case Production Schedule 297

Table 21.15 Çöpler Initial Assessment Case Copper Concentrator Processing Schedule 298

Table 21.16 Initial Assessment Case Cash Flow 299

Table 21.17 Initial Assessment Case Results Summary 301

Table 21.18 Initial Assessment Case Before and After-Tax NPV 302

FIGURES

Figure 1.1 Project Location Map 1

Figure 1.2 CDMP21TRS Reserve Case and Initial Assessment Case Boundaries 4

Figure 1.3 Structural Setting of Anatolia 7

Figure 1.4 CDMP21TRS Ultimate Pit Designs 22

Figure 1.5 CDMP21TRS Reserve Case Mining Production 23

Figure 1.6 Process Flow Sheet for Sulfide Plant 24

Figure 1.7 Flotation Block Flow Diagram 25
Figure 1.8 Process Flow Sheet for Oxide Ore Heap Leach 26
Figure 1.9 Reserve Case After-Tax Cash Flow 32
Figure 1.10 Reserve Case Processing 33
Figure 1.11 Reserve Case Gold Production 33
Figure 1.12 Çöpler Plan Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design 36
Figure 1.13 Çöpler Long-section Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design 37
Figure 1.14 Initial Assessment Case After-Tax Cash Flow 39
Figure 1.15 Initial Assessment Case Processing 40
Figure 1.16 Initial Assessment Case Gold Production 40
Figure 3.1 Location of the Project 46
Figure 3.2 Çöpler Project Licence and Surrounding Licences (UTM Grid) 47
Figure 3.3 Ownership 48
Figure 3.4 Tenure Layout Plan 51
Figure 4.1 Average Monthly Rainfall for Çöpler Project Area 56
Figure 4.2 Groundwater Wells 58
Figure 6.1 Geological Setting of the Çöpler District 62
Figure 6.2 Geological and Structural Map of the Çöpler District 63
Figure 6.3 Çöpler Deposit Geological Map 65
Figure 6.4 Çöpler Deposit Porphyry Vein Mineralisation 67
Figure 6.5 Çöpler Deposit Intermediate Sulfidation Epithermal Mineralisation 68
Figure 6.6 Çöpler Deposit Porphyry Vein Mineralisation 69
Figure 6.7 Simplified Schematic of the Çöpler Deposit Structures (cross-section) 71
Figure 6.8 Geological Map of the Çakmaktepe and Ardich Deposits 72

Figure 6.9 Geological Mapping within Çakmaktepe Central Pit 73

Figure 6.10 Schematic of Ardich Geological Setting with Mineralisation Examples 75

Figure 6.11 Çöpler District Exploration Projects 77

Figure 7.1 Çöpler Deposit Map of Alteration Minerals 82

Figure 7.2 Çakmaktepe Deposit – Example East Pit Geological and Structural Map 83

Figure 7.3 Drillhole Collar Location Plan – Çöpler Deposit 86

Figure 7.4 Drillhole Collar Location Plan – Ardich, Çakmaktepe, and Bayramdere Deposits 89

Figure 7.5 Drillhole Collar Location Plan – Ardich 90

Figure 7.6 Drillhole Collar Location Plan – Mavialtin Porphyry Belt Prospects 92

Figure 10.1 Feed SS% – Mass Pull Relationship 112

Figure 10.2 Metasediment Gold Recovery Results and Model 115

Figure 10.3 Diorite Gold Recovery and Model 116

Figure 10.4 Manganese Diorite Gold Recovery and Model 116

Figure 11.1 Çöpler Model Zones 120

Figure 11.2 Çöpler Lithology – Marble Zone, Cross-Section 459,700 mE (looking west) 122

Figure 11.3 Çöpler Drill Core Showing Colour Change from Oxide to Sulfide 130

Figure 11.4 Projected Plan View of Çöpler Resource Classification 132

Figure 11.5 Çakmaktepe Model Domains (oblique view) 135

Figure 11.6 Ardich Geology Schematic (long-section) 143

Figure 11.7 Ardich Structural Framework: Interpreted Faults and Resultant FAULTZONs 145

Figure 11.8 Schematic Example Cross-Section of Ardich Lithology Model (looking north-west) 146

Figure 11.9 Ardich Drill Collar Location Plan 149

Figure 11.10 AU_PPM Box and Whisker Plot by Lithology (MODLITH) 151

Figure 11.11 Jasperoid AU_PPM Box and Whisker Plot by FAULTZON 152

Figure 11.12 Example Cross-Section (looking north-west) through FAULTZONs 19.1 and 10.2 showing AU_PPM Differences in Adjacent FAULTZONs 153

Figure 11.13 S_PCT Box and Whisker Plot by MODLITH 154

Figure 11.14 Histogram of Raw Sample Lengths 157

Figure 11.15 Plan View of Jasperoid Resource Classification 167

Figure 11.16 Plan View of Listwanite Resource Classification 168

Figure 11.17 Plan View of Upper Dolomite Resource Classification 169

Figure 11.18 Bayramdere Geology Schematic Section 173

Figure 13.1 Rock Mass Quality Mapping Locations (2015–2017) 189

Figure 13.2 Rock Mass Quality Mapping of Main Pit 190

Figure 13.3 Geotechnical Units 191

Figure 13.4 Locations of Seepage and Ponding 193

Figure 13.5 Çöpler VWP Data 194

Figure 13.6 Typical 15 m Pre-Split at Çöpler Mine 196

Figure 13.8 Ultimate Pit Designs – CDMP 204

Figure 13.8 CDMP21TRS Reserve Case Site Plan 206

Figure 13.9 CDMP21TRS Reserve Case Mining Production 212

Figure 13.11 CDMP21TRS Reserve Case Processing Schedule 216

Figure 13.12 CDMP21TRS Reserve Case Gold Production and Recovery 216

Figure 14.1 Çöpler Process Flow Sheet for Sulfide Plant 218

Figure 14.2 Flotation Block Flow Diagram 219

Figure 14.3 Gold Recovery and Throughput Comparison 220

Figure 14.4 Process Flow Sheet for Sulfide Plant 222

Figure 14.5 Heap Leach Process Flow Sheet 231

Figure 15.1 Çöpler Project Plan 232

Figure 15.2 Mine Water Supply Well Locations 236
Figure 15.3 Phase 4 – Top of Embankment and Impoundment Grade 242
Figure 15.4 Phase 5 – Top of Embankment and Impoundment Grade 243
Figure 15.5 Phase 6 – Top of Embankment and Impoundment Grade 244
Figure 15.6 Phase 7 – Top of Embankment and Impoundment Grade 245
Figure 15.7 TSF 2 Impoundment Grading 246
Figure 17.1 Current Land Use Types and Cadastral Map for the Çöpler Project 256
Figure 17.2 Land Use Capability Classes (LUCC) 257
Figure 19.1 CDMP21TRS Reserve Case After-Tax Cash Flow 276
Figure 19.2 CDMP21TRS Reserve Case Processing 278
Figure 19.3 CDMP21TRS Reserve Case Gold Production and Recovery 279
Figure 21.1 Çöpler Initial Assessment Case After-Tax Cash Flow 289
Figure 21.2 Çöpler Project Initial Assessment Simplified Process Flow Diagram 290
Figure 21.3 Çöpler Preliminary Copper Concentrator Process Flow Diagram 291
Figure 21.4 Çöpler Plan Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design 296
Figure 21.5 Çöpler Long-section Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design 296
Figure 21.6 Initial Assessment Case After-Tax Cash Flow 302
Figure 21.7 Initial Assessment Case Processing 303
Figure 21.8 Initial Assessment Case Gold Production 303
Figure 21.9 Initial Assessment Case Gold Production 305

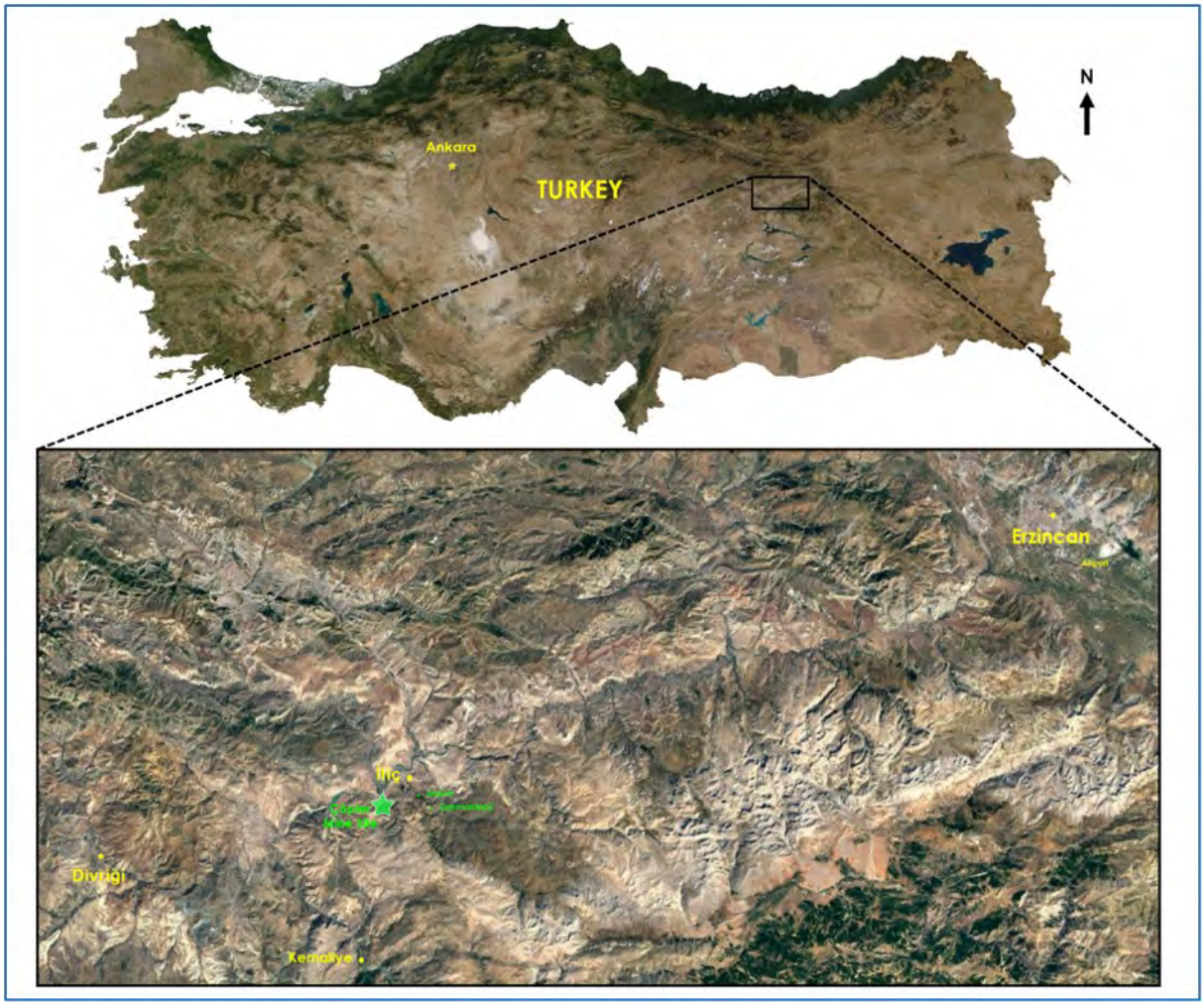
1 EXECUTIVE SUMMARY

1.1 Introduction

The Çöpler District Master Plan 2021 Technical Report Summary (CDMP21TRS) is an independent Technical Report Summary prepared under the guidelines of and in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300) for SSR Mining Inc. (SSR), on the Çöpler project (the project).

The Çöpler project is located in east central Turkey, 120 km west of the city of Erzincan, in Erzincan Province, 40 km east of the iron-mining city of Divriği (one-hour drive), and 550 km east of Turkey's capital city, Ankara (Figure 1.1). The nearest urban centre, İliç, (approximate population 3,800), is located approximately 6 km north-east of the Çöpler mine.

Figure 1.1 Project Location Map



SSR, 2020

SSR is a gold mining company with four producing assets, located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

The Çöpler project is owned and operated by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi (Anagold). SSR controls 80% of the shares of Anagold, Lidya Madencilik Sanayi ve Ticaret A.Ş. (Lidya), controls 18.5%, and a bank wholly-owned by Çalık Holdings A.Ş., holds the remaining 1.5%. Exploration tenures surrounding the project area and mining at Çakmaktepe are subject to joint venture agreements between SSR and Lidya that have varying interest proportions. SSR controls 50% of the shares of Kartaltepe Madencilik Sanayi ve Ticaret Anonim Şirketi (Kartaltepe) and 30% of Tunçpinar Madencilik Sanayi ve Ticaret Anonim Şirketi (Tunçpinar). The remaining 50% of shares for the Kartaltepe and 70% of shares of Tuncpinar are controlled by Lidya.

The key features of the CDMP21TRS are:

- Updated Mineral Resources on the Ardich deposit.
- Updated Mineral Reserves on the Çöpler deposits.
- A new Mineral Reserve on the Ardich deposit.
- Initial Assessment on the Çöpler deposits analysing copper processing facilities.

The Mineral Reserves are supported by feasibility study level work on the currently operated pits at the Çöpler and Çakmaktepe deposits, the brownfield Ardich deposit, and the oxide heap leach facility and sulfide plant in the Reserve Case.

The Mineral Resource for the Ardich deposit has benefited from additional drilling and an updated model in 2021. The mining of Ardich requires development of a new open pit that is approximately 6 km east of the current Çöpler pit and 1 km north of the Çakmaktepe pits.

The CDMP21TRS also includes an Initial Assessment on a proposed copper concentrator and a copper recovery circuit added to the existing sulfide plant. The Initial Assessment Case analyses inclusion of this previously-unexploited revenue stream and reflects the increased capital costs and infrastructure required to leverage value from the copper mineralisation. The Initial Assessment Case is a whole-of-project analysis that represents a significant change from the Reserve Case economics analysis results and production.

A plan showing facility location and the boundary of the Reserve Case is shown in Figure 1.2. The Initial Assessment Case boundary is the same as the Reserve Case boundary.

The key production and economic analysis from the CDMP21TRS are shown in Table 1.1.

The economic analysis uses long-term metal price assumptions of $1,600/oz gold, $21.00/oz silver, and $3. 40/lb copper. These prices are based on a review of consensus price forecasts from financial institutions and similar studies recently published.

The Reserve Case production includes 22.6 Mt at 1.69 g/t Au oxide ore processed by heap leaching and 52.9 Mt at 2.33 g/t Au processed in the sulfide plant. Total production is 75.4 Mt at 2.14 g/t Au. Total gold production is 4.4 Moz. Mining at the Çöpler pit is completed in 2029 and at Ardich in 2034. Oxide heap leach stacking is completed in in 2034, while sulfide processing will continue from stockpiles until 2042.

The Reserve Case results include:

- After-tax NPV at a 5% real discount rate is $1.73 billion.
- Mine life of 21 years.

An IRR is not reported as the operation is cash positive in each year of the mine plan until closure. The Reserve Case average all-in sustaining cost (AISC) is $966/oz gold.

The Initial Assessment Case production is oxide of 41.8 Mt at 1.26 g/t Au, 59.7 Mt at 2.45 g/t Au of sulfide, and an additional 24.9 Mt at 0.50 g/t Au and 0.20% Cu amenable to concentrator treatment for a total of 126.4 Mt at 1.67 g/t Au. The gold production in the Initial Assessment Case is 5.4 Moz and 164 Mlb of copper. Copper is produced from all three processing streams. The impact of including the copper concentrator as a processing facility is to expand the Çöpler pit, which ceases mining in 2043. Additional production in the Initial Assessment Case comes from feed of 1.8 Mtpa to the copper concentrator and from additional sulfide and oxide processing feed that is exposed when the pit gets deeper. Total capital including contingency of 25% for the copper concentrator and the copper recovery circuit in the sulfide plant is $218M. The capital costs have an accuracy of ±50%.

The Initial Assessment Case results include:

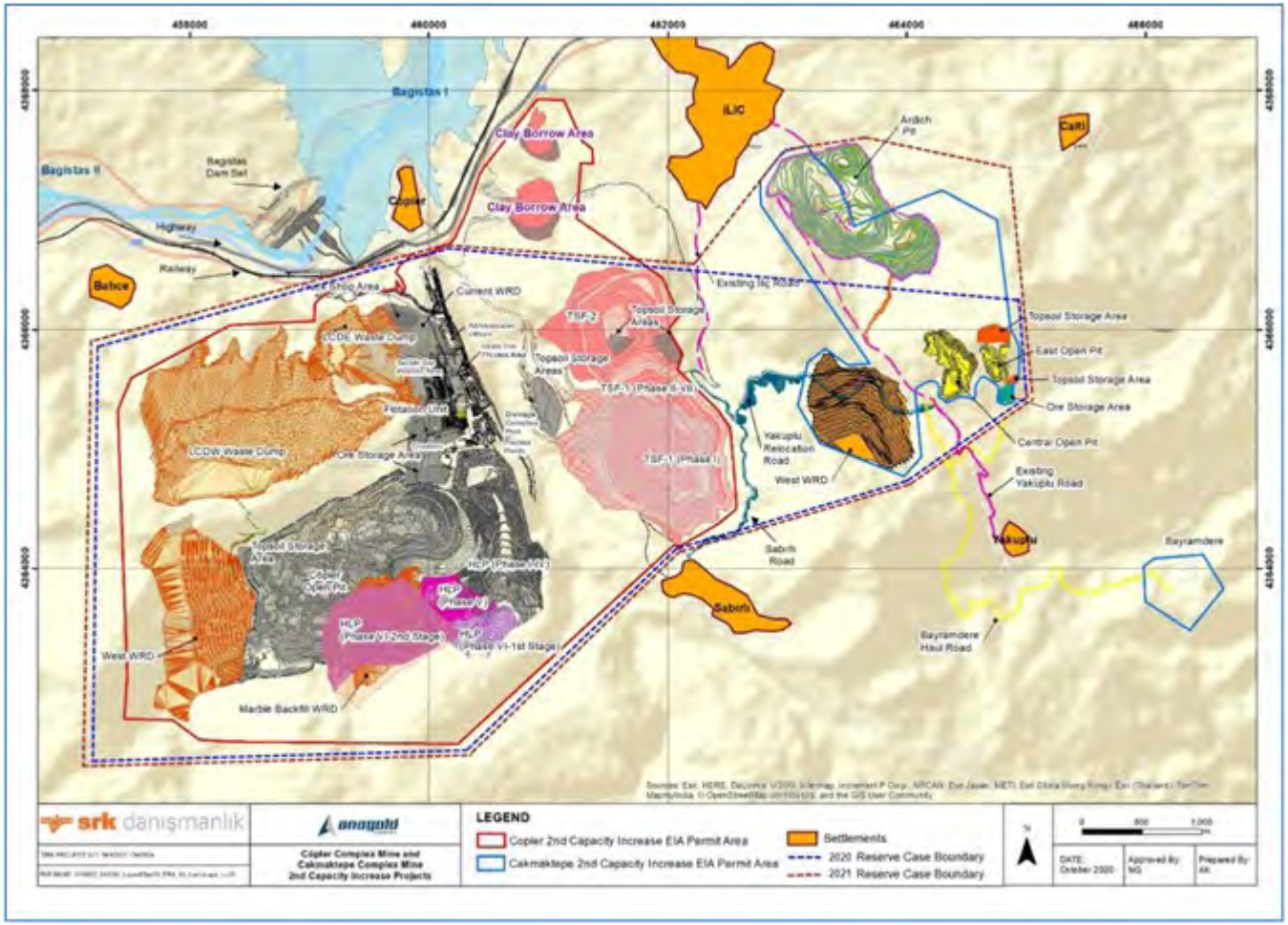
- After-tax NPV at a 5% discount rate of $2.00 billion.
- Mine life of 22 years.

The initial Assessment Case shows an average AISC of $924/oz gold.

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised. The Initial Assessment Case is described in Section 21 of the CDMP21TRS.

Key results of the Reserve Case and Initial Assessment Case economic analyses are shown in Table 1.1.

Figure 1.2 CDMP21TRS Reserve Case and Initial Assessment Case Boundaries



Anagold, 2022

Table 1.1 CDMP21TRS Results Summary

Item	Unit	Reserve Case	Initial Assessment Case
Oxide Processed			
Heap Leach Quantity	kt	22,557	41,792
Au Feed Grade	g/t	1.69	1.26
Sulfide Processed			
Quantity Milled	kt	52,892	59,654
Au Feed Grade	g/t	2.33	2.45
Cu Concentrator Processed			
Quantity Milled	kt	–	24,939
Au Feed Grade	g/t	–	0.50
Cu Feed Grade	%	–	0.20
Total Gold Produced			
Oxide – Gold	koz	765	1,068
Sulfide – Gold	koz	3,604	4,078
Cu Concentrator – Gold	koz	–	222
Total – Gold	koz	4,369	5,368
Total Copper Production	Mlb	0.02	164
5-Year Annual Average			
Average Gold Produced	kozpa	278	300
Free Cash Flow	$Mpa	158	165
Total Cash Costs (CC)	$/oz gold	880	761
All-in Sustaining Costs (AISC)	$/oz gold	1,071	938
Key Financial Results			
LOM Total Cash Costs (CC)	$/oz gold	803	783
LOM All-in Sustaining Costs (AISC)	$/oz gold	966	924
Site Operating Costs	$/t treated	45.91	43.79
After-Tax NPV5%	$M	1,732	2,004
Mine Life	years	21	22

5-Year annual average is for the period 1 January 2022 through 31 December 2026
LOM is life-of-mine

The after-tax net present value (NPV) sensitivity to metal price variation is shown in Table 1.2 for gold prices from $1,000–$2,000/oz.

Table 1.2 Gold Price Sensitivity

After-Tax NPV5% ($M)	Long-Term Gold Price ($/oz)					
Case	1,000	1,200	1,350	**1,600**	1,750	2,000
Reserve Case	769	1,115	1,370	**1,732**	1,939	2.252
Initial Assessment Case	859	1,294	1.579	**2,004**	2,259	2,642

1.2 Mineral and Surface Rights

Anagold holds the exclusive right to engage in mining activities within the Çöpler project area. Anagold holds six granted licences covering a combined area of approximately 16,600 ha. Mineral title is held in the name of Anagold. Kartaltepe holds eight licences covering approximately 9,200 ha. The total near-mine tenement package is approximately 25,800 ha. Anagold currently holds sufficient surface rights to allow continued operation of the mining operation in the Reserve Case.

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Çöpler project is serviced by road and rail networks. The mine is accessed from the main paved highway between Erzincan and Kemaliye. The project area is in the Eastern Anatolia geographical district of Turkey. Mining operations are conducted year-round. The climate is typically continental with cold wet, winters and hot dry, summers.

1.4 History

The Çöpler region has been subject to gold and silver mining dating back at least to Roman times. The Turkish Geological Survey (MTA) carried out regional exploration work in the early-1960s that was predominately confined to geological mapping. In 1964, a local Turkish company started mining for manganese, continuing through until closing in 1973. Unimangan Manganez San A.Ş. (Unimangan) acquired the property in January 1979 and re-started manganese production, continuing until 1992.

In 1998, Anatolia Minerals Development Ltd (Anatolia) identified several porphyry-style gold–copper prospects in east central Turkey and applied for exploration licences for these prospects. During this work, Anatolia identified a prospect in the Çöpler basin. This prospect and the supporting work were the basis for a joint venture agreement for exploration with Rio Tinto and Anatolia and in January 2004, Anatolia acquired the interests of Rio Tinto and Unimangan.

In August 2009, a joint venture agreement between Anatolia and Lidya was executed.

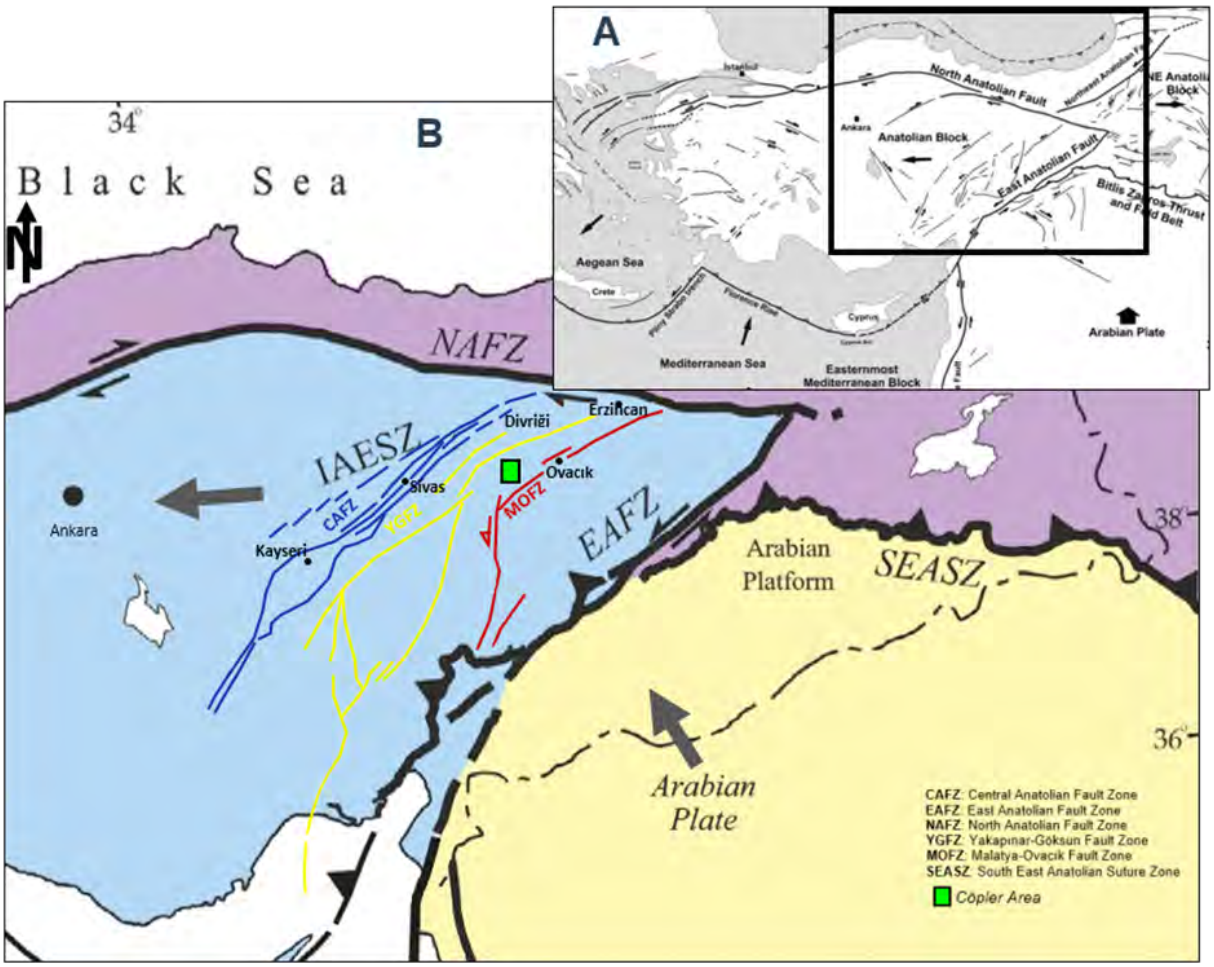
In February 2011, Anatolia merged with Avoca Resources Limited, an Australian company, to become Alacer Gold Corp. (Alacer). In September 2020, Alacer merged with SSR.

Technical Reports have been prepared on the project, in accordance with NI 43-101 Standards for Disclosure for Mineral Projects, since 2003. The previous Technical Report on the project, issued in 2020, described a Reserve Case plus a Preliminary Economic Assessment (PEA) on the Ardich project.

1.5 Geological Setting and Mineralisation

The project is located near the northern margin of a complex collision zone that lies between the Pontide Belt / North Anatolian Fault, the Arabian Plate, and the East Anatolian Fault, which bounds several major plates. The region underwent crustal thickening related to the closure of a single ocean, or possibly several oceanic and micro-continental realms, in the late Cretaceous to early Tertiary period. Figure 1.3 illustrates the broad structural setting of the Anatolia region of Turkey. The Çöpler project area is located between Divriği and Ovacık.

Figure 1.3 Structural Setting of Anatolia



Anagold, 2020

The gold, silver, and copper mineralisation of economic interest at Çöpler occurs in a porphyry-related epithermal environment, with most of the gold mineralisation concentrated in six distinct areas in the deposit: Main, Main West, Main East, Manganese, Marble, and West. The mineralisation is considered to be related to fluids associated with diorite intrusions at depth and generally manifests as three closely related mineralisation styles across the six areas:

- Low-Grade Porphyry Vein Mineralisation.
- Intermediate Sulfidation Epithermal Mineralisation.
- Iron Skarn and Carbonate Replacement Mineralisation.

Oxidation of hypogene mineralisation has resulted in the formation of gossans, massive manganese oxide, and goethitic / jarositic assemblages hosting fine-grained free gold. The oxidised cap is underlain by primary and secondary sulfide mineralisation. Çöpler is a geologically complex system due to structural disturbance and multiple-stage diorite intrusions. The initial mineralisation concept model, based on geochemistry of an epithermal system overlying a copper–gold porphyry dome, continues to hold true with current modelling.

1.6 Exploration

Exploration completed since Anatolia's involvement in the Çöpler project commenced in 1998 has included:

- geological and reconnaissance mapping,
- rock chip, grab, soil, channel, and stream sediment geochemical sampling,
- ground geophysical surveys including ground magnetic, complex resistivity / induced polarisation (IP), time domain IP, and controlled source audio-frequency magneto-telluric (CSAMT) surveys,
- a regional helicopter-borne geophysical survey,
- reverse circulation (RC) and diamond core (DD) drilling programmes, and
- acquisition of satellite imagery.

Other related work has included:

- mining technical studies,
- geotechnical and hydrogeological studies,
- environmental and social baseline studies,
- studies in support of project permitting,
- metallurgical testwork and metallurgical studies, and
- condemnation evaluations.

The principal exploration technique at the Çöpler project has been RC and DD drilling, conducted in several campaigns starting in 2000. Initially, exploration was directed at evaluating the economic potential of the near-surface oxide mineralisation for the recovery of gold by either heap leaching or conventional milling techniques.

1.7 Drilling

Drilling at the Çöpler deposit commenced in 2000, and since that time a total of 2,635 holes have been drilled for 373,561.9 m. A total of 68 DD holes have been completed in 2021 (18,491.8 m).

Step-out drilling at the Çöpler deposit has defined most of the lateral boundaries of the mineralisation. There has been additional development drilling, as well as condemnation drilling of areas planned for infrastructure during the last few years.

- Infill drilling programmes have been conducted since 2007 to improve confidence in the short-term mine planning.
- Drilling in 2014 focused on mineralisation confirmation with a twin-hole programme. The Çöpler deposit continues to be tested using RC and DD drilling as production proceeds.
- Development drilling continued in 2015 by improving sample coverage at depth in the Manganese Zone and along structural boundaries in the Main Zone. In addition to the drilling of in situ mineralisation, a stockpile drilling programme began in December 2015 to confirm sulfide stockpile ore grade, grade distribution, and mineralogy.
- Drilling in 2016–2020 mainly focused on target generation to supplement the amount of oxide material in production. This was focused on the Main Zone, the West pit, and the Saddle areas. These drilling programmes aimed to test continuation of the main gold-bearing structures based on a re-interpretation of the Çöpler structural and mineralisation settings. In-pit drilling campaigns continue.

- Drilling at the Çöpler deposit in 2020–2021 focused on confirmation of copper mineralisation. A total of 199 DD holes were drilled for 41,521.7 m in this period.

Drilling at Çakmaktepe commenced in 2012 and has resulted in the definition of three distinct mineralised zones: East, Central, and North. As production proceeded within the Çakmaktepe Central and East pits, additional targets were generated to provide push-back options around the pit design. A total of 136 DD holes have been completed since 2019 to test for continuation of the Çakmaktepe mineralisation to the north and the east.

Since the initial discovery of mineralisation at Ardich, Anagold has undertaken several drilling programmes to better-define the geological model and to attempt to increase resource inventories. Anagold has completed 531 DD holes for 111,004.35 m at Ardich from late-2017 to 31 December 2021, including holes for metallurgical testing and hydrogeological studies. Drillholes AR01–AR427 are included in an updated geological model for Ardich, developed in late-2021.

Drilling at Bayramdere commenced in 2007 as part of the near-mine exploration strategy. Since that time 120 holes have been drilled at Bayramdere for a total of 10,734.2 m.

1.8 Sampling Method, Approach and Analyses

From 2004 through late-2012, drillhole samples were prepared at ALS İzmir, Turkey (ALS İzmir) and analysed at ALS Vancouver, Canada (ALS Vancouver), (collectively ALS Global).

From late-2012 through 2014, samples were prepared and analysed at ALS İzmir.

In 2015, samples were prepared and analysed at the SGS laboratory in Ankara, Turkey (SGS).

From 2015 to current, ALS İzmir is being used as the main laboratory and samples are being prepared and analysed there. Umpire analysis was completed by ACME Mineral Laboratories (ACME) in Ankara, Turkey.

ALS İzmir has ISO 9001:2008 certification, and ALS Vancouver is ISO/IEC 17025:2005 accredited for precious and base metal assay methods. SGS is certified to ISO 9001:2008 and OHSAS 18001. ACME is part of the Bureau Veritas (BV) group, globally certified to ISO9001:2008.

ALS Global and SGS are specialist analytical testing service companies; both are independent of Anagold.

Sampling and quality assurance and quality control (QA/QC) programmes have been in place for all RC and DD drilling conducted since the first drill programme. The QA/QC programme is currently still in use, although the insertion rates have been modified over time.

Anagold operates an on-site laboratory at Çöpler for assay of production samples. The on-site laboratory is certified to ISO 17025:2017 but is not independent. It is primarily used in grade control.

1.9 Data Verification

Data verification procedures are well-established at the project. Routine ongoing checking of all data is undertaken prior to being uploaded to the database. This is followed by campaign-based independent data verification audits at milestone stages throughout data collection programmes.

For drillhole data, verification includes the checking of Topcon differential global positioning system (DGPS) collar coordinates relative to topographic surveys, checking of down-hole surveys relative to adjacent readings and planned dip and azimuth of the hole, checking logged data entries to ensure they are consistent with log key sheets, cross-checking a subset of assay data with the original laboratory reports, and submission of and review of QA/QC data.

The QA/QC programme has historically consisted of a combination of QA/QC sample types that are designed to monitor different aspects of the sample preparation and assaying process: Blanks are routinely inserted in order to identify the presence of contamination through the sample preparation process; a variety of CRM standards are routinely inserted in order to monitor and measure the accuracy of the assay laboratory results over time; Field duplicates are routinely inserted as a means of monitoring and assessing sample homogeneity and inherent grade variability and to enable the determination of bias and precision between sample pairs; laboratory duplicates are inserted as a means of testing the precision of the laboratory measurements; and inter-laboratory pulp duplicates are submitted to alternative independent laboratory to assess for bias or drift. The rate of submission has been modified over time but is currently 3%–5% for blanks, CRMs, and duplicates, and 5%–10% for field duplicates.

None of the verification programmes have identified material issues with the supporting data.

1.10 Metallurgical Testwork

1.10.1 Oxide Testwork

The heap leaching facilities were commissioned at the Çöpler mine site in late-2010 and have operated continuously since that time. Oxide heap leach operations were continuing at the CDMP21TRS effective date.

Metallurgical testwork on Çakmaktepe oxide material for heap leaching has been undertaken at the on-site metallurgical laboratory, initially under the supervision of Kappes, Cassiday & Associates. The initial testwork in 2015 undertook bottle roll and column leach tests. The results are comparable with the Çöpler oxide ore, with similar behaviour and leach kinetics. Subsequently, Çakmaktepe oxide ore has been heap leached along with Çöpler oxide ore. Oxide column testwork on oxide ore continues at the on-site laboratory.

Metallurgical testwork on Ardich oxide material for heap leaching has been undertaken at McClelland laboratories and supervised by Metallurgium. An initial testwork programme, including bottle roll and column leach, was carried out in 2019. This initial programme identified two distinct domains with respect to gold recovery based on sulfur content: <1% and 1%–2%. The column testwork results indicated that the listwanite, dolomite, and jasperoid lithologies have physical properties amenable to heap leaching. This initial test programme was followed up with further testwork in 2020.

Analysis of the results of the metallurgical testwork and a review of the existing recovery models for use in economic analysis were undertaken in 2020. This was done for the oxide and sulfide processing, including the flotation circuit. The resulting recoveries have been used in the economic analysis for the CDMP21TRS.

Oxide gold recoveries vary by lithology for Çöpler in the range 62.3%–78.4%, at Çakmaktepe the range is 61%–80%. At Ardich the testwork suggest recoveries will vary in the range 40%–73%. The average oxide recovery in the Reserve Case is 61%.

1.10.2 Sulfide Testwork

The sulfide process plant commenced commissioning in Q4'18. The plant consists principally of a pressure oxidation (POX) leach followed by a cyanide leach to recover gold.

Significant testwork had been conducted on sulfide ores prior to commissioning of the sulfide plant, with pilot plant testwork campaigns and a significant number of batch variability tests on POX / cyanide leach completed.

Whilst a POX / cyanide leach circuit was implemented, significant work had also been undertaken on flotation of the gold-bearing sulfides as a process route, although ultimately this option was not selected for development. Flotation of a partial stream of the plant feed was considered to maximise the available capacity of the plant, including the POX autoclave and available oxygen supply. Further flotation testwork demonstrated that the addition of a small flotation plant into the existing sulfide process route would allow optimisation and maximisation of already installed capacities.

The testwork indicates that sulfur recovery through flotation is estimated to be 75% to concentrate with a corresponding 55% gold recovery. Flotation tails gold recovery is estimated at 43%.

The current determination of POX gold recovery is based on assessment of results for the pilot testwork programmes undertaken prior to commencement of operations and benchmarked with the existing operating data. An equation has been derived to calculate gold recovery by material type for all ore that is subject to POX; this includes direct POX feed and flotation concentrate. The Reserve Case average sulfide gold recovery is 91%.

1.11 Mineral Resources

1.11.1 Resource Modelling

1.11.1.1 Çöpler Deposit

The Çöpler deposit includes four mine areas: Main, Manganese, Marble, and West. The current Çöpler resource model, which was constructed by Anagold personnel, was completed in February 2016.

The cut-off date for the drillholes database was 15 July 2015. The data extract contained 1,957 drillholes with a total of 297,798.2 m of drilling. Of this, a total of 1,880 drillholes have collar coordinates within the extents used to construct the resource model. In general, the drillhole spacing ranged from 5–60 m, averaging approximately 20 m. Most drillholes are either vertical or inclined at 60°.

Wireframes were constructed for the four main geological units: diorite, metasediment, marble, and manganese-rich diorite. Drillhole data and surface mapping were developed into 3D solids that represent the major rock types using implicit modelling techniques. This process included generating contact surfaces used to define the division boundaries that represent the geological faults and lithological contacts.

The resource estimation method at Çöpler was developed to address the variable nature of the gold mineralisation while honouring the bi-modal distribution of the sulfur mineralisation that is critical for mine planning (material with a total sulfur grade <2% is sent to the heap leach while material with total sulfur grade ≥2% is sent to the sulfide stockpile for eventual processing at the POX plant). Since no obvious correlations were observed between gold and total sulfur, gold and sulfur were domained and estimated separately. Gold showed little correlation with lithology and was domained by mining areas to reflect the different trends of the mineralisation that commonly follow structures and/or lithological contacts. Due to the strong correlation between sulfur content and lithology, sulfur was domained by lithology. However, since each lithology may contain <2% S and ≥2% S material, each lithology was additionally separated into <2% S and ≥2% S sub-domains.

Probability assigned constrained kriging (PACK) was used to estimate the gold content of the mineralisation within an expanded mineralised wireframe. A probabilistic envelope was generated within the expanded gold shape to define the limits of the economic mineralisation. The wireframe and probabilistic envelope were used to prevent potentially economic assays from being 'smeared' into non-economic zones, and conversely to restrict waste assays from diluting the potentially economic mineralisation. Two PACK cell models were constructed for gold. The first (low-grade gold) model was applied to <2% S material that can be processed by heap leaching, and the second (high-grade gold) model was later applied to ≥2% S material to be processed by the POX plant.

Once constructed, the gold models were calibrated to historical production data, categorised by sulfur content (<2% S and ≥2% S), and mining area. Estimates were classified into Mineral Resource categories based on drillhole density and data quality.

Density values were assigned to the cell model based on lithological domain and depth below the surface.

1.11.1.2 Çakmaktepe Deposit

The Çakmaktepe deposit is located 6 km east of the current Çöpler pit and includes four areas: North, Central, East, and South-east. The current Çakmaktepe resource model, which was constructed by Anagold personnel, was completed in February 2020.

The drillhole dataset used to develop the February 2020 resource model contained a total of 1,109 holes with a drilling date range of September 2007–October 2019. The total drilled metres input into the modelling was 119,001.1 m. Original sample lengths are predominately 1 m in length with some 2 m sampling across areas presumed to be waste. The mean sample length was 1.02 m. The shortest interval was 0.1 m with maximum length 3.1 m. Composited samples 5 m in length were used for statistical analysis, construction of interpretation boundaries, and grade estimation.

Mineralisation at Çakmaktepe follows structural controls and designated lithological contact orientations. Mineralised zones often incorporate multiple lithological units along the boundary rather than being hosted by a single rock type. For this reason, grade shells were constructed for gold and copper to allow estimation concordant with the mineralised zones instead of being controlled by samples residing within a single lithological unit. Mineralised trends were honoured in 3D with no specific grade cut-off used to bound the mineralised shapes. The resulting shapes for gold and copper are lenticular with thicknesses ranging from 5–40 m. On average, thicknesses are of the order of 6 m.

Sulfur grades correlate with lithological units: higher sulfur values are associated with diorite and metasediment, and lower sulfur values are in association with gossan, jasperoid, ophiolite, and marble.

A single geological cell model with 5 m x 5 m x 5 m parent cells was constructed to include the four deposit areas. Gold, silver, copper, sulfur, and carbon were estimated using inverse distance interpolation (ID) weighted to the power of three (ID3) and 5 m drillhole composites. Gold, copper, and silver were estimated using grade shells as hard boundaries. Sulfur and carbon estimates were constrained by modelled lithological units. All grade shell boundaries for metal estimates were treated as hard. Domains were treated as soft boundaries allowing the selection of samples from nearby domains.

Density values were assigned to the cell model based on lithological domain.

1.11.1.3 Ardich Deposit

The Ardich deposit is located 1.5 km north of Çakmaktepe and includes two areas: Main and East. The current Ardich resource model, which was constructed by OreWin, was completed in 2021.

The drillhole dataset used to develop the January 2022 resource model contained a total of 427 diamond core drillholes with a drilling date range of September 2017–May 2021. The total drilled metres for this Ardich dataset was 87,038.25 m. Original sample lengths are predominately 1 m (77.5% of the samples). The shortest assayed interval was 0.2 m, the maximum length 3.8 m, and the mean sample length was 1.19 m. Samples were composited to 1 m length for use in statistical analysis, construction of interpretation boundaries, and grade estimation.

The Ardich Mineral Resource estimate was based on a 3D geological solids model developed within constraining fault blocks. High-angle faults cross-cut the deposit creating rotated structural blocks that have moved up and down relative to each other. There are 25 distinct fault block domains in the 2021 model.

The main lithological units: ophiolite, listwanite, dolomite, jasperoid, and cataclasite, are disrupted by the faults. Owing to the offsets at fault boundaries and the variable thicknesses of lithologies from one fault block to the next, the lithological interpretations have been completed separately for each fault block.

Discrete domains for grade estimation are defined by the fault block and lithology interpretations. As the amount of drill data increased, the understanding of the structural and lithological domains has developed such that a total of 221 unique fault block / lithology domains exist in the 2021 model.

Gold distribution is related to the lithological contact zones and structural intersections. These zones tend to be narrow and localised. Mineralised trends generally follow the orientations of the structural features, further nuanced at the lithological contacts as they change within each of the fault blocks. Control of the gold estimation in the model is accomplished with the use of the fault block and lithology domains as hard boundaries to (a) limit the samples informing estimation in each lithological unit to only those of the same fault block, and (b) to orientate local search neighbourhoods within each domain (dynamic anisotropy). Unlike previous Ardich models, grade shells were not used to constrain estimation in the 2021 model.

A cell model with 10 m x 10 m x 5 m parent cells was constructed to cover the entire Ardich deposit. Sub-celling to 2.5 m x 2.5 m x 1.25 m was permitted to honour interpreted boundaries. Further sub-celling to a minimum of 0.25 m was permitted at the topographic surface. Estimation of a suite of 13 grades (including Au with and without top cuts) and density was undertaken using ordinary kriging. A nearest neighbour estimation of Au was completed for validation purposes.

1.11.1.4 Bayramdere Deposit

The Bayramdere deposit is located approximately 6.3 km east of the Çöpler mine and 5 km south-east of Iliç. It is within the Kartaltepe Mining Licence 7083. This licence is an operational licence and is 50% SSR-owned.

The Bayramdere mineralisation has an overall strike length of approximately 300 m. Mineralisation is localised within three stacked, shallow-dipping lodes that vary in depth between 30–40 m below topography. Mineralisation appears to be open to the east and south.

A resource model for Bayramdere was completed in 2016. Separate mineralisation domains were created for gold, silver, copper, and sulfur. In the creation of mineralised domains, a minimum mining width of 2.5 m was used based on anticipated open pit mining methods. Grade estimation was limited to the interpreted domains. Outside the mineralised domains a 'mineralised waste' estimate was completed. Lithological domains were used for estimates outside of the mineralisation domains. Ordinary kriging was used to estimate gold, silver, and copper mineralisation into parent cells of 10 m x 10 m x 5 m size with sub-celling permitted to 2 m x 2 m x 1 m to better honour the domain boundaries.

Density was assigned as a default for each of the mineralisation and lithological domains.

Although a small deposit, Bayramdere is relatively high-grade and can support a high-stripping ratio to access mineralisation.

1.11.2 Reasonable Prospects for Eventual Economic Extraction

All Mineral Resources in the CDMP21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells based on metal prices of $1,750/oz for gold, or as otherwise specified. The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised. The Initial Assessment Case is described in Section 21 of the CDMP21TRS.

1.11.3 Mineral Resources Estimates

Mineral Resources are reported exclusive of Mineral Reserves and have been summarised by project, resource classification, and oxidation state in Table 1.3.

Table 1.4 shows the cut-off values, metallurgical recoveries, and SSR ownership percentage associated with the Mineral Resources.

Mineral Resources have been classified in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300) and were estimated by Sharron Sylvester BSc (Geology), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director – Geology. Mineral Resources are presented on a project basis and have an effective date of 31 December 2021.

Table 1.3 Summary of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves as at 31 December 2021 Based on $1,750/oz Gold Price

Mineral Resource Classification	Tonnage (kt)	Grades			Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Çöpler Mine – Oxide							
Measured	81	1.39	4.67	0.16	4	12	281
Indicated	27,173	0.84	2.30	0.16	737	2,012	97,057
Measured + Indicated	27,254	0.84	2.31	0.16	740	2,024	97,339
Inferred	35,021	0.90	6.87	0.13	1,016	7,741	97,941
Çöpler Mine – Sulfide							
Measured	151	0.83	3.72	0.18	4	18	590
Indicated	47,084	1.06	3.66	0.19	1,608	5,535	198,365
Measured + Indicated	47,235	1.06	3.66	0.19	1,612	5,553	198,955
Inferred	49,798	1.24	13.60	0.17	1,982	21,773	181,890
Çakmaktepe – Oxide							
Measured	–	–	–	–	–	–	–
Indicated	3,341	1.55	8.33	–	167	894	–
Measured + Indicated	3,341	1.55	8.33	–	167	894	–
Inferred	1,205	0.85	4.04	–	33	157	–
Ardich – Oxide							
Measured	2,840	1.67	3.99	0.02	153	364	1,031
Indicated	9,794	1.01	2.74	0.00	317	861	410
Measured + Indicated	12,634	1.16	3.02	0.01	469	1,226	1,442
Inferred	13,896	1.27	3.47	0.02	570	1,550	5,181
Ardich – Sulfide (Incl. sulfide and sulfide-with-Cu)							
Measured	234	5.76	8.25	0.04	43	62	215
Indicated	1,410	2.07	3.80	0.03	94	172	900
Measured + Indicated	1,645	2.59	4.44	0.03	137	235	1,115
Inferred	3,226	2.64	4.53	0.01	274	470	576
Bayramdere – Oxide							
Measured	–	–	–	–	–	–	–
Indicated	145	2.34	20.82	–	11	97	–
Measured + Indicated	145	2.34	20.82	–	11	97	–
Inferred	8	2.17	19.95	–	1	5	–
CDMP21 Mineral Resources – Oxide Subtotal							
Measured	2,920	1.67	4.01	0.02	156	376	1,313
Indicated	40,454	0.95	2.97	0.11	1,231	3,865	97,467
Measured + Indicated	43,374	0.99	3.04	0.10	1,387	4,241	98,780
Inferred	50,130	1.00	5.86	0.09	1,619	9,453	103,122
CDMP21 Mineral Resources – Sulfide Subtotal							
Measured	386	3.82	6.47	0.09	47	80	805
Indicated	48,494	1.09	3.66	0.19	1,702	5,707	199,265
Measured + Indicated	48,880	1.11	3.68	0.19	1,749	5,787	200,071
Inferred	53,024	1.32	13.05	0.16	2,256	22,243	182,465
CDMP21 MINERAL RESOURCES – OVERALL TOTAL (Exclusive of Mineral Reserves)							
Measured	3,306	1.92	4.30	0.03	204	457	2,118
Indicated	88,948	1.03	3.35	0.15	2,933	9,572	296,733
Measured + Indicated	92,254	1.06	3.38	0.15	3,136	10,029	298,851
Inferred	103,154	1.17	9.56	0.13	3,875	31,695	285,587

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis. Çöpler Mineral Resources are located on ground held 80% by SSR, Çakmaktepe and Bayramdere Mineral Resources are located on ground held 50% by SSR, and approximately 96% of Ardich Mineral Resources are located on ground held 80% by SSR, with the remainder located on ground 50% held by SSR.
4. Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere: oxide is defined as material <2% total sulfur.
5. Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%). There is no sulfide material at Çakmaktepe or Bayramdere.
6. At Çöpler and Ardich: sulfide cut-off uses an NSR value in $/t based on gold price $1,750/oz, silver price $22.00/oz Ag and copper price $3.95/lb with allowances for payability, deductions, transport, and royalties.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. All Mineral Resources in the CDMP21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19/oz for silver for Bayramdere, and $1,750/oz for gold, $22/oz for silver for all other projects).
9. Totals may vary due to rounding.

Table 1.4 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves (as at 31 December 2021) Based on Gold Price $1,750/oz, Silver Price $22.00/oz Ag and Copper Price $3.95/lb

Mineral Resource Classification	Tonnage (kt)	Grades			Cut-off Value/s	Metallurgical Recovery (%)	SSR Ownership (%)
		Au (g/t)	Ag (g/t)	Cu (%)			
Çöpler Mine – Oxide							
Measured	81	1.39	4.67	0.16	0.19–0.24 g/t Au	62.3–78.4	80
Indicated	27,173	0.84	2.30	0.16			
Measured + Indicated	27,254	0.84	2.31	0.16			
Inferred	35,021	0.90	6.87	0.13			
Çöpler Mine – Sulfide							
Measured	151	0.83	3.72	0.18	$34.88/t NSR or >0.10% Cu and $7.68/t NSR	Au 55–91 Ag 10–45 Cu 84–98	80
Indicated	47,084	1.06	3.66	0.19			
Measured + Indicated	47,235	1.06	3.66	0.19			
Inferred	49,798	1.24	13.60	0.17			
Çakmaktepe – Oxide							
Measured	–	–	–	–	0.36–0.76 g/t Au	38.0–80.0	50
Indicated	3,341	1.55	8.33	–			
Measured + Indicated	3,341	1.55	8.33	–			
Inferred	1,205	0.85	4.04	–			
Ardich – Oxide							
Measured	2,840	1.67	3.99	0.02	0.23–0.41 g/t Au	40.0–73.0	75
Indicated	9,794	1.01	2.74	0.00			76
Measured + Indicated	12,634	1.16	3.02	0.01			75
Inferred	13,896	1.27	3.47	0.02			65
Ardich – Sulfide (Incl. sulfide and sulfide-with-Cu)							
Measured	234	5.76	8.25	0.04	$36.25/t NSR or >0.10% Cu and $9.05/t NSR	Au 55–91 Ag 10–45 Cu 84–98	78
Indicated	1,410	2.07	3.80	0.03			71
Measured + Indicated	1,645	2.59	4.44	0.03			75
Inferred	3,226	2.64	4.53	0.01			71
Bayramdere – Oxide							
Measured	–	–	–	–	0.35–0.50 g/t Au	75	50
Indicated	145	2.34	20.82	–			
Measured + Indicated	145	2.34	20.82	–			
Inferred	8	2.17	19.95	–			
CDMP21 Mineral Resources – Oxide Subtotal							
Measured	2,920	1.67	4.01	0.02	As Above	As Above	75
Indicated	40,454	0.95	2.97	0.11			75
Measured + Indicated	43,374	0.99	3.04	0.10			75
Inferred	50,130	1.00	5.86	0.09			74
CDMP21 Mineral Resources – Sulfide Subtotal							
Measured	386	3.82	6.47	0.09	As Above	As Above	78
Indicated	48,494	1.09	3.66	0.19			80
Measured + Indicated	48,880	1.11	3.68	0.19			80
Inferred	53,024	1.32	13.05	0.16			79
CDMP21 MINERAL RESOURCES – OVERALL TOTAL (Exclusive of Mineral Reserves)							
Measured	3,306	1.92	4.30	0.03	As Above	As Above	76
Indicated	88,948	1.03	3.35	0.15			77
Measured + Indicated	92,254	1.06	3.38	0.15			77
Inferred	103,154	1.17	9.56	0.13			77

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Resources (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights. Totals and Ardich ownership percentages are weighted averages.
4. Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere: oxide is defined as material <2% total sulfur.
5. Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%). There is no sulfide material at Çakmaktepe or Bayramdere.
6. At Çöpler and Ardich: sulfide cut-off uses an NSR value in $/t based on gold price $1,750/oz, silver price $22.00/oz, and copper price $3.95/lb with allowances for payability, deductions, transport, and royalties.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. All Mineral Resources in the CDMP21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19/oz for silver for Bayramdere, and $1,750/oz for gold, $22/oz for silver for all other projects).
9. Totals may vary due to rounding.

1.12 Mineral Reserves Estimates

Mineral Reserves have been summarised by project, reserve classification, and oxidation state in Table 1.5 and in Table 1.6.

Mineral Reserves have been classified in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300) and were estimated by Bernard Peters BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining. Mineral Reserves are presented on a project basis and have an effective date of 31 December 2021.

Table 1.5 Summary of CDMP21TRS Mineral Reserves Estimates (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grades			Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Çöpler Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	2,204	1.22	11.17	0.13	87	792	6,304
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	2,204	1.22	11.17	0.13	87	792	6,304
Çöpler Mine – Sulfide							
Proven Mineral Reserve	408	2.02	6.69	–	26	88	–
Probable Mineral Reserve	35,828	2.13	4.96	–	2,455	5,713	–
Probable – Stockpile	12,468	2.25	–	–	900	–	–
Total Mineral Reserve	48,703	2.16	3.70	–	3,382	5,801	–
Çakmaktepe Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	274	1.26	10.91	–	11	96	–
Probable – Stockpile	11	2.69	–	–	1	–	–
Total Mineral Reserve	285	1.32	10.49	–	12	96	–
Ardich – Oxide Reserve							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	381	464	208
Probable Mineral Reserve	13,305	1.74	1.98	0.01	742	849	2,933
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	20,050	1.74	2.04	0.01	1,124	1,313	3,141
Ardich – Sulfide							
Proven Mineral Reserve	1,871	5.55	10.83	–	334	651	–
Probable Mineral Reserve	2,253	3.13	4.35	–	227	315	–
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	4,124	4.23	7.29	–	560	966	–
CDMP21 Mineral Reserves – Oxide Subtotal							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	381	464	208
Probable Mineral Reserve	15,783	1.66	3.42	0.03	840	1,736	9,237
Probable – Stockpile	11	2.69	–	–	1	–	–
Total Mineral Reserve	22,539	1.69	3.04	0.02	1,222	2,200	9,445
CDMP21 Mineral Reserves – Sulfide Subtotal							
Proven Mineral Reserve	2,278	4.92	10.09	–	360	739	–
Probable Mineral Reserve	38,081	2.19	4.92	–	2,682	6,028	–
Probable – Stockpile	12,468	2.25	–	–	900	–	–
Total Mineral Reserve	52,827	2.32	3.98	–	3,942	6,768	–
CDMP21 MINERAL RESERVES – OVERALL TOTAL							
Proven Mineral Reserve	9,024	2.55	4.15	0.00	741	1,203	208
Probable Mineral Reserve	53,863	2.03	4.48	0.01	3,522	7,765	9,237
Probable – Stockpile	12,479	2.25	–	–	901	–	–
Total Mineral Reserve	75,366	2.13	3.70	0.01	5,164	8,968	9,445

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves were scheduled based on End-of-August 2021topography surface. Small differences between the Mineral Reserve statement and the production schedule may occur.
3. Mineral Reserves are shown on a 100% basis. Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights.
4. Mineral Reserve cut-offs are based on $1,350/oz gold price; average oxide recoveries are 61% and average sulfide recoveries are 91%.
5. The point of reference for Mineral Reserves is the point of feed into the processing facility.
6. Cut-off values are shown in Table 1.6. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations.
7. There is no Çakmaktepe sulfide Mineral Reserve or Bayramdere Mineral Reserve.
8. Economic analysis has been carried out using a long-term gold price of $1,600/oz.
9. Totals may vary due to rounding.

Table 1.6 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grades			Cut-off Value/s (g/t Au)	Metallurgical Recovery (%)	SSR Ownership (%)
		Au (g/t)	Ag (g/t)	Cu (%)			
Çöpler Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	2,204	1.22	11.17	0.13	0.47–0.59	62.3–78.4	80
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	2,204	1.22	11.17	0.13	0.47–0.59	62.3–78.4	80
Çöpler Mine – Sulfide							
Proven Mineral Reserve	408	2.02	6.69	–	1.05	85	80
Probable Mineral Reserve	35,828	2.13	4.96	–			
Probable – Stockpile	12,468	2.25	–	–			
Total Mineral Reserve	48,703	2.16	3.70	–			
Çakmaktepe Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	274	1.26	10.91	–	0.52–0.71	14–80	50
Probable – Stockpile	11	2.69	–	–			
Total Mineral Reserve	285	1.32	10.49	–			
Ardich – Oxide							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	0.44–0.80	40–73	77
Probable Mineral Reserve	13,305	1.74	1.98	0.01			
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	20,050	1.74	2.04	0.01	0.44–0.80	40–73	77
Ardich – Sulfide							
Proven Mineral Reserve	1,871	5.55	10.83	–	1.11	83	78
Probable Mineral Reserve	2,253	3.13	4.35	–			72
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	4,124	4.23	7.29	–	1.11	83	75
CDMP21 Mineral Reserves – Oxide Subtotal							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	0.44–0.80	14–80	77
Probable Mineral Reserve	15,783	1.66	3.42	0.03			77
Probable – Stockpile	11	2.69	–	–	0.52–0.71	14–80	50
Total Mineral Reserve	22,539	1.69	3.04	0.02	0.44–0.80	14–80	77
CDMP21 Mineral Reserves – Sulfide Subtotal							
Proven Mineral Reserve	2,278	4.92	10.09	–	1.05–1.11	83–85	78
Probable Mineral Reserve	38,081	2.19	4.92	–			79
Probable – Stockpile	12,468	2.25	–	–			80
Total Mineral Reserve	52,827	2.32	3.98	–			79
CDMP21 MINERAL RESERVES – OVERALL TOTAL							
Proven Mineral Reserve	9,024	2.55	4.15	0.00	0.44–1.11	14–85	77
Probable Mineral Reserve	53,863	2.03	4.48	0.01			79
Probable – Stockpile	12,479	2.25	–	–			80
Total Mineral Reserve	75,366	2.13	3.70	0.01			78

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves were scheduled based on End-of-August 2021topography surface. Small differences between the Mineral Reserve statement and the production schedule may occur.
3. Mineral Reserves are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Reserves (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights. Totals and Ardich ownership percentages are weighted averages.
4. Mineral Reserve cut-offs are based on $1,350/oz gold price; average oxide recoveries are 61% and average sulfide recoveries are 91%.
5. The point of reference for Mineral Reserves is the point of feed into the processing facility.
6. All cut-off grades include allowance for royalty payable. There are no credits for silver or copper in the cut-off grade calculations.
7. There is no Çakmaktepe sulfide Mineral Reserve or Bayramdere Mineral Reserve.
8. Economic analysis has been carried out using a long-term gold price of $1,600/oz.
9. Totals may vary due to rounding.

1.13 Mining Method

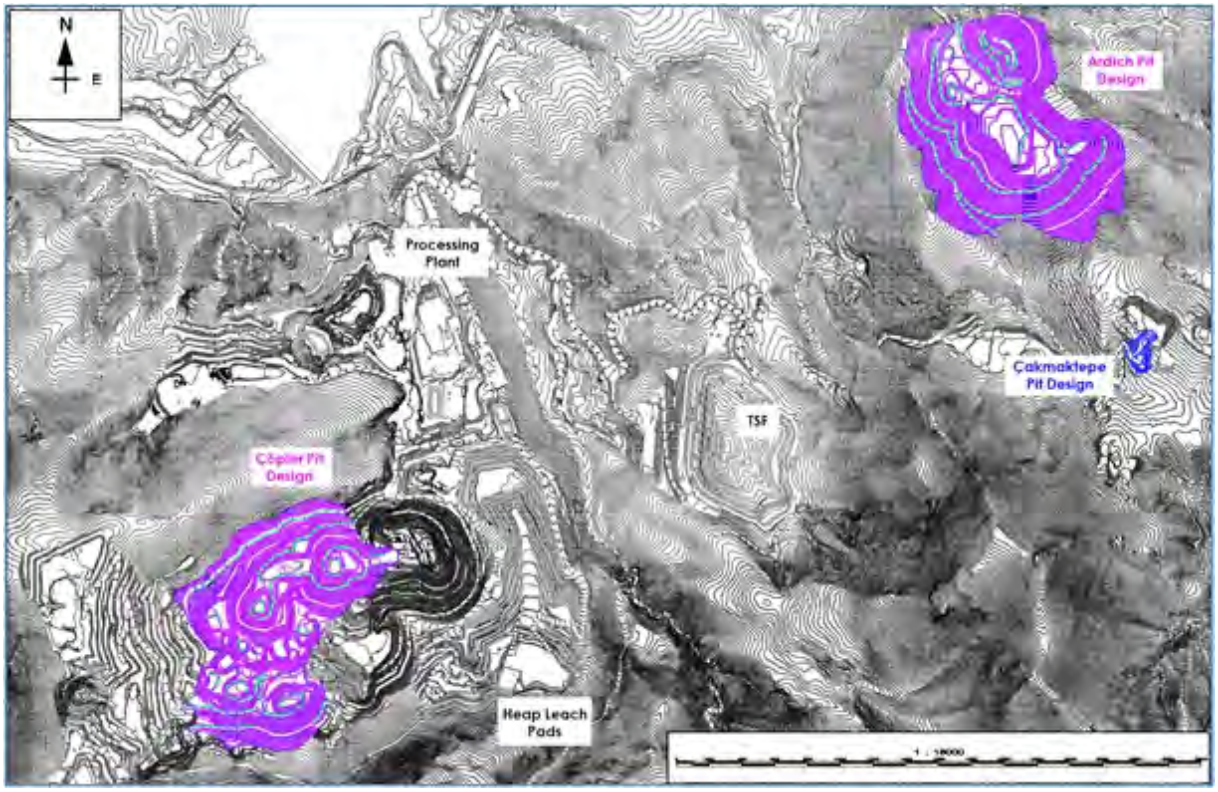
Open pit mining at the Çöpler project is carried out by a mining contractor and managed by Anagold. The mining method is a conventional open pit method with drill and blast and utilising excavators and trucks operating on bench heights of 5 m. The mining contractor provides operators, line supervisors, equipment, and ancillary facilities required for the mining operation. Anagold provides management, technical, mine planning, engineering, and grade control functions for the operation.

Anagold currently operates a sulfide process plant and an oxide heap leach facility. Costs are based on the actual operational costs and the project budget assumptions.

Production schedules and costs have been updated based on current site performance and contracts.

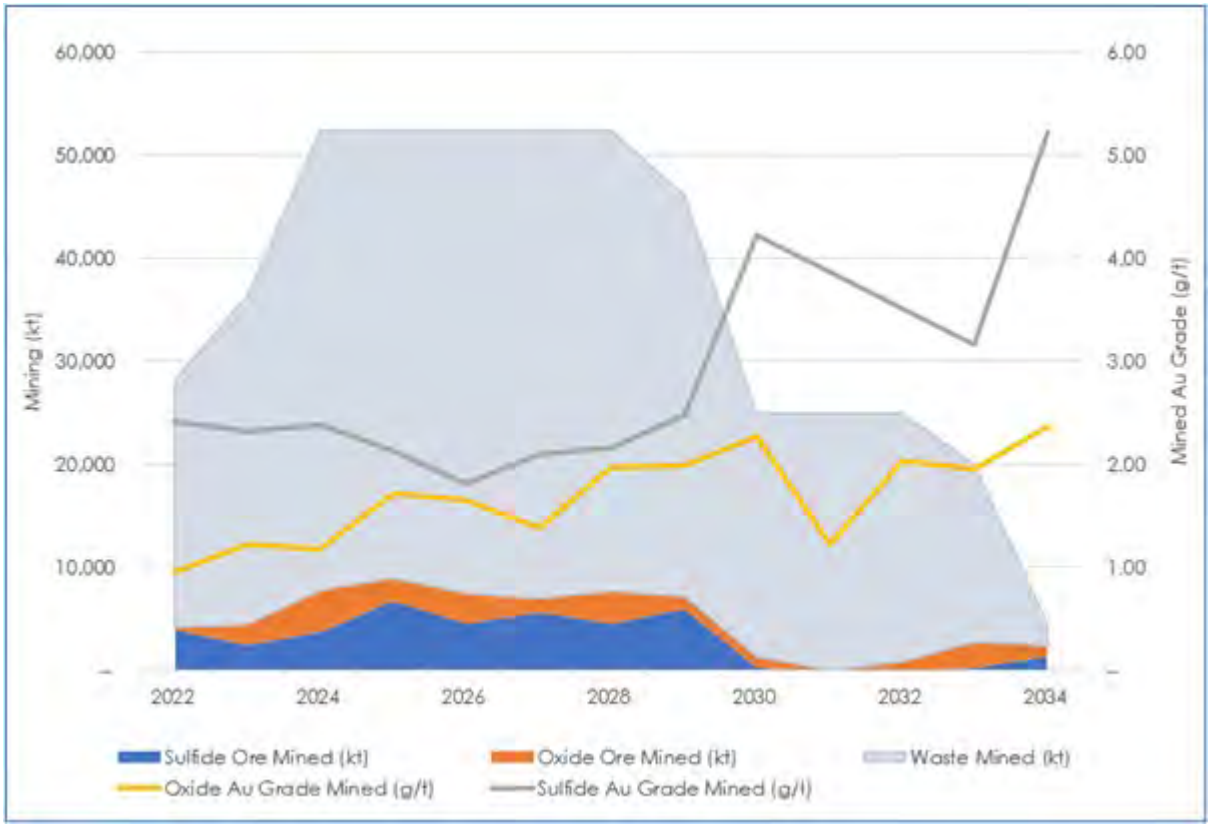
Pit designs for the Çöpler pit were reviewed and updated in 2021. The Ardich pit designs were prepared in 2021 and 2022. The pit designs included in the Reserve Case are shown in Figure 1.4. The Reserve Case mining production is shown in Figure 1.5.

Figure 1.4 CDMP21TRS Ultimate Pit Designs



Anagold, 2022

Figure 1.5 CDMP21TRS Reserve Case Mining Production



OreWin, 2022

1.14 Recovery Methods

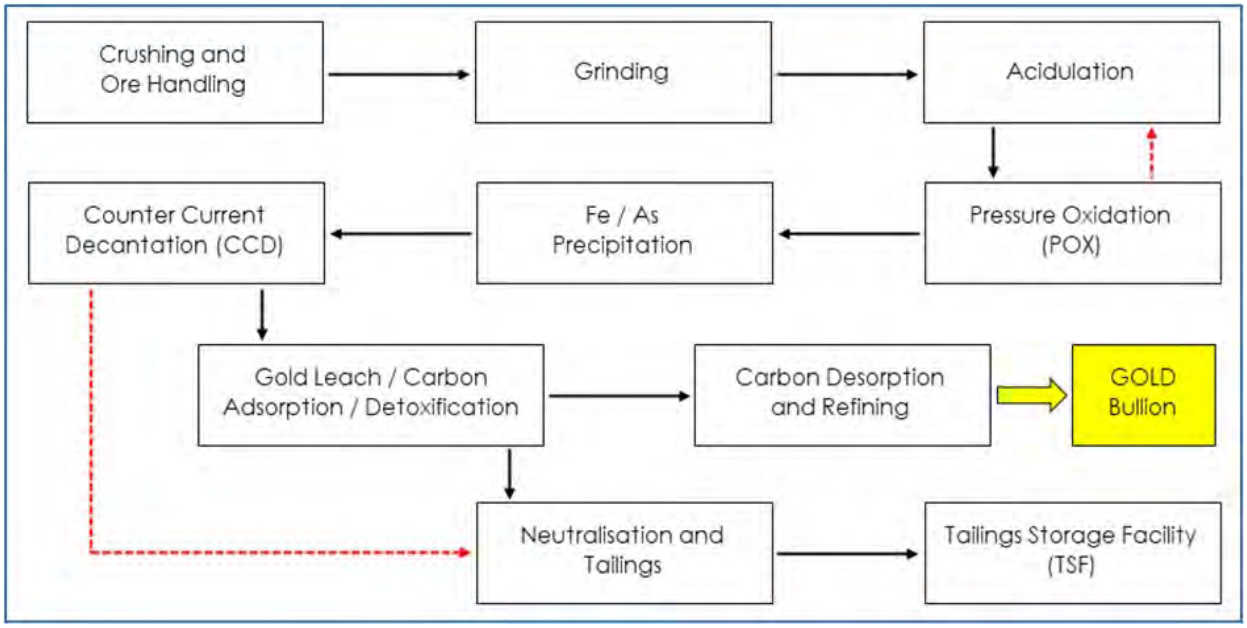
1.14.1 Sulfide Plant

The sulfide plant commenced commissioning in Q4'18. The basic flow sheet is shown in Figure 1.6 and comprises:

- Crushing and ore handling
- Grinding
- Acidulation
- Pressure oxidation
- Iron / arsenic precipitation
- Counter Current Decantation (CCD)
- Gold leach, carbon adsorption, and detoxification
- Carbon desorption and refining
- Neutralisation and tailings
- Tailing Storage Facility (TSF)

The sulfide plant performance from Q4'18 up to Q4'21, including commissioning and ramp-up, has achieved greater-than-design throughputs and approaches design gold recovery for the ore types processed.

Figure 1.6 Process Flow Sheet for Sulfide Plant



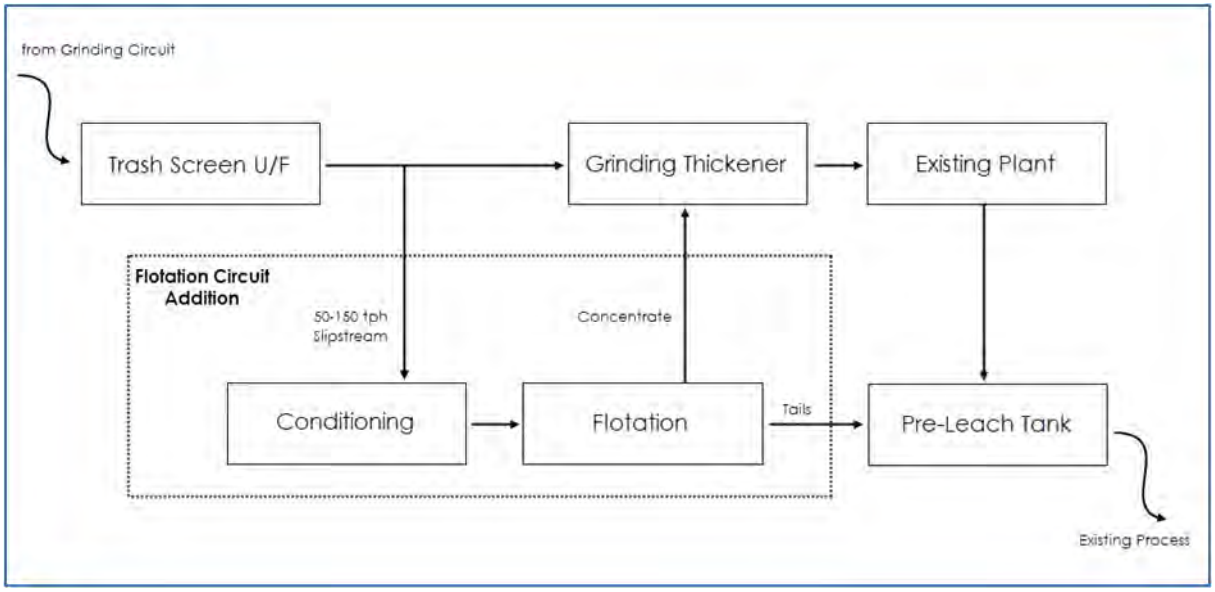
Anagold, 2020

The incorporation of a new flotation circuit in the existing sulfide plant to upgrade sulfide sulfur (SS) to fully utilise POX autoclave oxidation capacity is complete and commissioning commenced in January 2021. This addition to the sulfide plant is incorporated between grinding and acidulation, as shown in Figure 1.7, by taking a bleed / slip stream from the grinding thickener feed, floating gold-bearing sulfides, rejecting acid-consuming carbonates and returning the sulfide concentrate to the grinding thickener to be combined with direct POX feed. The gold not recovered to concentrate that remains in the flotation tails is directed to the gold leach circuit feed to recover this remaining gold, albeit at lower gold recoveries than ore that is treated through the POX autoclave circuit.

This will increase overall plant maximum throughput rate to 400 tonnes per hour (tph), allowing the grinding and POX circuit to operate at their maximum demonstrated capacities. The grinding circuit maximum volumetric flow throughput will increase from an original design limit of 306 tph to 400 tph, fully utilising latent capacity within the crushing and grinding circuit. The flotation plant is designed to operate in the throughput range of 50–150 tph to produce a concentrate that will supplement the feed ore SS to maximise autoclave SS up to 13.75 tph at a maximum autoclave feed rate of 280 tph.

Operating performance of the autoclaves indicates that higher than design oxygen utilisations efficiencies are possible, which may allow greater than 13.75 tph SS to be treated. This oxygen utilisation efficiency along with increased oxygen availability is upside to the CDMP21TRS Reserve Case.

Figure 1.7 Flotation Block Flow Diagram



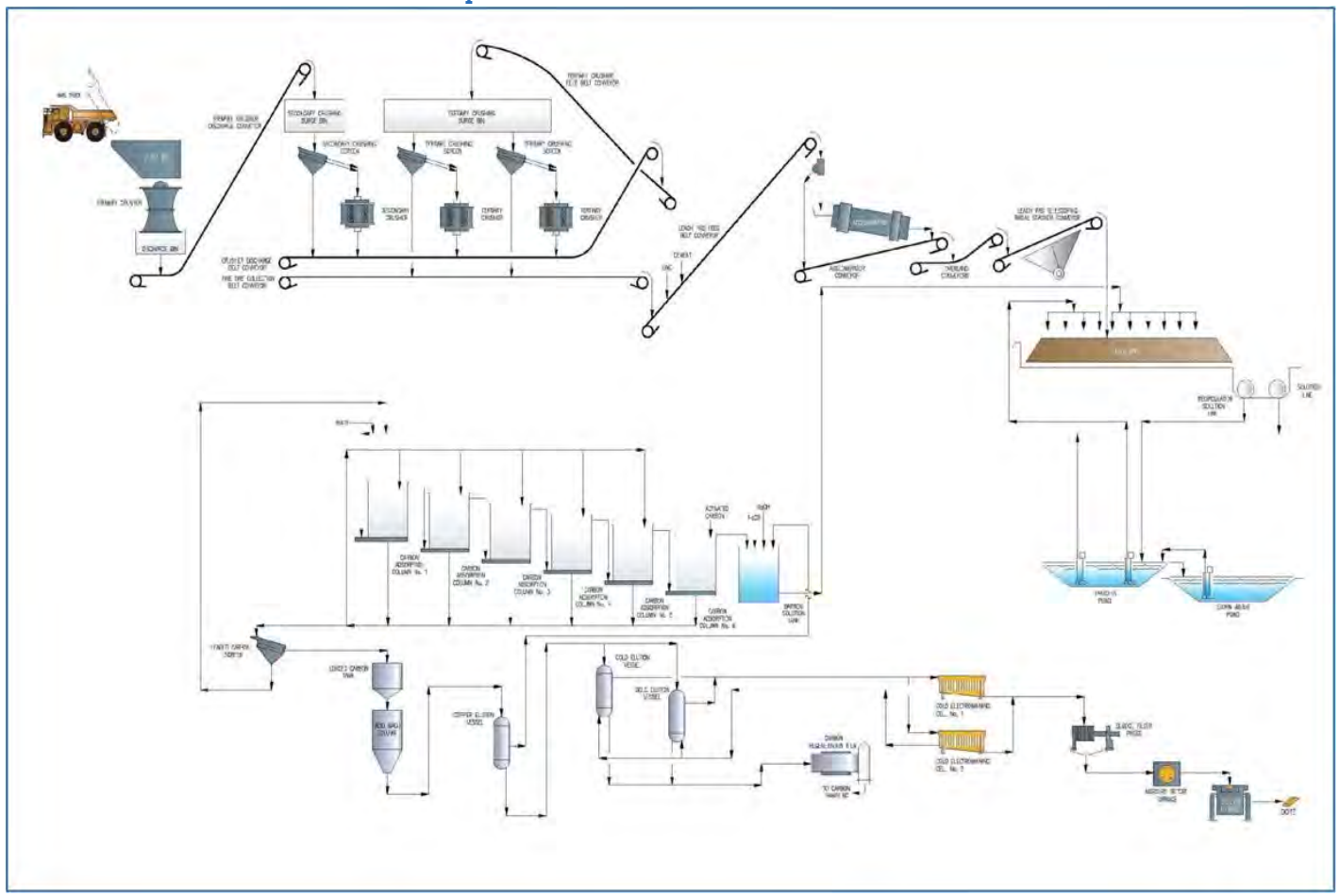
Anagold, 2020

1.14.2 Oxide Ore Heap Leach Processing

In the Reserve Case production is predominantly from sulfide ore. The maximum oxide ore placed in any year is 4.0 Mt for a total production of 22.5 Mt.

The oxide heap leaching and associated facilities were commissioned in the second half of 2010 and initial gold production was achieved in Q4'10. The process was originally designed to treat approximately 6.0 Mtpa of ore by three-stage crushing (primary, secondary, and tertiary) to 80% passing 12.5 mm, agglomeration, and heap leaching on a lined heap leach pad with dilute alkaline sodium cyanide solution. Gold is recovered through a carbon in-column (CIC) system, followed by stripping of metal values from carbon, electrowinning and smelting to yield a doré (containing gold and silver) suitable for sale. Control of copper in leach solutions is undertaken in a sulfidisation, acidification, recovery, and thickening (SART) plant, which also regenerates cyanide. The oxide ore heap leach process flow sheet is shown in Figure 1.8.

Figure 1.8 Process Flow Sheet for Oxide Ore Heap Leach



Anagold, 2021

1.1.3 Project Infrastructure

1.1.3.1 Infrastructure

The facility infrastructure supports the mine and process areas of oxide heap leach and sulfide plant. The existing infrastructure, and the tailings storage and heap leach pad area once the planned expansion is complete, will be sufficient for the current Mineral Reserves. The infrastructure for the addition of flotation to the sulfide plant will be supported by the existing facility infrastructure with some components modified to meet the addition of the flotation circuit.

The current leach pad consists of four phases designed to accommodate approximately 58 Mt of oxide ore heap with a nominal maximum heap height of 100 m above the pad liner. An additional two phases (phase 5 and phase 6), with a capacity of 20 Mt will be added to accommodate the oxide to be mined from Ardich.

The Tailings Storage Facility (TSF) is developed and constructed in stages. The development of TSF 1 includes seven phases. TSF 1 phase 3 construction has been completed and approval for use was granted in October 2021 by the Ministry of Environment, Urbanisation and Climate Change (MoEUCC). Ongoing work in ensuring sufficient long-term capacity for storage of tailings has been undertaken. Studies by Anagold have determined that the effect of the addition of the flotation circuit to the sulfide plant would result in an increase in the solids content and improvement in the final settled density based on an increase in the rate of tailings consolidation.

TSF 1 has sufficient storage capacity (70.8 Mt) to accommodate the CDMP21TRS tailings. Scoping level investigations have identified additional TSF sites. An adjacent site, TSF 2, has been the subject of a PFS level study and can provide approximately 20 Mt of net additional tails storage capacity, if required in the future. A detailed design of TSF 2 has been substantially progressed. In November 2021 an application project package was submitted to the MoEUCC. Project design and approval finalisation is expected by Q3'22.

1.15 Market Studies

The markets for gold and silver doré are readily accessed and available to gold producers. Currently, 100% of the gold and silver is delivered to the Istanbul Gold Refinery. Copper precipitate is currently produced from the SART plant and sold into local markets in Turkey. The sulfide plant does not currently include a copper circuit and the analysis of copper recovery at Çöpler has been considered in the Initial Assessment as part of the CDMP21TRS.

1.16 Environmental and Permitting

The Çöpler mining and processing operations involve open pit mining from multiple pits, construction of multiple waste rock dumps (WRD) to accommodate mined materials, processing of oxide ores and placement on a heap leach pad, and processing of sulfide ores with placement of tailings in a TSF. These activities and facilities are carried out on treasury, pasture, and forestry lands.

In addition to the direct impacts on the involved lands, the operations impact the surrounding lands and the local communities. Physical impacts may include changes to local surface and groundwater (including potential pollution), air quality impacts particularly from dust, and increased noise and vibration from mining and processing activities.

Operation of the Çöpler mining and processing facilities, and subsequent mining at Çakmaktepe, have been investigated and authorised by means of a series of Environmental Impact Assessments (EIAs), with positive decisions obtained from the Turkish Ministry of Environment, Urbanisation and Climate Change. These EIAs include specific actions designed to address all material impacts of the mining and processing operations. Anagold has remained in compliance with all aspects of the EIA and operating permits throughout the history of the project.

The original 2008 EIA obtained on 16 April 2008 included three main open pits (Manganese, Marble, and Main), five WRDs, a heap leach pad, a processing plant, and a TSF. The 2008 project description involved only the oxide resources.

The Çöpler mine started its open pit and heap leach operation in 2010 and first gold was poured in December 2010. Additional EIA investigations have been submitted and approved, as required, to support on-going mining and processing operations, including:

- EIA to allow operation of a mobile crushing plant, approved 10 April 2012.
- EIA to allow waste dump capacity expansion, oxide capacity expansion to 23,500 tpd and a SART plant, approved 17 May 2012.
- EIA to allow the sulfide plant and heap leach area expansion, approved 24 December 2014.
- EIA to allow the Çakmaktepe satellite pits expansion, approved 26 January 2017.
- EIA to allow a Çakmaktepe capacity increase, approved 9 August 2018.
- EIA to allow a second capacity expansion at Çöpler, including heap leach pads 5 and 6, TSF expansion, and operation of a flotation plant, approved 7 October 2021.

In addition, pending EIA processes include:

- EIA to allow second capacity increase on the Çakmaktepe EIA to include initial mining from Ardich in the EIA project description file. The EIA project description file was submitted in October 2020 and a Public Hearing was held in November 2020. All public institutions gave positive feedback regarding the report and the approval process is ongoing with the MoEUCC.

Following the EIA positive decisions, additional licences and permits were required to be issued by government agencies consistent with the Turkish governing laws and regulations. These include land access permits (pasture and forestry), operational environmental licences and permits, and workplace opening and operating permits, licences, and certificates.

1.17 Capital and Operating Costs

Capital and operating cost estimates have been developed based on the current project costs, the mine and process designs, and discussions with potential suppliers and contractors. The sulfide growth costs include the capital cost for the flotation circuit. The estimated capital costs are to a feasibility level of accuracy and include a contingency of 10%.

1.18 Capital Costs

Capital costs have been split into growth and sustaining costs. The sustaining costs also include the reclamation costs for closure.

Growth capital costs in the Reserve Case includes costs for:

- Ardich establishment and mine development
- Heap leach phases 5 and 6

- Road relocation, studies, and project management
- Explosives magazine relocation

Sustaining capital in the Reserve Case includes costs for:

- TSF expansion
- Project team
- Technical services
- Administration
- Assay laboratory
- Mining
- IT
- Sulfide and oxide processing
- Environment
- Mineral / lands rights
- Health and safety
- Security
- Supply chain
- Reclamation

The CDMP21TRS Reserve Case capital costs in 2022 for heap leach is $7.8M and for POX is $28.53M. Total capital over the life-of-mine (LOM) including reclamation and closure is $626M.

1.19 Operating Costs

Operating costs were estimated based on current site cost performance and contract costs, including actual operational costs for labour, consumables, contracts, and the Anagold budget assumptions. Operating costs have a base date of Q4'21 with no allowance for escalation. LOM average operating costs are shown in Table 1.7.

Table 1.7 Summary of LOM Average Operating Costs

Cost	Total LOM ($M)	5-Year Average per year ($/t ore)	LOM Average per year ($/t ore)
Mining	766	14.98	10.15
Process	2,225	27.79	29.49
Site Support and G&A	473	7.14	6.27
Operating Costs	3,464	49.91	45.91

Mining costs include waste stripping costs

1.20 CDMP21TRS Reserve Case

The Reserve Case production includes 22.6 Mt at 1.69 g/t Au oxide ore processed by heap leaching and 52.9 Mt at 2.33 g/t Au processed in the sulfide plant. Total production is 75.4 Mt at 2.14 g/t Au. Total gold production is 4.4 Moz. Mining at the Çöpler pit is completed in 2029 and at Ardich in 2034. Oxide heap leach stacking is completed in in 2034, while sulfide processing will continue from stockpiles until 2042.

The Reserve Case results include:

- After-tax NPV at a 5% real discount rate is $1.73 billion.
- Mine life of 21 years.

An IRR is not reported as the operation is cash positive in each year of the mine plan until closure. The Reserve Case average all-in sustaining cost (AISC) is $966/oz gold. Key results of the Reserve Case economic analysis are shown in Table 1.8.

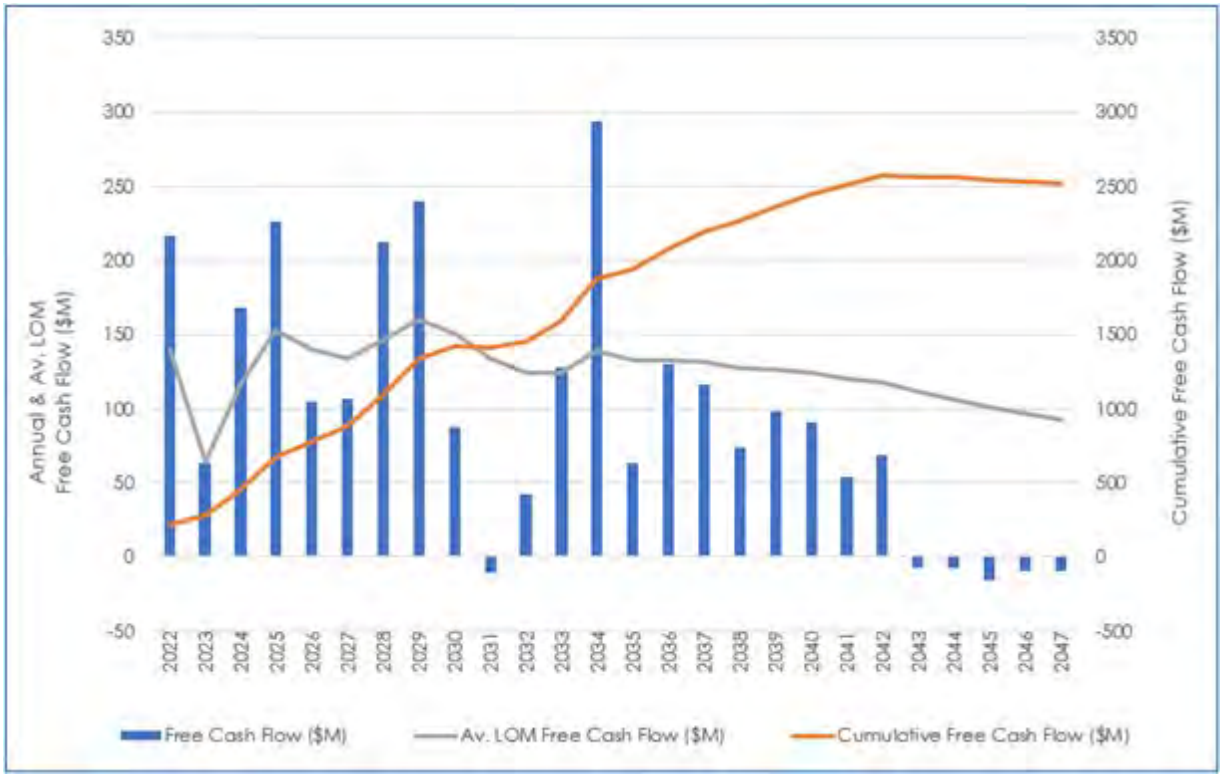
Table 1.8 CDMP21TRS Reserve Case Results Summary

Item	Unit	Reserve Case
Oxide Processed		
Heap Leach Quantity	kt	22,557
Au Feed Grade	g/t	1.69
Sulfide Processed		
Quantity Milled	kt	52,892
Au Feed Grade	g/t	2.33
Total Processed		
Processed	kt	75,448
Gold Feed Grade	g/t	2.14
Total Gold Produced		
Oxide – Gold	koz	765
Sulfide – Gold	koz	3,604
Total – Gold	koz	4,369
Oxide – Gold Recovery	%	61
Sulfide – Gold Recovery	%	91
5-Year Annual Average		
Average Gold Produced	kozpa	278
Free Cash Flow	$Mpa	158
Total Cash Costs (CC)	$/oz gold	880
All-in Sustaining Costs (AISC)	$/oz gold	1,071
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz gold	803
LOM All-in Sustaining Costs (AISC)	$/oz gold	966
Site Operating Costs	$/t treated	45.91
After-Tax NPV5%	$M	1,732
Mine Life	years	21

5-Year Annual Average is for the period 1 January 2021 through 31 December 2026

The after-tax cash flow is shown in Figure 1.9. The NPV results for before and after-tax over a range of discount rates is shown in Table 1.9. The sulfide and oxide production profiles are shown in Figure 1.10 and gold production in Figure 1.11. Cash costs are shown in Table 1.10.

Figure 1.9 Reserve Case After-Tax Cash Flow

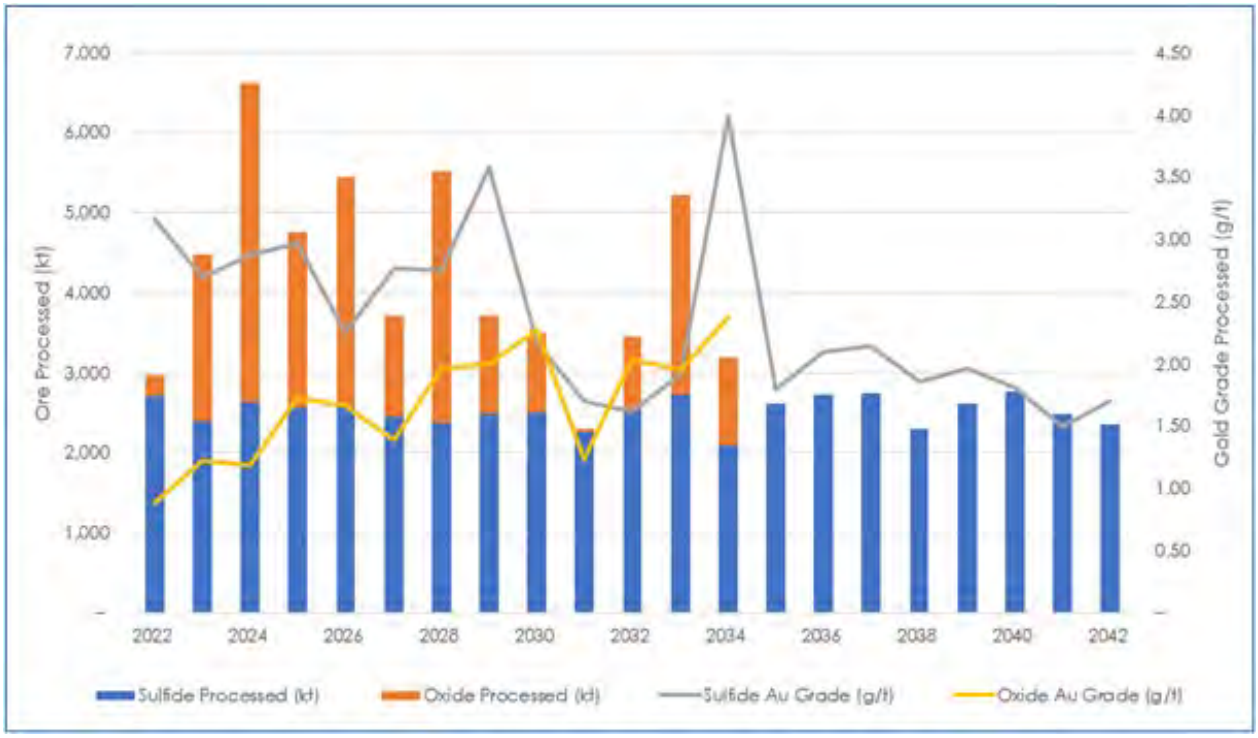


OreWin, 2022

Table 1.9 CDMP21TRS Reserve Case Before and After-Tax NPV

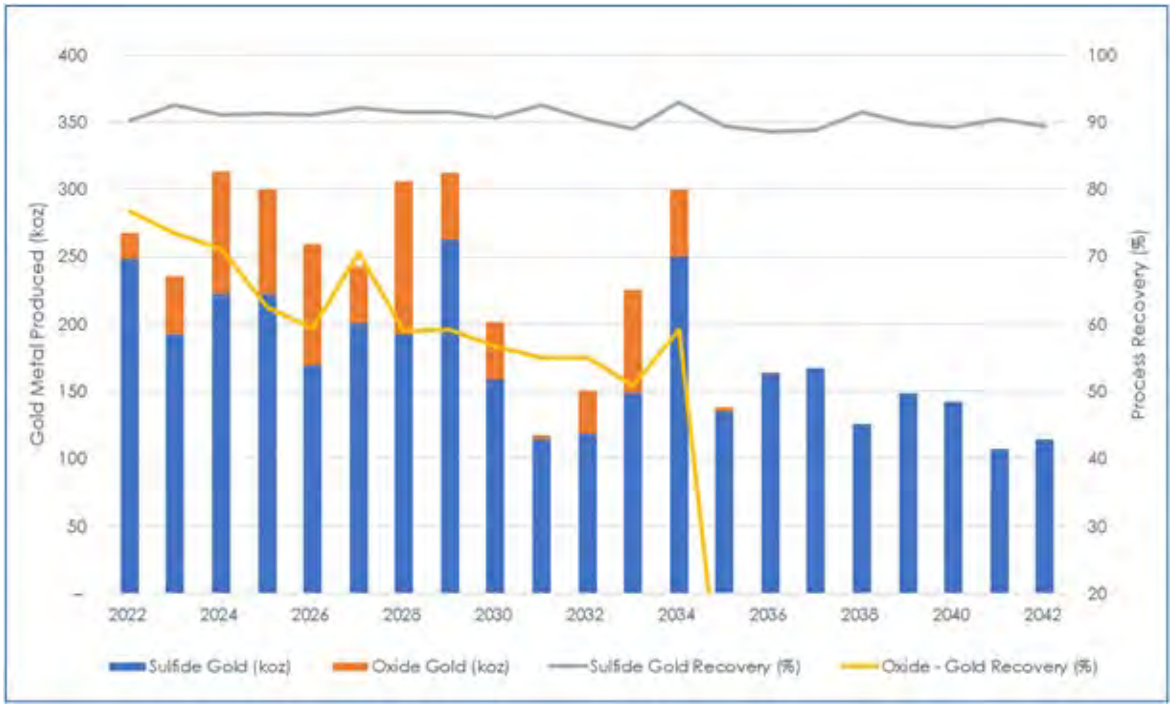
Discount Rate	Before-Tax NPV ($M)	After-Tax NPV ($M)
Undiscounted	2,729	2,555
5%	1,824	1,732
10%	1,322	1,268
12%	1,185	1,140

Figure 1.10 Reserve Case Processing



OreWin, 2022

Figure 1.11 Reserve Case Gold Production



OreWin, 2022

Table 1.10 CDMP21TRS Reserve Case Cash Costs

Description	Units	Reserve Case
Mining and Rehandle	$M	766
Process, Freight, and Refining	$M	2,031
Site Support	$M	393
Royalties	$M	353
Total Production Costs	$M	3,543
Total Cash Costs (CC)	$/oz gold	803
Sustaining Capital	$M	442
Fixed Lease Payments	$M	192
Site G&A	$M	81
Total All-in Sustaining Costs	$M	4,257
All-in Sustaining Costs	$/oz gold	966

Process, Freight, and Refining includes by-product credits and excludes fixed lease costs.
Royalties are calculated in the period incurred and applied to cash flow in the subsequent year.

A financial model was prepared using the Reserve Case production schedule and operating and capital assumptions on an annual basis. The assumptions for taxes and royalties were provided by Anagold. The corporate tax rate in Turkey is 23% in 2022 but will revert to 20% from 2023. The royalty rate for precious metals under Turkish Mining Law is variable and tied to metal prices. As Çöpler ores are processed on-site, the applicable royalty rate is subject to a further 40% reduction for certain qualifying operating costs. The average royalty calculated as a proportion of gross revenue in the Reserve Case is approximately 4.9%.

Metal prices were estimated after analysis of consensus industry metal price forecasts and metal prices used in other comparable studies. The metal prices used for the economic analysis are shown in Table 1.11.

Table 1.11 CDMP21TRS Economic Analysis Metal Price Assumptions

Metal Price	Units	2022	2023	2024	2025	Long- Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Copper	$/lb	4.00	3.80	3.80	3.80	3.40

The estimates of cash flows have been prepared on a real basis with a base date of Q4'21 and a mid-year discounting is used to calculate NPV. All monetary figures have a base date of Q4'21 with no allowance for escalation and are expressed in US dollars (US$) unless otherwise stated.

1.21 Çöpler Initial Assessment Case

To support the 2021 Çöpler Mineral Resource estimate an Initial Assessment has been prepared to analyse the impact of changes in processing method for the Çöpler Mineral Resource. The project currently has two processing methods:

- Sulfide process plant
- Heap leach oxide processing facility

The sulfide plant includes the crushing, grinding, flotation and pressure oxidation to produce gold and small amounts of silver. The heap leach facility produces gold and small amounts of silver and copper.

The scenario for the Initial Assessment Case analysis includes additional processing options to recover copper from the sulfide Mineral Resource. The two processing options are:

- Copper Concentrator producing a copper concentrate and a pyrite concentrate.
- Sodium Hydrosulfide (NaSH) copper recovery circuit to be installed in the current sulfide plant.

The copper concentrator would make a copper concentrate for sale to smelters and a pyrite concentrate to be fed into the autoclaves in the sulfide plant. The pyrite concentrate would have a high gold content and also provide sulfur as a source of fuel for the autoclaves. The copper concentrator capacity is 1.8 Mtpa.

The Çöpler Mineral Resource has been selected for the Initial Assessment analysis, as the other Mineral Resources at the project do not have significant amounts of copper.

Implementation of the copper recovery options will require capital expenditures and will also provide opportunities for operational cost and productivity improvements. The Çöpler Copper Case shows the results of a shorter term analysis using the Reserve Case metal prices and the impact of the estimated capital and potential cost savings from economies of scale and reallocation of shared and fixed costs.

For the Initial Assessment economic analysis, the Ardich and Çakmaktepe Mineral Reserve has been included in the cash flow analysis without change from the Reserve Case. This is to allow the analysis to quantify the impact of the copper concentrator and NaSH circuit and demonstrate the potential of the additional Mineral Resources.

A separate analysis of the Initial Assessment Case was prepared using only Measured and Indicated Mineral Resources (MI Case). Comparison of the initial years of the Initial Assessment and the MI Case showed only 1.4% of the material processed in the first nine years of the Initial Assessment is Inferred Mineral Resource. Most of the Inferred material is processed in years 10 to 20 and does not exceed 50% of the total processing in any one year.

The Initial Assessment Case production is oxide of 41.8 Mt at 1.26 g/t Au, 59.7 Mt at 2.45 g/t Au of sulfide, and an additional 24.9 Mt at 0.50 g/t Au and 0.20% Cu amenable to concentrator treatment for a total of 126.4 Mt at 1.67 g/t Au. The gold production in the Initial Assessment Case is 5.4 Moz and 164 Mlb of copper. Copper is produced from all three processing streams. The impact of including the copper concentrator as a processing facility is to expand the Çöpler pit, which ceases mining in 2043. Additional production in the Initial Assessment Case comes from feed of 1.8 Mtpa to the copper concentrator and from additional sulfide and oxide processing feed that is exposed when the pit gets deeper. Total capital including contingency of 25% for the copper concentrator and the copper recovery circuit in the sulfide plant is $218M. The capital costs have an accuracy of ±50%.

The Initial Assessment Case results include:

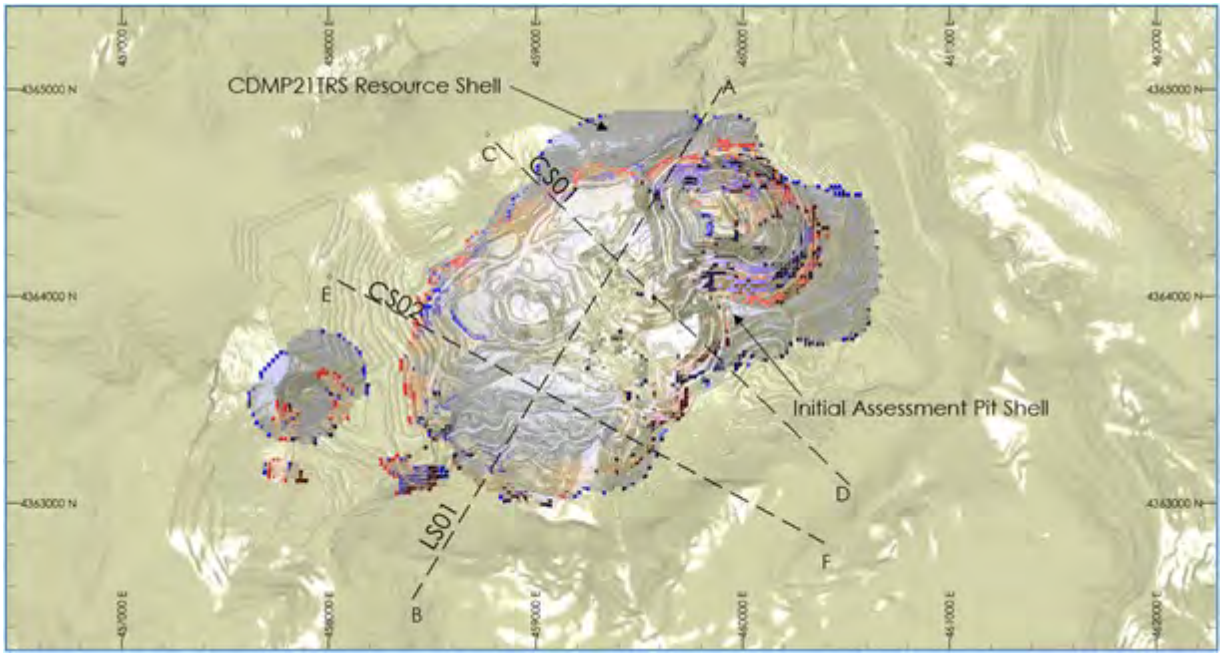
- After-tax NPV at a 5% discount rate of $2.00 billion.
- Mine life of 22 years.

The initial Assessment Case shows an average AISC of $924/oz gold.

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

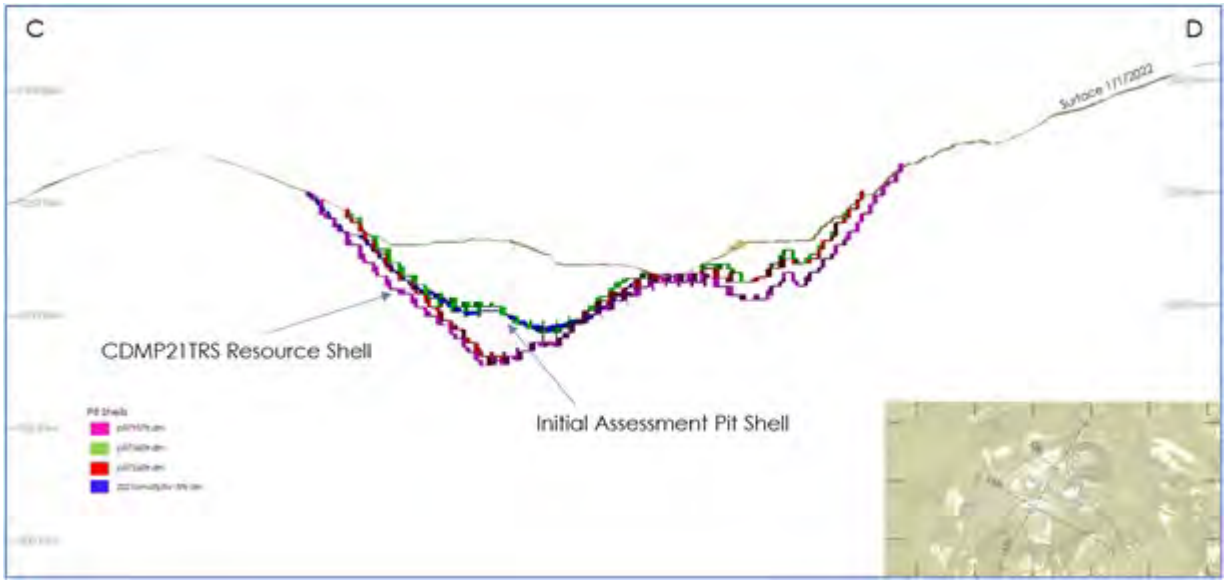
A plan and section showing the Initial Assessment pit shell and the Reserve Case pit design are shown in Figure 1.12 and Figure 1.12.

Figure 1.12 Çöpler Plan Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design



OreWin, 2022

Figure 1.13 Çöpler Long-section Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design



OreWin, 2022

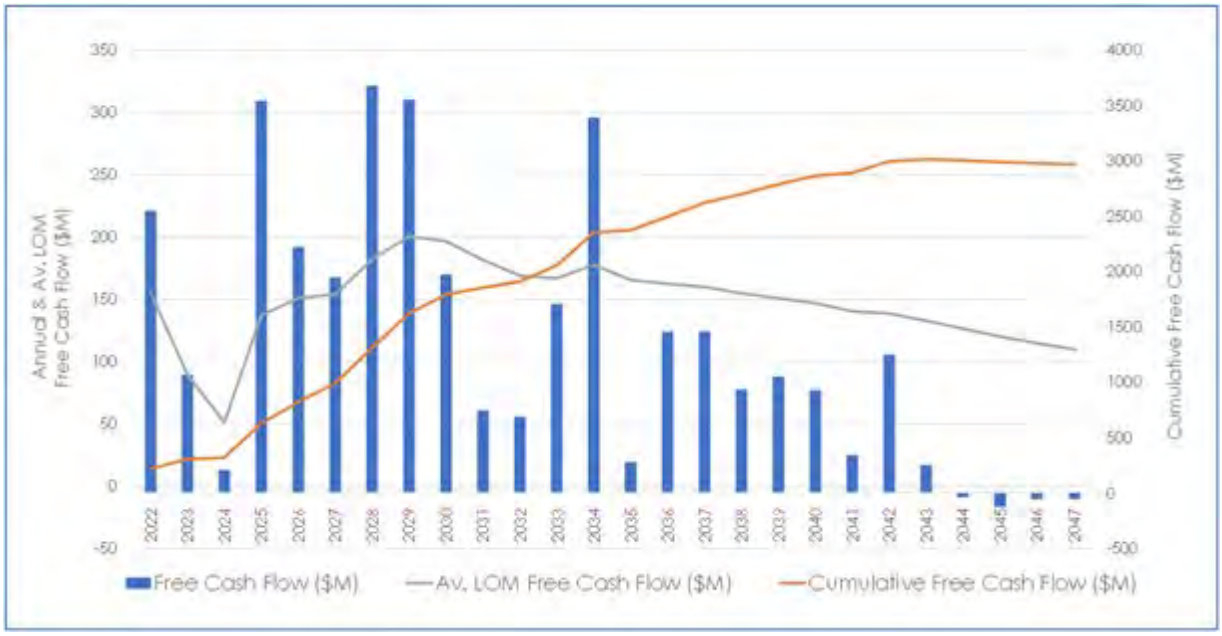
Key results of the Initial Assessment Case economic analysis are shown in Table 1.12. The after-tax cash flow is shown in Figure 1.14. The sulfide and oxide production profiles are shown in Figure 1.15 and Figure 1.16 respectively. The NPV results for before and after-tax over a range of discount rates is shown in Table 1.13. Gold unit costs are shown in Table 1.12.

Table 1.12 Initial Assessment Case Results Summary

Item	Unit	Initial Assessment Case
Oxide Processed		
Heap Leach Quantity	kt	41,792
Au Feed Grade	g/t	1.26
Sulfide Processed		
Quantity Milled	kt	59,654
Au Feed Grade	g/t	2.45
Cu Concentrator Processed		
Quantity Milled	kt	24,939
Au Feed Grade	g/t	0.50
Cu Feed Grade	%	0.20
Total Gold Produced		
Oxide – Gold	koz	1,068
Sulfide – Gold	koz	4,078
Cu Concentrator – Gold	koz	222
Total – Gold	koz	5,368
Total Copper Production	Mlb	164
5-Year Annual Average		
Average Gold Produced	kozpa	300
Free Cash Flow	$Mpa	165
Total Cash Costs (CC)	$/oz gold	761
All-in Sustaining Costs (AISC)	$/oz gold	938
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz gold	783
LOM All-in Sustaining Costs (AISC)	$/oz gold	924
Site Operating Costs	$/t treated	43.79
After-Tax NPV5%	$M	2,004
Mine Life	years	22

5-Year annual average is for the period 1 January 2022 through 31 December 2026

Figure 1.14 Initial Assessment Case After-Tax Cash Flow

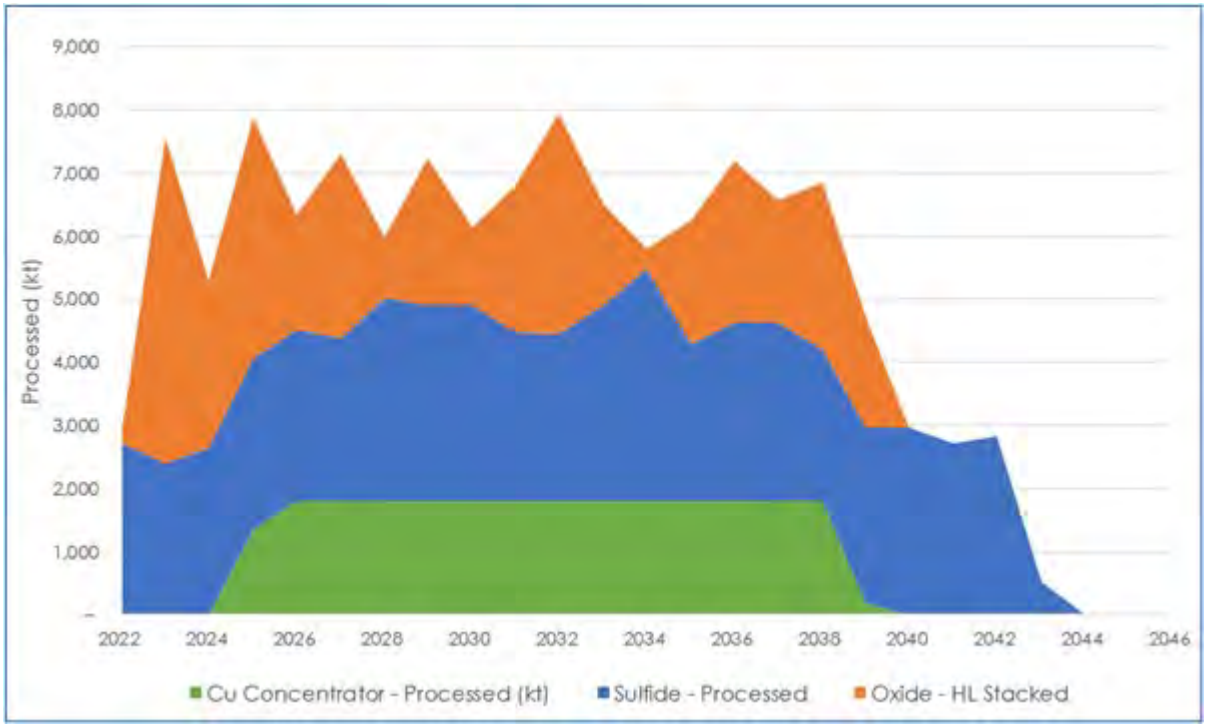


OreWin, 2022

Table 1.13 CDMP21TRS Initial Assessment Case Before and After-Tax NPV

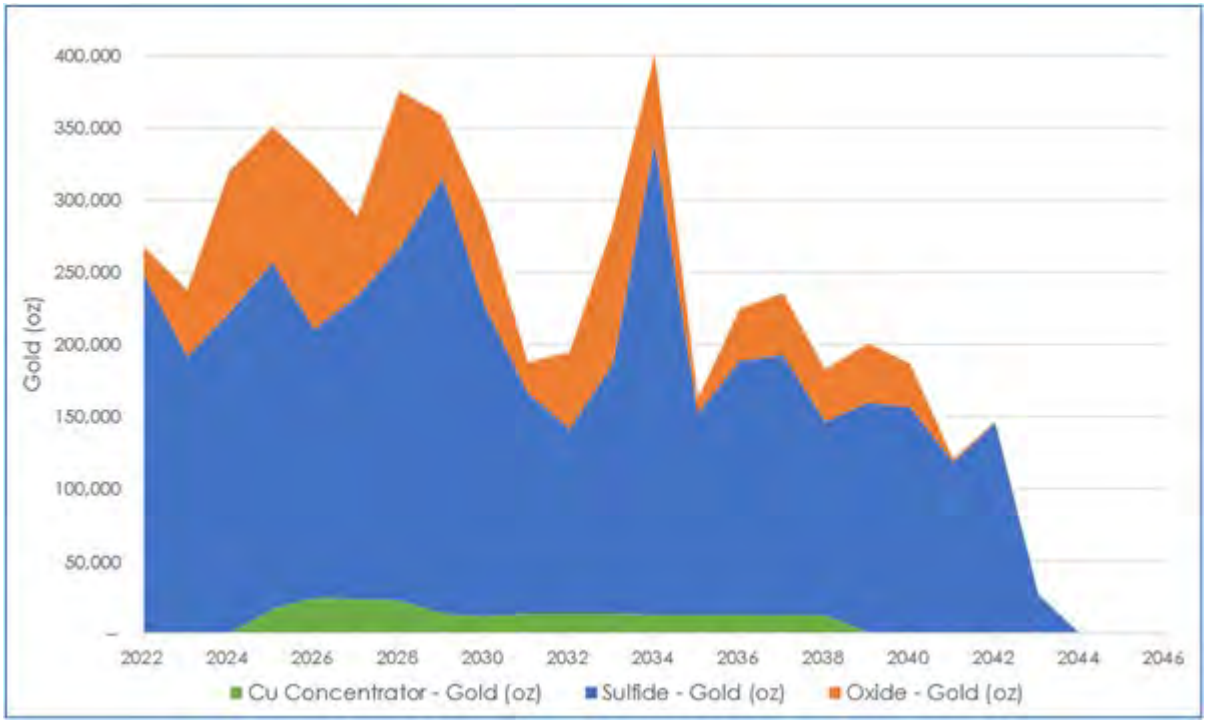
Discount Rate	Before-Tax NPV ($M)	After-Tax NPV ($M)
Undiscounted	3,301	2,958
5%	2,194	2,004
10%	1,571	1,457
12%	1,398	1,304

Figure 1.15 Initial Assessment Case Processing



OreWin, 2022

Figure 1.16 Initial Assessment Case Gold Production



OreWin, 2022

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

Costs, taxation, and royalties used in the Initial Assessment Case were the same as in the Reserve Case. The metal prices used for the economic analysis are shown in Table 1.11.

The estimates of cash flows have been prepared on a real basis with a base date of Q4'21 and a mid-year discounting is used to calculate NPV.

1.22 Interpretation and Conclusions

The CDMP21TRS has identified additional Mineral Resources and additional Mineral Reserves when compared to prior studies.

The Initial Assessment Case has demonstrated that there is significant economic potential that may be derived from the copper in the Çöpler Mineral Resource. Given this economic potential it is then concluded that it is valid to report the Mineral Resources using the Mineral Resource metal prices and the Resource pit shell.

Further study and analysis will be required to advance the understanding of this potential.

1.23 Recommendations

Key recommendations from the CDMP21TRS are:

- Continue to update and evaluate the Çöpler District Master Plan as the existing Mineral Resources and Mineral Reserves are updated and as new prospects are advanced.
- Undertake infill drilling at Çöpler and update the copper Mineral Resource estimate.
- Prepare further studies of the copper recovery options.
- Conduct Geotechnical reviews and re-evaluation of updated pit designs.
- Optimisation of the sulfide flotation circuit, POX, and process operation.
- Metallurgical testwork on future oxide, sulfide, and copper ore sources.
- Optimisation of the oxide heap leach circuit.
- Optimisation of the mining rates to increase gold production.
- Stockpile reconciliation and management studies.
- Review and adapt ore control and stockpiling strategies to optimise recovery and throughput and maximise gold production.
- Reconcile monthly blend and gold production with predictive modelling.
- Continue exploration drilling at Ardich.
- Conduct geotechnical studies of Ardich.
- Conduct reconciliation studies of Çöpler.
- Update Çöpler and Ardich resource models and estimates.

- Further study of Initial Assessment Case and advance to next stage of study:
  - Geotechnical studies
  - EIA and permitting
  - Blasting studies
  - Metallurgical studies

2 INTRODUCTION

2.1 SSR Mining Inc.

The Çöpler project is owned and operated by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi (Anagold). SSR controls 80% of the shares of Anagold, Lidya Madencilik Sanayi ve Ticaret A.Ş. (Lidya), controls 18.5%, and a bank wholly-owned by Çalık Holdings A.Ş., holds the remaining 1.5%.

Exploration tenures surrounding the project area and mining at Çakmaktepe are subject to joint venture agreements between SSR and Lidya that have varying interest proportions. SSR controls 50% of the shares of Kartaltepe Madencilik Sanayi ve Ticaret Anonim Şirketi (Kartaltepe) and 30% of Tunçpinar Madencilik Sanayi ve Ticaret Anonim Şirketi (Tunçpinar). Lidya holds the remaining 50% of Kartaltepe and 70% of the Tunçpınar. Ownership percentages of the Mineral Resources are shown in Table 1.4 and of the Mineral Reserves in Table 1.6.

In most cases, the parent company will be referred to as SSR throughout this Technical Report Summary even though it may have been Alacer or Anatolia at the time referenced in the report. Anagold remains the operating company for the Çöpler project and is the entity that undertakes the day-to-day work for the project.

2.2 Terms of Reference and Purpose of the Report

The CDMP21TRS is an Independent Technical Report Summary (TRS) on the Çöpler project, prepared for SSR as part of the strategy for expansion of the Çöpler project. The CDMP21TRS was prepared by OreWin, working with SSR, Anagold, and their consultants.

The primary source of data for the CDMP21TRS is the Çöpler District Master Plan 2021.

This Report uses metric measurements except where otherwise noted. The currency used is US dollars ($) unless otherwise stated.

2.3 Qualified Persons

The following people served as the Qualified Persons (QPs) as defined in subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300):

- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director – Mining, was responsible for the overall preparation of the CDMP21TRS and, the Mineral Reserve estimates, Sections 1 to 4; Sections 5 and 6; Section 13; Sections 15 to 27.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director – Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 4; Section 7 to 12; Section 14; Sections 25 to 27.

2.4 Site Visits and Scope of Personal Inspection

Site visits were performed as follows:

- Mr Bernard Peters visited the project 13–17 May 2019, 15–21 September 2019, 14–18 October 2019, 18–21 November 2019, and 27 February to 4 March 2020. The site visits included briefings from geology and exploration, mine, processing, environmental, permitting, and corporate personnel, site inspections of current and future areas for mining and plant and infrastructure, and discussions with other consultants. In addition, several visits to SSR's head office in Denver Colorado were undertaken during the same timeframe for the purpose of project-related meetings.

- Sharron Sylvester visited the project 13–17 May 2019, 15–21 September 2019, 14–18 October 2019, 18–21 November 2019, and 27 February to 4 March 2020. The site visits included briefings from geology and exploration, mine, processing, environmental, permitting, and corporate personnel, site inspections of current and future areas for mining and plant and infrastructure, and discussions with other consultants. In addition, several visits to SSR's head office in Denver, Colorado were undertaken during the same timeframe for the purpose of project-related meetings. Visits to analytical laboratories were planned to be undertaken but not completed due to global travel restrictions related to Covid-19.

2.5 Effective Dates

The report has several effective dates, as follows:

- Effective date of the Report: 31 December 2021.
- Date of drillhole database close-out for the Çöpler Mineral Resource estimate: 15 July 2015.
- Date of drillhole database close-out for the Çakmaktepe Mineral Resource estimate: 31 October 2019.
- Date of drillhole database close-out for the Ardich Mineral Resource estimate: 29 May 2021.
- Effective date of Mineral Resources: 31 December 2021.
- Effective date of Mineral Reserves: 31 December 2021.

2.6 Information Sources and References

The reports and documents listed in Section 5.1 (Previous Technical Reports), Section 25 (Reliance on Information Provided by the Registrant), and Section 24 (References) of this report were used to support the preparation of the report. Additional information was sought from SSR and Anagold personnel where required.

3 PROPERTY DESCRIPTION

3.1 Location

The CDMP21TRS is an independent Technical Report Summary, in accordance with S-K 1300, prepared for SSR on the Çöpler project (the project), located in Turkey. The project consists of several mining licences covering Mineral Resources on the Çöpler, Çakmaktepe, Ardich, and Bayramdere deposits, Mineral Reserves on the Çöpler and Çakmaktepe open pit mines, oxide and sulfide processing facilities, and supporting infrastructure.

The Çöpler project is in east central Turkey, 120 km west of the city of Erzincan, in Erzincan Province, 40 km east of the iron-mining city of Divriği (one-hour drive), and 550 km east of Turkey's capital city, Ankara. The nearest urban centre, Iliç, (approximate population 3,800), is located approximately 6 km east of the current Çöpler pit. Figure 3.1 illustrates the location of the project within the country of Turkey and indicates the deposit's proximity to surrounding communities.

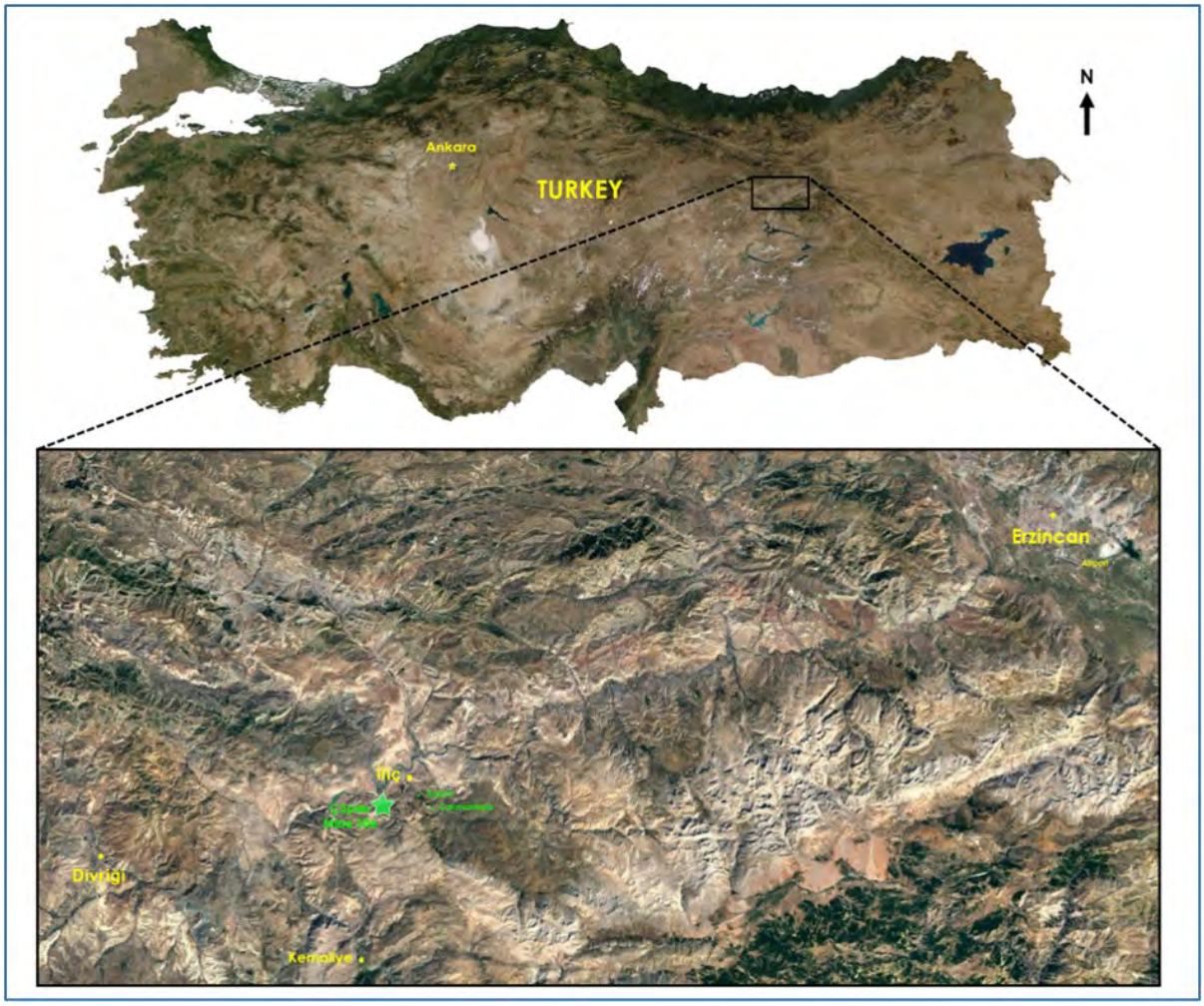
The Çöpler project uses the European 1950 (E1950) datum coordinate system, which is a Turkish Government requirement. The Çöpler deposit is in UTM6 zone 37N of the E1950 coordinate system. The Çöpler project centroid is situated at approximately 459,975 mE and 4,364,420 mN and has an approximate elevation of 1,160 m above mean sea level (mamsl).

The Çöpler mining operations are located 900 m south-west of the Iliç-district centre, 650 m south of the Bahçe neighbourhood, 250 m south of the Çöpler village, and 180 m north of the Sabırlı village. The project site lies within the licence areas numbered 847, 49729, and 20067313 (Figure 3.2), which have been granted by the General Directorate of Mining and Petroleum Affairs (MAPEG).

The Çakmaktepe satellite mining operation is located 6 km east of the current Çöpler pit and 1.5 km south of Iliç. The Çakmaktepe pits are located within Kartaltepe Licence 1054. Ore mined at Çakmaktepe is hauled and treated at the Çöpler facilities.

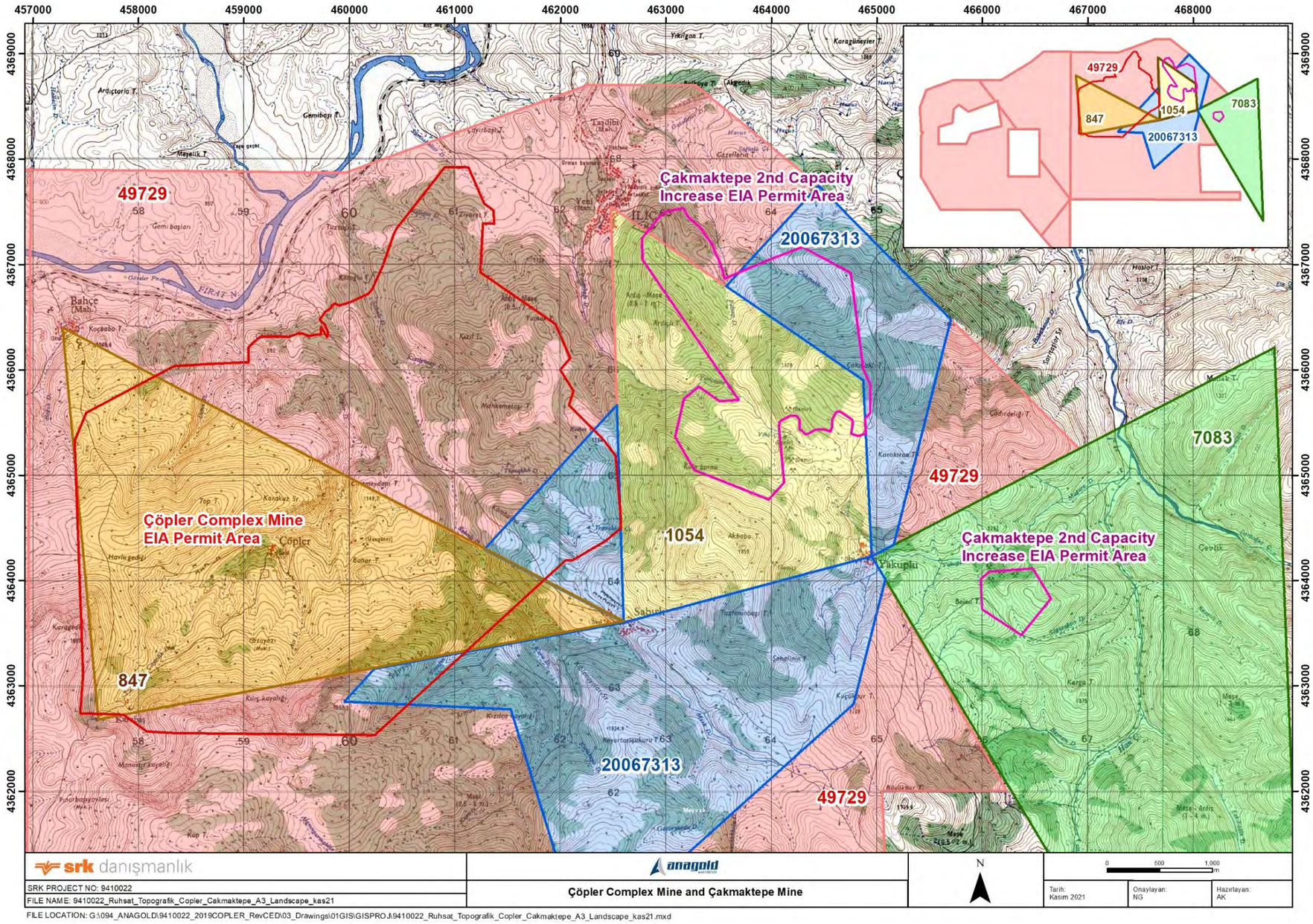
The Çöpler operation's currently permitted Environmental Impact Assessment (EIA) boundary incorporates 1,747 ha, whereas the footprint of the mine units covers a combined 1,089 ha. The currently permitted Çakmaktepe EIA boundary incorporates 290 ha. Pending approval, Çakmaktepe EIA boundary will increase to 360 ha with the second capacity increase.

Figure 3.1 Location of the Project



Anagold, 2020

Figure 3.2 Çöpler Project Licence and Surrounding Licences (UTM Grid)

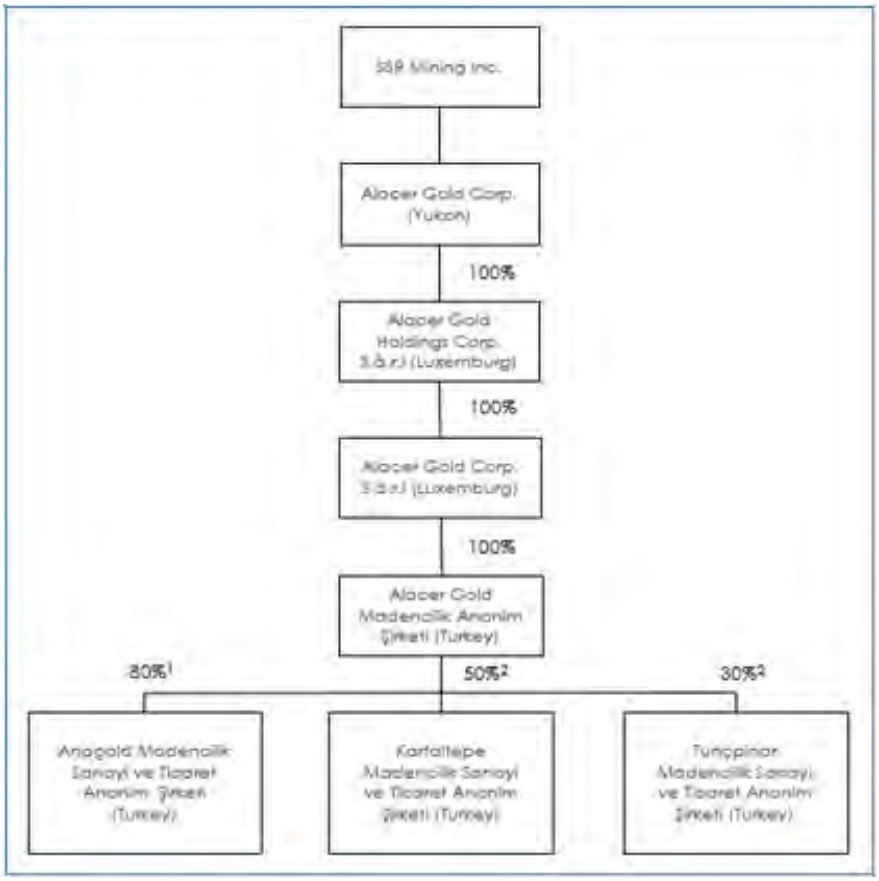


Anagold, 2020

1.2 Ownership

SSR controls the Çöpler project through a series of companies that own the licence areas. The company structure that links SSR to the Çöpler project is shown in Figure 3.3.

Figure 3.3 Ownership



1 Lidya holds 18.5% of this entity and Bank Kombetare Tregtare SHA, a bank wholly-owned by Çalık Holdings A.Ş., holds the remaining 1.5%.
2 Lidya holds the remaining 50% of Kartaltepe and 70% of the Tunçpınar.

The Çöpler project is owned and operated by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi (Anagold). SSR controls 80% of the shares of Anagold, Lidya Madencilik Sanayi ve Ticaret A.Ş. (Lidya), controls 18.5%, and a bank wholly-owned by Çalık Holdings A.Ş., holds the remaining 1.5%.

Exploration tenures surrounding the project area and mining at Çakmaktepe are subject to joint venture agreements between SSR and Lidya that have varying interest proportions. SSR controls 50% of the shares of Kartaltepe Madencilik Sanayi ve Ticaret Anonim Şirketi (Kartaltepe) and 30% of Tunçpinar Madencilik Sanayi ve Ticaret Anonim Şirketi (Tunçpinar). Lidya holds the remaining 50% of Kartaltepe and 70% of the Tunçpınar.

Ownership percentages of the Mineral Resource are shown in Table 1.4 and of the Mineral Reserves in Table 1.6.

The license that hosts the Çöpler deposit, including the Mineral Resources and Mineral Reserves, is wholly-owned by Anagold. Çakmaktepe is wholly-owned by Kartaltepe. Ardich, Mavialtin, Bayramdere, Aslantepe, and Findiklidere have areas owned by both Anagold and Kartaltepe.

The Initial Assessment Case has only analysed Mineral Resources located on the Anagold licence.

1.3 Mineral Tenure

Anagold holds the exclusive right to engage in mining activities within the Çöpler project area. Anagold holds six granted licences (Table 3.1) covering a combined area of approximately 16,600 ha. Mineral title is held in the name of Anagold. Kartaltepe holds eight licences covering approximately 9,200 ha. The total near-mine tenement package is approximately 25,800 ha. Anagold currently holds sufficient surface rights to allow continued operation of the mining operation in the Reserve Case. The major licence boundaries are shown in Figure 3.4.

The granted licences include two clay borrow pit licences, numbered 76817 and 76818.

The Çöpler mine and associated infrastructure are hosted within the triangular-shaped concession 847. Anagold has received approval from the Mining Affairs Committee to grant extensions to the three Anagold licences that had expired (76817, 76818, and 50237). Licenses 76817 and 76818 have been extended to 15 July 2029 and Licence 50237 has been extended until 21 March 2028.

Anagold has confirmed that charges and administrative expenses due to the Turkish Ministry of Energy and Natural Resources, Directorate General of Mining and Petroleum Affairs (MAPEG) have been paid, and all Anagold licences were in good standing as of 31 December 2021.

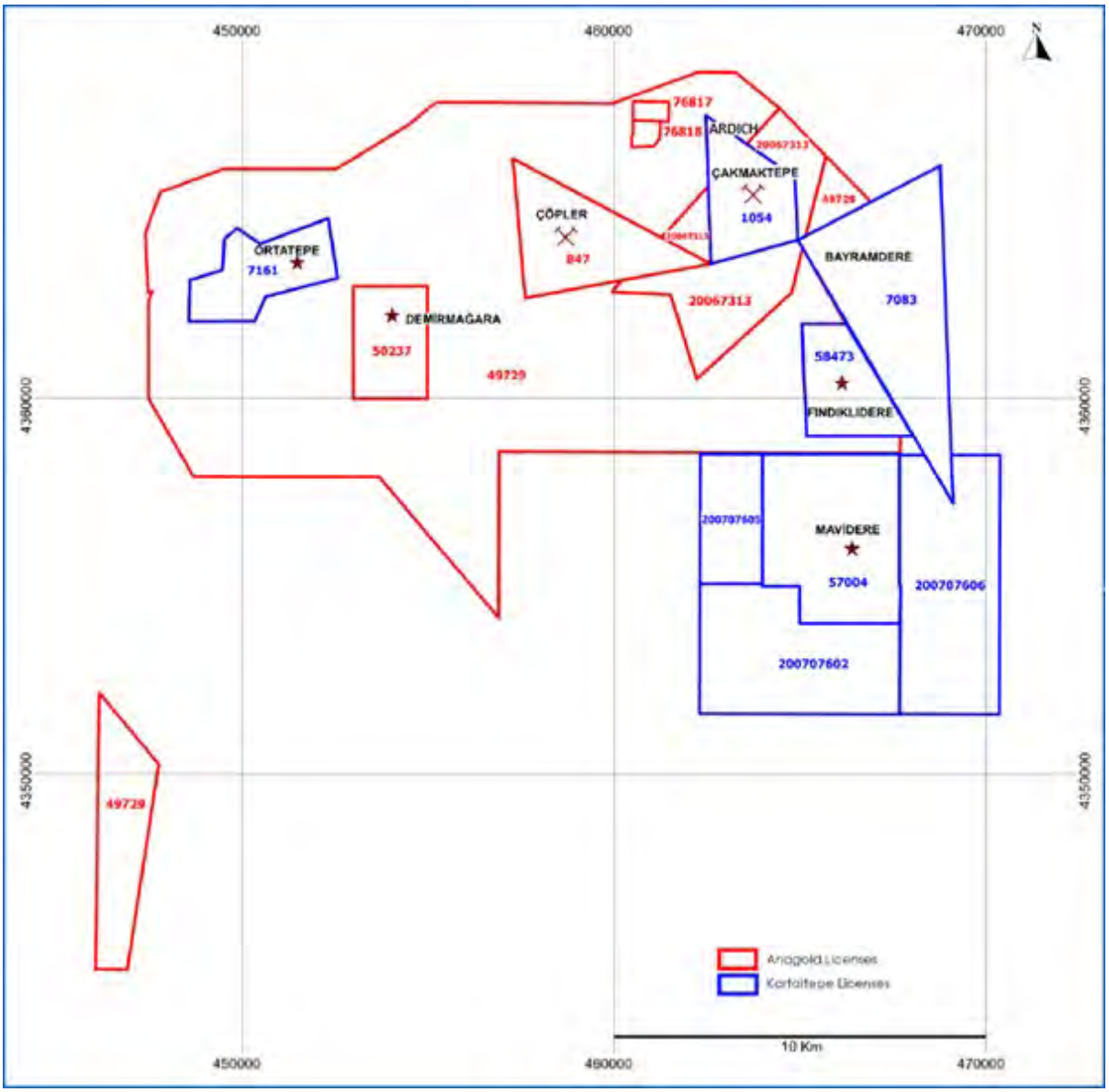
The mined Çakmaktepe pits are all on Kartaltepe Licence 1054. Bayramdere prospect is on Kartaltepe Licence 7083.

The three expired Kartaltepe licences (200707602, 200707605, and 200707606) were combined, and an operation project was prepared and submitted to receive an operation licence. The process continues. Kartaltepe maintains ownership of these licences during this process.

Table 3.1 Granted Licences and Operating Permits

Province	Town	Village	Registration No.	Licence No.	Licence Area (ha)	Licence Type	Licence Group	Operation Permit	Operation Permit Area (ha)	Licence Issue Date	Licence Expiry Date	Licensee	Project
Erzincan	İliç	Çöpler	1027313	847	941.92	Operation	IV (Metallic)	Au+Ag+Cu+Hg Mn	Au+Ag+Cu+Hg: 941.92 Mn: 941.92	6/11/1986	6/11/2026	Anagold	Çöpler-Çöpler Saddle
Erzincan	İliç	Çöpler	2384036	49729	13,747.51	Operation	IV (Metallic)	Au+Ag+Cu+Mo	909.50	4/08/2016	4/08/2026	Anagold	Ardich-Çöpler Saddle-Kiziltepe-Meseburnu
Erzincan	İliç	Ortatepe	2386272	50237	600.00	Operation	IV (Metallic)	Au	18.07	21/03/2018	21/03/2028	Anagold	Elmadere-Demirmagara
Erzincan	İliç	Sabırlı	3095732	20067313	1,184.91	Operation	IV (Metallic)	Au+Ag+Cu	216.41	25/10/2021	25/10/2031	Anagold	Çakmaktepe Se-Ardich
Erzincan	İliç	Çöpler	3201587	76817	49.32	Operation	I-B (Brick Tile Clay)	Clay	6.68	15/07/2019	15/07/2029	Anagold	Clay Licence
Erzincan	İliç	Çöpler	3201588	76818	49.09	Operation	I-B (Brick Tile Clay)	Clay	49.09	15/07/2019	15/07/2029	Anagold	Clay Licence
Total (ha)					16,572.75								
Erzincan	Kemaliye	Kabataş	2450158	57004	1,564.69	Operation	IV (Metallic)	Au+Cu	931.87	2/09/2018	2/09/2023	Kartaltepe	Mavidere
Erzincan	Kemaliye		3129489	200707602	1,572.23	Pending Operation	IV (Metallic)	–	–	2/08/2007	2/08/2012	Kartaltepe	Mavidere
Erzincan	Kemaliye		3129490	200707605	577.92	Pending Operation	IV (Metallic)	–	–	2/08/2007	2/08/2012	Kartaltepe	Mavidere
Erzincan	Kemaliye		3129496	200707606	1,818.11	Pending Operation	IV (Metallic)	–	–	2/08/2007	2/08/2012	Kartaltepe	Mavidere
Erzincan	İliç		1032544	58473	606.60	Operation	IV (Metallic)	Fe+Cu	7.54	16/11/2017	16/11/2027	Kartaltepe	Findiklidere
Erzincan	İliç	Yakuplu	1032719	7083	1,756.55	Operation	IV (Metallic)	Au+Ag+Cu+Fe Cr	Au+Ag+Cu+Fe: 175.00 Cr: 607.47	2/04/2011	2/04/2021	Kartaltepe	Bayramdere-Aslantepe-Saridere
Erzincan	İliç	Yakuplu	1027026	1054	660.87	Operation	IV (Metallic)	Au+Ag+Cu+Fe	359.33	30/07/2017	30/07/2027	Kartaltepe	Çakmaktepe
Erzincan	İliç	Ortatepe	2003094	7161	642.68	Operation	IV (Metallic)	Fe	214.65	7/05/2013	7/05/2023	Kartaltepe	Ortatepe
Total (ha)					9,199.65								

Figure 3.4 Tenure Layout Plan



Anagold, 2020

1.4 Surface Rights

Anagold currently holds sufficient surface rights to support the Reserve Case oxide heap leach mining operations and sulfide processing and tailings disposal.

1.5 Taxation

The Turkish government implemented a temporary taxation rate increase from 20% to 22% for the periods of 2018–2020 25% for 2021 and 23% for 2022. From 2023 onwards, the effective tax rate is expected to return to 20%.

The CDMP21TRS economic analysis applies a corporate tax rate of 20%.

For tax purposes, a 20% accelerated depreciation rate is applicable for both the oxide and sulfide capital. The depreciation period is 10-years for general mining equipment, if not specifically defined by the tax office.

Investment incentive certificates are available for investments that promote economic development. Investment incentive certificates can be classified as strategic in specific circumstances and such certificates provide additional incentives. Anagold received a strategic incentive certificate for the sulfide process plant. An investment incentive certificate generates credits that offset corporate income taxes generated by the investment. The amount of investment credits generated from the investment incentive certificate is based on eligible capital expenditures. The investment credits generated by the strategic investment incentive certificate reduce the corporate tax rate to a minimum of 2% in a given tax period until the last quarter of 2023, thereafter it is assumed subsequent non-strategic investment incentive certificates will be available and the minimum rate will be 4%. Incentive tax credits can be carried forward to future tax periods indefinitely until exhaustion. Incentive tax credits and other tax pools are determined in the local currency, Turkish Lira, and subject to devaluation and revaluation as fluctuations against the US dollar occur. The cash flow model is prepared on a constant Turkish Lira basis.

Value-added tax (VAT) in Turkey is levied at 18% and the project is eligible for the Turkish exemptions for mining projects and mining equipment purchases. In the CDMP21TRS assumes the cash flows are not subject to VAT.

Import duties are not included in the capital cost estimate for mining related imported equipment because they are exempted in the incentive certificates.

1.6 Royalties

Under Turkish Mining Law, the royalty rate for precious metals is variable and tied to metal prices. The Çöpler project is subject to a mineral production royalty that is based on a sliding scale to gold price and is payable to the Turkish government. In September 2020 a presidential decree was issued, increasing the prescribed royalty rates by 25%.

Table 3.2 details the relevant prescribed royalty rates along with the revised rates following the September 2020 presidential decree. The royalties are calculated on total revenue with deductions allowed for processing and haulage costs of ore. Revenue from by-products (silver and copper) is included in the total revenue used for royalty calculations.

The royalty rates outlined in Table 3.2 apply to gold production from heap leaching. Royalty rates are reduced by 40% for ore processed in country, as an incentive to process ore locally. As the Çöpler project produces its gold doré on-site, the Çöpler project is eligible for a 40% reduction to the royalty rate for gold produced from POX processing.

Table 3.2 Gold Royalty Rates

Metal Price ($/oz Gold)		Prescribed Royalty Rate	Royalty After 40% In-Country Processing Incentive
From	To	(%)	(%)
0	800	1.25	0.50
800	900	2.50	1.00
900	1,000	3.75	1.50
1,000	1,100	5.00	2.00
1,100	1,200	6.25	2.50
1,200	1,300	7.50	3.00
1,300	1,400	8.75	3.50
1,400	1,500	10.00	4.00
1,500	1,600	11.25	4.50
1,600	1,700	12.50	5.00
1,700	1,800	13.75	5.50
1,800	1,900	15.00	6.00
1,900	2,000	16.25	6.50
2,000	2,100	17.50	7.00
2,100	+	18.75	7.50

The Çöpler project effective life-of-mine (LOM) royalty rate based on the financial model metal price assumptions and applicable deductions is approximately 4.9%.

Other than the royalty payments, there are no other known back-in rights, payments, or other agreements and encumbrances to which the property is subject.

1.7 Environmental Liabilities

There are no known existing environmental liabilities for the Çöpler project, except for Anagold's obligation for ultimate reclamation and closure.

1.8 Permits

The EIA permitting for the Çöpler mine oxide ore was completed in April 2008 with the issuance of an EIA positive certificate. All the necessary operation permits have already been obtained for the oxide inventory. These include:

- explosive storage permit
- permit for water abstraction from groundwater sources
- EIA positive certificate for power transmission line construction
- environmental permits and licences
- land acquisition permits for forest areas and pasturelands
- workplace opening permit
- hazardous workplace permit
- operating permits.

The EIA permitting process for the Sulfide Expansion Project was commenced on 7 April 2014 and completed with the receipt of an 'EIA Positive Statement' on 24 December 2014. In addition to an EIA approval, other permits required for the Sulfide Expansion Project involved an expanded workplace opening permit, additional operating permits, and land acquisition permits for forest areas and pasture lands.

Additional EIA studies conducted, and environmental permits received for the Çöpler mine since the start of the gold mining operations are as follows:

- EIA permit, dated 10 April 2012, for the operation of mobile crushing plant.
- EIA permit, dated 17 May 2012, for the capacity expansion involving:
  - Increasing operation rate to 23,500 tpd.
  - Increasing Çöpler waste rock dump (WRD) footprint area.
  - Adding a sulfidisation, acidification, recovery, and thickening (SART) plant to the process in order to decrease the cyanide consumption due to the high-copper content of the ore.
- EIA permit, dated 24 December 2014, for the capacity expansion involving:
  - Sulfide plant expansion
  - Heap leach area expansion
- EIA permit, dated 26 January 2017, for the Çakmaktepe satellite pits expansion.
- EIA permit, dated 9 August 2018, for the Çakmaktepe expansion for the new defined Central pit.
- EIA permit dated 7 October 2021 for the second capacity expansion involving:
  - Heap leach pads 5 and 6
  - TSF expansion
  - Operation of floatation plant.

4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Accessibility

The Çöpler project is accessed from the main paved highway between Erzincan and Kemaliye, crossing the Karasu River and passing by the village of İliç. From İliç there is an additional 4.5 km of road to reach the Çöpler mine site.

The Ankara to Erzincan railway line, operated by the Turkish State Railway Company, (TCDD), runs parallel to the south bank of the Karasu River and passes within 2 km north of the site at a point between the train stations at İliç and Bağıştaş. The railway line connects the site with Ankara and the west as well as with seaports to the north on the Black Sea, and to the south on the Mediterranean Sea. Overnight passenger sleeper cars are available between Erzincan and Ankara.

The reservoirs of the Bağıştaş I & II hydro-electric power plants (HEPP) are 350 m and 1,800 m away from the Çöpler mine site, respectively. The embankment of Bağıştaş I Dam originally covered a portion of the existing highway, railroad, and railroad station until these were relocated before dam construction was completed. Construction routes for the railroad and highway were located between the new Çöpler village and the Çöpler mine site. The bridge on the north-east side of İliç was relocated to further east of the embankment.

There are regular commercial airline flights from Istanbul and Ankara to the regional cities of Erzincan, Erzurum, Malatya, Elazığ, and Sivas. Driving from the regional cities to the project site takes between two to four-hours on paved highways. Driving from Ankara to the site takes approximately eight-hours.

4.2 Local Resources and Infrastructure

The district of İliç has a population of approximately 3,800 inhabitants and is located approximately 6 km east of the current Çöpler pit. The district has a hospital, schools, municipal offices, a fire station, a police station, and a Gendarmerie post. The primary economic activity in the region is sheep herding for wool, meat, and dairy products. Other agricultural activities include bee keeping for honey production and, some wheat farming along the Karasu River. Additionally, there is some light manufacturing and grain milling performed in İliç.

The workforce for the Anagold exploration programmes has primarily included residents drawn from the local communities of Çöpler, İliç, and Sabırlı.

Turkish telecommunications are up to European standards. High-speed, fibre-optic internet access is in operation at the mine site.

Initially, electrical power at 380 V and 50 Hz, was available in İliç and at the mine site. This was upgraded to support the project by the construction of a 40 km long 154 kV power line from the sub-station at Divriği to the mine site. The power supply was further upgraded when the hydroelectric dam near the mine site was commissioned. Çöpler is now connected to the national grid by a 6 km 154 kV powerline from the Bağıştaş sub-station.

Sufficient local fresh water supply exists to support the mining and processing operations. Ground water resources include seven production wells with a 25,728 m^3/day extraction permit. Further information on project infrastructure is included in Section 15. Section 17.3 contains additional data on the project social setting.

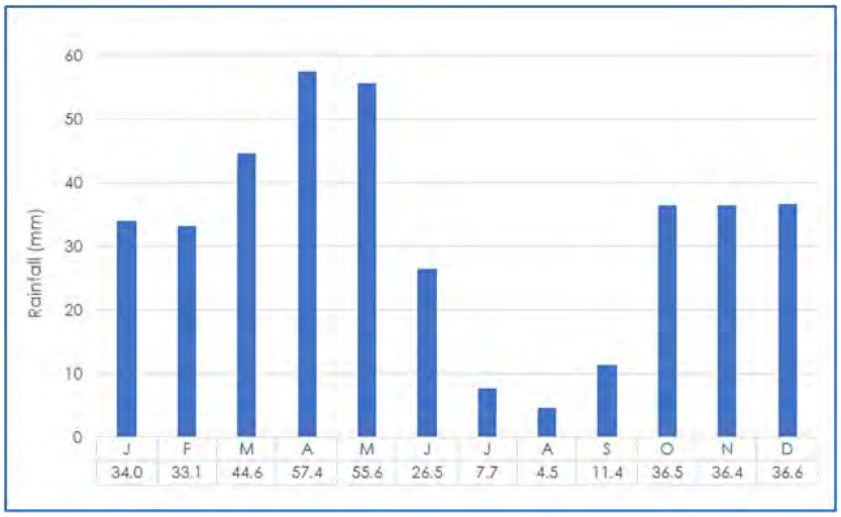
4.3 Climate

Site climate data were developed during previous studies. No additional climate data were generated for the CDMP21TRS.

Mining operations are conducted year-round. The climate is typically continental with cold wet winters and hot dry summers. In winter, the night-time temperature can drop to –25°C although the average is usually a few degrees below freezing. The July temperature frequently exceeds +40°C but the climate is usually pleasantly warm outside of these extremes. The average monthly temperature ranges from +3.7°C for the coldest month of January to +23.9°C for August, the warmest month.

Most precipitation occurs in the winter and spring. Monthly average rainfall values are shown in Figure 4.1. The average annual rainfall for the site is 384.3 mm. Snowfall is common during the period mid-November through February, but with little, if any, accumulation. Snow depth assessments are based on the Divriği meteorological weather station, located 41 km west of the project area, which shows maximum snow-pack depths at approximately 200 mm for 1985.

Figure 4.1 Average Monthly Rainfall for Çöpler Project Area



Anagold, 2016

The frost depth is less than 0.3 m, based on local information, with 0.5 m selected as the design frost depth limit.

The maximum wind speed recorded at the Divriği weather station in 2004 ranges from 15–25 m/s, with variable directions mainly from the north, south, and east.

4.4 Hydrogeology

SRK compiled and updated the project conceptual hydrogeological model with new geological data, established a new numerical model and used it to evaluate the hydrogeology of the project area.

4.4.1 Existing Data Evaluation, Field Investigation, and Hydrogeology Conceptual Model

Within the regional hydrology area, lithological units are defined in three main classes according to their underground water transport and transmission properties. These units are:

- Impervious units.
- Low permeate units: such units contain some thin layers that are more permeable than other layers with small extensions and provide water through sources with a flow rate of less than 1 L/s.
- Conductive units and very permeable units: Munzur Formation limestone and Quaternary alluvium units.

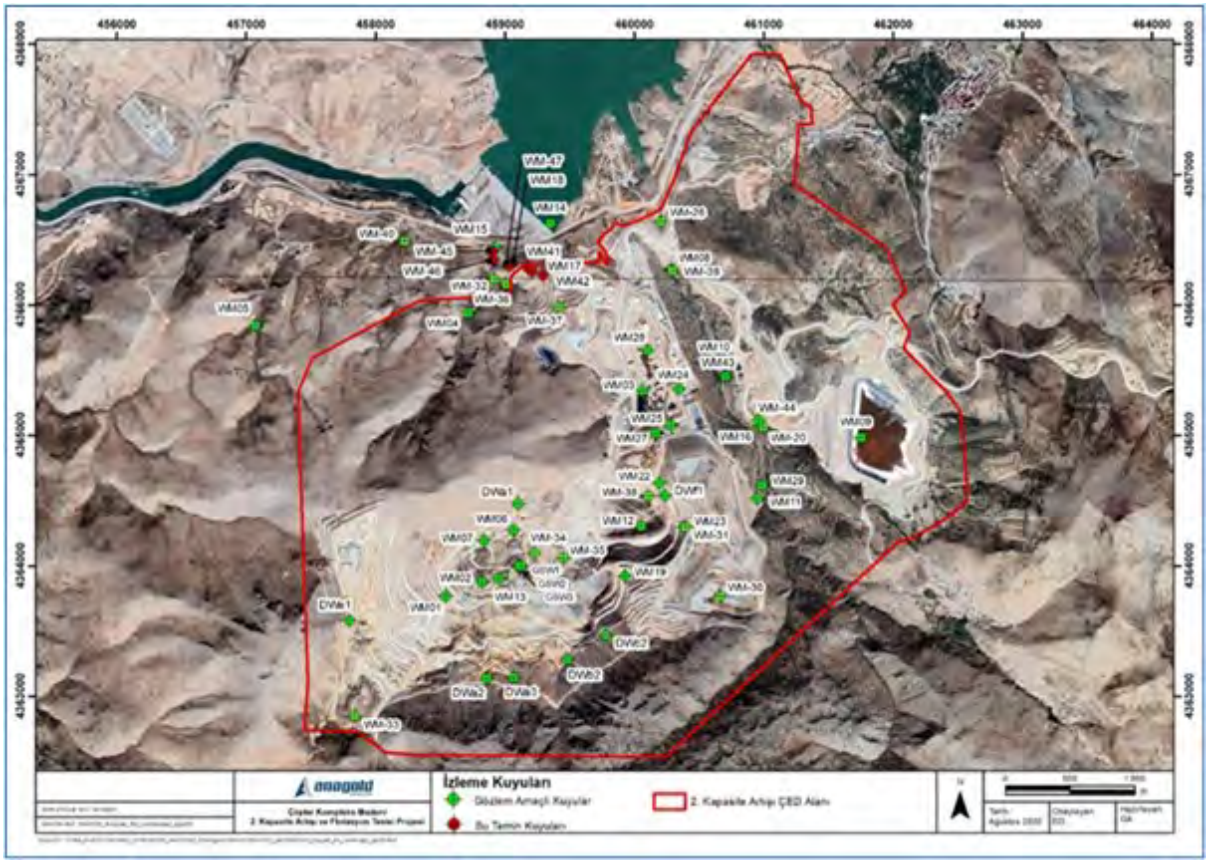
The regional geology is a complex structural assemblage of fault-bounded blocks including the following rock types:

- Limestone: grey to blue-grey, fine-grained to recrystallised marbles. Much of the unit displays various degrees of karst development. Bedding within the unit is indistinct to massive. This limestone group is also named the Çöpler limestone in the vicinity of the area where Mineral Resources have been estimated.
- Metasediment: fine-grained argillite sequences consisting of interbedded siltstones, shale units, marls, and sandy siltstones. The thermal and hydrothermal impact to this unit from the intrusions resulted in the creation of the skarns and hornfels.
- Ophiolitic mélange: ophiolitic mélange consists of diabase and serpentinite units. Serpentinisation is non-uniform and appears to be best developed near major fault zones.
- Diabase: the diabase is located within the upper zone of the ophiolitic mélange. In general, joint surfaces are covered with calcite and iron oxide sealing. In places, the rock mass shows blocky textures embedded in a fine matrix.
- Diorite to granodiorite intrusions: beige and light brown, medium to coarse-grained plutons. This formation has intruded into the pre-existing argillite's and Munzur limestone. This includes fine to medium-grained quartz, feldspar, biotite, and amphibole minerals.
- Skarn: the skarn zone is developed along the granodiorite contact with the limestone and ophiolitic mélange. This zone was developed under elevated pressure and temperature conditions during intrusion of the granodiorite mass. The skarn units are black to dark brown, silicified, moderately weathered and includes frequent solution cavities.

4.4.2 Well Installation

A total of 56 wells for groundwater observation, testing, and water supply purposes have been drilled. Forty-one of the wells were drilled prior to 2018, 10 were for groundwater control and slope stability studies in 2018, two were for waste storage area observation purposes, and three were developed in 2018 as part of the sulfide expansion project for additional water supply. Hydrogeology wells drilled are shown in Figure 4.2.

Figure 4.2 Groundwater Wells



Anagold, 2020

Groundwater is expected to be recharged through the infiltration of precipitation through secondary porosity in the bedrock terrain. Groundwater elevation data indicates that the flow direction is generally northward to the Karasu River through the Munzur limestone. During the resource drilling and sub-sequent monitoring well installation programmes, perched groundwater conditions were reported above the clay-altered intrusions. It is anticipated that the perched groundwater is present in restricted areas. The volume of water held in storage as perched groundwater is unknown.

Groundwater elevations at the Çöpler project range from 1,328.5 m at Well GMW-10 (southern end of the site) to 864.7 m at Well GMW-09 (northern end of the site). Observations of cavernous features (karst) during drilling and high-values of hydraulic conductivity from aquifer tests suggest an area of karst development in the limestone near the Karasu River, at boreholes GMW-09 and GMW-24. This was incorporated into the groundwater flow model as an area of high hydraulic conductivity near these wells and along the Sabırlı Fault.

4.5 Physiography

The Çöpler project is located in a roughly east–west oriented valley at altitudes of 1,100–1,300 m. The valley is surrounded by limestone mountains that rise to more than 2,500 m on the north and south sides of the project area. These mountains are at the western end of the Munzur range, which rises to more than 3,300 m between Ovacık and Kemah.

The region is sparsely vegetated, predominantly with semi-arid brush and scrub trees including dwarf oaks and junipers.

The following are the site data developed during previous studies for the design of the project:

- Latitude: 39° 25' North
- Longitude: 38° 32' East
- Elevation: 1,150 mamsl
- Frost depth: 500 mm
- Snow load: 145 kg/m^2
- Wind load: 40 m/sec, Exposure 'C'
- Earthquake zone: second order, Ao = 0.20
- Atmospheric pressure (average): 880.5 millibars
- Maximum design temperature: +40°C
- Minimum design temperature: –25°C
- Annual rainfall: 384 mm
- Maximum snowfall depth: 200 mm (estimated)
- Design maximum rainfall: 24-hours, 76 mm

5 HISTORY

The region around the Çöpler project has been subject to gold and silver mining dating back at least to Roman times, with historical bullion production estimated at approximately 50 koz of gold. A copper-rich slag pile of approximately 2.5 kt is located at the western edge of the district and is believed to be waste from ancient production. Although the district contains copper mineralisation, there appears to have been little production targeting copper. There are several additional minor slag piles scattered around the property thought to be from ancient, small-scale gold and by-product copper production.

The Turkish Geological Survey (MTA) carried out regional exploration work in the early 1960s that was predominately confined to geological mapping. In 1964, a local Turkish company started mining for manganese, continuing through until closing in 1973 and producing approximately 7.3 kt of manganese ore during its active life. Unimangan Manganez San A.Ş. (Unimangan) acquired the property in January 1979 and re-started manganese production, producing 1–5 ktpa of ore until ceasing operations in 1992.

In 1998, Anatolia Minerals Development Ltd (Anatolia) identified several porphyry-style gold–copper prospects in east central Turkey and applied for exploration licences for these prospects. This work was based upon the earlier work by MTA in the 1960s. During this effort, Anatolia delineated a prospect in the Çöpler basin formed by an altered and mineralised granodiorite, intruded metasediment, and limestone. This prospect and the supporting work were the basis for a joint venture agreement for exploration with Rio Tinto.

During the period of the joint venture, exploration drilling of the Çöpler deposit was completed and a Mineral Resource estimate was developed with three mineralised zones: Main, Manganese, and Marble. In January 2004, Anatolia acquired sole control over the project and maintained exclusivity until 2009, at which time a joint venture with Lidya was executed.

In February 2011, Anatolia merged with Avoca Resources Limited to form Alacer Gold Corp. (Alacer). In September 2020 Alacer merged with SSR.

Today the Çöpler project is owned and operated by Anagold Madencilik Sanayi ve Ticaret Anonim Şirketi (Anagold). SSR controls 80% of the shares of Anagold, Lidya Madencilik Sanayi ve Ticaret A.Ş. (Lidya), controls 18.5%, and a bank wholly-owned by Çalık Holdings A.Ş., holds the remaining 1.5%.

In most cases the company will be referred to as SSR throughout the CDMP21TRS even though it may have been Alacer or Anatolia at the time referenced in the report.

The previous Technical Report was the 2020 Çöpler District Master Plan 2020 NI 43-101 Technical Report dated 27 November 2020.

The previous reporting of Mineral Resources and Mineral Reserves was in the SSR Annual Information Form. Those statements on Mineral Resources and Mineral Reserves have been used for comparison.

5.1 Previous NI 43-101 Technical Reports

The following Technical Reports have been filed on the Çöpler project (in chronological order):

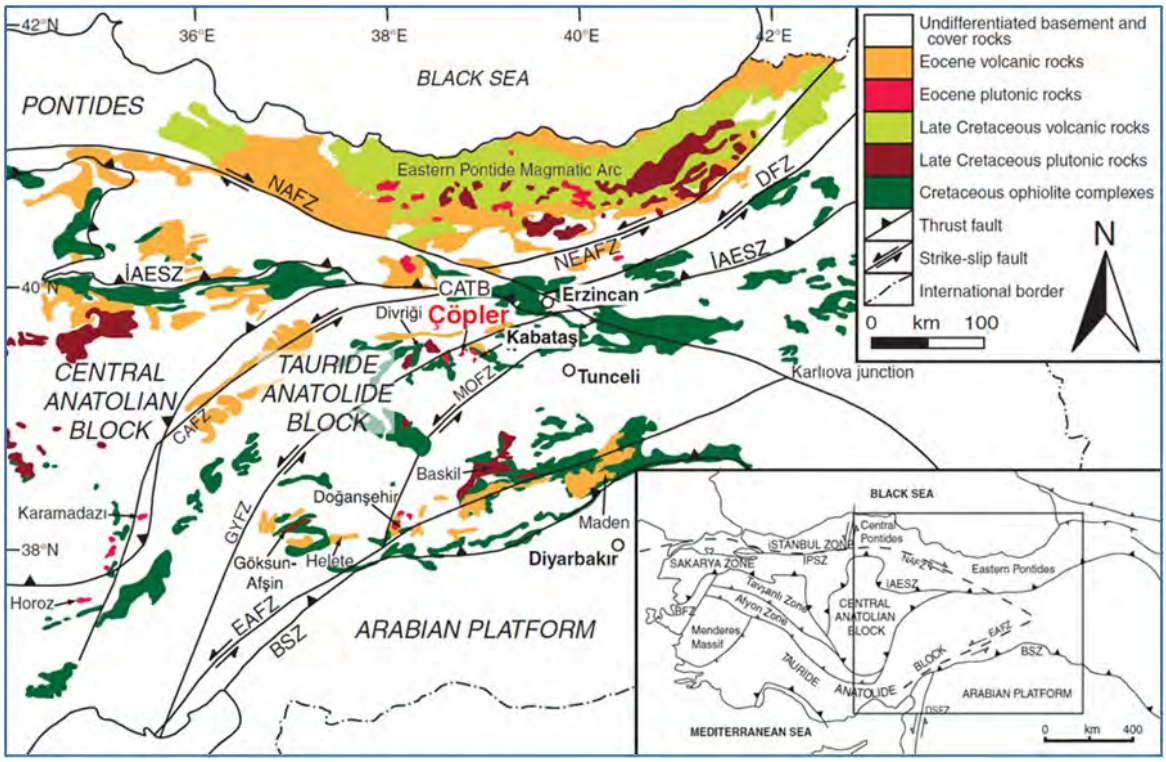
- Watts, Griffis and McQuat Limited, 2003. Update of the Geology and Mineral Resources of the Çöpler Prospect, 1 May 2003.
- Independent Mining Consultants, Inc., 2005. Çöpler Project Resource Estimate, 19 October 2005.

- Marek, J.M., Pennstrom, W.J., Reynolds, T., 2006. Çöpler Gold Project Feasibility Study, 30 May 2006.
- Marek, J.M., Moores, R.C., Pennstrom, W.J., Reynolds, T., 2007. Çöpler Gold Project, 2 March 2007, as amended 30 April 2007.
- Easton, C.L., Malhotra, D., Marek, J.M., Moores, R.C., and Pennstrom, W.J., 2008. Çöpler Gold Project East Central Turkey Preliminary Assessment Sulfide Ore Processing, 4 February 2008.
- Marek, J.M., Benbow, R.D., and Pennstrom, W.J., 2008. Çöpler Gold Project East Central Turkey, 5 December 2008 (amended and restated; supersedes 11 July 2008 version).
- Altman, K., Liskowich, M., Mukhopadhyay, D.K., and Shoemaker, S.J., 2011. Çöpler Sulfide Expansion Project Prefeasibility Study, 27 March 2011.
- Altman, K., Bascombe, L., Benbow, R.D., Mach, L., and Shoemaker, S.J., 2012. Çöpler Resource Update, Erzincan Province, Turkey, 30 March 2012.
- Altman, K., Bair, D., Bascombe, L., Benbow, R., Mach, L., and Swanson, B., 2013. Çöpler Mineral Resource Update, Erzincan Province, Turkey, 28 March 2013.
- Armstrong, D., Bascombe, L., Bohling, R., Kiel, R., Liskowich, M., Parker, H.M., Parshley, J., Seibel, G., and Swanson, B., 2014. Çöpler Sulfide Expansion Project Feasibility Study, Erzincan Province, Turkey, 29 July 2014.
- Bascombe, L., Benbow, R.D., Birch, R.G., Bohling, R., Francis, J., Khoury, C., Kiel, R., Liskowich, M., Marsden, J., Parker, H.M., Parshley, J., Seibel, G., and Statham, S., 2015. Çöpler Sulfide Expansion Project Feasibility Update, Erzincan Province Turkey, 27 March 2015.
- David, D., Kiel, R., Liskowich, M., Parshley, J., Marsden, J., Seibel, G., Parker, H., Bascombe, L., Benbow, R., Statham, S., Francis, J., and Smolonogov, S., 2016. Çöpler Mine, Erzincan Province, Turkey, 9 June 2016.
- OreWin Pty. Ltd., 2020. Çöpler District Master Plan 2020, 27 November 2020. (CDMP20TR)

6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT

The Çöpler district is located near the north margin of a complex collision zone and to the south of the prominent North Anatolian Fault Zone (Figure 6.1). The collision zone, and subsequent crustal thickening, is related to the closure of the northern branch of the Neotethys ocean, resulting from the northward subduction and coming together of the Pontides and Tauride Anatolide Block in the Late Cretaceous to Early Tertiary. In this intensely-deformed tectonic region, east–west trending imbricated structures were cut by north–north-east trending strike-slip faults during the Late Cretaceous to Paleogene period.

Figure 6.1 Geological Setting of the Çöpler District



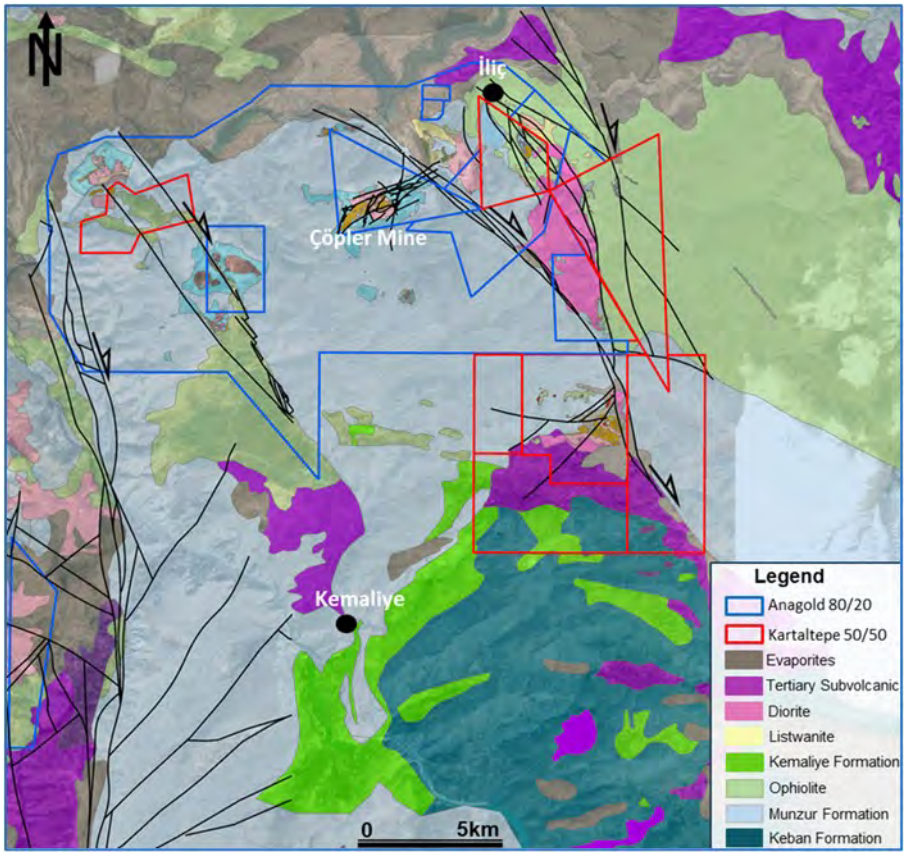
İmer, 2012

The Çöpler district deposits, including Çöpler, Çakmaktepe, Ardich, and Bayramdere, are within the Tethyan mineral belt, a terrane stretching from Indo-China to Europe through Eurasia that contains economically significant gold, copper, and base metal deposits.

Three main rock assemblages are exposed in the Çöpler district (Figure 6.2):

- The first assemblage includes the Keban, Munzur, and Kemaliye Formations. These units are tectonically overlain by ophiolitic nappes (Ovacık Formation of Özgül and Turşucu 1984).
- The second assemblage includes Middle Eocene magmatic and sedimentary rocks.
- The third assemblage includes the Oligocene to Recent sedimentary Sivas basin rocks.

Figure 6.2 Geological and Structural Map of the Çöpler District



Anagold, 2020

6.1 Geological Setting – Çöpler Deposit

6.1.1 Geology – Çöpler Deposit

The Çöpler deposit is centred on composite diorite to monzonite porphyry stocks that are part of the Eocene Çöpler Kabataş magmatic complex dated (by İmer et al., 2013) at:

- 43.8 ± 0.3 Ma and 44.2 ± 0.2 Ma (from 40 Ar / 39 Ar analysis of igneous biotite), and
- 44.1 ± 0.4 Ma (from igneous hornblende).

The magmatic rocks have intruded into both the Keban and Munzur Formations.

Rocks of the Permian to Upper Cretaceous Keban Formation shelf sequences vary in composition between siliciclastic and calcareous, with fine to medium-grained sandstone interbedded with mudstone, and locally thick sections of fine laminated mudstone. The sedimentary units are folded with a fold axis oriented at approximately 25→200 (plunge→plunge direction) resolved from bedding measurements in the Çöpler pits. Limestone of the Upper Triassic to Late Cretaceous (Upper Campanian) Munzur Formation structurally overlies the folded Keban Formation with the contact represented by cataclasite at the base of the Munzur Formation. Intense shearing of the underlying sedimentary rocks is observed, with top-to-south kinematics.

Stratigraphically, the Munzur Formation overlies the Keban. However, mapping of the Munzur Formation to the north of Çöpler shows homoclinal structure with consistent bedding in the limestones (40 / 060, dip / dip-direction) indicating juxtaposition of structural blocks. The Munzur allochthon was thrusted onto Permo-Triassic metamorphic basement in the Late Cretaceous (Özgül and Turşucu 1984). This structural contact pre-dates Eocene Çöpler Kabataş intrusions, which appear to have intruded across the sheared contact between Keban Formation metamorphic rocks (Main Zone) and Munzur Formation limestone (Manganese Zone).

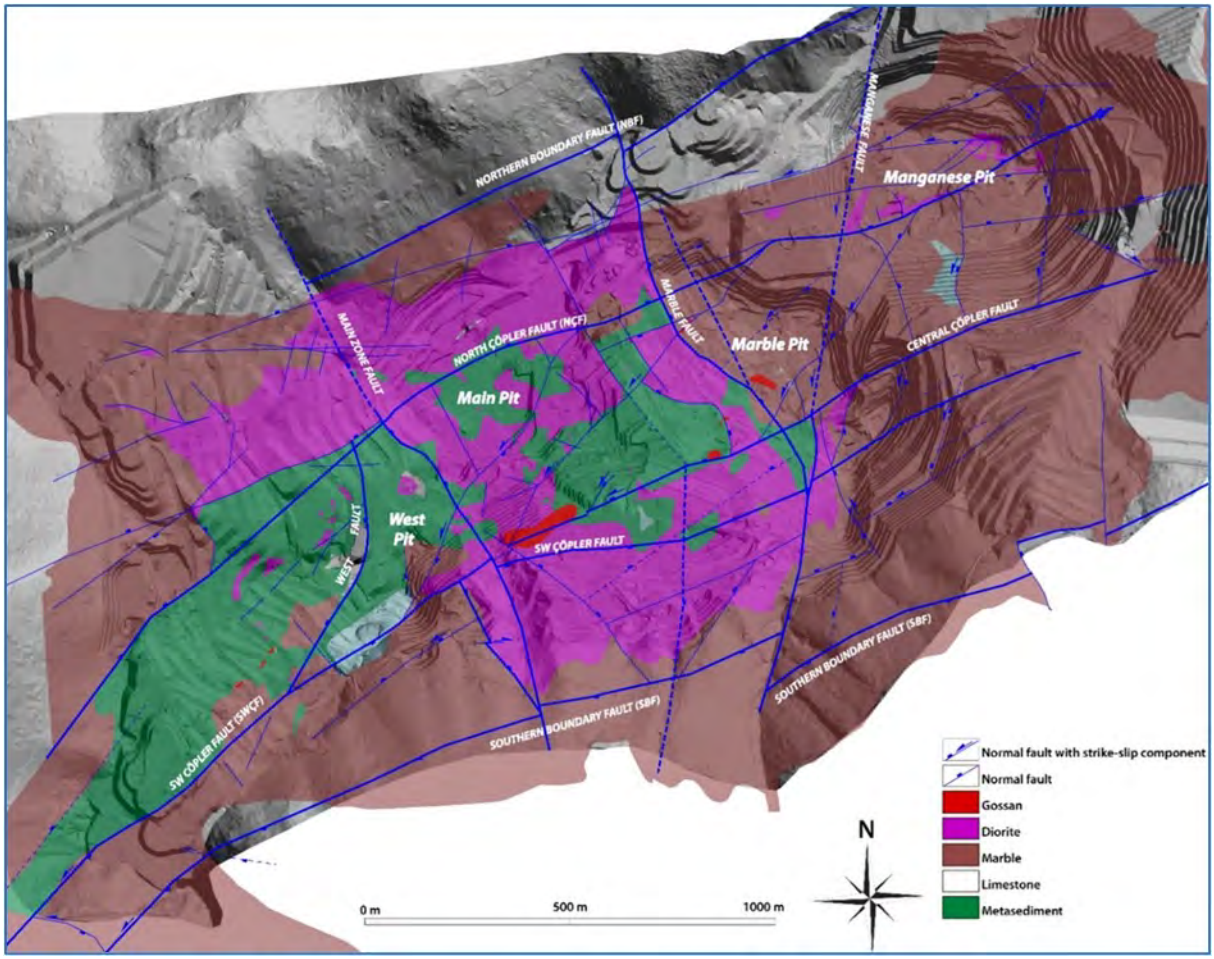
The Çöpler intrusion is a hornblende–quartz diorite-porphyry that shows strong argillic alteration. Some fresh outcrop occurs in the central part of the Main Zone and as remnants within the Manganese Zone. In its least-altered state, the diorite-porphyry is relatively pristine with well-preserved hornblende, biotite, and K-feldspar phenocrysts in a granular matrix of plagioclase and quartz with prominent magnetite. Flow alignment of the hornblende phenocrysts can be seen in places. Gradational transitions to argillic-altered rocks are evident in outcrop and drill core on a centimetre scale.

The primary control on the location of the Çöpler intrusion appears to have been the hornfels-carbonate contact. The contact of the Çöpler intrusion has a roughly rectilinear shape, suggesting control by pre-existing east–north-east trending faults, and by a set of north–north-west trending fractures. The north–north-west striking bedding may also have exerted a local control in the central part of the intrusion where many intrusive contacts are parallel to bedding and have a sill-like morphology. However, it is considered more likely that this reflects the north–north-west trending fracture control referred to above.

A pronounced ground magnetic anomaly is centred on the core of the porphyry, which has been modelled to reflect the potassically altered core of the stock-like barren porphyry system dipping steeply towards the south. In addition, there are several dykes and intrusive apophyses; most notably, a brecciated and strongly clay-altered intrusion centred on the Manganese Zone.

In the area of the Çöpler deposit, two dominant sets of faults are present. These faults are approximately parallel to the long axis of the deposit and are oriented east–north-east. These are referred to as longitudinal faults. The other set of faults are transverse to the longitudinal faults and referred to as cross-faults (Figure 6.3). The major cross-faults include from east to west; Manganese fault, Marble fault, Main Zone fault, and West fault.

Figure 6.3 Çöpler Deposit Geological Map



Anagold, 2020

The longitudinal faults include the Northern Boundary fault (NBF), North Çöpler fault (NÇF), Central Çöpler fault, South-West Çöpler fault, and Southern Boundary fault (SBF). The Central and South-West Çöpler faults dip to the south and were previously thought to be the same fault.

Weathering has resulted in oxidation of the mineralisation close to surface. The oxidised cap is underlain by primary and secondary sulfide mineralisation. In addition to the gold–silver–copper mineralisation of economic interest, arsenic, lead, magnesium, manganese, mercury, and zinc are also present.

6.1.2 Mineralisation – Çöpler Deposit

The gold, silver, and copper mineralisation of economic interest at Çöpler deposit area is exposed in four adjacent open pits from east to west: Manganese pit, Marble pit, Main pit, and West pit. The pits expose economic parts of the same orebody and the three eastern pits will likely join up as the mining progresses. The predominant rock types in the mine include limestone / marble, metamorphic rocks (mainly hornfels) and diorite-tonalite porphyry, locally with equigranular biotite-granodiorite intrusions. Supergene enrichment enhanced along syn-mineralisation and post-mineralisation structures plays an important role in localising high-grade gold mineralisation at lithological contacts, late-stage faults and shear zones, and fault / contact intersections.

Most of the gold mineralisation concentrated in six distinct areas in the deposit: Main, Main West, Main East, Manganese, Marble, and West. The mineralisation is considered to be related to fluids associated with diorite intrusions at depth and generally manifests as three closely related mineralisation styles across the six areas:

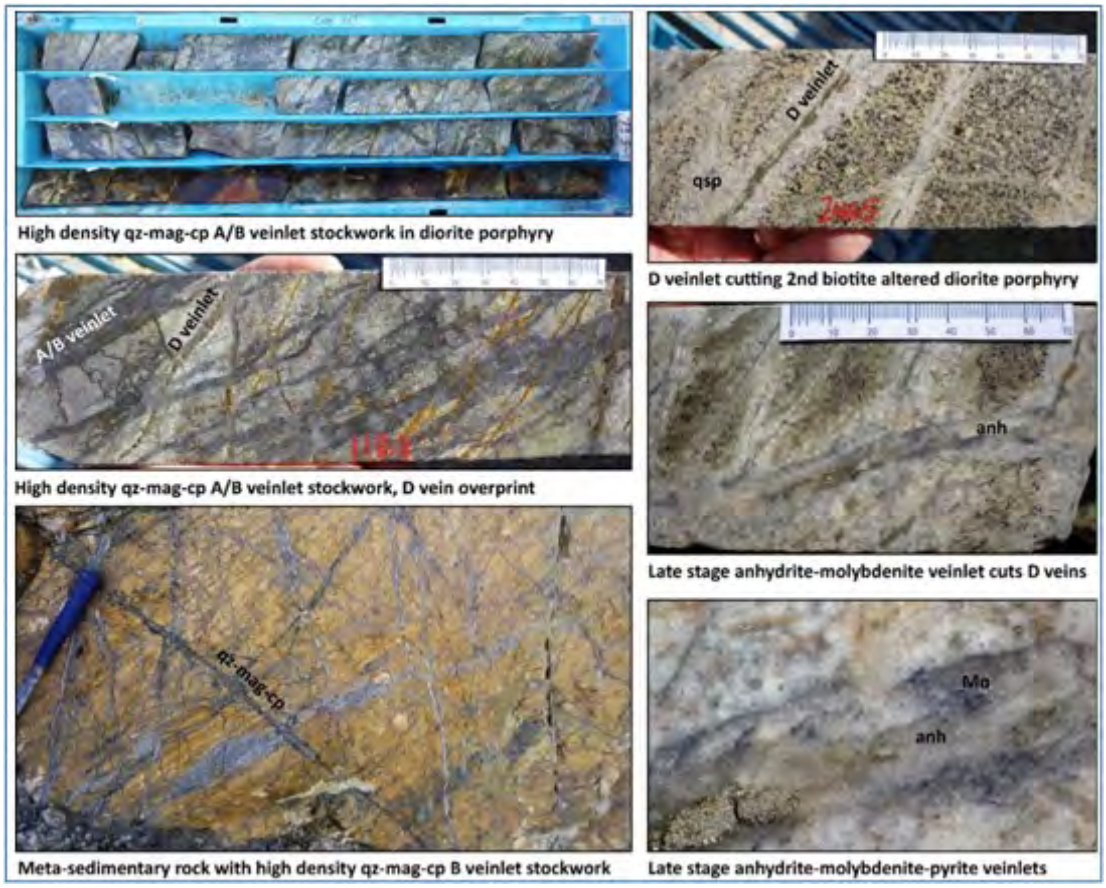
- Low-Grade Porphyry Vein Mineralisation.
- Intermediate Sulfidation Epithermal Mineralisation.
- Iron Skarn and Carbonate Replacement Mineralisation.

6.1.2.1 Three Mineralisation Styles at the Çöpler Deposit

Low-Grade Porphyry Vein Mineralisation

Sub-economic porphyry copper–gold–molybdenum mineralisation is characterised by well-developed alteration zones that are complex and superimposed on each other. Late-stage porphyry mineralisation is hosted in diorite-tonalite porphyry as dominant sheeted veinlet arrays and as stockworks in metamorphic wall rocks and intruded into a gold-deplete diorite-porphyry system (Figure 6.4). Porphyry veinlets are best exposed in the Main pit since the volume of outcropping intrusions is much greater than in other areas of the mine. Early, irregular high-temperature quartz–chalcopyrite–magnetite veinlets are overprinted by 'D' veinlets with pyrite±quartz and symmetric feldspar-destructive phyllic halos (Figure 6.4). Dense 'A'/'B' veinlets occur as sheeted arrays and lesser stockworks in the intrusions but form well-developed dense stockworks in the surrounding metamorphic wall rocks (Figure 6.4). Late-stage anhydrite veinlets with pyrite and molybdenite appear to overprint the 'D' veins, (Tripp, 2017; internal company report).

Figure 6.4 Çöpler Deposit Porphyry Vein Mineralisation

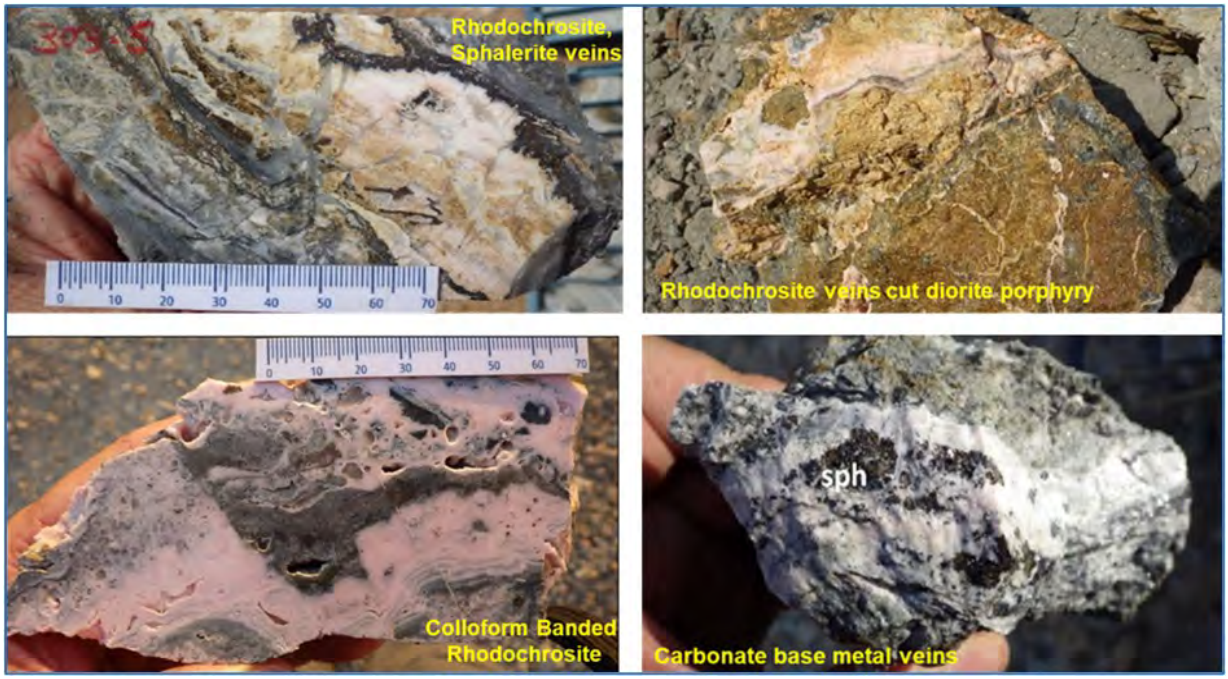


Anagold, 2020

Intermediate Sulfidation Epithermal Mineralisation

Intermediate sulfidation epithermal mineralisation is primarily observed in the Manganese pit as clusters of bright pink, banded, colloform, rhodochrosite base metal sulfide veins and breccia lodes, with a spatial association with elevated gold grades, (Figure 6.5). Carbonate base metal veins contain base metal sulfides sphalerite±galena±chalcopyrite in a gangue of calcite, ferroan dolomite, and/or rhodochrosite and realgar. In the Main pit, the base metal carbonate veins are coarsely crystalline whereas veins in the Manganese pit display brecciation, colloform banding, and locally quartz pseudomorphs of bladed calcite. The change in vein style suggests the Manganese pit represents a higher level position with respect to the mineralising system.

Figure 6.5 Çöpler Deposit Intermediate Sulfidation Epithermal Mineralisation

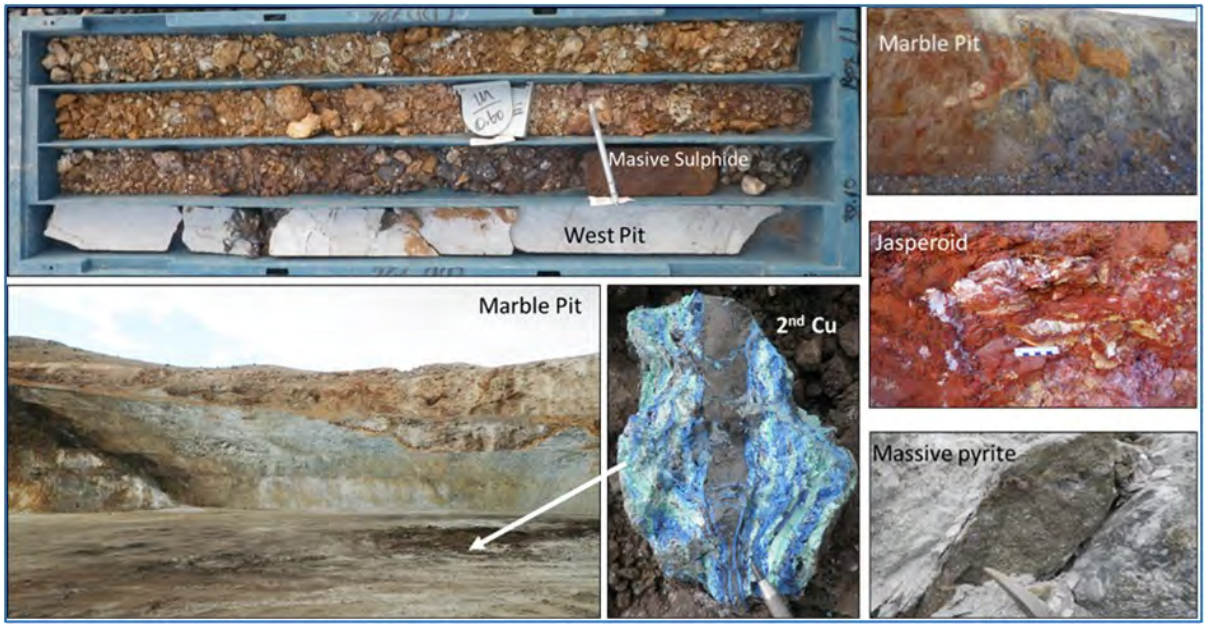


Anagold, 2020

Iron Skarn and Carbonate Replacement Mineralisation

Iron skarn and related carbonate replacement oxide gold mineralisation developed along faults, shear zones, and within karstic spaces. It is observed as iron oxide-rich zones as well as gossan-like and jarosite units developed by oxidation of previous pyrite-rich mineralisation, (Figure 6.6). This replacement type mineralisation appears to be derived from previously formed distal skarn mineralisation. Development of gossan and jasperoid is potentially related to weathering of primary Eocene sulfide deposits in situ or remobilised from a nearby source.

Figure 6.6 Çöpler Deposit Porphyry Vein Mineralisation



Anagold, 2020

6.1.2.2 Six Mineralisation Areas at the Çöpler Deposit

Main Zone Mineralisation

The Main Zone lies in the west portion of the Çöpler deposit and occupies a footprint of approximately 750 m north–south by 1 km east–west. Typical depths of mineralisation range to 200 m below surface. Disseminated quartz–pyrite–arsenopyrite epithermal veinlets are primarily hosted in diorite and metasediment with some marble-hosted mineralisation on the eastern margin of the zone. Oxidation and related oxide mineralisation extends to depths of approximately 40 m from surface, with the thickest oxidised zones proximal to ridges and thinning of strata in the intervening valleys.

Minor volumes of massive pyrite mineralisation occur within the Main Zone.

Main Zone West Mineralisation

Main Zone West is in the north-west corner of the Çöpler deposit at the contact between diorite, marble, and the basement metasediment. This mineralisation is hosted within narrow gossans located at the contact, and in sub-parallel veinlets containing disseminated sulfides within the marble and metasediment. Main Zone West has a strike length of approximately 750 m and is approximately 75 m wide.

Main Zone East Mineralisation

The Main Zone East represents a portion of the mineralisation lying between the Manganese Zone and Main Zone. The geology in this area is typified by narrow, weakly to moderately-mineralised gossans located at the contact between the basement metasediment and the overlying marble. It is postulated that the gossan is sourced from the diorite located in the Manganese Zone and has been emplaced along the metasediment / marble contact as the diorite has crystallised.

Manganese Zone Mineralisation

The Manganese Zone occupies the eastern end of the Çöpler deposit. This zone is approximately 650 m wide north–south by 650 m east–west. The pre-mining surface expression of this area consists predominately of marble. A moderately-sized intrusion of diorite occurs sub-surface. A large proportion of the Manganese Zone mineralisation is associated with the contact between this diorite and the surrounding marble. Mineralisation ranges from surface to approximately 400 m depth.

Free gold mineralisation occurs in the marble with minimal associated sulfides. Disseminated quartz–sulfide mineralisation occurs in clay-altered and brecciated diorites as well as locally carbonate-altered diorite. Moderate volumes of massive sulfide pyrite mineralisation occur within the Manganese Zone. It appears that 'leachable' mineralisation is a combination of free gold in marble and supergene oxidised mineralisation in both marble and diorite. Leachable oxide mineralisation occurs to +200 m below surface.

Marble Zone Mineralisation

The Marble Zone occurs in the south-eastern portion of the Çöpler deposit and is associated with a north-east striking fault contact between marble to the east and metasediment and intrusions to the west. The geology in this area is typified by large 'plugs' of gossan and diorite that have formed at the junctions between large-scale faults, where mineralising fluid flow has been considerable. The width of the Marble Zone is approximately 350 m, and the strike length is 300 m east–north-east. The depth of mineralisation ranges from surface to approximately 160 m below surface.

Mineralisation occurs as both disseminated sulfides in veinlets and massive sulfide along the marble contact. Oxidation has occurred along the north-east structure resulting in greater depths of oxidised mineralisation than that seen in the Main Zone.

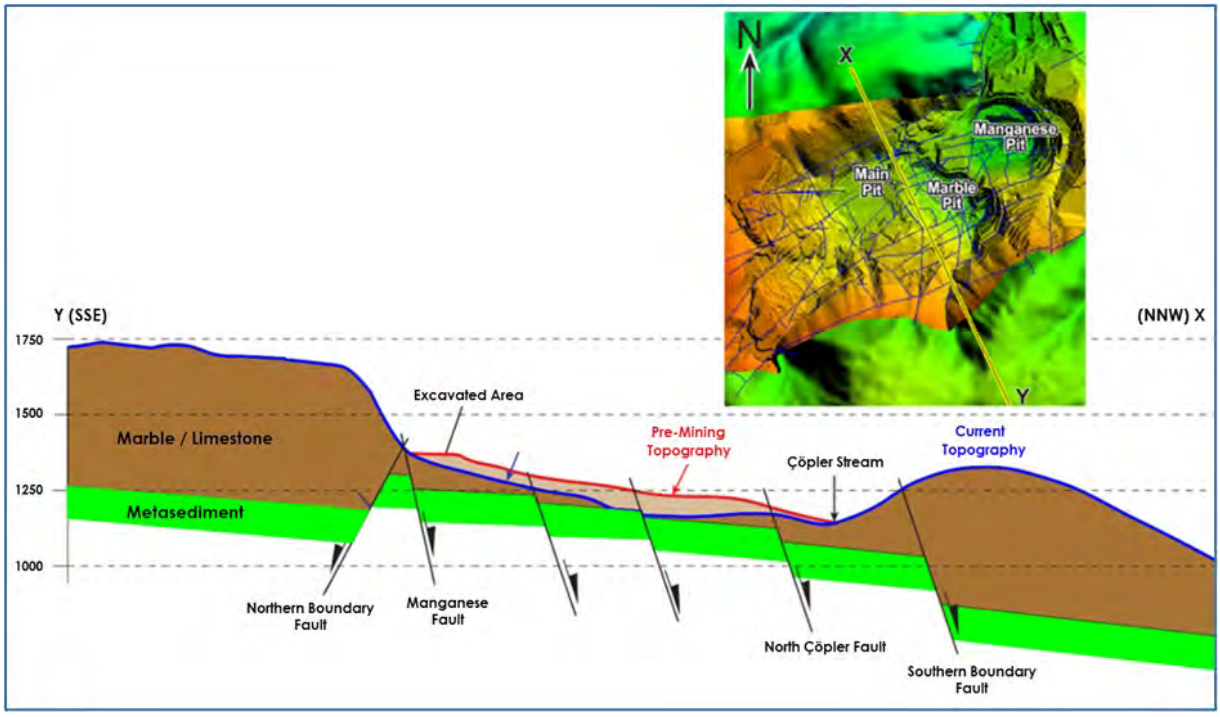
West Zone Mineralisation

The West Zone occupies the westernmost portion of the Çöpler deposit and is located at the contact between the basement metasediment and the overlying limestone/marble, where a large-scale north-east trending fault is located. Mineralisation is present within veinlets containing disseminated sulfides, massive sulfides, and oxidised gossan. The West Zone has a strike length of approximately 700 m north-east and is approximately 150 m wide. Multiple narrow mineralised zones are present sub-parallel to the faulted contact and occur to a depth of approximately 150 m below surface.

6.1.3 Structure – Çöpler Deposit

The Çöpler deposit area demonstrates trans-tensional deformation. The extensional deformation in the area dominates over strike-slip motion as indicated by the lack of compressional structures and the presence of normal movement on all faults. Structurally, the Çöpler deposit occurs in a horst-like feature developed within a sinistral trans-tensional strike-slip setting (Figure 6.7). The two boundary faults delimit the northern and southern extent of the gossan-like, oxidised, supergene, gold-bearing deposits. The northern and southern boundary faults are located almost at the present boundaries of the mine and they dip away from the mine, thereby defining the horst geometry. In addition, the deposit is traversed by several cross-cutting normal faults (with or without strike-slip components) in various orientations that complicate but localise the geometry and position of oxidised ore (Kaymakçı, 2017, internal company reporting).

Figure 6.7 Simplified Schematic of the Çöpler Deposit Structures (cross-section)



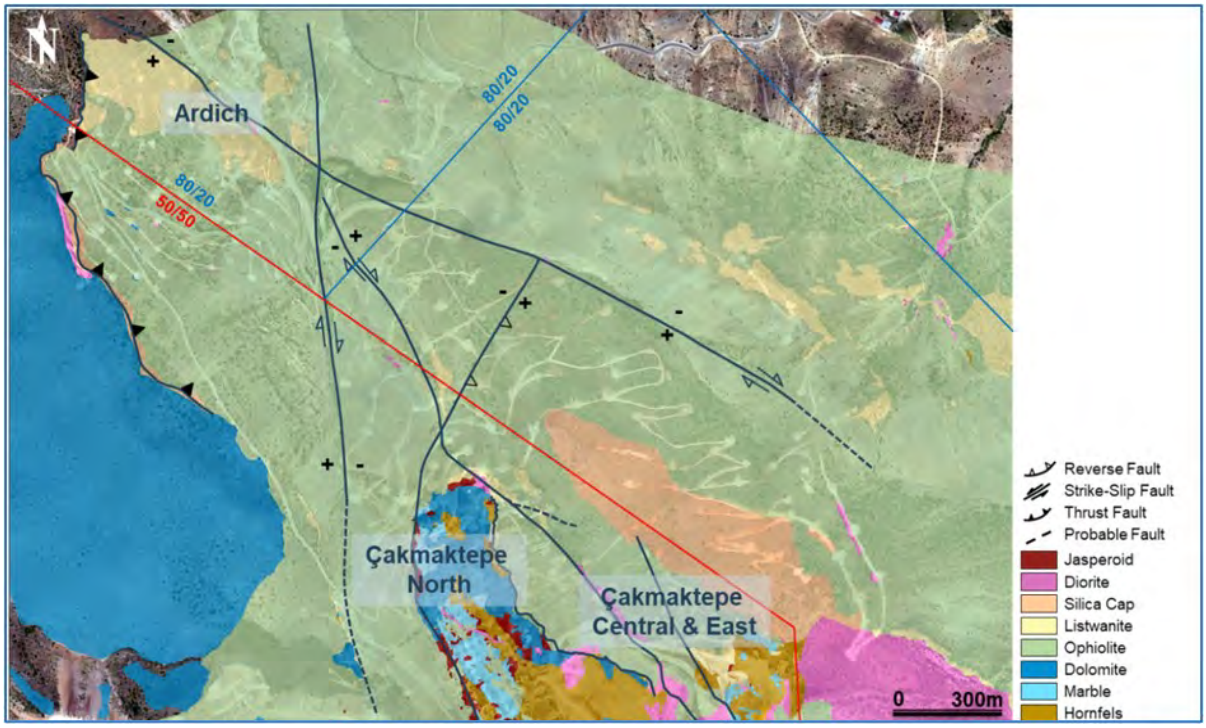
Anagold, 2020

6.2 Geological Setting – Çakmaktepe Deposit

6.2.1 Geology – Çakmaktepe Deposit

The Çakmaktepe deposit is made up of several mineralised zones (Figure 6.8). The deposit area mainly comprises Palaeozoic metamorphic rocks and marble belonging to the Keban Formation and Mesozoic platform carbonate such as the Munzur Formation limestone. All these units are tectonically overlain by ophiolitic mélange rocks. These ophiolitic rocks originated from the northern branch of the Neotethys ocean, the former position of which is delineated by the Ankara–Erzincan suture zone. The emplacement of the ophiolitic units took place at the end of the Upper Cretaceous with north to south motion.

Figure 6.8 Geological Map of the Çakmaktepe and Ardich Deposits



Anagold, 2020

The youngest units include Eocene and younger magmatic rocks, volcaniclastics rocks and sedimentary units that unconformably overlie and seal the Munzur Formation limestone, its basement and the ophiolitic units. All these units are intruded by intermediate igneous rocks that are exposed mainly at the northern and western parts of the Munzur mountains and southern margin of the Sivas Basin.

Listwanite formed in structurally deformed areas by the percolation of CO_2-rich fluids along the margins of ultramafic rocks within the ophiolite complex. Sulfidic jasperoid is present, a result of silica-sulfide metasomatism of Munzur Formation carbonate rocks. Both listwanite and jasperoid are important host rocks for gold and silver mineralisation.

6.2.2 Mineralisation – Çakmaktepe Deposit

The Çakmaktepe deposit is a structurally controlled gold–silver–copper deposit, displaying both epithermal and replacement mineralisation styles. Mineralisation is primarily associated with jasperoid and listwanite. At depth, mineralisation transitions below the base of oxidation to disseminated pyrite, vein sulfides, and massive sulfide horizons, generally occurring within shear zones, along shallow thrusts, in diorite sills, and on intrusion margins.

As with the Çöpler deposit, Çakmaktepe is thought to be the result of intrusive activity that generated suitable conditions for mineralisation of ophiolite, limestone, and hornfels lithologies (Figure 6.9). A complex system of faults enabled emplacement of diorite intrusions and transport of metalliferous fluids associated with the mineralising system. Steeply dipping, shear-hosted mineralisation characterises the deposits at Çakmaktepe North, whereas more shallowly dipping thrust-related mineralisation is characterised at Çakmaktepe East, Çakmaktepe South-East and Çakmaktepe Central. Key to each structurally associated style of mineralisation is the juxtaposition of ophiolites against limestone and hornfels.

Figure 6.9 Geological Mapping within Çakmaktepe Central Pit

Anagold, 2020

The Çakmaktepe North area is strongly sheared with epithermal characteristics and grade associations with intrusive diorite dykes. The bulk of the mineralisation is structurally confined to a major sub-vertical shear zone (Main Shear). The Main Shear varies in width from 5–40 m, has been defined to a depth of 200–250 m below surface, and dips at approximately 70° to the east. Surface mapping and sampling have defined the mineralised extent of the shear as being over 1 km in length.

Mineralisation at Çakmaktepe North is not solely contained within the shear zone, but also occurs along flat thrust structures and lithological contacts cut by the shear zone. Contacts between ophiolite and limestone, limestone and hornfels, and all lithologies in contact with intrusive diorite sills and dykes are generally mineralised. The listwanite horizon is the most favourable host rock for gold mineralisation. Diorite intrusions show evidence of hydrothermal activity that either takes the form of massive iron-dominated replacement (magnetite, specular hematite, or pyrite) or sheeted crystalline quartz vein bearing jasperoid closer to diorite contacts.

Other mineralised zones within the Çakmaktepe deposit are referred to as ‘contact’ styles of mineralisation where iron, sulfur, gold, copper, and silver have been emplaced along thrust surfaces where ophiolite is next to limestone and metasediment. Epithermal veining and replacement alteration and textures are prevalent. Skarn and metasomatic mineralisation occur in contact with intrusive diorite dykes, sills, and stocks.

Oxide mineralisation at Çakmaktepe is predominantly characterised by silica–iron–carbonate-rich jasperoid, less-siliceous iron-rich gossan, and epithermal veined and brecciated limestone.

6.3 Geological Setting – Ardich Deposit

6.3.1 Geology – Ardich Deposit

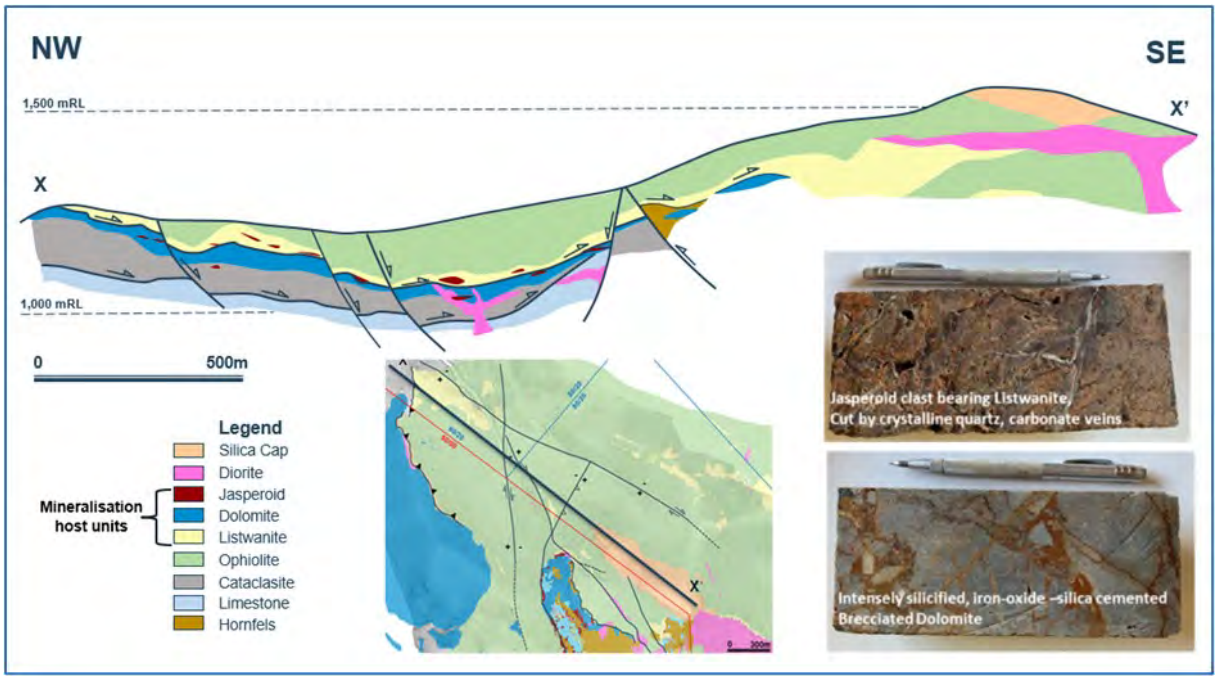
The Ardich deposit is located immediately to the north-west of the Çakmaktepe deposit (Figure 6.8). The north-western portion of Ardich and the Çakmaktepe North mineralised zone are near each other, as are the Ardich South-east and Çakmaktepe East mineralised zones. While there are some characteristic differences between Ardich and Çakmaktepe, the local geology is generally very similar.

The mineralisation at Ardich occurs at a higher stratigraphic level that that seen at Çakmaktepe. The emphasis at Ardich is on the ophiolitic mélange rocks that have been thrust into place on top of the basement metasediment and carbonate lithologies.

The local geology at Ardich is dominated by ophiolite, listwanite, and dolomite and limestone, with mineralisation occurring along low-angle thrust zones between ophiolite, listwanite, and dolomite and limestone (Figure 6.10). This occurs within a complex north-west trending structural zone that is cut by multiple high-angle faults that together result in multiple rotated fault blocks and mineralised zones.

The mineralisation at Ardich is considered to be related to fluids associated with diorite intrusions at depth, much like those observed at the Çöpler and Çakmaktepe deposits. Diorite dykes are present but not common at Ardich, unlike the adjacent Çakmaktepe deposit and nearby Çöpler deposit where diorite is a dominant lithology.

Figure 6.10 Schematic of Ardich Geological Setting with Mineralisation Examples



Anagold, 2020

6.3.2 Mineralisation – Ardich Deposit

The mineralisation at Ardich is related to crystalline and chalcedonic quartz veins within the brecciated and silicified listwanite and dolomite zones. The mineralisation is predominantly in the form of oxide, with sulfide mineralisation confined to limited pyrite-rich jasperoid zones. Clay / gossan in jasperoid or limestone karstic boundaries also contain high-grade gold across Ardich.

Gold grades increase at dolomite / listwanite contacts and within silica-rich listwanite that acts as horizontal traps for higher grade gold-bearing mineralisation. Increases in gold grade can be seen along the lithological contacts. Elevated grades can exist within either contact lithology. Several drillholes show a very rapid down-hole change in gold grade from mineralised to unmineralised material, indicating that mineralisation is tightly constrained instead of disseminated across the deposit. Due to these relationships, the three-dimensional model indicates that the main mineralised zone is tabular and sub-horizontal.

6.4 Geological Setting – Bayramdere Deposit

6.4.1 Geology – Bayramdere Deposit

The Bayramdere deposit is an oxide gold and copper deposit with similar geological and mineralisation characteristics to the Çakmaktepe and Ardich deposits. The geology is characterised by ophiolite thrust over the limestone and dolomite, which are in turn intruded by granodioritic stocks. Gossans are generally observed as lenses and confined by normal faults.

The Bayramdere deposit is structurally controlled, displaying a replacement gold (minor copper, minor silver) mineralisation style. The deposit is dominantly represented by near-surface oxide mineralisation, primarily associated with iron-rich gossan.

The Bayramdere deposit is thought to be the result of intrusive activity that generated suitable conditions for mineralisation. A complex system of faults enabled emplacement of diorite intrusions and transport of metalliferous fluids associated with the mineralising system. Key to each structurally associated style of mineralisation is the juxtaposition of ophiolite against limestone (±hornfels) to create the right geochemical conditions for the deposition of gold and other metals.

6.4.2 Mineralisation – Bayramdere Deposit

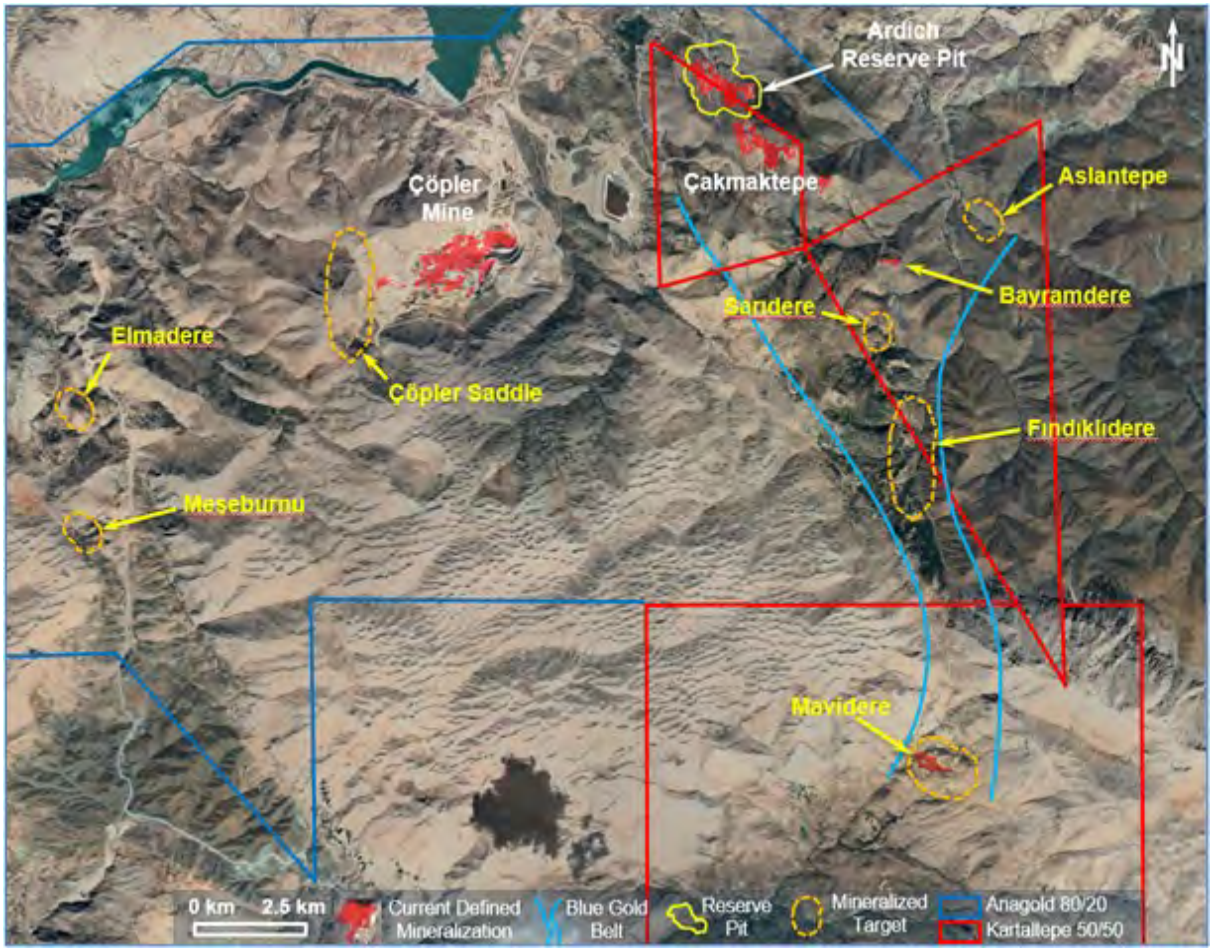
The Bayramdere mineralisation is localised within three stacked, shallow-dipping zones that formed at the contact of limestone and ophiolite, with mineralisation having replaced limestone along the contacts. The limestone / ophiolite contacts are low-angle thrusts, typified by limestone wedges within a dominantly ophiolite stratigraphy. Mineralisation occurs within shallow iron-rich gossan horizons.

6.5 Geological Setting – Regional Prospects and Targets

Since 2000, Anagold exploration programmes within the Çöpler district have identified several new gold-dominant and copper–gold prospects. The gold-dominant regional prospects include the Çöpler Saddle and Elmadere. Copper–gold prospects are Aslantepe, Sarıdere, Findiklidere and Mavidere porphyries located within the Mavialtin Porphyry Belt (Figure 6.11) and the early exploration stage Meşeburnu porphyry located west of the Çöpler deposit.

Each of these prospects is discussed below.

Figure 6.11 Çöpler District Exploration Projects



Anagold, 2022

6.5.1 Geology – Çöpler Saddle

The Çöpler Saddle prospect borders the western flank of the Çöpler mine. The Çöpler Saddle is associated with a shear zone defined as an arc-like structure that trends north–south for approximately 2 km, Figure 6.11. Along the shear zone, the geology is dominated by limestone, marble, and hornfels units that are in turn intruded by small-scale microdioritic to granodioritic stocks. These lithologies were subjected to silica-clay alteration with iron oxide developments along the local structures as well as clay-pyrite alteration. At the south of the zone, silica is mainly observed as jasperoid lenses, of approximately 2 m long and 1 m wide, which occur along the hornfels and marble contacts. At the centre of the zone, less silica is observed and larger gossan-like mineralised iron oxide bodies have formed.

6.5.2 Geology – Meşeburnu and Elmadere

The Meşeburnu and Elmadere prospects (former Demirmağara project licence group) are located approximately 7 km south-west of the Çöpler deposit (Figure 6.11). The area is covered by ophiolites, limestone, and metamorphic rocks that are intruded by dioritic to granodioritic stocks. Three types of mineralisation have been identified in the area:

- Gold-bearing skarn and jasperoid occurrences along limestone and granodiorite contacts.
- Epithermal gold mineralisation developed along ophiolite, listwanite, and limestone structural contacts (referred to as Elmadere mineralisation).
- Meşeburnu copper–gold porphyry mineralisation.

Gold-bearing skarn and jasperoid occurrences were tested with drilling between 2001–2017, however only short gold-mineralised intervals were intersected. Mapping and sampling in Elmadere and Meşeburnu prospects are ongoing to define drilling targets.

6.5.3 Geology – Mavialtin Porphyry Belt Prospects

The Mavialtin Porphyry Belt is a structural corridor approximately 6–7 km wide and extending over approximately 20 km from the Çakmaktepe deposit in the north to the Mavidere porphyry deposit in the south (Figure 6.11). The Mavialtin Porphyry Belt contains the Mavidere, Findiklidere, Saridere, and Aslantepe porphyry copper–gold prospects.

6.5.3.1 Geology – Mavidere

The Mavidere porphyry copper–gold mineralisation is hosted by hornblende–biotite monzonite to monzogranite to granodioritic phases of a shallow porphyritic intrusive hosted by metamorphic and crystallised limestone. At the centre of the porphyry system, the intrusive phases were subjected to mainly potassic alteration with clay and minor sericite overprinting covering an area of 800 m x 400 m. The porphyry system appears to continue underneath the moraine cover to the east and south.

Previous exploration activities included:

- surface mapping,
- geochemistry (soil, rock, stream sediment sampling),
- geophysical studies (Induced Polarisation (IP) and surface magnetics), and
- Reverse circulation (RC) and diamond core (DD) drilling.

The prospect was first drilled in 2001, with 1,780 m at eight locations. In 2008, 22 additional holes were drilled totalling 7,761 m, with the preliminary results announced in 2009. From 2011 through 2013, 77 DD holes totalling 20,653.3 m and 68 RC holes totalling 7,512 m were completed. Field studies and mapping in 2018 identified additional mineralised zones, some of which were drill tested in 2018 and 2019. Drillhole MD06, drilled in 2019, returned a highly prospective intercept of 269.1 m at 0.34% Cu and 0.55 g/t Au from surface.

6.5.3.2 Geology – Aslantepe

The geology of the Aslantepe porphyry copper–gold prospect is dominated by ophiolites thrusted over Jurassic to Cretaceous limestone, both of which are intruded by dioritic to granodioritic stocks and dykes. The Aslantepe intrusives outcrop in a narrow corridor subjected to propylitic, potassic, and clay alteration. The potassic zone is characterised by well-developed intense quartz–sulfide stockwork veinlets with secondary biotite, K-feldspar, and magnetite. In 2018, two additional DD holes were drilled at Aslantepe, with drillhole AT07 intersecting 63.9 m at 0.22% Cu and 0.45 g/t Au from 46.7 m down-hole. The mineralisation appears to be dipping underneath the ophiolites.

6.5.3.3 Geology – Sarıdere

The Sarıdere porphyry copper–gold prospect is covered by metamorphic limestone and ophiolite, which are in turn intruded by tonalitic to granodioritic stocks. The prospect was initially identified by stream sediment and soil anomalies. In 2018 and 2019, exploration activities identified potassic-altered porphyry intrusive outcrops covering an area of approximately 800 m x 500 m, with a phyllic alteration halo around the potassic zone of 4.3 km x 0.6 km. Seven DD holes totalling 1,461.5 m were drilled from 2007 through 2013 at the margin of the porphyry system, testing the elevated soil geochemistry. These holes intersected short intervals of copper–gold mineralisation.

6.5.3.4 Geology – Fındıklıdere

The Findiklidere porphyry copper–gold prospect is covered by massive Jurassic to Cretaceous limestone, which has been over-thrusted by ophiolites on the eastern flank. These units were intruded by fine to medium-grained tonalitic to granodioritic intrusive stocks. The porphyry copper mineralisation is characterised by well-developed stockwork quartz–magnetite–pyrite veins with copper. Peripheral iron–copper–gold skarns are observed within the limestone. In 2018, the geology, structure, and alteration were re-mapped to better understand the porphyry potential of the prospect. Results of this field work indicated that the porphyry mineralisation was potentially continuing underneath the ophiolitic body to the south-west of the known porphyry mineralisation. In 2019, DD hole FD02 was drilled to test porphyry potential beneath the ophiolitic cover. The hole was mineralised over 234.4 m (down-hole) with some higher grade intervals such as 32.1 m at 0.84% Cu and 0.37 g/t Au from 13.4 m and 16.5 m at 1.27% Cu and 0.07 g/t Au from 139.5 m.

The abovementioned drilling results were announced within the exploration press release dated 14 February 2020.

6.6 Deposit Types

Porphyry copper–gold systems host some of the most widely distributed mineralisation types at convergent plate boundaries, including porphyry deposits centred on intrusions; skarn, carbonate-replacement, and sediment hosted gold deposits in increasingly peripheral locations; and high to intermediate-sulfidation epithermal deposits.

The alteration and mineralisation in porphyry copper–gold systems are zoned outward from the stocks or dyke swarms, which typically comprise several generations of intermediate to felsic porphyry intrusions. Porphyry copper (± gold, ± molybdenum) deposits are centred on the intrusions, whereas carbonate wall rocks commonly host proximal copper–gold skarns, less common distal zinc–lead and/or gold skarns, and, beyond the skarn front, carbonate-replacement copper and/or zinc–lead–silver (± gold) deposits, and/or sediment-hosted (distal-disseminated) gold deposits. Peripheral mineralisation is less conspicuous in non-carbonate wall rocks but may include base metal-bearing or gold-bearing veins and mantos (Sillitoe, 2010). Skarn deposits are typically hosted in mineralogically simple fine-grained clastic and carbonate sedimentary rocks. Skarn mineralogy and metal content is largely dependent on the crystallisation history and genesis of associated plutons (Meinert et al., 2005).

The Çöpler district is located at the edge of a convergent plate boundary. It is characterised by a complex structural history and is associated with intermediate intrusive and carbonate-rich host lithologies. As such, porphyry copper–gold systems and related styles of mineralisation are appropriate models to be applied across the Çöpler district.

The Çöpler deposit consists of three major mineralisation types that are closely associated with each other: low-grade sub-economic porphyry copper–gold–molybdenum mineralisation characterised by well-developed alteration zones and stockwork quartz veins (Main Zone); intermediate sulfidation epithermal mineralisation observed in the Manganese Zone as clusters of bright pink, banded, colloform rhodochrosite base metal sulfide veins and breccia lodes; and iron–gold (± copper) skarn with related carbonate replacement gold mineralisation.

The setting, alteration mineralogy, and mineralisation characteristics of the Manganese Zone are somewhat consistent with an intermediate sulfidation epithermal system, as defined in Hedenquist et al., (2000).

Exploration programmes modelled on epithermal-style deposits have shown success in the Çöpler district. A multi-phase porphyry model with a barren trapping system and a possible mineralised porphyry underneath it is also applicable.

7 EXPLORATION

7.1 Exploration – Çöpler Deposit

Exploration of the Çöpler deposit has been conducted by Anagold and its predecessors since September 1998. Work completed has included:

- Geological and reconnaissance mapping.
- Rock chip, grab, soil, channel, and stream sediment geochemical sampling.
- Ground geophysical surveys including ground magnetic, complex resistivity / IP, time domain IP and controlled source audio-frequency magneto-telluric (CSAMT) surveys.
- A regional helicopter-borne geophysical survey.
- Reverse circulation (RC) and diamond core (DD) drilling programmes.
- Acquisition of satellite imagery.
- Mining technical studies.
- Geotechnical and hydrogeological studies.
- Environmental baseline studies.
- Studies in support of project permitting.
- Metallurgical testwork and studies.
- Condemnation evaluations.

The principal exploration technique used at Çöpler has been RC and DD drilling, conducted in multiple campaigns since 2000. Initially, exploration was directed at evaluating the economic potential of the near-surface oxide mineralisation for the recovery of gold by either heap leaching or conventional milling techniques.

In 2013, drilling occurred primarily in the western portion of the Main Zone and on the northern edge of the Çöpler deposit. Drilling during 2014 focused on verification of existing drilling results through a twin hole programme. Drilling in 2015 provided data coverage at depth in the Manganese Zone, infill drilling in the Main Zone, and testing of low-sulfur mineralisation below the oxidation boundary.

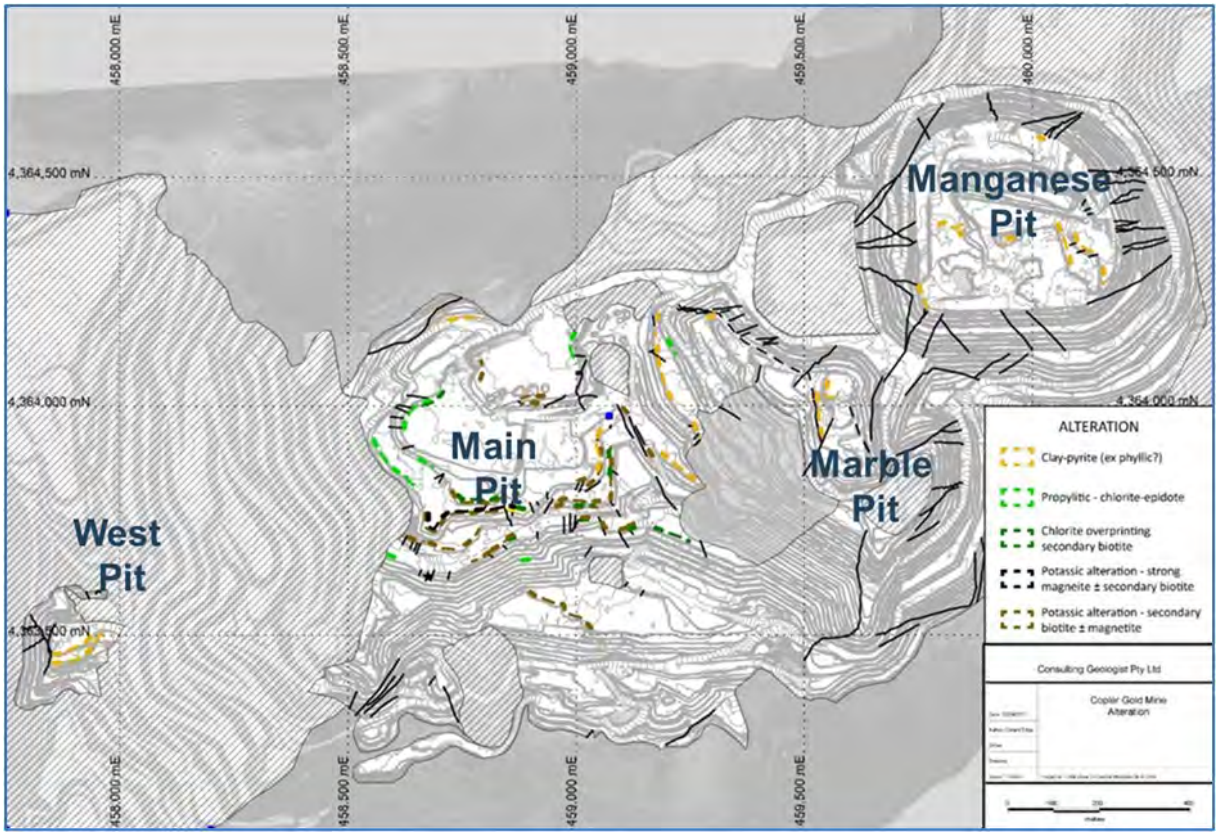
Drilling continues to better define both the oxide and sulfide portions of the Çöpler deposit.

7.1.1 Geological Mapping – Çöpler Deposit

Surface mapping and sampling has been undertaken over the life of the project, culminating in a detailed geological map of the Çöpler valley, shown in Figure 7.2.

Geological mapping is used in support of exploration vectoring, exploration activities, infrastructure locations, mine planning, and environmental monitoring. One of the aims of the mapping studies is to provide sufficient information to define mineralisation types and structural settings for the Çöpler deposits. Alteration zones, such as the high-temperature porphyry alteration preserved in the southern wall of the Main Zone (shown in Figure 7.1), were identified through detailed bench wall mapping during the target generation programmes.

Figure 7.1 Çöpler Deposit Map of Alteration Minerals



Anagold, 2020

7.1.2 Geochemical Sampling – Çöpler Deposit

Extensive sampling programmes have been, and continue to be, conducted within the Çöpler area, leading to the identification of significant gold anomalies including the near-mine discovery of the Çöpler Saddle on the western flank of the Çöpler mine.

7.1.3 Geophysics – Çöpler Deposit

Various ground and airborne geophysical surveys have been conducted at the Çöpler deposit as well as across the wider Çöpler district since mid-2000. Surveys carried out include ground magnetic, complex resistivity / Induced Polarisation (IP), time domain IP, and CSAMT surveys, as well as a regional helicopter-borne aeromagnetic survey that included the broader Çöpler district.

Physical property measurements are collected regularly on outcrops and DD core samples, including magnetic susceptibility, resistivity, and chargeability. Additionally, four samples from DD hole CDD067 were sent to Systems Exploration in Australia for a detailed physical property analysis.

7.2 Exploration – Çakmaktepe Deposit

The Çakmaktepe deposit and surrounding mineralised zones were identified by stream sediment samples with elevated gold geochemistry.

Drilling at Çakmaktepe started in 2012. The recent drilling (2019 onwards) has been designed to improve the known Mineral Resources identified at Çakmaktepe North. Data collected to date includes magnetic geophysical surveys, outcrop and bench wall mapping, rock and soil sampling, and both RC and DD drilling.

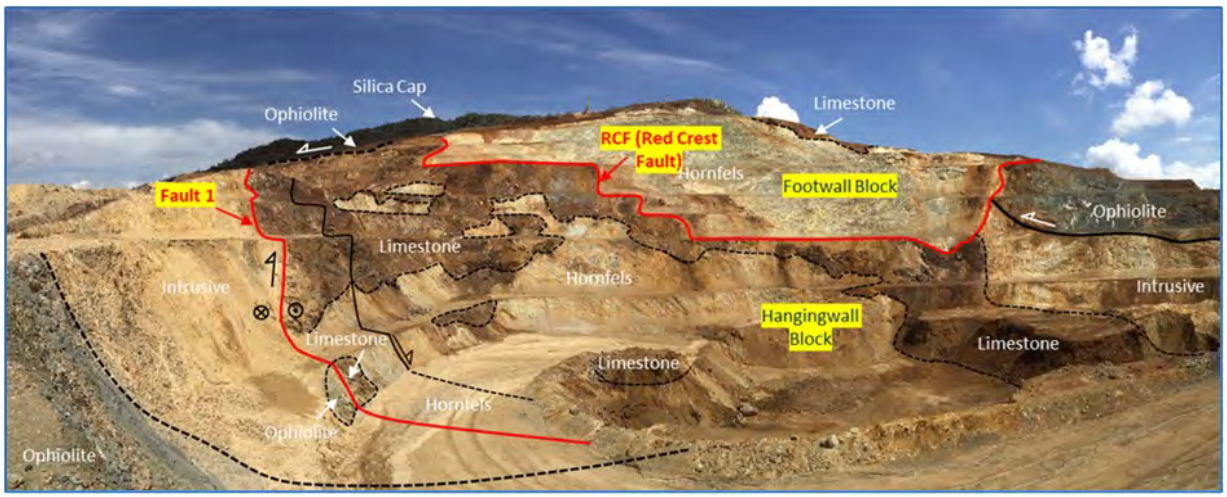
7.2.1 Geological Mapping – Çakmaktepe Deposit

The first geological mapping study in the area was conducted in 2000.

Mapping in 2014–2016 focused on deposit-wide surface geology definition at a scale of 1:1,000, reducing to 1:500 scale for the Çakmaktepe Mineral Resource area. The establishment of a network of drill tracks and pads on the sides of hills and ridges resulted in new rock exposures that have been subjected to detail geological mapping. Mapping included the collection of lithological, alteration, geochemical, and structural data.

An additional mapping study within the Çakmaktepe deposit was initiated as the Çakmaktepe operation advanced in late-2018. Details from the bench walls were collected and integrated into the drillhole dataset (mapping example shown in Figure 7.2). This has resulted in a more-accurate geological model for further pit extension exploration drilling.

Figure 7.2 Çakmaktepe Deposit – Example East Pit Geological and Structural Map



Anagold, 2020

7.2.2 Geochemical Sampling – Çakmaktepe Deposit

Geochemical sampling programmes at Çakmaktepe were initiated in 2014 and included rock chip and soil sampling (Table 7.1). Geochemical sampling was also used to define areas of alteration and mineralisation that inform additional detailed sampling surveys.

Table 7.1 Number of Geochemical Samples within the Çakmaktepe Deposit

Year	Rock Chip Samples	Soil Samples
2014	661	341
2015	3,527	–
2016	356	270
2017	63	1,638
2019	540	–
2020	13	–
Total	5,160	2,249

A total of 5,160 rock chip samples have been collected from the Çakmaktepe deposit since 2014. During 2019, rock chip sampling extended into bench wall and haulage roadsides to help define the extents of the deposit more accurately.

Soil sampling programmes were initiated during the 2010 exploration programme. The deposit has been fully covered with a 50 m x 50 m sampling grid totalling 2,249 samples.

Stream sediment sampling was carried out on a regional scale as part of target generation programmes since 2002. A total of 851 sediment samples have been collected.

7.3 Exploration – Ardich Deposit

Exploration activities across the Ardich deposit began in 2017 and included geological mapping, geochemical sampling, and DD drilling programmes.

7.3.1 Geological Mapping – Ardich Deposit

The Ardich deposit was discovered in 2017 during detailed geological mapping and rock sampling programmes. Results of the mapping study highlighted the potential of the Ardich deposit and its extension to the south. The mineralisation identified to date continues approximately 4 km on a north westerly trend.

7.3.2 Geochemical Sampling – Ardich Deposit

Geochemical sampling programmes at Ardich have included rock chip / channel and soil sampling, (Table 7.2). Most of the geochemical sampling campaigns across the Ardich deposit were designed based on findings from the geological mapping programmes.

Table 7.2 Number of Geochemical Samples within the Ardich Deposit

Year	Rock Chip/Channel Samples	Soil Samples
2017	175	125
2018	912	–
2019	880	1,718
2020	140	–
Total	2,107	1,843

A total of 2,107 rock chip / channel samples have been collected since 2017 from outcrops across the Ardich deposit. Rock chip / channel sampling has been the most representative surface sampling, collected directly from altered rock exposures. As the drilling programmes continue, newly opened drill tracks and pads give good access to new rock exposures that are subjected to rock sampling and geological mapping.

Soil sampling was completed in early-2000 as part of a regional geochemical reconnaissance programme, with early targets being potentially mineralised listwanite-capped faults. Anagold started regional systematic soil sampling on 200 m x 200 m grids to cover all tenements in 2011. At the Ardich deposit, a total of 1,843 soil samples were collected on a sampling grid of 50 m x 50 m, which was reduced to 25 m x 25 m in gold-anomalous areas in 2017–2019.

7.4 Drilling

All drillhole counts in this section include holes drilled for resource definition, geotechnical, and metallurgical purposes.

7.4.1 Drilling – Çöpler Deposit

The Çöpler deposit continues to be tested by reverse circulation (RC) and diamond core (DD) drilling. The details of drillholes utilised in this Mineral Resource update for the Çöpler deposit are presented in Table 7.3. Typically, the drillhole spacing at surface is a nominal 50 m, however, in some areas the drill spacing has been reduced to 25 m (Figure 7.3).

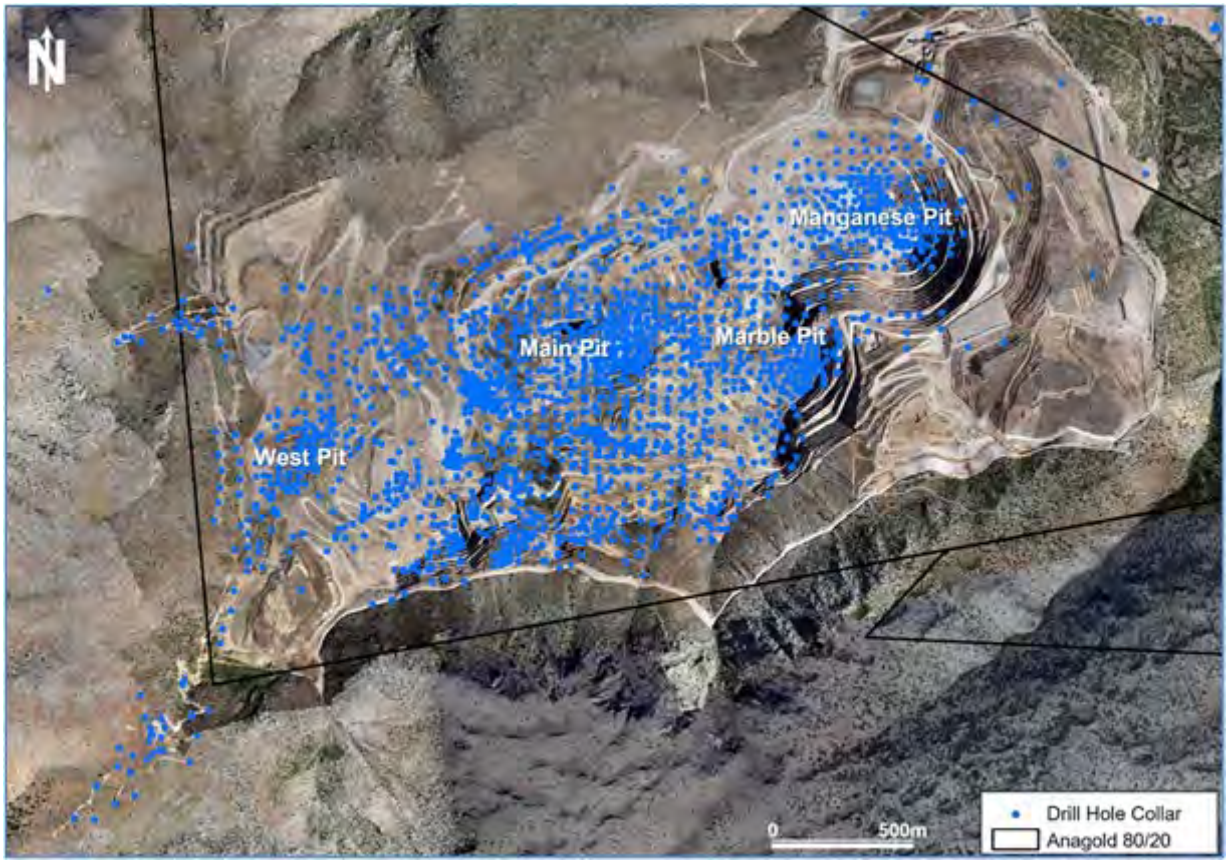
Step-out drilling at the Çöpler deposit has defined most of the lateral boundaries of the mineralisation. There has been additional development drilling, as well as condemnation drilling of areas planned for infrastructure during the last few years. In order to improve confidence in the short-range mine planning, infill drilling programmes have been conducted since 2007.

Drilling in 2014 focused on confirmation of the mineralisation with a twin hole programme.

Development drilling continued in 2015 by improving sample coverage at depth in the Manganese Zone and along structural boundaries in the Main Zone. In addition to the drilling of in situ mineralisation, a stockpile drilling programme began in December 2015 to confirm sulfide stockpile ore grade, grade distribution, and mineralogy.

Drilling at Çöpler between 2016 and 2020 mainly concentrated on target generation to increase the amount of oxide material for the production portfolio. This was focused on the Main Zone, West Zone, and the Çöpler Saddle areas. More specifically, the programme aimed to test continuation of the main gold-bearing structures based on a re-interpretation of the Çöpler structural and mineralisation settings. In-pit drilling campaigns continue with extensive exploration programmes to define additional oxide gold potential.

Figure 7.3 Drillhole Collar Location Plan – Çöpler Deposit



Anagold, 2022

Table 7.3 Drilling History – Çöpler Deposit

Year	Hole Type	Number of Holes	Metres Drilled	Total Metres / Year
2000	DD	4	971.5	971.5
2001	DD	10	2,254.4	6,320.3
	RC	32	4,065.9	
2002	DD	31	6,575.6	6,835.6
	RC	1	120.0	
	Other	2	140.0	
2003	DD	33	2,975.7	2,975.7
2004	DD	37	4,413.5	16,634.8
	RC	228	11,036.0	
	Other	16	1,185.3	
2005	DD	24	4,776.4	35,062.1
	RC	177	29,009.7	
	Other	16	1,276.0	
2006	DD	17	2,102.6	15,857.6
	RC	94	12,878.0	
	Other	24	877.0	
2007	DD	74	16,513.2	34,435.9
	RC	125	16,998.5	
	Other	40	924.2	
2008	DD	35	5,059.4	9,963.4
	RC	41	4,904.0	
2009	DD	23	5,789.5	10,135.5
	RC	34	4,346.0	
2010	DD	14	1,916.1	2,060.6
	RC	1	144.5	
2011	DD	115	29,359.0	47,342.0
	RC	150	17,983.0	
2012	DD	145	50,156.5	64,041.0
	RC	120	13,884.5	
2013	DD	126	33,040.9	37,585.9
	RC	53	4,545.0	
2014	DD	12	1,296.5	1,296.5
2015	DD	59	6,214.1	12,778.1
	RC	69	6,564.0	
2016	DD	148	3,826.5	6,020.5
	RC	94	2,194.0	
2017	DD	41	3,370.5	3,370.5
2018	DD	109	10,745.0	10,745.0
2019	DD	62	7,607.7	7,607.7
2020	DD	131	23,029.90	23,029.90
2021	DD	68	18,491.80	18,491.80
Total	RC	1,219	128,673.1	
	DD	1,318	240,486.3	
	Other	98	4,402.5	
	All Types	2,635	373,561.9	

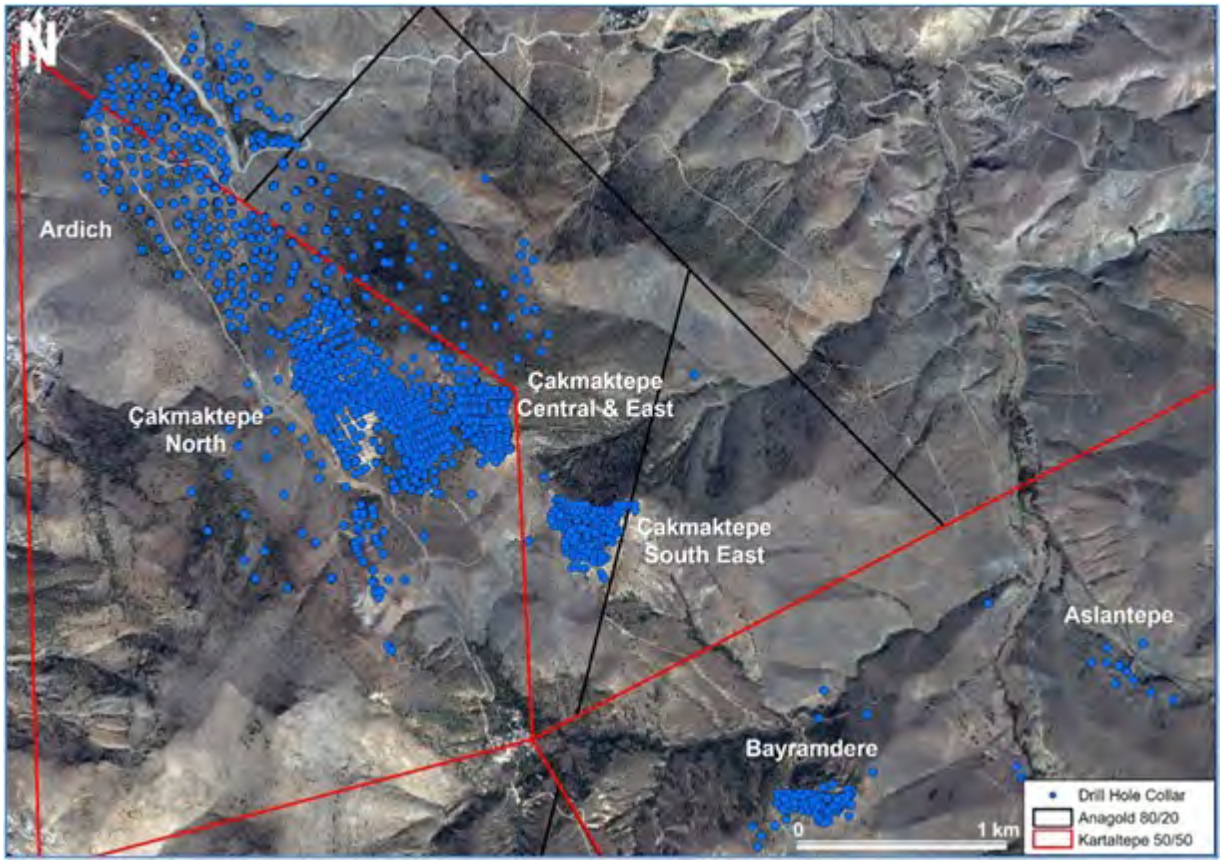
1.1.2 Drilling – Çakmaktepe Deposit

A total of 1,183 drillholes have been drilled at the Çakmaktepe deposit since 2012. This included 528 RC holes, 570 DD holes, and the remainder a mixture of RC and DD. As production proceeded within the Çakmaktepe Central and Çakmaktepe East pits, additional targets were generated to provide push-back options within the pit design. A total of 136 DD holes have been completed since 2019 to test for continuation of the Çakmaktepe deposit, Figure 7.4 and Table 7.4.

Table 7.4 Drilling History – Çakmaktepe Deposit

Year	Number of Drillholes	Drilled Metres
2012	21	2,287.5
2013	7	962.0
2014	162	15,976.7
2015	256	21,463.2
2016	485	64,108.6
2017	116	9,366.2
2019	75	5,919.4
2020	61	8,702.3
Total	1,183	128,785.9

Figure 7.4 Drillhole Collar Location Plan – Ardich, Çakmaktepe, and Bayramdere Deposits



Anagold, 2022

1.1.3 Drilling – Ardich Deposit

A total of 531 DD holes have been drilled at the Ardich deposit since late-2017, Figure 7.5 and Table 7.5. After the initial discovery of the Ardich deposit, DD drilling programmes have continued to better-define the mineralisation and to improve the Mineral Resource estimates. Drilling to obtain samples for metallurgical testing and hydrogeological studies has also been undertaken at Ardich.

A total of 233 drillholes were included in the previously-announced Ardich Mineral Resource (CDMP20TR, drillholes AR1–AR233). Since the data cut-off date for the CDMP20TR Mineral Resource update, data has been obtained for an additional 129 drillholes (AR233–AR531).

A drillhole collar plot is shown in Figure 7.5, indicating the various generations of drilling.

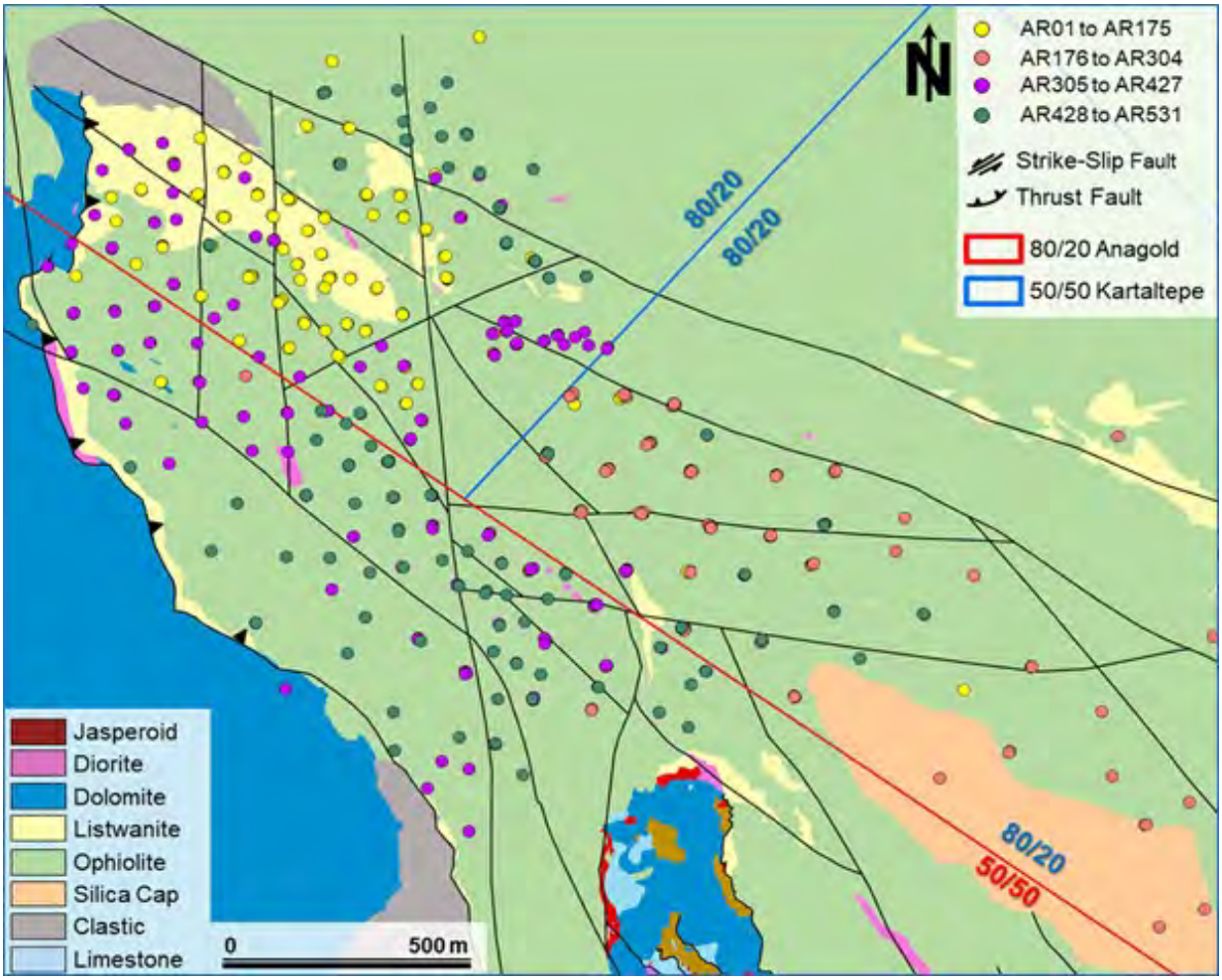
The target of the post-2020 drilling has been two-fold:

- Infill drilling within the bounds of the 2020 resource model area.
- Step-out drilling to the west, south, and south-west of the 2020 resource area.

Table 7.5 Drilling History – Ardich Deposit

Year	Number of Drillholes	Drilled Metres
2017	9	1,374.10
2018	91	14,216.40
2019	133	27,821.20
2020	147	35,146.65
2021	151	32,586.00
Total	531	111,004.35

Figure 7.5 Drillhole Collar Location Plan – Ardich



Anagold, 2022

Drillholes AR1 through AR427 have contributed to updated (2021) resource modelling for Ardich, which is discussed in Section 11.3. The 2021 update resulted not only in a larger inventory than that previously-announced but is also a higher confidence inventory. The data cut-off date for updated Ardich resource model was 31 May 2021.

1.1.4 Drilling – Mavialtin Porphyry Belt Prospects

Drilling within the Mavialtin Porphyry Belt first started in early-2000. Re-interpretation of historical drillholes and detailed mapping programmes resulted in the definition of new drill targets in subsequent years. A total of 353 holes have been completed between 2001–2020 at various targets within the Mavialtin Porphyry Belt, Figure 7.6 and Table 7.6.

1.1.5 Grid Coordinate Systems

The Çöpler project uses the European 1950 (E1950) datum coordinate system – this is a Turkish Government requirement.

The Çöpler project is in UTM6 zone 37N of the E1950 coordinate system. Until 2014, drillhole collars were surveyed by the mine surveyors in the E1950 UTM3 coordinate system and then converted to E1950 UTM6 before making them available to other personnel. The conversion from UTM3 to UTM6 was achieved by subtracting 1,746 m (–1,746 m) from the UTM3 northing coordinate and adding 17 m (+17 m) to the UTM3 easting coordinate. There is no rotation, scaling, or change in elevation between the E1950 UTM3 and E1950 UTM6 systems. Since March 2014, collar coordinates have been and are being collected in the ED1950 UTM6 coordinate system.

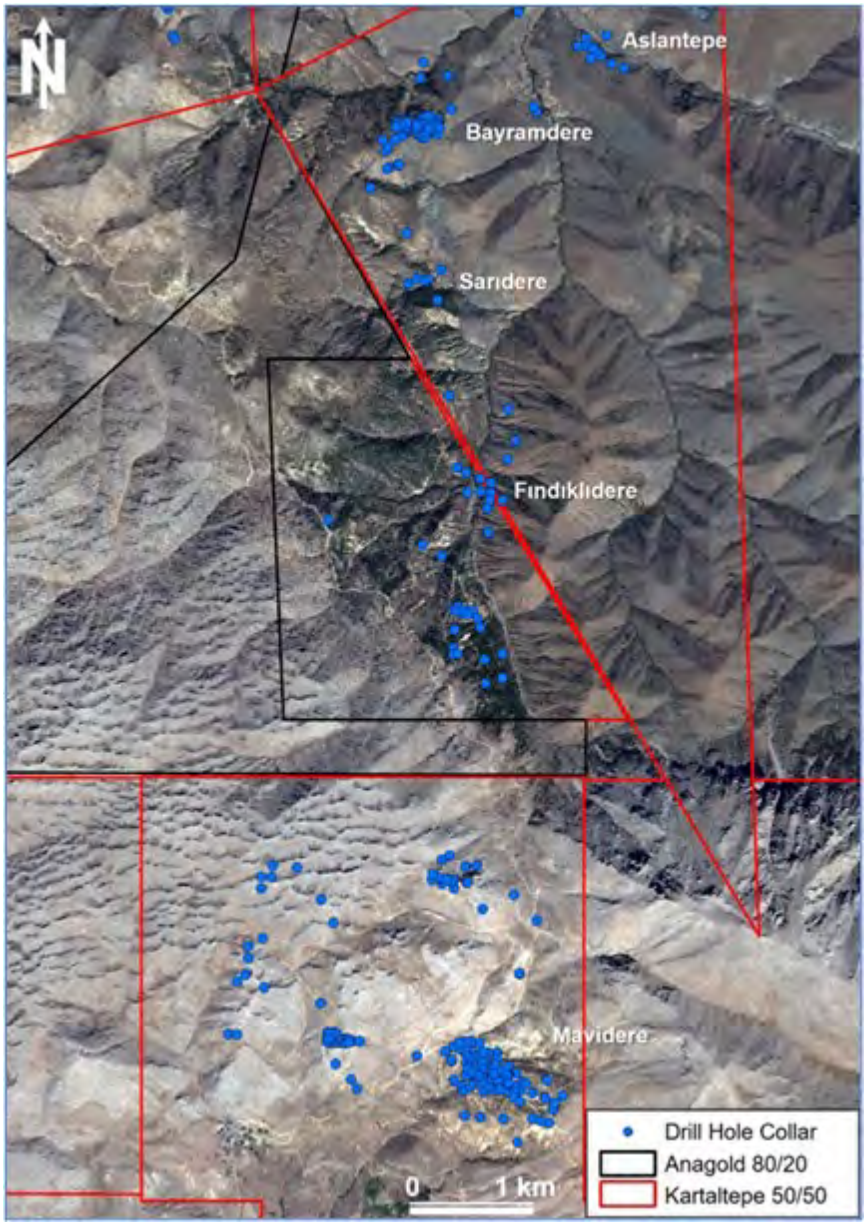
1.1.6 Collar and Down-hole Surveys

Up until 2014, drillhole collars were surveyed by Anagold surveyors using a Topcon differential global positioning system (DGPS) instrument. Approximately 4% of the drillholes up to 2014 have planned collar locations, rather than surveyed collar data. After 2014, the exploration department managed the collection of collar survey coordinates with the use of a differential GPS (DGPS). All collar survey data is checked prior to being stored within the corporate drillhole database.

Down-hole surveys are collected for all drillholes. Prior to 2009, down-hole surveys were undertaken using a Reflex Instruments Limited (Reflex) single shot down-hole camera. In 2009, a Reflex multi-shot down-hole camera was introduced on the project. Drilling contractors upgraded to a Reflex EZ Trac tool for down-hole survey data collection through to the end-of-2017, thereafter, to date the majority of the drillholes have been down-hole surveyed using Reflex S Process V2.5.0650 and Devico PeeWee. Survey measurements were taken every 10 m down-hole, and data provided with raw files to record quality assurance and quality control (QA/QC) for each survey.

The depth of the surveys varies between drillholes and is dependent on the depth and angle of the drillhole.

Figure 7.6 Drillhole Collar Location Plan – Mavialtin Porphyry Belt Prospects



Anagold, 2022

Table 7.6 Drilling History – Mavialtin Porphyry Belt Prospects

Project	Year	Number of Drillholes	Drilled Metres
Aslantepe	2014	15	2,278.7
	2018	2	440.3
	2020	1	400.8
	Aslantepe Total	**18**	**3,119.8**
Bayramdere	2007	4	763.5
	2013	28	4,024.0
	2014	68	4,698.3
	2015	17	669.9
	2016	1	98.0
	2020	2	480.5
	Bayramdere Total	**120**	**10,734.2**
Fındıklıdere	2008	4	1,085.3
	2012	15	5,132.0
	2013	4	1,091.2
	2014	3	825.5
	2019	5	2,501.5
	2020	5	2,121.8
	Fındıklıdere Total	**36**	**12,757.3**
Sarıdere	2007	6	1,160.5
	2013	1	301.0
	2020	3	1,384.0
	Sarıdere Total	**3**	**2,845.5**
Mavidere	2001	8	1,780.3
	2008	22	7,761.1
	2011	22	3,806.2
	2012	37	10,479.5
	2013	78	11,171.6
	2018	5	2,119.8
	2019	4	1,567.1
	Mavidere Total	176	38,685.6

8 SAMPLE PREPARATION, ANALYSES, AND SECURITY

From 2004 to late-2012, samples were prepared at ALS İzmir, Turkey (ALS İzmir) and analysed at ALS Vancouver, Canada (ALS Vancouver), (collectively ALS Global). From late-2012 through 2014, samples were prepared and analysed at ALS İzmir. Samples in 2015 were prepared and analysed at the SGS laboratory in Ankara, Turkey (SGS). From 2015 to current, ALS İzmir is being used as the main laboratory and samples are being prepared and analysed there. Umpire analysis was completed by ACME Mineral Laboratories (ACME) in Ankara, Turkey.

SGS is certified to ISO 9001:2008 and OHSAS 18001, ALS İzmir has ISO 9001:2008 certification, and ALS Vancouver is ISO/IEC 17025:2005 accredited for precious and base metal assay methods. ACME is part of the Bureau Veritas (BV) group, globally certified to ISO9001:2008.

ALS Global and SGS are specialist analytical testing service companies, both independent of SSR.

Samples from the 2000–2003 drilling programme were submitted to OMAC Laboratories Limited (OMAC) in Loughrea, Ireland. ALS Global assumed ownership of OMAC in 2011.

Detailed sampling and quality assurance and quality control (QA/QC) procedures for reverse circulation (RC) and diamond core (DD) drilling were instigated and have been in use since the first drill programme. The QA/QC procedures have been retained by Anagold, although the insertion rates have been modified for some of the later programmes.

Anagold operates an on-site laboratory for assay of production samples. The on-site laboratory is certified to ISO 17025:2017 but is not independent. It is primarily used for the analysis of grade control samples.

8.1 Sample Collection

8.1.1 Reverse Circulation Drilling Sample Collection

Historically, RC drilling was completed with a 4.5–4.75 inch (11.4–12.0 cm) diameter down-the-hole hammer drill rig. RC cuttings were passed through a cyclone with a 10 inch (25.4 cm) port for sample collection. RC drill intervals were 1 m in length and cuttings for the entire 1 m sample interval were collected from the cyclone underflow in large, reinforced plastic bags. Prior to 2015, RC samples were split using a Jones splitter.

Since 2015, RC drilling has been completed with a nominal 5.25 inch face sampling hammer with centre sample return to a rig-side mounted sampling system. The sampling system included of a cyclone, sending 1 m samples to a rotary cone splitter. The rotary cone sample splitter was adjusted to maintain a representative sample volume. RC chip samples, to a weight of 3–5 kg, were collected in calico bags for analysis. All sample bags are clearly numbered and labelled with the drillhole name and sample number. Residual samples were collected in PVC bags and stored in a bag farm for six months in case re-logging, duplicate sampling, metallurgical sampling, or follow-up QA/QC was required.

The rig sampler sieves a small portion of the residual sample from the large plastic bag and places the sieved portion in a plastic chip tray to provide a sample for logging and as an enduring geological record. The plastic chip trays are photographed.

RC drilling is generally only used above the water table. The water table is closer to the surface in the northern region of the Main Zone, and for that reason, diamond drilling is the preferred method in this zone.

The following QA/QC samples are collected during the RC sampling process:

- Certified Reference Materials (CRMs) are inserted into each sample batch at a rate of two CRMs in every 40 samples (1-in-20 insertion rate).
- Prior to 2015, blank samples were inserted into each batch at a rate of one blank in every 60 samples (1-in-60 insertion rate). Since 2015, this has been changed to a 1-in-30 insertion rate.
- Field duplicate samples are collected by splitting an RC sample twice to collect two independently numbered samples of the same interval or selecting a quarter of the remnant core. Historically, field duplicates were collected and inserted into the sample job at a rate of 1-in-40 samples. In 2015, field duplicate insertion rates were increased to 1-in-20.

8.1.2 Diamond Drilling Sample Collection

Up until 2017, the diamond drilling undertaken on the project has generally been HQ or NQ diameter. HQ core has a nominal diameter of 63.5 mm while NQ has a nominal size of 47.6 mm. Approximately 90% of the DD core drilled at Çöpler and Çakmaktepe is HQ. Some drillholes are started with HQ and then reduced in size to NQ further down the hole.

Of the more recent drilling at Ardich, approximately 60% was completed with HQ core, and the remainder was mostly PQ sized core (very few holes were NQ core). PQ core has a nominal diameter of 85 mm.

Drill core is boxed at the rig by the driller and transported to the sample preparation facility on-site for logging by Anagold exploration staff.

Logging includes the collection of lithological, alteration, and structural information. Since 2017, drill core has also undergone a detailed geotechnical logging process including a detailed 'mining rock mass rating' to 'rock mass rating' system. In addition, core samples are collected every 10 m to undertake point load IS50 testing for uniaxial compressive strength (UCS).

Diamond core that is competent is sawn in half longitudinally with a diamond saw at the core yard. Core that is broken or rubbly is sampled using a spatula to take approximately half the sample. Half the core is placed in a sample bag and the remaining half is returned to the correct position in the core tray. Sample numbers are assigned, and sample tags are placed in the sample bags and recorded in the master sample list. Sample intervals are typically 1 m down-hole.

Prior to 2015, QA/QC samples were collected routinely during the sampling process. CRMs were inserted into each sample job at a rate of 1-in-20. Blank samples were inserted into each sample job at a rate of 1-in-60. Field duplicate samples were collected by cutting the remaining half core portion into two and selecting one quarter of the remaining sample to be submitted as the field duplicate. Field duplicates are collected and inserted into the sample job at a rate of 1-in-40 samples. From 2015 onwards, the field duplicate insertion rate was increased to 1-in-20.

8.1.3 Drillhole Logging and Data Collection

RC chip samples are collected by field staff for review by the logging geologist. Similarly, core samples are metre marked by field staff in preparation for the logging geologist.

Drill core is subjected to detail logging using Anagold geological codes and logging formats. Information captured includes lithology, structure, alteration, mineralisation, and geotechnical data on veining, joint frequency, and joint sets.

Until September 2019, all geological data was recorded onto hard-copy logs and then transcribed into text files, using data-loading templates, ready for loading into the corporate relational SQL database. Since September 2019, hard copy logs have been replaced with data loading templates on touchpads with direct links to the company server. Files located on the server are uploaded into the corporate database regularly following appropriate checking of the data entry.

Until 2017, the SQL drilling database was managed by the Anagold exploration team located at the Çöpler mine site. Thereafter, the exploration database is controlled and managed by the Anagold exploration team located at the head office in Ankara.

8.2 Sample Preparation

8.2.1 Reverse Circulation Sample Preparation

The majority of historical RC sample preparation was completed at ALS İzmir. From late-2012 through to the end-of-2013, pulp samples weighing approximately 150 g were sent to ALS Vancouver. All samples in 2014 were generated and analysed by ALS İzmir. In 2015, samples were sent to SGS for preparation and assay. Since 2015, ALS Global is being used as the main laboratory.

8.2.2 Diamond Drilling Sample Preparation

The majority of historical DD sample preparation was completed at ALS İzmir. From late-2012 through to the end-of-2013, pulp samples weighing approximately 150 g were sent to ALS Vancouver. All samples in 2014 were generated and analysed by ALS İzmir. In 2015, samples were sent to SGS for preparation and assay. Since 2015, ALS Global is being used as the main laboratory.

8.3 Sample Analysis

In the period 2004–2014, samples analysed for Au at ALS Vancouver used method Au-AA25, which is a fire assay of a 30 g sample followed by atomic absorption spectroscopy (AAS). The lower and upper detection limits are 0.01 g/t Au and 100 g/t Au respectively. Samples that returned Au grades above the upper detection limit were re-analysed using the gravimetric method Au-GRA21.

Analysis of an additional 33 elements was performed using the ALS Global method ME-ICP61, which involves a four-acid (perchloric, nitric, hydrofluoric, and hydrochloric acid) digestion (four-acid digest), followed by inductively coupled plasma-atomic emission spectroscopy (ICP-AES). Ag, Cu, Pb, Zn, and Mn are among the 33 elements analysed by this method.

In 2015, samples sent to SGS were analysed using the Au fire assay method FAA303, which also uses a 30 g sample and ICP-AES. Detection limits are 0.01 g/t Au. When content was detected above 3 g/t Au, method FAG303 using a gravimetric finish was added.

A 36 element analysis was performed at SGS with ICP40B method, which involves a four-acid digest (4A) followed by analysis via inductively coupled plasma-optical emission spectroscopy (ICP-OES).

From 2016 to recent, samples have been sent to ALS İzmir. Until 2019, Au-AA23 method was used, involving a fire assay of a 30 g sample followed by AAS with the lower and upper detection limits being 0.01 g/t Au and 10 g/t Au respectively. Samples that returned grades above the upper Au detection limit were re-analysed using the gravimetric method Au-GRA21. Since 2019, Au-AA24 method with a 50 g sample and lower detection limit of 0.005 g/t Au has been used. For Au grades above the upper detection limit, gravimetric method Au-GRA22 with a 50 g sample is used.

8.4 Sample Security

Drill core and RC chips are transported to the core storage facility by either the drilling company personnel or Anagold geological staff. Once at the facility, the samples are kept in a secure location while logging and sampling is conducted. The DD core storage facility is enclosed by a fence and gate that is locked at night and when the geology staff are absent. When samples are transported off-site a commercial carrier is used.

8.5 QA/QC Procedures

The QA/QC programme has historically consisted of a combination of QA/QC sample types that are designed to monitor different aspects of the sample preparation and assaying process.

Blanks consist of non-mineralised samples that are submitted in order to identify the presence of contamination through the sample preparation process. Prior to 2015, blank samples comprised of commercially available pulp samples. As pulp blanks require neither crushing nor pulverising, they are of limited value in terms of identifying contamination through those aspects of the sample preparation process. Therefore, commencing in 2015, the pulp samples were switched to a coarse quartz material that would allow for better monitoring of sample contamination. Blank samples have been inserted routinely into all sample batches. If a blank sample returns an assay grade above an acceptable limit, contamination from a previous mineralised sample is assumed to have occurred at either the crushing or pulverisation stage. The first sample in a drillhole is typically a blank, after which blanks are inserted into the sample batch at a nominal rate of 1-in-60 samples. The insertion rate was updated and for the period 2015–2020 to approximately 1-in-30 for diamond drillholes.

CRM samples are inserted into sample submissions in order to monitor and measure the accuracy of the assay laboratory results over time. CRMs have been inserted into sample submissions at a nominal rate of 1-in-30. The frequency was increased from 3% to 5% in 2015. Several different CRMs have been selected for use at varying Au and Cu grades over the life of the project. Pulp blanks have been used to determine the accuracy of assay results at very low-grades, and as such are inserted using the same logic as CRMs. The combined insertion rate of pulp blanks and CRMs is a nominal 1-in-20 samples. For the period 2015–2020, the combined rate is approximately 1-in-25.

Field duplicates are used as a means of monitoring and assessing sample homogeneity and inherent grade variability and enable the determination of bias and precision between sample pairs. Field duplicates have been routinely inserted into both RC and DD sample submissions since drilling began. DD field duplicates are generated by cutting the residual half core sample into halves again and submitting one of the resultant quarters of core as the field duplicate. RC field duplicates are generated by splitting the RC sample twice to create two samples from the same interval. Field duplicates have historically been submitted at a nominal rate of 1-in-40 samples. In 2015, the field duplicate insertion rate was increased to 1-in-20. Since 2017 for DD samples, duplicate samples are being collected as laboratory duplicates instead of quarter core field duplicate samples.

9 DATA VERIFICATION

Independent detailed quality assurance and quality control (QA/QC) analysis is undertaken routinely on data from the Çöpler project.

This work was discussed in detail in the CDMP20TR. The reader is referred to that report for all QA/QC of data used to develop resource models prior to November 2020.

The QA/QC pertaining to data used in the updated Ardich resource model is described here.

9.1 Çöpler Deposit Data Verification

The independent quality assurance and quality control (QA/QC) review presented in the CDMP20TR confirms that the Çöpler drillhole data sampling and assaying is of a good standard and suitable for the purpose of mineral resource estimation and the reporting of exploration results. This is especially true for gold, which is the primary metal of economic interest. The confidence in the silver, copper, sulfur, and carbon analyses is at a level that at minimum supports modelling for geometallurgical and by-product metal characterisation.

In 2014, an independent database audit and review of available QA/QC data was undertaken to ensure the data are of sufficient quality to support resource estimation (the 2014 audit). The database audit covered data collected from 2000 to December 2013.

A further independent audit of the Çöpler deposit database as of 15 July 2015 was completed that year to verify the data are of sufficient quality to support Mineral Resource estimation of gold, copper, and silver for the Çöpler deposit (the 2015 audit). The 2015 audit focused on the 121 drillholes (12,959.8 m) completed since the 2014 audit. Available QA/QC data were evaluated to ensure the assay data are suitable to support resource estimation.

A data audit covering new data obtained from 2015 through 2020 was completed in June 2020 (the 2020 audit):

- Yetkin, E., 2020 (2020a). Çöpler Project Drill Data Validation, Verification & QA/QC Review. 30 June 2020.

The 2020 audit discusses some minor inconsistencies and outliers but overall confirms the previous findings that the Çöpler drillhole data sampling and assaying is of a good standard and suitable for the purpose of Mineral Resource estimation and the reporting of exploration results.

9.2 Çakmaktepe Deposit Data Verification

The independent QA/QC review presented in the CDMP20TR confirms that the Çakmaktepe drillhole data sampling and assaying is of a good standard and suitable for the purpose of mineral resource estimation and the reporting of exploration results. This is especially true for gold, which is the primary metal of economic interest. The confidence in the silver, copper, sulfur, and carbon analyses is at a level that at minimum supports modelling for geometallurgical and by-product metal characterisation.

9.3 Ardich Deposit Data Verification

9.3.1 Data Verification – Ardich

Independent data verification was conducted on the Ardich drilling databases and available QA/QC sample data for drilling completed from the first Ardich hole drilled on 1 August 2017 to the established data cut-off date for the Mineral Resource modelling of 29 May 2021.

This verification was completed in stages as drill programmes progressed, and is reported in nine reports:

- Mineral Consultancy, 2018. Ardich Project Drill Data QA/QC Review. 28 February 2018.
- Yetkin, E., 2018 (2018a). Ardich Project Drill Data QA/QC Review. 29 July 2018.
- Yetkin, E., 2018 (2018b). Ardich Project Drill Data QA/QC Review. 29 October 2018.
- Yetkin, E., 2019 (2019a). Ardich Project Drill Data Validation, Verification & QA/QC Review. 8 March 2019.
- Yetkin, E., 2019 (2019b). Ardich Project Drill Data Validation, Verification & QA/QC Review. 31 October 2019.
- Yetkin, E., 2020 (2020c). Ardich Project Drill Data Validation, Verification & QA/QC Review. 30 March 2020.
- Yetkin, E., 2020 (2020d). Ardich Project Drill Data Validation, Verification & QA/QC Review. 30 November 2020.
- Yetkin, E., 2020 (2020e). Ardich Project Drill Data Validation, Verification & QA/QC Review. 30 January 2021.
- Yetkin, E., 2020 (2020f). Ardich Project Drill Data Validation, Verification & QA/QC Review. 30 July 2021.

It is concluded that the Ardich drillhole data sampling and assaying is of a high-standard and suitable for the purpose of Mineral Resource estimation and the reporting of exploration results.

9.3.2 Collar Location – Ardich

Collar positions were verified against the pre-mine topographic surface DTM to check for inconsistencies in elevation. The threshold difference between the DTM and the drillhole collar elevation used for validation was a ±4 m difference in data up to 2020, at which time the tolerance was decreased to ±3 m.

One hole was found to have a difference outside the tolerance limits – AR214, with 7.12 m difference. All other differences were < 3 m.

As Ardich has not been mined to date, this discrepancy can be resolved by re-surveying the collar location.

9.3.3 Down-hole Surveys – Ardich

All the Ardich drillholes were downhole surveyed using a multi-shot (Devico or Reflex) with readings spaced at 10 m on average (range of 4–110 m).

Seven Ardich holes were found to have no down-hole survey data and three successive survey intervals were found to have large gaps between readings (95–170 m).

A comparison of successive down-hole survey readings for a given drillhole was undertaken using a maximum 5° variation over 30 m (0.17°/m) in either inclination or azimuth to flag records with excessive deviations. A total of three spurious readings were deemed to be out of acceptable limits, and those data were removed from the resource database.

A recommended magnetic declination correction discussed in the CDMP20TR has been implemented for Ardich data.

9.3.4 Geology, Density, and Geotechnical Logs – Ardich

The drillhole database lithology table was checked for alphanumeric categorical code validity and interval reporting consistency with the log key sheets. No mis-matches were identified, and all entries were found to be identical to the codes provided in log key sheets. One lithology interval was shown to have an overlapping FROM–TO and there were three intervals that were missing lithology records.

Some minor discrepancies were identified in other coding in the database, such as lower-case 'fault' codes used instead of upper-case, or a lithology of 'CLASTICS' rather than 'CLASTIC', in both cases causing two different unique categories to be created, and some new codes created in the 'redox' and 'alteration' tables that do not appear in the log key sheet.

Several logged intervals were re-logged following the identification of incompatible geochemistry, and all of these were updated in the lithology logs used in the 2021 resource modelling dataset.

Density data were reviewed during six of the nine Ardich verification campaigns. Density measurements are collected using the same process described in Section 12.1.4 for the Çöpler deposit. A systematic truncation from four decimal places to three decimal places was observed, and several transcription errors in FROM–TO records were identified. Manually calculated spot check values were within ~2% of the density reading supplied in the resource database. The density samples are representative in a spatial and geological context. On a total project basis, there are no obvious density outliers.

9.3.5 Assays – Ardich

There were two different independent laboratories used for assays and geochemical analyses for the entire Ardich database to date, these were:

- ALS Global
- BV (ACME)

The variety of laboratories resulted in a variety of method codes for fire assay, four-acid digestion, multi-element, and Leco analyses.

In consistency checks on the 'tblVWDHAssays_ALL' assay table, four samples were found to have missing assay entries. The highest 1% of assays were checked for transcription errors, with no major errors identified.

9.3.6 Witness Samples – Ardich

No witness samples are known of for Ardich.

9.3.7 Quality Assurance / Quality Control (QA/QC) Results – Ardich

Ardich QA/QC data was independently reviewed on a campaign basis at milestone times in the evolution of the exploration programme. There are currently nine individual reports describing the results. The collective results are reported in this section.

The Ardich QA/QC programme follows suggested guidelines for QC sample insertion rates:

- 3%–5% CRMs and blanks
- 5%–10% field duplicates
- 3%–5% pulp duplicates

- 5% of coarse rejects/pulps to a third-party external laboratory

9.3.7.1 Screen Analyses – Ardich

No screen analysis has been undertaken to date on Ardich material.

9.3.7.2 Certified Reference Material (CRM) Samples – Ardich

The principal assay laboratory for drill samples was ALS İzmir, with umpire samples principally submitted to the BV (ACME) laboratory.

Au CRMs were submitted across the entire Ardich database, plus S (Leco) and C (Leco) CRMs in the later programmes. The average insertion rate was of the order of 3.5%, which meets the guideline.

The performance of the CRM sample data was assessed by plotting the laboratory assay values for Au (FA and CL), Ag (4A), Cu (4A), S (4A and Leco), and C (Leco) of the CRMs against time on control charts.

A review of the CRM results from the samples submitted indicated that both ALS İzmir and BV (ACME) had acceptable overall performances for the listed Au CRMs used during the programme, although ALS consistently had issues with isolated ±2SDs as well as failed cases of ±3SDs. In general, the ALS shows high bias in almost all Au CRMs at varying levels, being more evident in low Au and cut-off Au grades, which are also responsible for the most of the +2SD and +3SD occurrences. Few of these failed cases appeared to be as a result of mis-labelling. No unexplained extreme outliers were identified. Several CRMs had insufficient data to identify any change in performance over time.

The performance of Ag, Cu, S, and C CRMs was also reviewed, showing ALS had an acceptable overall performance with isolated cases to be followed up for Ag, Cu and S.

ALS and BV (ACME) performance both for S (4A) and S (Leco) are generally acceptable other than calibration-related bias noted for low-grade CRMs. C (Leco) performance of OREAS20A (ALS and BV (ACME)) and OREAS25A (ALS and BV (ACME)) returned acceptable results both for low-grade and cut-off grade.

Timely monitoring of the CRM performance will ensure that the replicate assays stay within range, that systematic analytical drift is promptly corrected, and that mis-labelled samples are promptly identified. The extreme-outlier cases need to be investigated and if these are found to be mis-labelling then the organisational procedures should be reviewed and updated. If it transpires that these are not mis-labelled samples and the errors are found to be laboratory-related, then re-assay procedures needed to confirm the assays for the relevant batches.

9.3.7.3 Blank Samples – Ardich

Blanks were inserted into the sample stream as a check for cross-contamination during sample preparation. The insertion rate was of the order of 3%, which meets the guideline.

For ALS İzmir, Au assays for blanks were assessed by charting the laboratory assay values and assessing performance versus the maximum accepted threshold value of 0.05 g/t Au, which is 10 times the lower DL. All blank assays were below 3DL except for one sample, however it was noted that there were several occurrences where consecutive blanks assayed close to the threshold.

For Ag, all blank assays were below the maximum threshold value of 0.5 g/t Ag. For Cu, the threshold level is 10 ppm Cu and there were several samples that assayed slightly above, at, or close to the threshold value. For sulfur (both for 4A and Leco) the threshold value is 0.1% S and all blank sample assays were below this value. For carbon (Leco) the threshold value is 0.1% C and there are 92 assays above the threshold. These results show that the blank material used to monitor Au and other elements may not be suitable for C analysis, or that the samples are contaminated during the sample preparation. Other than these no obvious contamination issues are apparent within the assay database.

For BV (ACME) blanks returned all below threshold values for Au, Ag, Cu, S (4A), S (Leco), and C (Leco) analyses. Only nine blanks were submitted to BV (ACME), which does not meet the 3%–5% insertion rate guideline.

9.3.7.4 Duplicate Samples – Ardich

Duplicate sample data was analysed to determine the reproducibility of assays according to the combination of geological, sampling, and analytic variances. The insertion rate was of the order of 5%, which meets the guideline.

The duplicates in each of the six QA/QC reviews have an average absolute relative difference of between 0.029–0.140 for Au, with a sample-weighted average of approximately 0.053, which falls within or below the rule-of-thumb of 0.10–0.20 absolute relative difference range for acceptable laboratory duplicate samples for each campaign.

The Au assay variance in each campaign, given by the average percent difference, is within the range of –2.6%–3.8%, with an average of approximately –0.25%, which falls within the rule-of-thumb of ±10% precision window.

The absolute relative difference and average percent difference results were equally encouraging for S (4A) where data was obtained (from drillhole AR56 onwards).

The high-precision of the duplicates reflects the inherent sample homogeneity of laboratory-prepared duplicate samples from coarse rejects, which allows more representative sampling of the grade population.

9.3.7.5 Check Assays – Ardich

All six QA/QC campaigns report the results of umpire assays with pulp duplicates submitted to BV (ACME) for independent analysis.

The rate of check assay was lower for the earlier campaigns, as low as 2% in the first campaign, but the overall average is 4.7%, which is approaching the guideline.

Generally, the results show low-level artefacts due to differing DLs between the two laboratories, and the occasional outlier result, but overall, the scatter plots demonstrate strong linear correlation.

The check assays in each of the six QA/QC reviews have an average absolute relative difference of between 0.042–0.078 for Au, with a sample-weighted average of approximately 0.064, which falls below the rule-of-thumb of 0.10–0.20 absolute relative difference range for acceptable laboratory duplicate samples in every campaign.

Two of the earlier campaigns showed questionable performance for Ag and S; a result that is considered to be moderated by the small number of samples submitted in these early campaigns.

9.3.8 Discussion – Ardich

The independent QA/QC reviews confirm that the Ardich drillhole data sampling and assaying is of a high-standard and suitable for the purpose of mineral resource estimation and the reporting of exploration results. This is especially true for gold, which is the primary metal of economic interest. The confidence in the silver, copper, sulfur, and carbon analyses is at a level that at minimum supports modelling for geometallurgical and by-product metal characterisation.

9.4 Bayramdere Deposit Data Verification

The Bayramdere sampling project was part of the near-mine programme that also included the Yakuplu East and Yakuplu South-east areas.

Independent data verification was conducted during and immediately following the 2015 drilling programme on the project, and a data audit for Bayramdere drilling was completed in January 2016 (Cube Consulting, 2016b).

The independent data verification concluded that the sample data is considered to be of an acceptable standard and appropriate for the purpose of Mineral Resource estimation and the reporting of exploration results.

10 MINERAL PROCESSING AND METALLURGICAL TESTING

10.1 Oxide Ore for Heap Leaching

10.1.1 Testwork – Çöpler Oxide

Metallurgical testwork for Çöpler oxide ore for heap leaching commenced in September 2004. Much of this testing was carried out by Resource Development Inc. (RDi) of Wheat Ridge Colorado, with oversight from Ausenco Limited of Brisbane, Australia, and Pennstrom Consulting of Highlands Ranch, Colorado. Additional follow-up metallurgical testwork was conducted by AMMTEC Limited (AMMTEC) of Perth, Australia in 2009 and by McClelland Laboratories, and supervised by Metallurgium more recently.

The heap leaching facilities were commissioned at the Çöpler project in late-2010 and have operated continuously since that time. Operations are currently ongoing.

10.1.2 Testwork – Çakmaktepe Oxide

Metallurgical testwork on Çakmaktepe oxide ore for heap leaching was undertaken at the on-site metallurgical laboratory, initially under the supervision of Kappes, Cassiday & Associates. The initial testwork in 2015 undertook bottle roll and column leach tests. The results compare to the Çöpler oxide ore, with similar behaviour and leach kinetics. Subsequently, Çakmaktepe oxide ore was heap leached together with Çöpler oxide ore.

10.1.3 Testwork – Ardich Oxide

Metallurgical testwork on Ardich oxide for heap leaching has been undertaken at McClelland laboratories and supervised by Metallurgium. An initial testwork programme including bottle roll and column leach was carried out in 2019. This initial programme identified two distinct domains with respect to gold recovery based on sulfide sulfur (SS) content of <1% and 1%–2%. The column test results indicated that the listwanite, dolomite, and jasperoid lithologies have physical properties amenable to heap leaching. The column tests were undertaken at a crush size of P80 of 12.5 mm.

This initial test programme has been followed up in 2020 and 2021 with further testwork, with final results yet to be released.

10.1.3.1 Ardich Crushing Testwork

Crushing testwork on six Ardich composite samples was performed as part of the 2019 McClelland testwork programme, Crushing Work index (CWi), and Abrasion index (Ai). The CWi values ranged from 4.0–6.9 kWh/t, indicating that the material was very soft. The jasperoid was the hardest material, with a CWi of 6.9 kWh/t. The Ai values ranged from 0.12–0.90. The jasperoid was the most abrasive (0.90, Very Abrasive), whereas all other lithology types ranged from 0.12–0.26 (Abrasive to Moderately Abrasive).

10.1.4 Testwork – Bayramdere Oxide

Metallurgical testwork has been completed to characterise the Bayramdere oxide mineralisation and determine its suitability for potential heap leaching. In total, five PQ (85 mm diameter) DD (diamond core drilling) holes were completed in 2014 for this purpose and 91 m of half-core have been provided for intermittent bottle roll leach (IBRL) test and column leach testing.

In the IBRL tests, the gold extraction ranges from 54% to 97% at the end-of-11 tests with the consumption of 0.85 kg/t NaCN.

In the column test, gold extraction is 84% in the two duplicate columns.

Final gold extraction in column testing is approximately 84% with reasonable leach kinetics. The extracted gold quantity will be economic for heap leach processing if haul costs are not excessive.

10.1.5 Heap Leach Gold Recovery

The heap leaching process gold recovery assumptions have been updated to reflect actual performance of the operation. The gold recovery assumptions are summarised for Çöpler oxide in Table 10.1, Çakmaktepe oxide in Table 10.2 (including Bayramdere), and Ardich oxide in Table 10.3.

Table 10.1 Çöpler Gold Recovery Assumptions for Heap Leaching of Oxide

Oxide Ore Type	Çöpler Zone					
	Manganese	Marble	Main	Main East	Main West	West
Diorite	71.2	62.3	71.2	71.2	62.3	62.3
Metasediment	66.8	66.8	66.8	66.8	66.8	66.8
Limestone/Marble	78.4	75.7	68.6	78.4	75.7	75.7
Gossan	71.2	65.1	71.2	71.2	65.1	65.1
Manganese Diorite	71.2	62.3	71.2	71.2	62.3	62.3

Table 10.2 Çakmaktepe Gold Recovery Assumptions for Heap Leaching of Oxide (incl. Bayramdere)

Oxide Ore Type	Çakmaktepe Zone				
	Central	North	East	South-east	Bayramdere
Limestone/Marble	70.0	59.0	67.0	–	75.0
Metasediment	80.0	14.0	–	–	–
Gossan	–	59.0	67.0	75.0	75.0
Jasperoid	73.0	59.0	–	–	–
Diorite	61.0	38.0	–	–	–
Ophiolite	70.0	63.0	67.0	75.0	75.0

Table 10.3 Ardich Gold Recovery Assumptions for Heap Leaching of Oxide

Ore Type	Ardich Zone	
	Main	East
Sulfur <1%		
Jasperoid	50.0	50.0
Listwanite	73.0	55.0
Dolomite	73.0	55.0
Sulfur 1%–2%		
Jasperoid	40.0	40.0
Listwanite	58.0	45.0
Dolomite	58.0	45.0

The original gold recovery assumptions for Çöpler ores were developed in 2008, based on the results of column leach and bottle roll testing performed by RDi between 2005–2008. These recovery assumptions are reviewed and updated annually based on the following information:

- An analysis of the results of additional column leach and bottle roll tests performed on monthly composite samples of heap leach feed material conducted at the Çöpler project from July 2011 through December 2019.
- Use of a MS Excel-based heap leach production model that is calibrated against actual gold production data at the Çöpler mine from start-up.

The recovery values listed in Table 10.1, Table 10.2, and Table 10.3 consider heap leaching of ore crushed to 80% passing 12.5 mm, agglomerated, and placed on a lined heap leach pad for treatment.

10.2 Sulfide Ores

Sulfide material (i.e., material with >2% sulfur content) is not suitable for treatment by the heap leaching process.

10.2.1 Historical Testwork – Çöpler Sulfide

Historical testing was conducted on samples from the sulfide material in several phases. RDi performed several sulfide processing scoping-level investigations from 2006–2009. A two-phase programme on sulfide samples was conducted at SGS laboratory in Ankara, Turkey (SGS) in 2009 and 2010 to support a Pre-feasibility Study (PFS) completed in 2011, (Samuel, 2011). A QEMSCAN (quantitative evaluation of minerals by scanning electron microscopy) mineralogy study on three sulfide (and six oxide) samples was performed by AMMTEC in December 2008.

The historical work completed at both RDi and SGS concentrated on evaluating sulfide processing options, including direct cyanidation, flotation, cyanidation of flotation concentrates, pressure oxidation (POX) coupled with cyanidation, and roasting coupled with cyanidation. The evaluation of the historical data in the PFS resulted in the selection of POX coupled with cyanidation as the process to further evaluate with testing and a FS.

Initial metallurgical testwork carried out by RDi indicated that 11%–30% of the gold content in the Çöpler sulfide material may be amenable to whole-ore cyanidation, as demonstrated by diagnostic leaching. Between 60%–80% of the gold content was found to be associated with sulfide minerals and would require some type of oxidation step to liberate the gold for cyanidation.

The RDi scoping studies indicated that pre-treatment using POX was the most effective treatment and displayed the potential to achieve greater than 90% gold extractions. Flotation tests indicated that gold could be recovered by flotation, but the concentrates were low-grade with relatively high-mass pulls, and relatively low-gold recovery. Testwork indicated that flotation concentrate, and tailings did not leach well using cyanide, even after being finely ground.

10.2.2 Sulfide Mineralogy

In December 2008, Anagold commissioned AMMTEC to complete a QEMSCAN precious metals search (PMS), trace mineral search (TMS), and energy dispersive spectra signal (EDS) mineralogy analyses performed on three sulfide mineralisation samples. Analyses were performed on samples of diorite, metasediment, and massive pyrite rock types.

The findings from the 2008 QEMSCAN analyses indicated that the gangue mineralisation in the sulfide mineralisation is composed mainly of quartz, micas / clays, and feldspars, (displaying relative abundances of approximately 31%, 27%, and 21%, respectively). The sulfide mineralisation consists of pyrite, arsenopyrite, chalcopyrite, and sphalerite.

A gold deportment study was performed by AMTEL Ltd. (AMTEL) on samples of MC4 composite after flotation separation. Although flotation was not part of the flow sheet, it is a useful method of concentrating the sulfides (the main gold carriers) to improve analysis statistics.

The combined concentrate represented 18.5% of the feed mass and assayed 9.8 g/t Au and 23% SS. Recoveries of gold and sulfur to concentrate were 72.7% and 90% respectively. Flotation tailings assayed 0.68 g/t Au and 0.48% SS.

The detailed mineralogical analysis confirms that the gold is primarily carried by sulfide minerals. In the calculated head, 83% of all gold is in sulfides (free or locked) and only 2.4% was held in rock. The remainder of the gold (14%) was present as free gold, and this correlates well with a direct cyanidation recovery of only 17% when the ore was ground to a P_{80} of 90 µm.

Of the gold that is in sulfides, the majority (78%) is in sub-microscopic form. This confirms the refractory nature of the ore and explains why oxidation of the sulfides is necessary to make the gold available for leaching. Arsenopyrite was the sulfide mineral found to have the highest contained gold, averaging 123 g/t Au by one measure and 182 g/t Au by a second. Gold in pyrite was more than an order of magnitude lower than arsenopyrite and averaged 7.0 g/t Au. Marcasite, a mineral chemically similar to pyrite, carried an average of 17.8 g/t Au. Of the gold contained in sulfides, 50% was found to be in arsenopyrite, 25% in pyrite, and 20% in marcasite.

In summary, the AMTEL gold department study is consistent with previous mineralogy studies and confirms that a large portion of the gold is present as sub-microscopic particles, primarily in sulfides, largely arsenopyrite. The study also concluded that whole-ore oxidation would be required as a pre-treatment to cyanidation to liberate the majority of the gold contained in the sulfide materials.

10.2.3 Direct Cyanidation

Hazen performed direct cyanidation carbon-in-leach (CIL) tests at various grind sizes with no pre-treatment on the individual sulfide rock type composites to establish baseline gold extractions. The goal of these tests was to examine gold extraction variability with grind size. These samples were subsequently used to prepare feed composites used in the Hazen pilot plant programme.

The testwork demonstrated that the bulk of the Çöpler sulfide samples are refractory to direct cyanidation, and that extractions do not improve significantly with finer grinding.

Table 10.4 Gold Deportment in Flotation Separated Streams

Form and Carrier of Gold	Concentrate (g/t)	Tails (g/t)
Assayed Grade	10.187 ± 0.167	0.837 ± 0.028
Free / Liberated Gold Grains		
>40 µm	0.106	0.004 *
5–4 µm	0.346	0.003
<5 µm	0.871	0.146
Exposed Associated Gold Grains		
Free Sulfides +5 µm	0.350	0.018
–5 µm	–	–
Rock-Sulfide Composites	0.125	0.052
Rock Particles	0.021	0.035
Enclosed Associated Gold Grains		
Free Sulfides +5 µm	0.977	0.007
–5 µm	0.292	0.029
Rock-Sulfide Composites	0.338	0.023
Rock Particles	0.014	0.031
Sub-microscopic Gold		
Free Sulfides +5 µm	4.156	0.020
–5 µm	1.244	0.157
Associated Sulfides	1.605	0.304
Total (mineralogically counted)	10.444(102.5%)	0.829(99.0%)

* From a very small number of grains (1 free grain, from ~2 kg of material)

10.2.4 Flotation Testwork

Flotation testwork has been undertaken on Çöpler sulfide samples since before 2006 with a series of testwork programmes and studies undertaken by RDi, FL Smidth, and the on-site metallurgical laboratory.

Initially the testwork was focused on development of a viable flowsheet to recover gold to enable subsequent recovery as doré. This work was unsuccessful due to a generally poor flotation response, resulting in the adoption of the current POX and CIP gold recovery flowsheet.

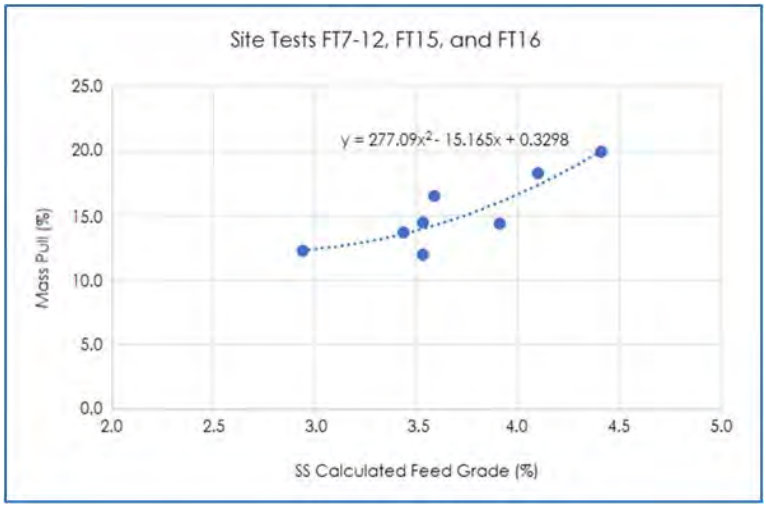
In 2019, flotation was again considered for incorporation into the POX / CIP circuit to improve both sulfur and gold recovery and enable the POX circuit to operate at optimum conditions.

Testwork was conducted on fresh material from the existing sulfide circuit. A total of 20 tests were conducted as part of this programme.

The key variables considered in determining throughput for flotation are SS flotation recovery and flotation mass pull. Gold recovery to concentrate and gold recovery of the flotation tails are also determined. Of the 20 tests undertaken, a total of eight flotation testwork tests are considered representative due to their relative commonality of flotation conditions, and the SS feed grade is within the range that the flotation plant is expected to operate. The results ranged from 65% to 81% SS recovery, and 43% to 55% Au recovery to concentrate.

The mass pull for sulfide flotation is typically related to SS grade. Figure 10.1, shows the relationship of mass pull to SS feed grade.

Figure 10.1 Feed SS% – Mass Pull Relationship



Anagold, 2020

Float Concentrate Mass Pull = 277.09 x Feed SS%^{2} – 15.165 x Feed SS% + 0.3298

10.2.5 Testwork – Comminution

The comminution properties for the three major ore domains (metasediment, diorite, and manganese diorite) have been measured during all testwork stages. Rock competence drives semi-autogenous grind (SAG) mill selection, Bond Work index (BWi) drives ball mill selection, and Ai is used to estimate media and mill liner consumption rates. The major domains exhibit moderate comminution characteristics.

As part of the flotation circuit sizing, the throughput capacity of the installed crushing and grinding circuit was determined on review of testwork and plant actual performance.

The review of the grinding circuit determined that the throughput has exceeded design expectations since commissioning due to the processing of ore that is softer than the design comminution testwork identified. The design maximum feed rate of 306 t/h was achievable with close to full milling power being consumed. However, an average throughput rate of 370 t/h was achieved in the period late-2019 through early-2020 with the SAG and ball mills drawing approximately half of their design power.

A simulation model of the comminution circuit was prepared (in JKSimMet) and calibrated to this actual plant performance. This calibrated simulation was then used to estimate plant performance with future harder ores, having properties approximating design expectations. Wood's simulation showed that the plant is expected to be able to process the target rate of 400 t/h of design-hardness ore with the mills at full design operating power.

10.2.6 Testwork – POX

Three continuous pilot plant programmes have been conducted for the POX sulfide plant; the first two programmes at Hazen Research, Inc. (Hazen) comprising a total of four test campaigns, and the third programme at SGS Lakefield Oretest, Perth (SGS Perth). Three campaigns were completed during the first pilot plant programme, with the first campaign commencing in February 2012. The second pilot programme incorporating one campaign, was conducted in December 2012. The third pilot programme, conducted in August 2015, included a single campaign that tested multiple lithologies at high and low-acidulation extents.

The pilot plant facility for the first pilot programme included the following continuous circuits: acidulation, POX autoclave, hot cure (HC), primary neutralisation (PN), six-stage counter current decantation (CCD), and mixed sulfide precipitation (MSP). Ore preparation (grinding), cyanidation, activated carbon gold recovery, cyanide destruction, tailings neutralisation, and final tailings production were all completed on a batch basis.

In 2015, Anagold performed confirmatory pilot testing on a range of ore-types and composite blends treated at 'high' and 'low' acidulation conditions. This programme comprised a single pilot plant campaign, Campaign 5, which was conducted at SGS Perth during August and September. Apart from testing the impact of acidulation chemistry, one of the key purposes of the campaign was to produce samples for repeat thickener vendor testing. This was prompted by the inconsistent vendor data generated during Campaigns 1–4.

10.2.7 Testwork: Pyrite Recovery from Copper-Rich Ores

Preliminary metallurgical testwork has been undertaken to investigate the potential to produce a copper–gold concentrate for sale and a pyrite concentrate to supplement POX operations utilising a copper-rich portion of the Çöpler resource.

The testwork was conducted at ALS using drillhole samples to produce a master composite and eight individual composites representing copper-bearing zones of the Çöpler mine. The composites copper grades were between 0.05%–0.43% Cu, and 0.16–1.54 g/t Au. Silver grades were between 1.0–3.0 g/t. An elevated arsenic content was measured for Composite 5 at approximately 0.16% As. Sulfide sulphur to copper ratios for many of the composites indicated potentially high pyrite to copper sulfide ratios, which would require chemical conditions to control pyrite flotation.

Results of the mineralogical analysis indicated that chalcopyrite was the predominant copper sulfide mineral. Approximately 4% of the copper was measured as bornite, and 1% as secondary copper sulfide minerals and arsenic sulphosalts tennantite and enargite.

A flotation flowsheet was developed that included a copper and pyrite circuit with primary grinding to a nominal 150µm K_{80}. To control pyrite recovery, lime was used to elevate both the copper roughers and copper cleaner pH to 10, and a dithiophosphate collector 3477 was used as the copper collector. The copper rougher concentrate was reground to approximately 25 µm K_{80} to produce high grade concentrates from three cleaner stages for most of the composites. The copper circuit tailings fed a pyrite circuit where potassium amyl xanthate (PAX) was used as the pyrite collector. In a locked-cycle test, approximately 83% copper and 50% gold was recovered to a copper concentrate, which measured approximately 27% Cu, 46 g/t Au and 0.3% As. Approximately 17% gold was recovered to the pyrite concentrate, which measured 4 g/t Au.

Gold recoveries did not trend with sulfur recoveries, therefore a strong association of gold with pyrite does not appear to be evident. However, for Composite 5, which measured the highest arsenic content of the individual composites, gold recoveries trended closely with arsenic recoveries to the product streams, thereby potentially indicating a close association of gold with arsenopyrite for this particular feed type.

Comminution testing was completed with unique comminution composites, representing the same feed material as that used for the flotation test but using drill core and crushed rock samples. The composites were characterised as soft-to-medium hardness with respect to ball milling, and Bond ball mill work indices ranged between 11.0–15.7 kWh/t when using a closing screen of 150µm. Axb values derived from SMC tests ranged between 56 and 124. The Bond Crusher work index for six composites tested ranged between 3–7 kWh/t, which indicated very soft material in terms of crushing.

Further flotation testing is suggested to determine whether improvements to the copper and gold performance in the copper circuit is possible with changes to collector type and dosage, and copper regrind discharge sizing. Additionally, once a flowsheet is optimised, variability testwork is recommended

10.2.8 Overall Circuit Performance

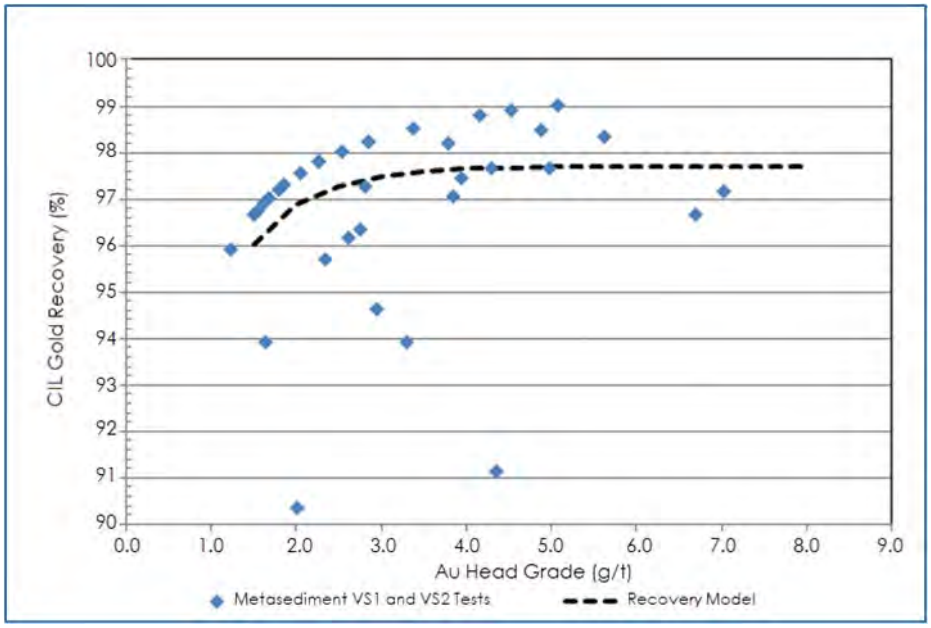
The recovery of gold across a laboratory carbon-in-pulp (CIP) circuit was measured for a number of variability samples representing each of the three major ore types.

In addition to the testwork, the commercial sulfide POX plant commenced commissioning in December 2018, with actual results reviewed to validate the recovery.

10.2.8.1 POX Gold Recovery

The gold recovery results of the acceptable tests are plotted in Figure 10.2, Figure 10.3, and Figure 10.4, together with an appropriate recovery model curve in each instance.

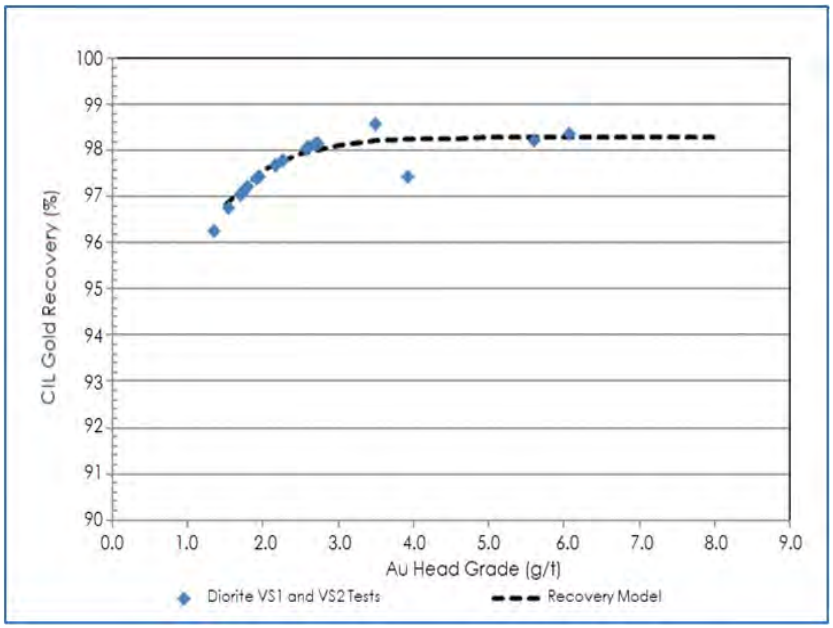
Figure 10.2 Metasediment Gold Recovery Results and Model



Anagold, 2016

The results are plotted in terms of feed grade so that predictions of recovery during operations can be made by knowing the feed grade.

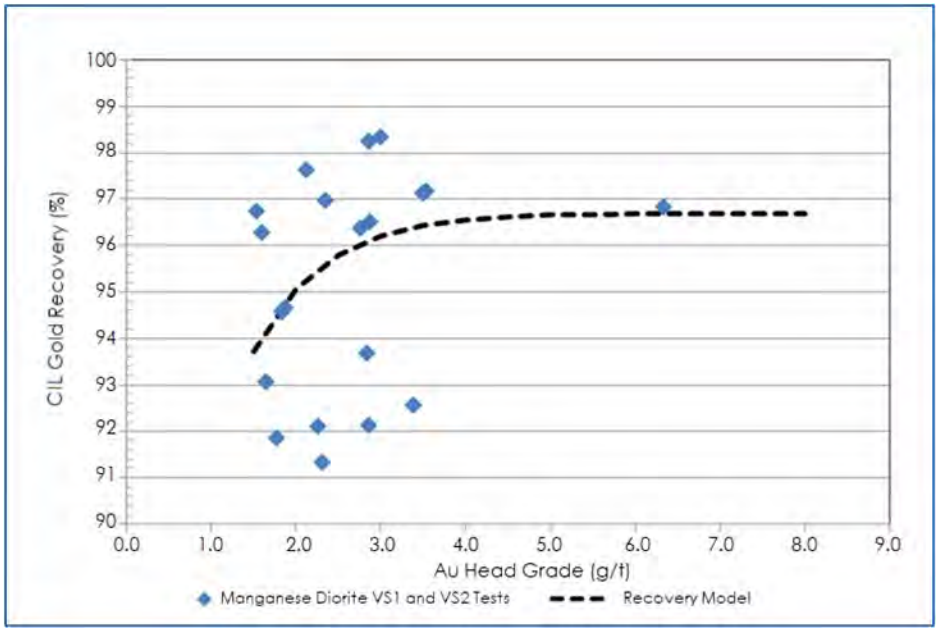
Figure 10.3 Diorite Gold Recovery and Model



Anagold, 2016

Note that Figure 10.2 and Figure 10.3 show a number of results that tend to form a regular curve at the top of the datasets. In each instance, where the results are on this curve the solid tails Au grade was below the limit of detection and an assigned tails grade, equal to half the limit of detection, was set for calculation purposes.

Figure 10.4 Manganese Diorite Gold Recovery and Model



Anagold, 2016

The recovery model is represented by the equation:

Gold Recovery (%) = a x (1 – exp (–b x (Au head grade in g/t – c))) + d

Parameter 'a' is the only one of the four that has a direct process meaning, representing the maximum recovery the equation can generate. The parameter 'd' represents circuit losses in a commercial operation.

The parameters used to generate the curves in Figure 10.2, Figure 10.3, and Figure 10.4 are shown in Table 10.5, and include an allowance for operational losses of 1%.

Table 10.5 Gold POX Recovery Model Parameters

Material Type	a	b	c	d
Metasediment	97.7	1.4	–1.4	–1.0
Diorite	98.3	1.4	–1.5	–1.0
Manganese Diorite	96.7	1.2	–1.4	–1.0

The POX commissioning and ramp-up allowances in Table 10.6 have been made on top of the base recoveries.

Table 10.6 Commissioning and Ramp-up Allowances

Recovery Corrections	Gold Recovery Deduction (%)
Commissioning to June 2019	–3.30
Ramp-up July 2019 to June 2020	–2.30
Flotation Commissioning	–0.75

10.2.8.2 POX Silver Recovery

The silver recovery pattern is much less clear than gold because silver is not released by the oxidation process. Silver recovery is determined from actual plant recovery over the period January 2019–February 2020.

The silver recovery calculates to 3.0%.

10.2.8.3 Flotation Gold Recovery

From the testwork, it is estimated that the flotation concentrate reporting to the POX circuit will achieve the same overall recovery as the ore directly reporting to POX. Gold recovery to the flotation concentrate is estimated to be 55%.

The flotation tails reporting directly to the leach circuit is estimated to have a gold recovery of 43%, based on testwork.

An allowance of 0.75% reduced gold recovery during commissioning and ramp-up of the flotation circuit (Year-1 of flotation operation) has been included.

10.3 Mineral Processing and Metallurgical Discussion

A large amount of POX testwork has been performed on Çöpler sulfide ore across several pilot plant campaigns. The processes used have been shown to be robust, as demonstrated through operational performance during commissioning, ramp-up, and operations.

The addition of a flotation circuit to the sulfide plant is estimated to provide stability and flexibility to the POX circuit operation to maximise throughput and oxygen utilisation by maintaining optimum sulfur grade to the autoclaves.

The final construction and commencement of commissioning of the flotation circuit in January 2022 is expected to confirm the assumptions developed in the design.

Ongoing testwork and analysis is also recommended on POX oxidation and leach recovery to improve and optimise circuit performance. This should include detailed assessment of gold deportment in final tailings.

Further metallurgical testing of Ardich material types, both oxide and sulfide, is recommended to optimise the feeds to the heap leach and POX and flotation circuits, respectively.

Further flotation testing on the copper–pyrite flowsheet is suggested to determine whether improvements to the copper and gold performance in the copper circuit is possible with changes to collector type and dosage, and copper regrind discharge sizing. Additionally, once a flowsheet is optimised, variability testwork is recommended.

11 MINERAL RESOURCES ESTIMATES

Mineral Resources for the project have been estimated using industry best practices and conform to the requirements of S-K 1300.

The resource model for Ardich has been updated in 2021 and is reported in detail here.

All other resource models are unchanged since the CDMP20TR, and the reader is directed to that report for the more detail on those resource models, with only summaries included here.

11.1 Çöpler Deposit

At Çöpler, a resource model was constructed to define the geometry of the gold mineralisation. Grades were estimated using exploration drilling data and then calibrated against the production grade control data. Steps for the gold modelling process included:

- Creation of wireframes that constrain gold mineralisation.

  This step incorporated structural trends to guide the shape of the wireframes along known geological features within the deposit. Mineralised trends commonly followed lithological contacts, such as the diorite / marble contact, and structural features identified by surface mapping.
- Gold mineralisation was then estimated using a method termed probability assigned constrained kriging (PACK) and then trimmed using the gold mineralisation shell.

  PACK first uses a probabilistic model or envelope (indicator envelope) to define the limits of the potentially economic mineralisation. The model cells and drillhole composites within these indicator envelopes were then used for grade estimations. The PACK process was designed to prevent economic grades inside the indicator envelope from being smeared into the waste and restricts low-grade material outside the indicator envelopes from diluting the mineralised material inside the envelope.
- The parameters used to construct the indicator envelopes were calibrated such that the estimated tonnes and grades approximated the historical production data.

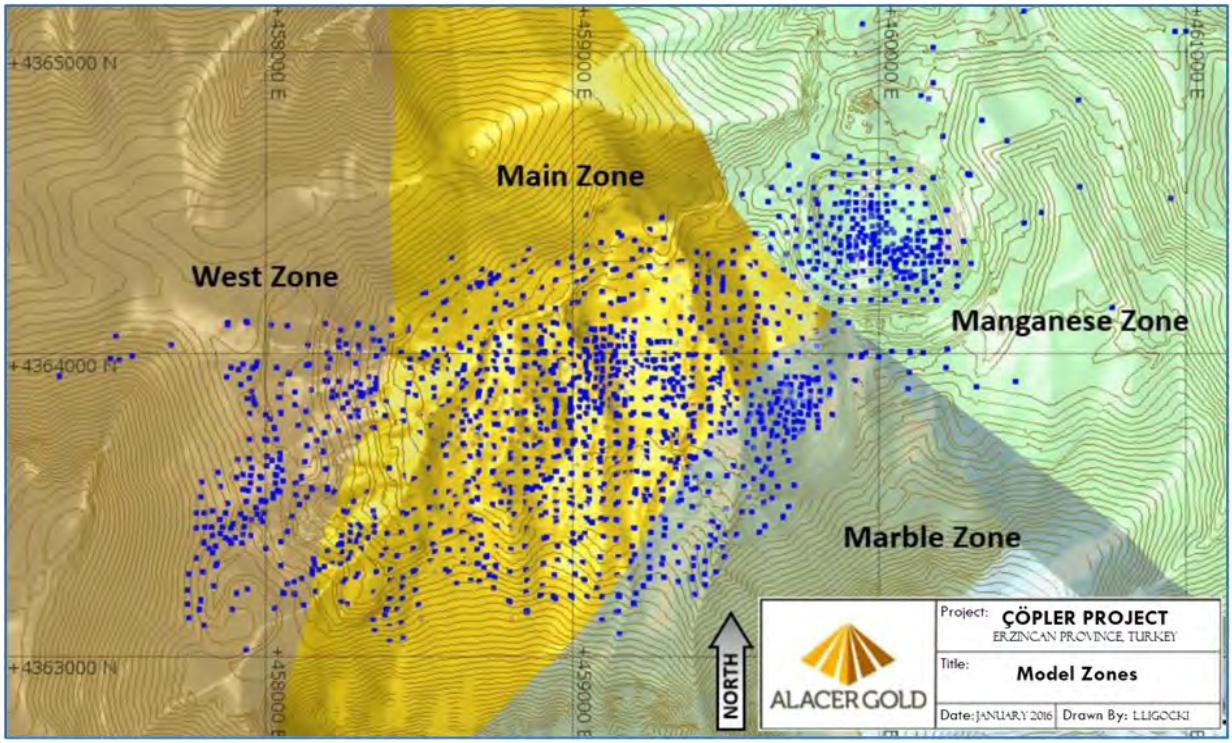
Au, Ag, and Cu were interpolated into the parent cells using ordinary kriging (OK), while As, Mn, Fe, and Zn were interpolated using inverse distance method, weighted to the power of two (ID2).

11.1.1 Çöpler Mineral Resource Estimate – Key Assumptions

The estimation methods at Çöpler were designed to address the variable nature of the epithermal, structural, and disseminated styles of gold mineralisation, while honouring the bi-modal distribution of the sulfur mineralisation and the oxide / sulfide boundary.

No obvious correlations were observed between Au and total sulfur; they were therefore domained and estimated separately. Au also showed little correlation with lithology and was therefore domained simply according to model zone (Manganese, Main, Marble, and West), to reflect the different trends of the mineralisation that commonly follow structures and lithological contacts (see Figure 11.1).

Figure 11.1 Çöpler Model Zones



Anagold, 2016

The percentage of total sulfur is the main criterion used to delineate between 'oxide' and 'sulfide' material types:

- Oxide material (S <2%) is processed using a heap leach method and has a cut-off grade of approximately 0.3 g/t Au.
- Sulfide material (S ≥ 2%) is processed in the sulfide plant and has a cut-off grade of approximately 1.5 g/t Au.

Total sulfur assay data exhibits a bi-modal distribution with a distinct inflection point at 2% S, and also shows a good correlation with logged lithology. The 2% S inflection point also agrees well with a 1% pyrite break point in the drillhole logs.

As a result, sulfur was modelled using oxide and sulfide sub-domains within each lithology, and gold PACK models were constructed separately for oxide and sulfide within each lithology using the respective Au cut-offs.

The gold models were then reconciled to historical production data and the resource modelling parameters were adjusted to best match the historical data. Mineral Resource categories were applied to each model cell based on a combination of parameters including drillhole density and data quality.

11.1.2 Çöpler Base Indicator Model

A parent cell size of 10 m x 10 m x 5 m was selected, with the 10 m easting and northing dimensions representing approximately one half the average drillhole spacing, and the 5 m height of the cells representing the mining bench height. Cell model prototype parameters are provided in Table 11.1. The Mineral Resource model has an implicit selective mining unit (SMU) size of 5 m x 10 m x 5 m. The cell model is not rotated.

Table 11.1 Çöpler Block Model Parameters

Direction	Minimum (m)	Maximum (m)	Range (m)	Cell Size (m)	No. of Cells
East	457,100	461,100	4,000	10	400
North	4,362,500	4,365,100	2,600	10	260
RL	400	1,750	1,350	5	270

Drillhole intervals were composited to 10 m down-hole lengths and then assigned Au indicator values based on their composited Au grade. The sulfur indicator values were assigned to 5 m composites. Composites below the threshold were assigned '0' and composites at or above the threshold were assigned '1'.

Gold and sulfur indicator values were then interpolated into the parent cell model. The interpolated indicators represent a distance-weighted average of the composite indicators that occur within the search neighbourhood and therefore have values anywhere in the range 0–1. The interpolated indicator was used to create an envelope encapsulating the mineralisation above 0.3 g/t Au (the indicator envelope).

Exploratory data analyses (EDA) and capping studies were performed on samples within the indicator envelope.

11.1.3 Çöpler Domains

The model cells within the indicator envelope were assigned into four zones that represent the four geologically distinct zones (Manganese, Main, Marble, and West) using wireframe solids.

The position of the boundary between the Manganese Zone and the Main Zone was selected between discrete diorite intrusive events. The boundaries for the Marble Zone were selected along one limb of a diorite intrusion associated with a region of higher grade gold mineralisation. The boundary direction then follows the north-easterly trend of the mineralisation. The extension of this boundary includes a larger discrete diorite intrusion that carries minor gold mineralisation along its contact with the metasediment.

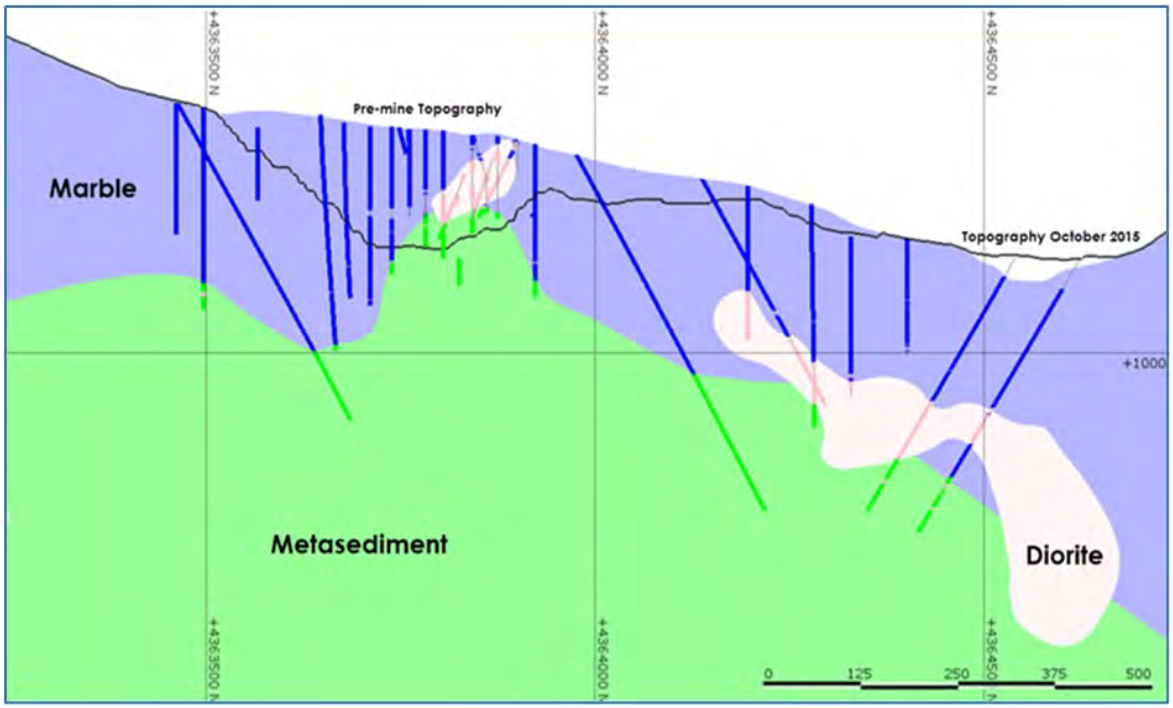
The tops of the model zone boundaries wireframe solids were trimmed to the original (pre-mining) topography.

11.1.4 Çöpler Geological Model

Exploration drillhole data and surface mapping were used to create 3D solid interpretation wireframes for the four main geological units: marble, diorite, metasediment, and manganese diorite. Surface mapping was used to provide indicative contact locations in areas of sparse drilling. In areas where the two datasets did not match, priority was given to the drillhole data. Blasthole data were not used to generate the lithology interpretations but were referenced to provide guidance in zones of wide-spaced drilling and in areas with missing drillhole data. The interpretation was adjusted in the Manganese Zone after referencing the blasthole data.

A typical cross-section illustrating the lithology interpretation at Çöpler is shown in Figure 11.2.

Figure 11.2 Çöpler Lithology – Marble Zone, Cross-Section 459,700 mE (looking west)



Anagold, 2016

11.1.5 Çöpler Data Summary

The cut-off date for the export of the drillholes from the database to be used in the resource modelling was 15 July 2015. The extract contained 1,957 drillholes with a total of 297,798.2 m of drilling. Of this, a total of 1,880 drillholes have collar coordinates within the extents used to construct the resource model. In general, the drillhole spacing ranged from 5–60 m, averaging approximately 20 m. Most drillholes are either vertical or inclined at 60°. Approximately 2% of the drillholes had missing assays; these were set to a null value and not used in the statistics or mineral resource estimation.

11.1.6 Çöpler Exploratory Data Analysis

Detailed exploratory data analysis (EDA) was conducted on the Çöpler resource modelling dataset. This is discussed in detail in the CDMP20TR. A summary of findings of the statistical analyses follow.

11.1.6.1 Çöpler Statistical Summary

Detailed statistical analyses were undertaken to assist with the understanding of the mineralisation distribution in the various domains. The statistical review included typical univariate statistics (tabulations, histograms, box plots) and bivariate statistics (scatter plots, correlations).

A summary of key findings follows:

- A histogram of sulfur grade in the 1 m composites shows a bi-modal distribution, with the lowest mode at or near trace S (27% of the dataset), and the second mode at approximately 3.25% S (7% of the dataset).
- Mean Au grade statistics are similar for diorite, metasediment, and marble but higher in the manganese diorite. When reviewing the data spatially, however, the higher grade Au mineralisation commonly occurs along the lithological contacts.
- Mean Ag grades are similar for diorite and metasediment, but lower in marble and higher in manganese diorite.
- Mean Cu grades varied between lithologies, but in general are higher in the diorite and metasediment.
- Mean Au grades in diorite, metasediment, and the marble are higher within the sulfide material. Manganese diorite carries a higher mean Au grade within the oxide material relative to the sulfide material.
- Distinctively different sulfur populations were observed for each lithology (although each lithology hosts both low and high-sulfur mineralisation) suggesting that sulfur should be domained by lithology for estimation. This approach was taken on the current model.
- The diorite, metasediment, and manganese diorite showed similar As grades, but the marble As was lower.
- There is moderate correlation between:
  - Au and As
  - Cu and Fe
- Minor correlations occur between:
  - Au and Ag
  - Ag and As
  - Ag and Mn
- While correlation probably exists between gold and sulfur on a mineralogical level, as suggested by the correlation between gold and arsenic, and the observed presence of arsenopyrite (FeAsS), this correlation is probably masked by the much larger episode of non-auriferous sulfide mineralisation. This suggests that it is reasonable to model silver, copper, zinc, arsenic, and manganese using the gold statistical model.
- Regarding core recovery:
  - No correlation was identified between any of the elemental grades and core recovery, and
  - There is no obvious increase or decrease in Au grade with lower core recovery.
- In a twinned hole analysis, RC and DD showed good agreement:
  - the average RC Au grade was slightly higher than the average DD hole grade.
  - No significant changes in grades were noted for the RC holes above or below the water table.
  - For sulfur, little difference in grade was noted between DD holes and RC holes.
  - For Cu, little difference was noted between the DD holes and RC holes, but the grades were very low.
- Contact plots were constructed for the different combinations of lithological contacts and categorised by material located within the oxide or sulfide portion of the deposit. In general, no hard contacts were observed for Au. The higher grade Au mineralisation commonly occurs along the lithological contacts, which indicated that the gold mineralisation should not be modelled separately for each of the lithological domains.

11.1.7 Çöpler Top Cutting

In mineral deposits with skewed distributions, it is not uncommon for a small number of the highest assays to account for a significant and disproportionate quantity of the total metal content in the model estimates. Although these assays are real and reproducible, they commonly show little continuity, and can add a significant amount of uncertainty to a mineral resource estimate.

One method of constraining the influence of these samples is to apply a top cut to the assays before compositing and grade estimation. Top cutting was performed on the 1 m composites prior to compositing into the 5 m composites used for the grade estimations. Au was studied and capped by domain and low and high-sulfur category. Top cut thresholds for Ag, Cu, S, As, Fe, Mn, and Zn were applied globally. The top cut thresholds applied before compositing are summarised in Table 11.2 and Table 11.3.

Table 11.2 Çöpler Top Cuts for Au

Domain	Top Cut Au (g/t)
Oxide (S <2%)	
Manganese Zone	18
Main Zone	16
Marble Zone	30
West Zone	16
Sulfide (S ≥2%)	
Manganese Zone	18
Main Zone	14
Marble Zone	25
West Zone	14

Table 11.3 Çöpler Top Cuts for Non-Au Elements, Applied Globally

Element	Unit	Top Cut
Ag	g/t	300
Cu	%	5
S	%	20
C	%	13
As	ppm	30,000
Fe	%	50
Mn	ppm	100,000
Zn	ppm	60,000

11.1.8 Çöpler Drillhole Compositing

Samples used for grade estimation were prepared by first compositing the raw sample lengths to 1 m down-hole intervals. Au composites were capped globally at 40 g/t Au for the EDA. The 1 m composites were subsequently top cut at the relevant threshold according to the statistics of each model zone and oxide / sulfide domain. These 1 m composites were then composited into 5 m down-hole for additional statistical analysis and grade estimation.

The 5 m composite interval for grade estimation was selected as it was considered to notionally match the mining bench height. The 5 m composites were not truncated at lithological contacts, nor domain boundaries.

11.1.9 Çöpler Variography

The EDA showed that the trends of the Au mineralisation followed lithological contacts and structures that vary by domain. As a result, variograms (correlograms) were calculated for Au, Ag, and Cu composites for each domain categorised by oxide (S <2%) and sulfide (S ≥2%).

The directions of the anisotropy axes were determined by creating multi-directional variograms, variogram models, and visual observation of the tabular shaped trends of the mineralisation. After the anisotropy had been determined, three directional variograms were calculated and modelled in each of the three primary directions of anisotropy. Given the low and high-sulfur domain variograms showed similar structures, albeit with the low-sulfur domain variogram structures better defined, the low-sulfur domain variograms were used for the grade estimation.

11.1.10 Çöpler Resource Model Estimation

11.1.11 Çöpler Sulfur Model

The total sulfur model was designed to emulate the hard 2% S threshold used during ore control to delineate material to be processed on the heap leach pad or sent to the pressure oxidation (POX) plant.

EDA showed that sulfur should be modelled separately in each of the four main lithological units (diorite, metasediment, marble, and manganese diorite). The sulfur estimate proved to be very sensitive. Minor changes in the estimation parameters causes the reclassification of material from high to low-sulfur and vice versa. The change in the sulfur categorisation has an impact on what cut-off grade is used and what mining and processing cost is applied.

To match the proportion of material greater than and less than 2% sulfur in each lithological domain, a sulfur indicator was generated using a discriminator of 2% sulfur. To accomplish this, a sulfur indicator field was created in the drillhole data, and populated as follows:

- S Indicator = 0 where S < 2%
- S Indicator = 1 where S ≥ 2%

The S indicator was then interpolated into the cell model using nearest-neighbour (NN) and inverse distance method, weighted to the power of two (ID2) methods. The ID2 interpolated indicators represent a distance-weighted average of the composite indicators and therefore have values anywhere in the range 0–1. In contrast, the NN interpolated indicators represent only the closest composite indicator and therefore can only have the value ‘0’ or ‘1’.

The number of cells above and below 2% sulfur was initially defined using the NN result (Indicator 0 = S <2% and Indicator 1 = S ≥2%). The ID2 indicator estimate was calibrated against the NN model to make the proportion of low and high-sulfur material honour the NN proportions.

Sulfur indicator ID2 estimate thresholds that honoured the results of the NN estimation for low and high-sulfur proportions were:

- Diorite = 0.50
- Metasediments = 0.51
- Marble = 0.26
- Manganese diorite = 0.36

A soft boundary approach was achieved at lithological contacts by slightly raising the maximum indicator estimate for the oxide estimate and lowering the minimum indicator estimate for the sulfide estimate.

The sulfur model was not constrained by the mineralisation envelope. This means sulfur was also estimated into the waste rock cells; this was for the purpose of waste rock characterisation.

11.1.12 Çöpler Gold and Other Metal Models

A total of nine elements, Au, Ag, Cu, S, C, Zn, Fe, As, and Mn were estimated. Au, Cu, and Ag were estimated using OK and the remaining elements were interpolated using the ID2 method. Zn, Fe, As, and Mn, which are only used for material-type classification, were restricted to within the mineralisation envelope. All cells were estimated using a discretisation matrix of 3 x 3 x 1.

The volume of the mineralisation envelope was calibrated to past production by:

1. Creating a production cell model:
   - Constructing a 3 m x 3 m x 5 m cell model in the areas that had already been mined.
   - Populating the 3 m x 3 m x 5 m cells with the ore control tonnes and grades estimated from blasthole assays.
   - Tabulating ore control tonnes and grade from January 2014–October 2015.
2. Building an indicator model and estimation of gold grade:
   - The low-grade estimates were achieved using an indicator approach defined by an 0.3 g/t Au discriminator. First a low-grade Au indicator field was established in the drillhole 5 m composite file: if the composite grade was <0.3 g/t Au, the low-grade indicator field was set to zero (IND1=0); if the composite grade was ≥0.3 g/t Au, the low-grade indicator was set to one (IND1=1). The low-grade indicator was then interpolated into all cells using ID2, and those cells with an estimated low-grade indicator of greater than 0.3 (i.e., IND1 > 0.3) were selected to define the indicator envelope. Only composites within the indicator envelope were used to estimate the Au grade.
   - Similarly, a high-grade gold estimate was developed using a high-sulfur indicator model with a discriminator of 1.5 g/t Au to reflect the higher cut-off required for processing the material through the POX plant. The high-grade gold estimate uses the same indicator estimate threshold of 0.3 (i.e., IND2 > 0.3) to define the boundary limits.
   - The low-grade gold estimates were applied to those cells with estimated sulfur grades <2%, and the high-grade gold estimates were applied to those cells with estimated sulfur grades ≥2% S.
3. Calibrating the PACK model:
   - The PACK model parameters were then adjusted so that the gold ounces in the PACK model approximates the gold ounces reported from the ore control model.
   - After the gold ounces were calibrated by zone and material type, cells with estimated Au grades below the selected indicator threshold were set to waste.

11.1.13 Çöpler Density Model

Density measurements were performed on representative DD core by the site exploration geologists. Measurements were taken using the wax-coated water displacement method (Archimedes method). Density data were reviewed spatially and statistically. Density values that fell outside expected upper and lower density limits (shown in Table 11.4) were considered to be outliers and removed.

Table 11.4 Çöpler Upper and Lower Density Limits by Lithology

Lithology	Density Lower Limit (t/m^3)	Density Upper Limit (t/m^3)
Diorite	1.7	3.5
Metasediment	1.7	3.5
Marble	1.7	3.5
Manganese Diorite	–	–

Density values were assigned to the cell model based on rock type and depth below the surface. The density samples were first flagged by lithological code. Since lithological codes were not available for many of the density samples, Lithology was assigned using the lithological wireframes for all density values.

Densities used in the resource model are summarised in Table 11.5.

Table 11.5 Density Values Assigned to the Çöpler Cell Model by Lithology and Vertical Depth Below Surface

Lithology	Depth (m)	No. Density Data	Assigned Density (t/m^3)
Diorite	0–20	111	2.22
	20–40	173	2.42
	40–60	155	2.44
	60+	1,653	2.50
Metasediment	0–20	86	2.38
	20–40	209	2.51
	40–60	219	2.54
	60+	1,769	2.63
Marble	all	1,099	2.57
Manganese Diorite	all	23	2.63

11.1.14 Çöpler Oxidation Model

The oxidation model reflects oxidation due to surficial weathering and/or oxidation resulting from the manganese alteration. Oxide (low-sulfur material (S <2%)) can be processed by heap leaching while sulfide (high-sulfur material (S ≥2%)) is processed through the POX plant.

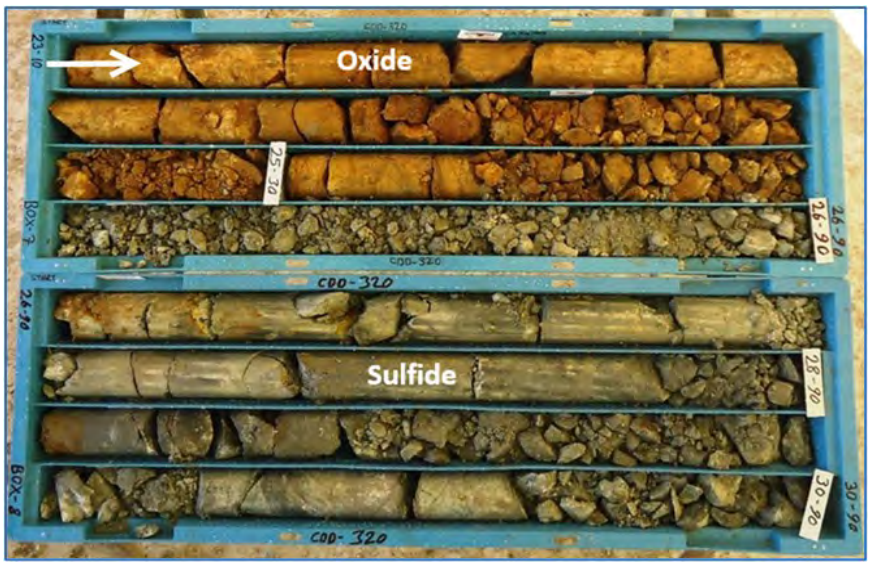
The low/high-sulfur criteria were further finessed using the logged colour codes and pyrite percentages recorded in the drillhole logs. Review of the logs showed a generally relatively sharp colour change from orange–brown tones to grey–black tones (Figure 11.3). A wireframe was constructed to represent this logged colour change. The wireframe was further refined using the logged visual estimates of pyrite. Near-surface material is highly oxidised and usually does not include visually identifiable sulfides, while visual sulfide percentage increases with depth to a point (pyrite ≥1%) where the percent pyrite can be estimated and recorded in the drill logs. In general, the 1% visual pyrite boundary matched the red–grey colour boundary within approximately 5 m, but locally deviated up to 10 m. The 5 m variance is considered to be within the accuracy of the data, as it reflects the composite sample length and the mining bench height.

The resulting oxide-sulfide wireframe boundary was compared to the sulfur-estimates model. This comparison showed that the S <2% and S ≥2% domains matched the oxide-sulfide boundary reasonably well, although there are local areas of material with S <2% below the oxide-sulfide surface which are due in part to deeper weathering along structures. As a result, the oxide boundary surface is considered to be somewhat conservative locally in estimating the amount of oxide material.

Blasthole data from Main Zone that contains both Au fire assays (AuFA) and cyanide leach assays (AuCN) show that the gold recovery significantly decreases below the oxide / sulfide boundary. This implies there is low-sulfur material below the oxide / sulfide boundary that has not oxidised, and hence lower recoveries are obtained by cyanide leaching. As a result, the oxide / sulfide boundary is used in the Main Zone to delineate material types. In the Manganese Zone and Marble Zone, however, the estimated sulfur content is used to delineate material.

In the eastern portion of the Çöpler deposit, the oxidation profile is better-developed and follows the diorite intrusion. This contrasts with the much shallower oxidation profile in the western portion of the mining operation.

Figure 11.3 Çöpler Drill Core Showing Colour Change from Oxide to Sulfide



Anagold, 2016

11.1.15 Çöpler Model Validation

Model validation was approached in several ways:

- The estimated Au grades in the model were compared to the composite grades by visual inspection in plan views, north–south cross-sections, and east–west cross-sections. In general, the model and composite grades compared well visually.
- The cell model was checked for global bias by comparing the mean Au, Ag, Cu, and S grades (with no cut-off) from the model (OK/ID2 grades) with means from NN estimates for cells of Indicated classification. The NN estimator produces a theoretically unbiased (de clustered) estimate of the mean value when no cut-off grade is imposed and provides a reasonable basis for checking the performance of different estimation methods. In general, an estimate is considered acceptable if the bias is at or below 5% (relative difference).
- Local trends in the grade estimates (also known as drift analysis) were assessed by plotting the mean values from the NN estimate versus the kriged results for Indicated model cells in east–west, north–south and vertical directions (swath plots). The global comparisons agree well, however the swath plots do illustrate the existence of slight local differences between the NN and kriged model grades.

11.1.16 Çöpler Mineral Resource Classification

Grade estimates were classified using the following Anagold guidelines:

- Indicated Mineral Resource should be quantified within relative ±15% with 90% confidence on an annual basis, and
- Measured Mineral Resources should be known within ±15% with 90% confidence on a quarterly basis.

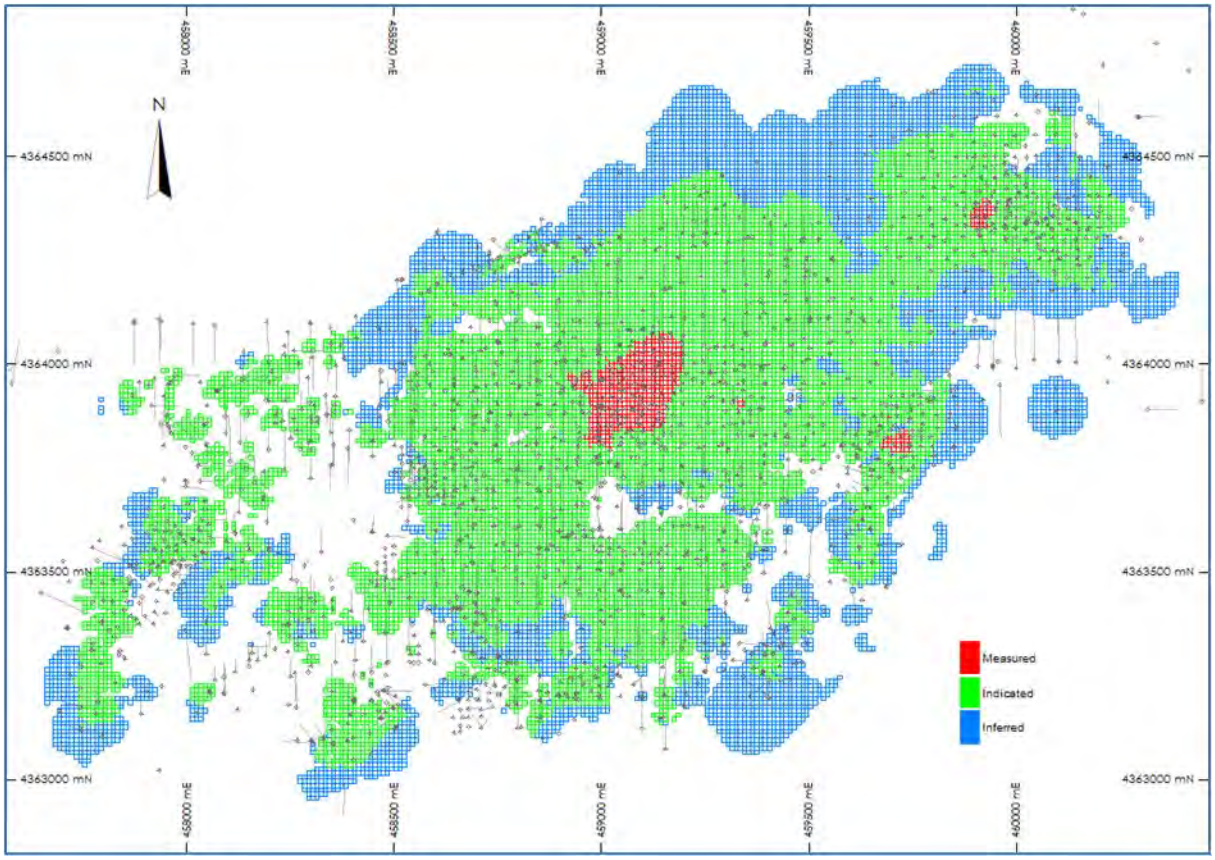
Based on these guidelines, the drilling is generally sufficiently close-spaced enough to permit confirmation of or assumption of continuity (Measured vs. Indicated, respectively) between data points. For the Çöpler model, a drillhole spacing study was performed to determine the nominal drillhole spacing required to classify material as Indicated.

Confidence limits were calculated on a single block that represents one month of POX production (based on 1.9 Mtpa). The confidence limits, a review of continuity on sections and plans, and an assessment of data quality were used to determine minimum drillhole spacing by domain. A spacing of 40 m x 40 m in the Marble Zone, 50 m x 50 m in the Manganese Zone and West Zones, and 60 m x 60 m in the Main Zone was required to meet the requirements for Indicated. An 80 m x 80 m spacing was required for Inferred in all domains. Model Cells with a drillhole spacing that was greater than 80 m were not classified as Mineral Resource.

The resultant classification was then 'smoothed' to remove the isolated cells that are not of the same classification tenor as the proximal surrounding cells.

The resulting classification shows that much of the deposit can be classified as Indicated, with Inferred cells forming a halo around the Indicated mineralisation Figure 11.4. A small quantity of cells classified as Measured.

Figure 11.4 Projected Plan View of Çöpler Resource Classification



OreWin, 2020
Only model cells with Au >0.3 g/t shown

11.1.17 Çöpler Model Validation

Model validation was approached in several ways:

- The estimated Au grades in the model were compared to the composite grades by visual inspection in plan views, north–south cross-sections, and east–west cross-sections. In general, the model and composite grades compared well visually.
- The cell model was checked for global bias by comparing the mean Au, Ag, Cu, and S grades (with no cut-off) from the model (OK/ID2 grades) with means from NN estimates for cells of Indicated classification. In general, an estimate is considered acceptable if the bias is at or below 5% (relative difference).
- Local trends in the grade estimates (also known as drift analysis) were assessed by plotting the mean values from the NN estimate versus the kriged results for Indicated model cells in east–west, north–south and vertical directions (swath plots). The global comparisons agree well, however swath plots illustrate the existence of slight local differences between the NN and kriged model grades.

11.1.18 Çöpler Assessment of Reasonable Prospects of Eventual Economic Extraction

Mineral Resource estimates were shown to meet reasonable prospects for eventual economic extraction criteria by reporting only material that was contained within a conceptual pit shell using metal prices of $1,750/oz for gold and the parameters summarised in Table 11.6. These parameters, with the exception of the gold price, are the same parameters as those used to define the Mineral Reserve pit.

Table 11.6 Summary of Key Parameters Used in 2021 Conceptual Pit Shell at Çöpler

Description	Unit	Minimum	Maximum
Heap Leach Gold Recovery	%	62.3	78.4
POX Gold Recovery	%	91.0	91.0
Mining Cost per tonne mined	$/t	1.49	2.78
Process Costs Heap Leach	$/t	9.30	9.30
Process Costs POX	$/t	34.88	34.88
Site Support and G&A	$Mpa	15	15
Internal Au Cut-off – Heap Leach	g/t	0.19	0.24
Internal Au Cut-off – POX	$/t NSR	34.88	34.88
Internal Au Cut-off – Cu Conc.	$/t NSR	7.68 + 34.88 x Pyrite Mass Pull	
Royalty	%	2.0	2.0

11.1.19 Çöpler Deposit Mineral Resource Tabulation

Mineral Resources are reported exclusive of Mineral Reserves in Table 11.30 according to resource classification and material type. Mineral Resources that are not Mineral Reserves have not demonstrated economic viability. The pit shell used to constrain the resource has been updated to reflect the increase in gold price. Depletion from mining has been included.

11.2 Çakmaktepe

The Çöpler district hosts various styles of mineralisation, mainly epithermal, skarn and contact style gold and gold–copper mineralisation. The Çakmaktepe North zone of the Çakmaktepe deposit is a strongly sheared zone with strong epithermal characteristics and grade associations with intrusive diorite dykes. As with the other prospects the mineral association is dominantly Au–Cu–Ag. Other mineralised zones belonging to the Çakmaktepe deposit are generally contact styles of mineralisation where Au–Cu–Ag have been emplaced along thrust surfaces next to ophiolite, limestone, and metasediment. Epithermal veining and replacement alteration textures are prevalent.

Oxide mining began in the Çakmaktepe Central and East pits in November 2018. Mining continued through September 2019 within the same two pits. Oxide ore material was transported to the Çöpler oxide processing facility for inclusion on the heap leach pad.

A geological model was constructed along with a cell model estimating grades for Au, Cu, Ag, S, and C. Estimated grades were constrained by mineralised envelopes.

11.2.1 Çakmaktepe Domains

At Çakmaktepe, mineralisation follows structural controls and designated lithological contact orientations. Grades trends and element associations were investigated, and several separate domains were identified and are shown in Figure 11.5.

Mineralisation at Çakmaktepe often overlaps multiple lithological units along its boundary, rather than being hosted within a single rock type. For this reason, grade shells were constructed for gold and copper to constrain estimates within mineralised zones. The mineralised shapes for gold and copper are lenticular with thicknesses ranging from 5–40 m, the average thicknesses being approximately 6 m.

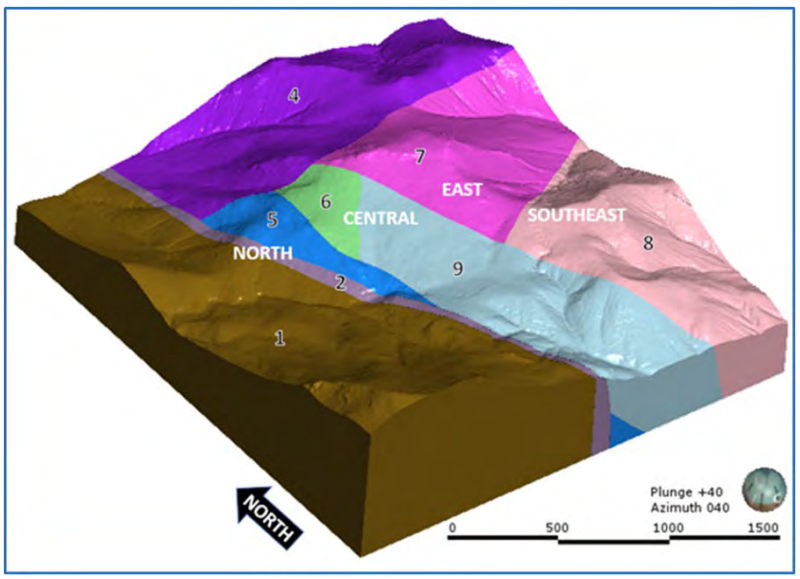
Grade shells were also developed for silver. However, because silver mineralisation tends to be more dispersed and more difficult to follow across the deposit than gold, different methods were used for silver grade shells depending on which area was being modelled.

Sulfur grades follow lithological units. Higher S values are seen in diorite and metasediment, with decreased S in gossan, jasperoid, ophiolite, and marble.

The key points in relation to Çakmaktepe mineralisation domains are:

- Çakmaktepe North is located on a vertical shear structure with elevated metal grades within jasperoid unit. Several low-angle structures dipping to the north-east carry grades along the marble to metasediment contact. Intrusive diorite/s, orientated vertically, cross-cut all other lithological units. Mineralisation within/around the diorite is limited in Çakmaktepe North.
- Çakmaktepe Central mineralisation follows the marble contact, which dips gradually to the north-east. The marble unit is approximately 15 m thick and located between the ophiolite and metasediment units.
- Mineralisation in the Çakmaktepe East area is near-surface and within the gossan unit, which is relatively flat lying and localised.
- The South-east area seems to be controlled by a massive diorite body with gossan at the surface. Mineralisation is weak and near-surface.

Figure 11.5 Çakmaktepe Model Domains (oblique view)



Anagold, 2020

Contacts for lithological shapes used the raw logged interval depth in 3D space. Surfaces were generated through implicit modelling of contact locations in the drillholes.

Construction of the lithological shapes assumed the following:

- Diorites are intrusive units that can exist as large bodies or thin sills cross-cutting other units.
- Jasperoid is an alteration product but treated here as a lithological unit. Jasperoids occur along shear zones and are high in pyrite. Jasperoid can exist in pods and can be discordant to surrounding stratigraphy.
- Gossan is primarily the result of surficial oxidation, with the shape influenced by the local topographic elevation.
- In most areas, marble overlays metasediment, with ophiolite above marble.
- Offsets in lithological units help to define fault locations and structural boundaries.

A series of fault surface wireframes were developed to represent the structural knowledge at Çakmaktepe. These structures extended beyond the Çakmaktepe model area to take into consideration the spatial relationships between Çakmaktepe and Ardich. The incorporation of modelled 3D faults into the geological model highlighted a discrepancy between the Ardich lithological concept and the Çakmaktepe geological units. Given the correlation of the two deposits was not clearly defined at the time of this model, interpreted faults were excluded from the Çakmaktepe geological model.

11.2.2 Çakmaktepe Data Summary

The cut-off date for the export of the drillholes from the database to be used in the resource modelling was 31 October 2019. The extract contained 1,109 drillholes with a drilling date range of September 2007–October 2019, totalling of 119,001 m of drilling.

11.2.2.1 Çakmaktepe Drillhole Compositing

The original sample lengths in the Çakmaktepe dataset are predominately 1 m, with some 2 m sampling through zones presumed at the time of drilling to be waste. The average sample length is 1.02 m. The shortest interval was 0.1 m and the maximum length was 3.1 m.

Samples were composited to 5 m lengths for use in statistical analysis and construction of mineralisation boundaries. Often, composites along lithological boundaries were selected to match geological control with mineralisation.

Composites were then flagged within the mineralisation shapes. Lithology is also coded into the composite file based on the interpreted shapes.

11.2.3 Çakmaktepe Exploratory Data Analysis

Detailed exploratory data analysis (EDA) was conducted on the Çakmaktepe resource modelling dataset. This is discussed in detail in the CDMP20TR. A summary of findings of the statistical analyses follows.

11.2.3.1 Çakmaktepe Statistical Summary

Detailed statistical analyses were undertaken to assist with the understanding of the mineralisation distribution in the various domains. The statistical review included typical univariate statistics (tabulations, histograms, box plots) and bivariate statistics (scatter plots, correlations).

A summary of key findings follows:

- Box plots confirm observations made from histograms and probability plots that gossan and jasperoid contain significantly higher Au grades and the remaining units (diorite, metasediment, ophiolite, and marble) have lower Au grades.
- Box plots of sulfur show higher sulfur content in diorite and metasediment with moderate sulfur grades in gossan and jasperoid. Low-sulfur is consistently seen in ophiolite and marble. For this reason, the sulfur estimate uses lithologic contacts as domain boundaries.
- Mineralisation tends to spatially follow lithological contacts.
- For Çakmaktepe Central, the probability plot is relatively straight, indicating only one population is present in the distribution.
- Core recoveries are between 80–90%, reflecting strongly sheared, brecciated, altered and in areas of limestone, karstic ground (cavities) being drilled at Çakmaktepe.
- Contact plots were created to show grades change across geological boundaries. Jasperoid and gossan are favourable mineralisation hosts and show abrupt grade changes when compared to the other lithologies (marble, metasediment, diorite, ophiolite).

Grade shell boundaries were constructed to follow lithological contacts and were used as hard domains in the grade estimation process.

11.2.4 Çakmaktepe Top Cutting

Top cuts were selected based on the log probability plot, supported by the projection of the data trend to the expected upper grade (y-axis value) using the top sample value curve (Table 11.7). Top cutting occurred after compositing to 5 m. A spatial review of top values by domain shows randomly spaced samples rather than a localised body of higher grades.

High-yield limits were included outside of the grade shells to restrict the extrapolation of higher grades within the applied search distance. For Au, sample values above 4 g/t Au were restricted to a distance of 10 m x 10 m x 5 m in the East and South-east areas. For Central, a high-yield limit of 8 g/t Au was used. The high-yield limit was increased to 12 g/t Au in the Çakmaktepe North area. For copper, samples above 2% Cu were restricted to 10 m x 10 m x 5 m in Central and 3% Cu in North and East.

Table 11.7 Çakmaktepe Top Cuts for Au, Cu, and Ag

Element	Çakmaktepe Area	Top Cut Grade	No. Samples Cut
Au (g/t)	North	15.0	2
	Central	9.0	7
	East	5.5	1
	South-east	5.0	4
Cu (%)	North	4.0	2
	Central	3.0	2
	East	4.0	2
	South-east	1.0	2
Ag (g/t)	North	180	2
	Central	130	3
	East	150	5
	South-east	60	5

11.2.5 Çakmaktepe Resource Model Estimation

11.2.5.1 Çakmaktepe Cell Model

A cell model was constructed by first coding the interpreted lithology shapes into the cells. These were then flagged by each of the grade shells and model domains. A project-wide solid was used to trim out distant cells at model edges.

The cell model limits are shown in Table 11.8.

The model was not rotated, and no sub-celling was used.

Table 11.8 Çakmaktepe Cell Model Parameters

Direction	Minimum (m)	Maximum (m)	Range (m)	Cell Size (m)	No. of Cells
East	463,400	465,700	2,300	5	460
North	4,364,800	4,366,700	1,900	5	380
RL	1,050	1,850	800	5	160

11.2.5.2 Çakmaktepe Estimation Method

Au, Ag, Cu, S, and C were interpolated using ID3 and NN methods. Au, Cu, and Ag were estimated according to grade shell constraints. S and C were estimated by modelled lithological units. All grade shell boundaries were treated as hard. Mineralisation domains were treated as soft boundaries allowing the selection of samples from nearby domains.

A single search distance was used within the Au, Cu, and Ag grade shells. A two-pass method was used to estimate cells outside of the grade shells. Search ranges and sample requirements varied by estimation pass. Search orientations were selected to match the mineralised dip and dip-direction.

Au was interpolated within each gold grade shell using only composite samples inside the shell. Au grade was then interpolated into cells outside the grade shell using domain-specific parameters. Cu was estimated using the same method as Au, by first interpolating grade within the copper grade shells and then interpolating outside the grade shells in two-passes. Ag estimation followed the same technique as Au and Cu by interpolating within the silver grade shell and then interpolating outside the grade shell by domain.

Sulfur and carbon content is linked to lithology. Lithological shapes were used as hard boundaries to interpolate S and C grades. No preferred orientation of S or C grades was observed; therefore, a spherical search was used.

A NN estimate was completed for all variables using the same composites, same domains, same search ranges and same top cut values as the ID3 estimates. The resulting NN model was used for estimation validation to detect potential estimation bias by domain.

11.2.6 Çakmaktepe Density Model

Density measurements were collected on DD core samples spaced nominally 3 m apart down-hole. Density values were statistically analysed by lithology with outliers and non-representative values excluded from the analysis.

A review of histograms of density within each rock type aided in the selection of bottom and top cut values.

Selected lower and upper cut density values by lithology are shown in Table 11.9.

Table 11.9 Çakmaktepe Upper and Lower Density Limits by Lithology

Lithology	No. of Density Data	Bottom Cut	Top Cut
Cataclasite	33	2.60	2.62
Diorite	1,496	2.00	3.00
Gossan	407	2.00	2.90
Jasperoid	1,972	2.00	3.20
Listwanite	29	2.28	2.80
Marble	4,041	1.91	3.50
Metasediment	4,114	2.00	3.30
Ophiolite	3,400	2.00	3.00

Densities used in the resource model are summarised in Table 11.10.

Table 11.10 Density Values Assigned to the Çakmaktepe Cell Model by Lithology

Lithology	No. Density Data	Assigned Density (t/m^3)
Gossan	389	2.48
Jasperoid	1,755	2.60
Diorite	1,186	2.54
Ophiolite	2,870	2.41
Metasediment	3,666	2.65
Marble	3,533	2.64

11.2.7 Çakmaktepe Model Validation

Validation of the 5 m x 5 m x 5 m model estimates included visual inspection of grade estimates, comparisons of cell grades to drillhole data, checks for global bias, check of local bias (swath plot), metal reduction calculation, and comparison of estimates within the Central and East areas using grade tonnage curves.

Visual inspection of plans and sections and 3D visualisation confirmed that the cell model estimates honour the drillhole data and grade shell boundaries.

11.2.8 Çakmaktepe Comparison to Production Data

Mining occurred in the Çakmaktepe Central and East pits, primarily during 2019. Blasthole data from these two pits were used to construct an Au grade estimate for comparison of the production model to the Mineral Resource model.

The production model, using blasthole assay data, was set up to follow the same parent cell size used in the resource model of 5 m x 5 m x 5 m. This generates cell centroids with the same centroid coordinates as the resource model for relational comparisons by cell.

Plotting the grade / tonnage curve for Au shows the number of tonnes to be similar in both models, with a crossover of the resource to production model tonnes occurring between the 0.8–2.8 g/t Au cut-offs. A large variance is seen when comparing Au grades between the two models. The increased grade in the production model results in more gold ounces. The largest positive and negative variances between the two models were investigated. The following observations were made:

- Estimate variances exist throughout the two cell models. An overall bias towards higher grade blastholes results in higher cell grades in the production model.
- Comparison of cut-off grades shows a larger variance in gold ounces between the two models as the cut-off grade is increased. Variances were plotted on a grade / tonnage curve by pit for a comparison of gold ounces by area.
- Variances were not limited to specific locations. Positive and negative variances were mixed throughout the Central and East pit. This suggests the selected modelling method for the resource grade estimation is not bias high or low, but likely producing a gold model more generalised than the variability seen within the deposit.
- When using the ID3 interpolation method, cell grades closely match drillhole composite values. Investigation of areas where exploration drilling crosses cells shows lower estimated grades in the resource model and higher estimated grades in the production model. This illustrates the variance in the two drillhole datasets – exploration to blasthole data.

These observations indicate that the variances between the two datasets are likely greater than the software tools available to match the deposit grade distribution and short range variability to the resource model. To compensate for the model variances, increasing the exploration drill density to the deposit variability is preferred. However, increasing the exploration drill density is probably not feasible due to the high inherent variance seen in the deposit. This presents a risk that mining may not match the predictive abilities of the resource model using the available exploration data.

11.2.9 Çakmaktepe Mineral Resource Classification

In summary, assignment of model classification followed these steps:

- Sample spacing was calculated based on samples from drillholes containing assay values. The calculation of sample spacing did not use limiting boundaries such as domains or lithological shapes.
- Inferred and indicated classification was assigned based on drill sample distances (20 m and 35 m).
- Indicated classification was then restricted to those cells within the modelled mineral grade shells for gold, copper, and silver.
- South-east estimates were downgraded to Inferred.

Grade estimates within the grade shells were visually confirmed by comparing the grade of the cell with the grade shell boundary. Higher grades exist inside the grade shell with a drop in grade tenor evident when crossing the grade shell boundary. Grade shells follow geological features such as lithological contacts and the Çakmaktepe North shear structure. Estimates outside of the grade shells were set to generalised orientations honouring the trends of the low-grade mineralisation and orientations of the major lithological units.

Hard grade boundaries were used for gold, silver, and copper. The sharp changes in grade are expected, rather than being an artefact of the estimate, due to the close relationship between mineralisation and structural features. This relationship is supported by close-spaced drilling throughout Çakmaktepe and crossing holes in areas such as the shear zone in Çakmaktepe North.

11.2.10 Çakmaktepe Assessment of Reasonable Prospects of Eventual Economic Extraction

Mineral Resource estimates were shown to meet reasonable prospects for eventual economic extraction criteria by reporting only material that was contained within a conceptual pit shell using metal prices of $1,750/oz for gold with the parameters summarised in Table 11.11. These parameters, with the exception of the gold price, are the same parameters as those used to define the Çakmaktepe Mineral Reserve pit.

Table 11.11 Summary of Key Parameters Used in Conceptual Pit Shell at Çakmaktepe

Description	Unit	Minimum	Maximum
Heap Leach Gold Recovery	%	38.0	80.0
Mining Cost per tonne mined	$/t	1.59	1.59
Process Costs Heap Leach	$/t	14.16	14.16
Site Support per tonne processed	$/t	3.17	3.17
Internal Au Cut-off – Heap Leach	g/t	0.36	0.76
Royalty	%	4.0	4.0

11.2.11 Çakmaktepe Mineral Resource Tabulation

Çakmaktepe Mineral Resources are reported inclusive of Mineral Reserves and have been tabulated by resource classification and oxidation state in Table 11.30. Mineral Resources are presented on a 100% basis.

11.3 Ardich

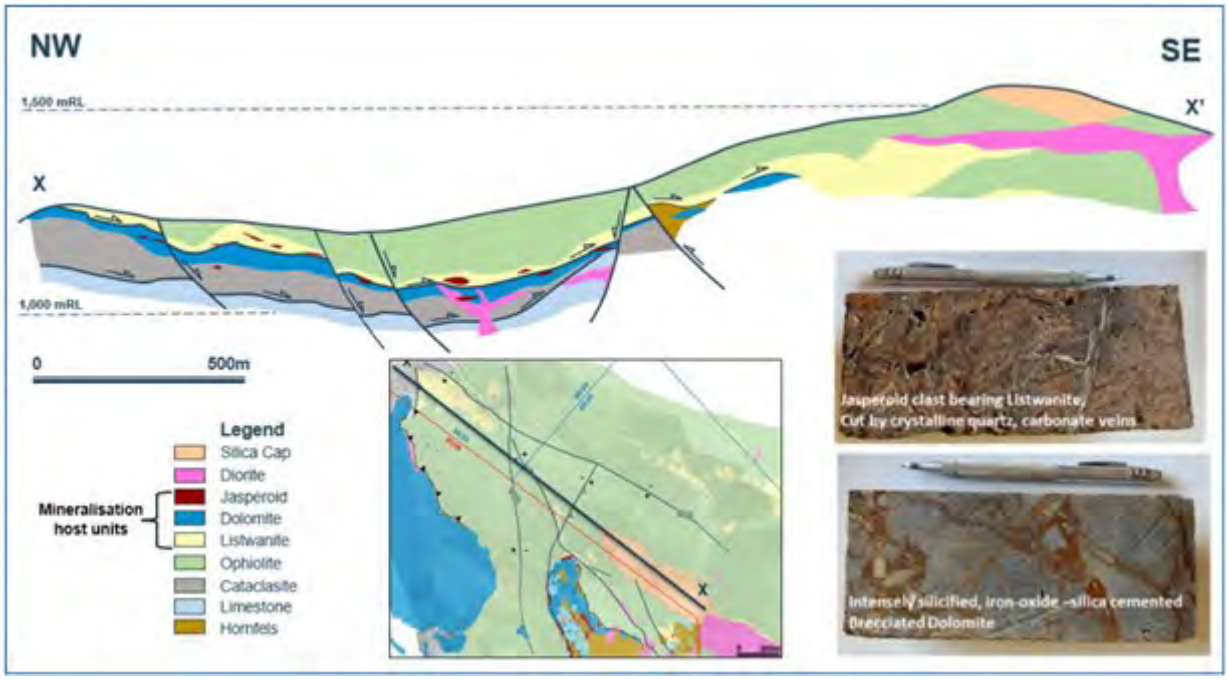
The latest mineral asset to be intensively studied in the Çöpler district suite of mineralised zones is Ardich, which is located approximately 6 km east of the current Çöpler pit and 1 km north of the Çakmaktepe pits. The Ardich deposit is accessed by the İliç-Yakuplu village road, which is open throughout the year.

Ardich mineralisation was discovered in August 2017. Ardich does not appear to have hosted historical mining or trenching in the way that Çöpler and Çakmaktepe have.

The local geology at Ardich is dominated by ophiolites, listwanites, dolomites, cataclasites and limestones, with lesser amounts of jasperoid and diorite Figure 11.6. This lithology assemblage occurs within a complex north-west trending structural zone that is cut by multiple high-angle faults, which together result in multiple rotated fault blocks and mineralised zones.

The jasperoids and diorites form a volumetrically minor part of the lithology sequence, however, they appear to be the most important controls of the mineralisation at Ardich.

Figure 11.6 Ardich Geology Schematic (long-section)



Anagold, 2021

11.3.1 Ardich Geological Model

The 2021 Ardich model update is underpinned by the structural and lithological interpretations developed for the previous geological modelling at Ardich.

Overall, the lithological and structural framework for the geological model remains conceptually similar to the previous interpretations. However, the July 2021 update includes six additional faults, which dissect the deposit into more structural domains than in previous modelling.

Standalone lithological interpretations were developed for each structural domain. This was necessary to enable the offsets / discontinuities and changes in behaviour of the lithological units in each structural domain to be represented appropriately.

11.3.2 Ardich Structural Interpretation

There are two dominant structural trends interpreted at Ardich:

1. North-west / south-east trending faults form the primary structural features.
2. A series of smaller, less pervasive secondary faults cross-cut the primary structures in a north-east / south-west trend.

The combination of these faults creates unique structural blocks that have moved vertically relative to each other as well as pivoted / rotated. The nomenclature for, and characteristics of, each of the interpreted faults is listed in Table 11.12.

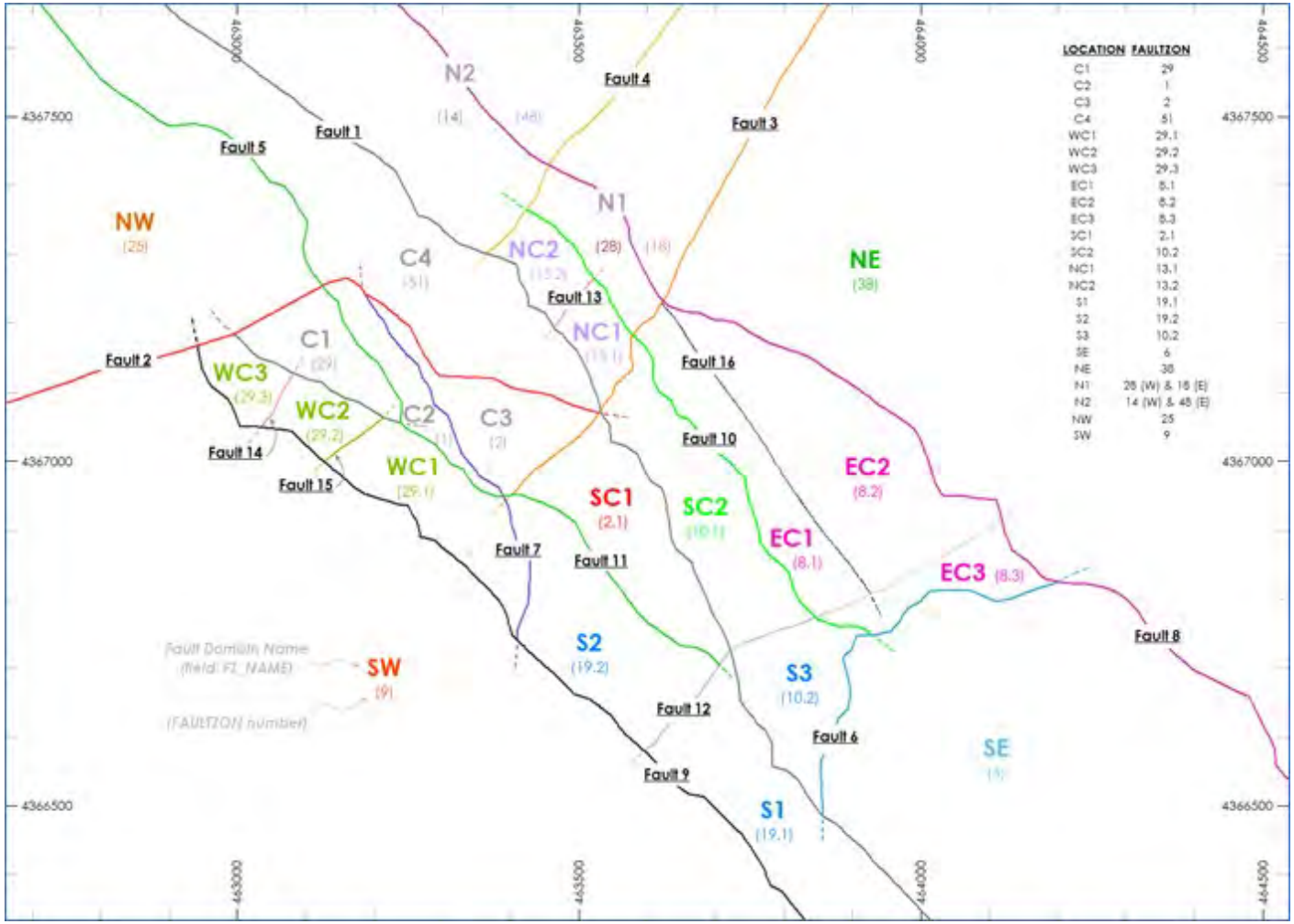
The location and attitude of the faults was largely determined from incongruous lithological occurrences observed down drillholes, further enhanced at times by logged commentary regarding evidence for faulting in the lithological dataset.

Table 11.12 Interpreted Fault Trends

Fault Number	Trending Direction	Fault Dominance
1, 5, 8, 9	North-west / South-east	Primary
7, 10, 11, 16	North-west / South-east	Secondary
2	East / West	Primary
3, 6	North-east / South-west	Primary
4, 12, 13, 14, 15	North-east / South-west	Secondary

The delineation of the deposit by the fault wireframes allowed for the creation of a domain field named 'FAULTZON' in each drillhole sample and model cell to identify its location within the structural framework. The interactions of the faults resulted in 25 unique FAULTZON domains. The location and inter-relationships of the faults and the FAULTZONs are shown in plan view in Figure 11.7.

Figure 11.7 Ardich Structural Framework: Interpreted Faults and Resultant FAULTZONs



OreWin, 2021

11.1.3 Ardich Lithological Interpretation

The typical stratigraphic sequence encountered at Ardich is (from surface down): ophiolite, listwanite, dolomite, cataclasite, and limestone, with jasperoid and diorite variably present within any of these strata. An example cross section is shown in Figure 11.8.

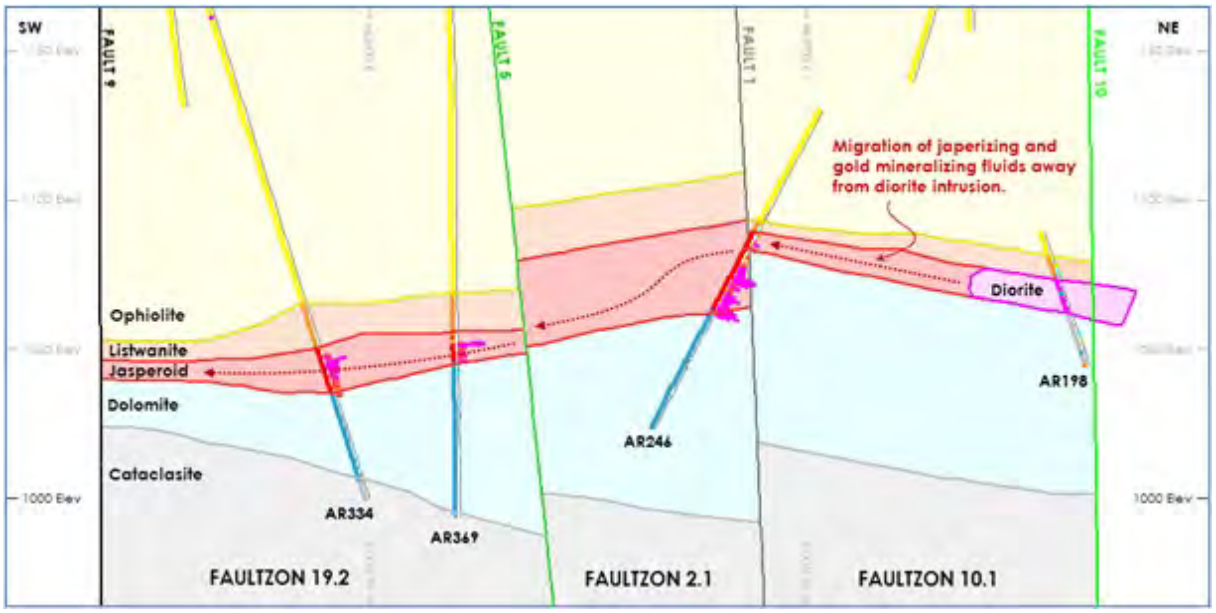
In addition to this typical sequence, secondary repeat occurrences of ophiolite, listwanite, dolomite, and cataclasite can be present in the stratigraphic sequence in some FAULTZONs. A silica cap unit is present in FAULTZON 6 (SE).

The jasperoid and diorite lithologies have a relatively small volumetric presence and were formed by different geological mechanisms compared to the more extensive (meta)sedimentary stratigraphic host lithologies (ophiolite, dolomite, cataclasite, hornfels, and limestone).

Wireframe surfaces and solids were created to represent the interpreted nature of the main lithologies. The field 'MODLITH' was created in the sample and model files to identify the lithology domain that the sample or cell represents.

An additional field 'LITHNUM' was also created in the sample and model files to provide a numerical identifier for each lithology to differentiate between the repeat occurrences of the same lithological units within a FAULTZON.

Figure 11.8 Schematic Example Cross-Section of Ardich Lithology Model (looking north-west)



OreWin, 2021

11.1.4 Ardich Mineralisation

The mineralisation at Ardich is related to crystalline and chalcedonic quartz veins within the brecciated and silicified jasperoid, listwanite, and dolomite zones. The mineralisation is predominantly in the form of oxide, with sulfide mineralisation confined to limited pyrite-rich jasperoid zones.

The mineralisation is considered to be related to fluids associated with diorite intrusions. This manifests as either direct contact mineralisation surrounding the diorites or as diorite-derived mineralising fluids that have migrated along lithological or fault contacts.

Gold grades increase at jasperoid / dolomite / listwanite contacts and within the silica-rich listwanites, which act as horizontal traps for higher grade gold-bearing mineralisation. Increases in gold grade often occur along the lithological contacts. A rapid down-hole change in gold grade tenor, notionally from mineralised to unmineralised material, can be seen in many drillholes, indicating that the mineralisation is tightly constrained within the controlling features rather than generally disseminated across the deposit.

Four distinct styles of mineralisation have been observed:

- Jasperoid-related mineralisation

  In this most-prevalent style of mineralisation at Ardich, gold mineralisation can either occur throughout the entirety of a jasperoid unit or display a concentration towards the middle-to-lower part of the unit. The formation of the jasperoid, and the gold mineralisation more broadly, is interpreted to be related to the fluids associated with diorite intrusions.

  The diorites from which jasperising and mineralising fluids have been interpreted to originate can be located either within a single FAUTLZON or in an adjacent FAULTZON to the mineralised jasperoid, with the listwanite / dolomite contact providing a low-resistance fluid pathway between the diorite and the jasperoid.

- Diorite contact-related mineralisation

  The second most common style of mineralisation is related directly to the contact of a diorite intrusion with the host strata; most-commonly within the listwanite and in the absence of jasperoid.

  This style of mineralisation tends to be parallel to the diorite intrusion, but generally limited to within approximately 20 m of the diorite contact.

- Contact-parallel mineralisation

  Both the well-mineralised jasperoid / listwanite domains and the less well-mineralised dolomites show contact-parallel mineralisation.

  In the jasperoids, this often manifests as higher grade results (within an overall well-mineralised zone) occurring at a similar distance from the contact (i.e., contact-parallel).

  The mineralisation is likely related to a sedimentary / depositional feature such as bedding within the unit. Like the lithological contact being preferentially used as a low resistance fluid pathway for the mineralising fluids, internal variation within the units may offer additional low resistant pathways for the fluids.

- Complex domains mineralisation

  There are a small number of FAUTLZONs that are more structurally and lithologically complex than the majority of the FAULTZONs in the deposit. The mineralisation within these complex domains does still appear to adhere to the jasperoid-related, contact-parallel, and diorite contact-related mineralisation models. However, the number of lithology contacts and the geometry of these units appears to be more complex than in other parts of the deposit.

11.1.5 Ardich Database Extract

A MS Access database 'Ardich_12072021.mdb' (the July database) was supplied to OreWin on 13 July 2021. The database contained collar, survey, assay, lithology, and density data for drilling completed up to 29 May 2021. The tables contained within the database and used in this study are:

- tblDHColl
- tblDHSurv
- tblDHLithology2017
- tblVWDHAssays_ALL
- tblDHSpecGrav

The July database tables were exported to comma delimited text format (csv) then imported in to Datamine software for validation and to create the working drillhole files.

The tables were reviewed extensively to identify any erroneous or unusual data. A comparison was also made between the July database and the previous database extract.

11.1.6 Ardich 2021 Resource Modelling Dataset Summary

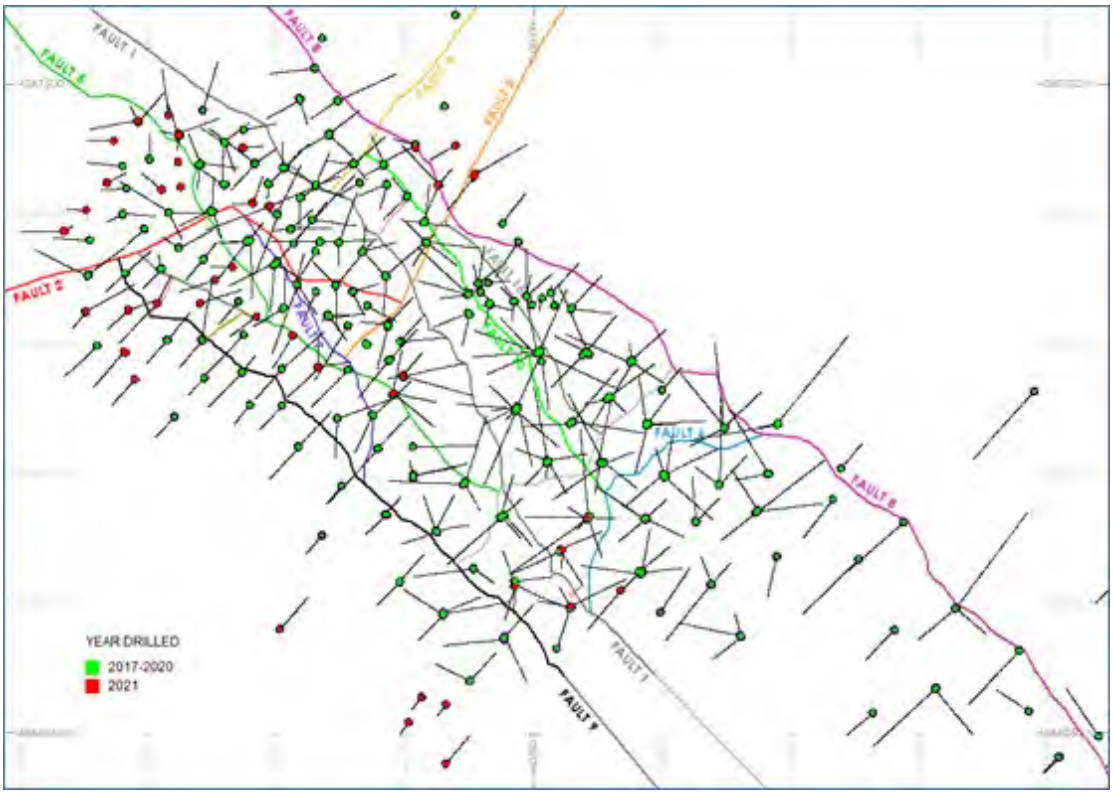
A total of 427 diamond drillholes (DD) have been drilled at Ardich since late-2017, (see Table 11.13 and Figure 11.9). Exploration drilling at Ardich utilised surface PQ and HQ triple-tube diamond core drilling. No RC drilling has occurred to date at Ardich.

After the initial discovery of the Ardich deposit, DD drilling programmes have continued to improve confidence in the interpretation.

Table 11.13 Ardich Drilling History in 2021 Resource Modelling Dataset

Year	Number of Drillholes	Drilled Metres
2017	9	1,374.10
2018	91	14,216.40
2019	133	27,821.20
2020	147	35,146.65
to 29 May 2021	45	8,479.90
Total	**427**	**87,038.25**

Figure 11.9 Ardich Drill Collar Location Plan



OreWin, 2021

11.1.7 Ardich Exploratory Data Analysis

In-depth analysis of the grade distribution and continuity of the assay data was undertaken both visually and statistically.

11.1.7.1 Ardich Summary Statistics

The raw statistics of the key elements in the global dataset are shown in Table 11.14.

Table 11.14 Key Element Statistics of Uncomposited Drillhole Data (length weighted)

ELEMENT	No. Samples	Min.	Max.	Mean	Std. Dev.	Variance	CV
Au (ppm)	72,432	0.0025	44.7	0.26	1.12	1.26	4.25
Ag (ppm)	72,432	0.25	246	0.68	2.95	8.67	4.32
Cu (%)	72,432	0.00005	19.4	0.005	0.11	0.01	22.87
S (%)	72,432	0.01	32.5	0.52	1.23	1.50	2.34

Statistics were generated for all lithologies present at Ardich.

It can be observed from the summary statistics that the mean grades, the number of samples and the range of grades varies significantly across the lithologies and FAULTZONs.

Histograms of Au data at the domain level show that most domains have a lognormal grade distribution. Also seen in the histograms for many of the domains is evidence of mixed grade populations. The presence of higher grade samples proximal to the lithology contacts provides a geological explanation to the mixed grade distributions seen in the some of the histograms.

Sulfur content is more strongly related to the lithological unit than the gold mineralisation. While some increase in sulfur grades was observed proximal to the lithological contacts, this phenomenon was not of the same tenor or uniformity as is evident in the gold mineralisation.

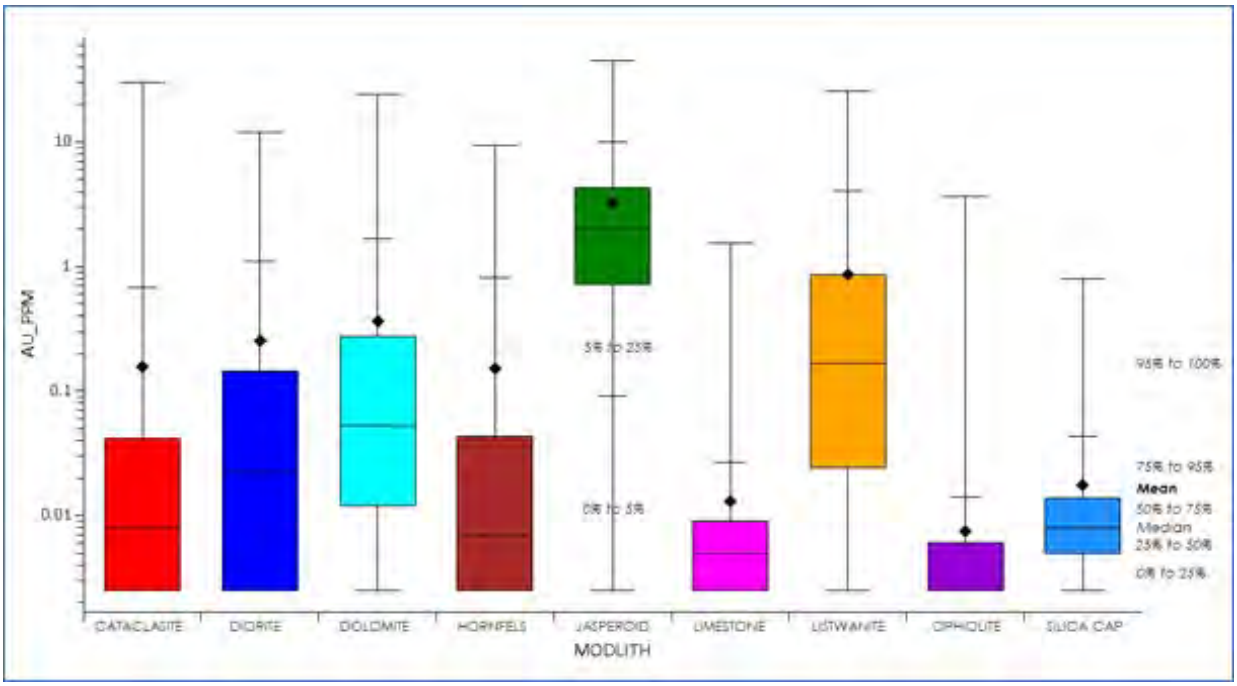
Gold Statistics

As can be seen in Table 11.15 and Figure 11.10, the highest mean Au grades are in the jasperoid and listwanite.

Table 11.15 Au Summary Statistics by Lithology based on Uncomposited Samples (length weighted)

Lithology	No. of Samples	% of all Samples	Au (ppm)		
			Min.	Max.	Mean
Ophiolite	29,425	41%	0.0025	3.7	0.01
Listwanite	8,723	12%	0.0025	25.4	0.86
Dolomite	15,070	21%	0.0025	24.1	0.36
Cataclasite	8,990	12%	0.0025	30.3	0.16
Jasperoid	2,058	3%	0.0025	44.7	3.21
Limestone	1,852	3%	0.0025	1.5	0.01
Diorite	2,203	3%	0.0025	11.9	0.25
Hornfels	3,447	5%	0.0025	9.3	0.15
Silica Cap	664	1%	0.0025	0.8	0.02
ALL	**72,432**	**100%**	**0.0025**	**44.7**	**0.31**

Figure 11.10 AU_PPM Box and Whisker Plot by Lithology (MODLITH)



OreWin, 2021

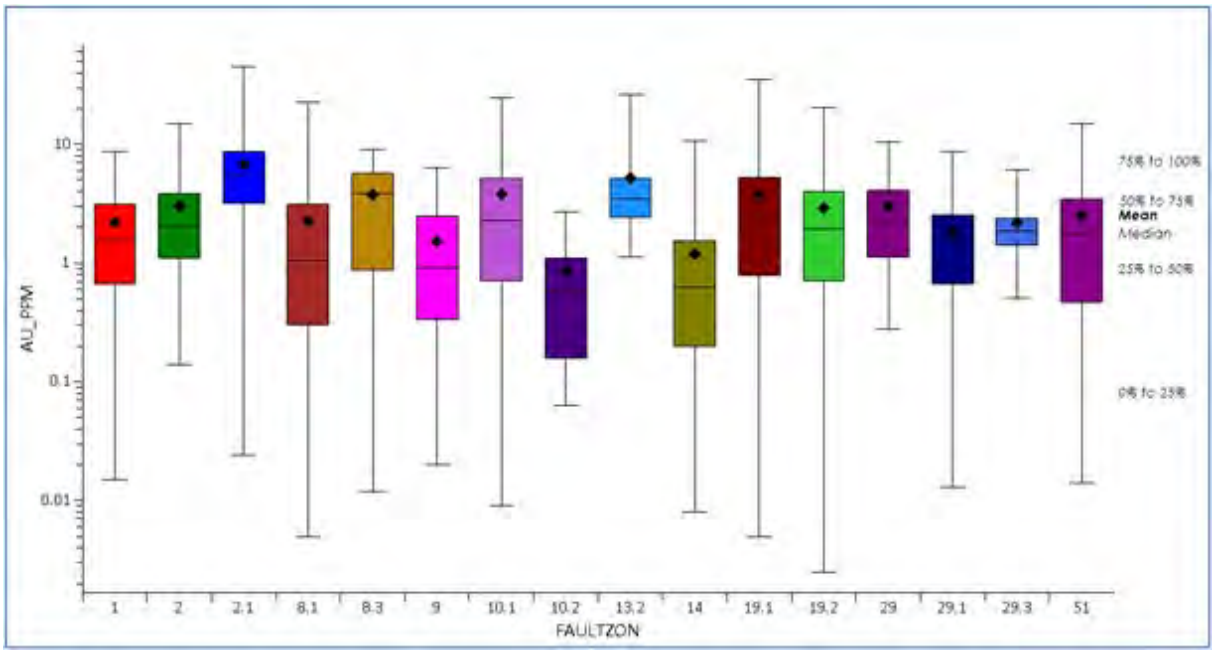
A detailed visual assessment of the Au grade distribution showed a preference for higher Au grades to be concentrated on or near a lithological contact. The following observations were made:

- For the jasperoid and listwanite, the higher Au grades were predominately located on or near the lower lithological contact. In addition to the preferential occurrence of grades proximal to contacts, a grade trend with a contact-parallel orientation was also noted.
- For the dolomite and cataclasite, higher Au grades were associated with the upper lithological contact. These lithologies also displayed areas of contact-parallel mineralisation within the main body of the unit.
- Higher Au grades were also noted in the host rock surrounding some, but not all, of the diorite intrusions and occasionally proximal to the faults. Consistent with the mineralisation observed on the main lithology contacts, there appears to be a contact-parallel nature to the mineralisation surrounding the diorites.
- Areas of strongest diorite intrusion often coincide with the areas of greatest jasperisation and gold mineralisation. The presence of the highest Au grades proximal to the lithological contacts suggests the preference of these contact boundaries as a low resistance pathway for the diorite derived mineralising fluids.
- Gold mineralisation in the listwanite is most-commonly located in the lower part of the unit, occurring on either the listwanite / jasperoid, or listwanite / dolomite contact.
- Gold mineralisation in the dolomite is most-commonly located in the upper part of the unit, close to the dolomite / jasperoid or dolomite / listwanite contact. Where the listwanite, jasperoid, and dolomite are all mineralised within a single FAULTZON, the Au grade tenor is often (but not always) highest within the jasperoid.

Differences in Au grade were observed between the different lithologies at the deposit scale. In addition to this, there were also noticeable differences in Au grade for the same lithologies in different FAULTZONs. As an example, Figure 11.11 shows the range and mean Au grades of the jasperoid for the various FAULTZONs.

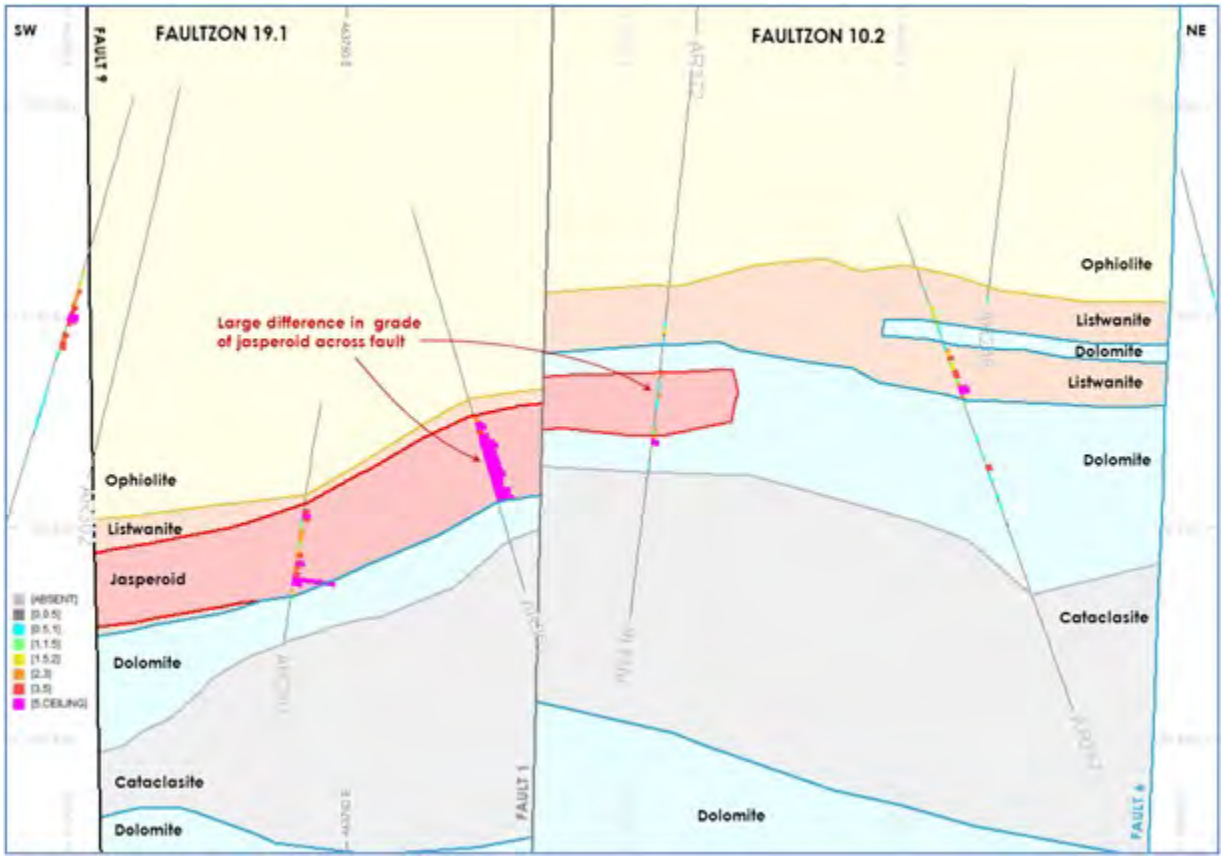
This variation in Au grade between FAULTZONs is illustrated in Figure 11.12, which shows a very large difference in grade tenor and location in the jasperoid in AR361 in FAULTZON 10.2 (S1) relative to the jasperoid in AR416 in FAULTZON 10.2 (S3). The jasperoid hosts only 3% of the total samples collected.

Figure 11.11 Jasperoid AU_PPM Box and Whisker Plot by FAULTZON



OreWin, 2021

Figure 11.12 Example Cross-Section (looking north-west) through FAULTZONs 19.1 and 10.2 showing AU_PPM Differences in Adjacent FAULTZONs



OreWin, 2021

Both the visual and statistical observations of the Au grade distribution in the different FAULTZON blocks informed the decision to estimate each lithology within each FAULTZON independently.

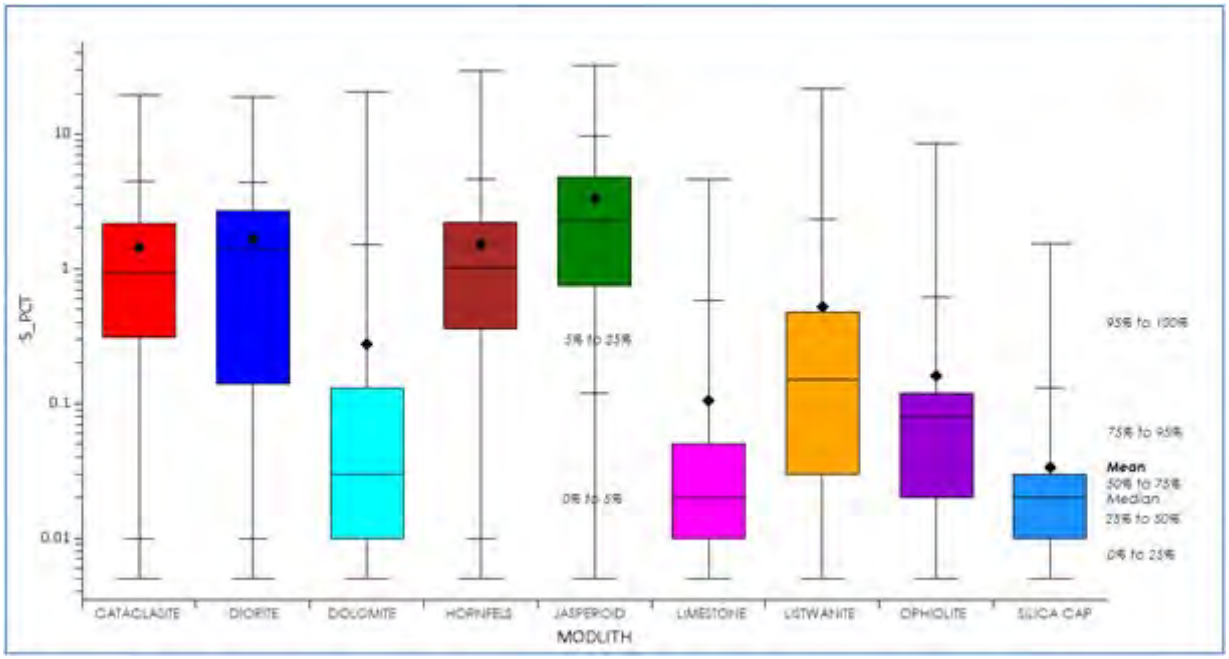
Sulfur Statistics

Table 11.16 and Figure 11.13 show the shows the basic statistics for sulfur in each lithology at the deposit scale. This shows that the lithology with the highest mean S grade is the jasperoid (3.3% S). There is a strong correlation between lithology and sulfur content.

Table 11.16 Sulfur Summary Statistics by Lithology based on Length Weighted Uncomposited Samples

MODLITH	No. of Samples	% of all Samples	S (%)		
			Min.	Max.	Mean
Ophiolite	29,425	41%	0.005	8.5	0.16
Listwanite	8,723	12%	0.005	21.9	0.52
Dolomite	15,070	21%	0.005	20.5	0.28
Cataclasite	8,990	12%	0.005	19.6	1.44
Jasperoid	2,058	3%	0.005	32.5	3.30
Limestone	1,852	3%	0.005	4.6	0.11
Diorite	2,203	3%	0.005	18.9	1.67
Hornfels	3,447	5%	0.005	29.3	1.52
Silica Cap	664	1%	0.005	1.6	0.03
ALL	**72,432**	**100%**	**0.005**	**32.5**	**0.52**

Figure 11.13 S_PCT Box and Whisker Plot by MODLITH



OreWin, 2021

11.1.8 Ardich Core Recovery

Exploration drilling at Ardich utilised surface PQ and HQ triple-tube diamond core drilling.

Overall, Ardich drill core recovery is good with a mean recovery over 92%.

Uncomposited data statistics were compared to core recovery collected during geotechnical logging. No correlation is seen between Au grade and core recovery.

11.1.9 Ardich Top Cutting

Statistical analysis, using log. probability plots, mean variance plots, log. histograms, and percentage change statistics, was undertaken for each of the domains. Once identified, apparently-outlying samples were reviewed visually in 3D to determine whether there was sufficient local support to allow the sample to retain its un-cut grade, or if grade cutting was required. Often, samples that appeared as statistical outliers at the domain scale transpired to be well-supported at the local scale and conformed to the mineralisation model of higher grades located proximal to lithological or fault contacts, indicating that top cutting may not be justified.

This review process resulted in top cuts being applied to only 41 samples from 24 domains. The domains where top cutting was applied are summarised in Table 11.17. This table shows the effect of the top cutting process on the statistics of the cut samples. Sulfur grades were also assessed for potential top cutting with no top cuts applied

.

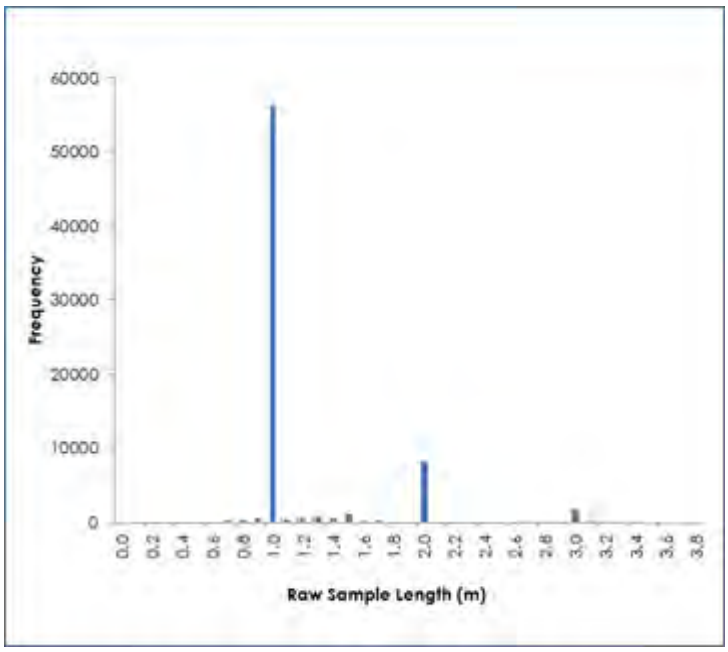
Table 11.17 Au Top Cut Values and Effect on Statistics

LITHNUM	Lithology	FAULTZON	No. Samples		Top Cut Value	Top Cut Percentile	Mean (Au ppm)		CV (Au)	
			Total	Cut			Un-cut	Cut	Un-cut	Cut
2	Listwanite	8.2	256	1	8.0	99.6%	0.88	0.86	1.73	1.57
		9	491	2	9.5	99.6%	0.61	0.58	2.36	2.01
		19.2	93	3	1.2	96.7%	0.22	0.14	3.20	2.19
3	Dolomite (upper)	8.2	1144	3	6.0	99.7%	0.28	0.27	2.87	2.26
		13.2	66	1	4.4	98.4%	0.69	0.62	2.01	1.65
		14	40	2	1.3	94.9%	0.34	0.21	2.54	1.63
		29.1	240	1	7.0	99.5%	0.74	0.68	2.19	1.41
3.1	Dolomite (lower)	51	292	1	2.0	99.7%	0.07	0.06	3.95	2.71
4	Cataclasite (upper)	2	503	2	12.0	99.6%	0.54	0.50	3.81	3.40
		10.1	713	1	5.0	99.8%	0.17	0.16	3.38	3.06
4.1	Cataclasite (lower)	13.1	269	2	0.3	99.2%	0.04	0.03	3.94	1.89
		29.2	33	2	0.4	93.8%	0.21	0.14	1.70	0.99
5.1	Jasperoid	2.1	296	3	24.0	99.0%	6.73	6.60	0.79	0.71
		8.1	221	3	12.0	99.0%	2.25	2.16	1.29	1.13
		13.2	23	2	9.0	91.0%	5.52	4.45	0.98	0.52
		14	107	2	6.5	98.1%	1.19	1.13	1.35	1.18
		19.1	9	1	1.0	88.3%	0.85	0.55	1.18	0.45
		29.3	15	1	3.5	92.9%	2.19	2.01	0.59	0.41
5.2	Jasperoid	19.1	197	2	18.0	98.9%	3.90	3.77	1.15	1.01
7.2	Diorite	25	28	1	2.0	97.2%	0.52	0.44	1.51	0.97
7.3	Diorite	8.1	64	1	2.0	98.7%	0.30	0.26	2.13	1.37
		13.1	11	1	2.0	90.0%	1.40	0.84	1.63	1.00
7.4	Diorite	8.2	48	1	0.7	98.1%	0.18	0.16	1.46	1.08
7.5	Diorite	51	73	2	7.0	97.3%	2.17	2.05	0.96	0.78

11.1.10 Ardich Drillhole Compositing

A 1 m sample interval was the most prevalent raw sample length in the assay database, accounting for 76.95% (55,733 samples) of all samples. The next most-prevalent sample length was 2 m, accounting for 11.17% (8,090 samples) of all samples. See Figure 11.14.

Figure 11.14 Histogram of Raw Sample Lengths



OreWin, 2021

Drillholes containing samples of 2 m length are located within almost every FAULTZON. However, the location of these samples was heavily biased to the ophiolite lithology, with 99.25% (8,029 of 8,090 samples) of the 2 m samples located in ophiolite.

In addition, there is a temporal bias in the collection of the 2 m sample lengths with all but three (3) of the 2 m samples being collected from hole AR194 and onwards. This indicates an understanding of the lithology / mineralisation relationship developed over time, for example, it became understood that the ophiolite contained little or no mineralisation and a 2 m sample interval could be used in this material without compromising the sample support of the mineralised areas.

After due consideration of the sample length analyses, compositing to a length of 1 m was determined to be optimal as this length would preserve the integrity of the majority of samples in the raw database, with minimal compromise to the modified samples.

During compositing, samples were not permitted to composite across any of the boundaries defined by the FAULTZON or LITHNUM attributes. Compositing to 1 m had a very little impact on the statistics of the data. Table 11.18 and Table 11.19 shows the effect of the compositing process for the jasperoid and listwanite within each FAULTZON area. The full summary of the effect of compositing across all domains can be found in Table 11.18.

Table 11.18 Drillhole Au Statistics for Uncomposited (Raw) and Composited (Comp.) Sample Data – Jasperoid

LITHNUM	FAULTZON	No. Samples		Max. Length (m)		Max. Grade (Au ppm)		Mean Grade (Au ppm)		CV (Au)	
		Raw	Comp.	Raw	Comp.	Raw	Comp.	Raw	Comp.	Raw	Comp.
5.1	1	74	75	1.5	1.0	8.69	8.69	2.04	2.05	0.98	0.95
	2	161	166	1.6	1.0	14.90	14.90	3.04	3.05	0.91	0.88
	2.1	292	296	1.8	1.0	44.70	42.00	6.74	6.73	0.82	0.79
	8.1	218	221	1.6	1.0	22.90	22.90	2.26	2.25	1.34	1.29
	8.3	23	23	1.3	1.0	8.99	8.99	3.75	3.75	0.72	0.73
	9	119	121	1.8	1.0	6.32	6.32	1.53	1.54	0.96	0.93
	10.1	92	94	1.5	1.0	24.50	23.15	3.90	3.86	1.11	1.09
	10.2	35	36	2.2	1.0	2.70	2.70	0.86	0.86	0.93	0.89
	13.2	21	23	1.7	1.0	26.20	26.20	5.26	5.52	1.04	0.98
	14	104	107	1.6	1.0	10.60	10.60	1.20	1.19	1.42	1.35
	19.1	9	9	1.0	1.0	3.63	3.63	0.85	0.85	1.19	1.19
	19.2	208	216	2.9	1.0	20.30	16.15	2.91	2.95	1.06	1.01
	29	82	84	1.5	1.0	10.50	10.50	3.00	3.01	0.80	0.78
	29.1	122	122	1.4	1.0	8.67	8.67	1.86	1.88	0.87	0.87
	29.3	16	15	1.6	1.0	6.15	6.15	2.18	2.19	0.58	0.59
	51	64	64	1.1	1.0	5.84	5.84	1.10	1.11	1.11	1.11
5.2	1	28	28	1.2	1.0	6.37	6.37	2.64	2.65	0.58	0.59
	10.1	13	13	1.4	1.0	9.40	9.40	3.18	3.08	0.82	0.86
	19.1	192	197	1.8	1.0	35.10	35.10	3.91	3.90	1.18	1.15
	51	168	169	1.5	1.0	14.80	14.08	3.01	3.05	0.96	0.92
5.3	51	17	17	1.2	1.0	10.35	10.35	2.82	2.84	0.74	0.74

Table 11.19 Drillhole Au Statistics for Uncomposited (Raw) and Composited (Comp.) Sample Data – Listwanite

FAULTZON	No. Samples		Max. Length (m)		Max. Grade (Au ppm)		Mean Grade (Au ppm)		CV (Au)	
	Raw	Comp.	Raw	Comp.	Raw	Comp.	Raw	Comp.	Raw	Comp.
1	203	208	1.6	1.0	8.01	8.01	0.86	0.87	1.70	1.65
2	229	234	1.5	1.0	15.10	15.10	1.12	1.13	1.87	1.83
2.1	130	132	3.0	1.0	4.99	4.99	0.47	0.45	2.14	2.17
6	944	959	1.7	1.0	25.40	24.80	1.08	1.09	2.56	2.47
8.1	142	150	1.9	1.0	11.40	8.31	0.86	0.85	1.85	1.72
8.2	253	256	1.6	1.0	14.55	14.55	0.87	0.88	1.78	1.73
8.3	198	202	1.7	1.0	11.10	9.13	0.66	0.64	2.20	2.17
9	480	491	2.5	1.0	16.55	16.55	0.59	0.61	2.33	2.36
10.1	318	330	1.8	1.0	19.30	17.79	1.46	1.45	1.64	1.55
10.2	198	204	1.7	1.0	12.25	12.25	1.42	1.44	1.68	1.65
13.1	279	289	2.3	1.0	8.84	7.89	0.70	0.70	1.90	1.79
13.2	58	59	1.5	1.0	6.41	6.41	1.56	1.55	1.10	1.09
14	66	67	1.6	1.0	8.60	8.60	0.87	0.83	2.05	2.08
18	8	11	2.7	1.0	0.05	0.05	0.02	0.02	1.25	1.08
19.1	117	117	1.4	1.0	5.73	5.73	0.51	0.51	1.74	1.72
19.2	92	93	1.6	1.0	4.81	4.81	0.21	0.22	3.23	3.20
25	459	475	2.0	1.0	16.95	16.95	1.03	1.03	1.64	1.61
28	783	802	2.0	1.0	25.20	25.20	1.69	1.69	1.82	1.74
29	281	283	1.8	1.0	14.35	14.35	1.02	1.01	1.67	1.62
29.1	68	69	1.7	1.0	2.63	2.63	0.27	0.25	1.85	1.85
29.2	59	62	3.0	1.0	9.88	5.61	0.96	0.96	1.79	1.46
29.3	25	25	1.6	1.0	2.24	2.24	0.28	0.30	1.73	1.65
38	88	89	1.6	1.0	7.40	7.40	0.49	0.50	2.48	2.31
48	27	29	1.5	1.0	0.60	0.54	0.12	0.12	1.43	1.38
51	3,028	3,079	2.0	1.0	17.15	17.15	0.58	0.59	1.75	1.75

11.1.11 Ardich Resource Model Estimation

A cell model with 10 m x 10 m x 5 m parent cells was constructed to cover the entire Ardich deposit. The cell model parameters are shown in Table 11.20.

Table 11.20 Ardich Cell Model Prototype Parameters

Direction	Minimum (m)	Maximum (m)	Range (m)	Cell Size (m)	No. of Cells
X (East)	461,800	466,000	4,200	10	420
Y (North)	4,365,500	4,368,500	3,000	10	300
Z (RL)	600	1,650	1,050	5	210

Sub-celling to 2.5 m x 2.5 m x 1.25 m was permitted to honour interpreted boundaries. Further sub-celling to a minimum of 0.25 m in the Z (RL) direction was permitted at the topographic surface.

The model was not rotated.

This model was populated with the same domain fields as the sample files; these being FAULTZON, MODLITH, LITHNUM, and for some domains the field 'SUBDOM', were used to generate the estimation flagging domains required for the subsequent grade estimation processes.

The combination of the interpretated lithological and fault block attributes resulted in the creation of 218 unique domains.

The concatenated field 'AUESTFLG' was used to define the estimation domains for the Au and other elements estimation, and 'SESTFLG' for the sulfur estimation. The unique estimation domain values were compiled using the attributes FAULTZON, LITHNUM, and SUBDOM (where relevant).

The AUESFLG and SESTFLG identifiers were calculated using the following formula:

AUESTFLG / SESTFLG = (FAULTZON x 10,000) + (LITHNUM x 100) + (SUBDOM)

A suite of 13 elements were estimated using ordinary kriging (OK). Au(cut) plus Au(uncut), Ag, As, C, Ca, Cu, Fe, Mg, Mn, Pb, Sb, and Zn (referred to as Au and other elements) were estimated using the estimation, search, and variogram parameter inputs developed for Au. In addition, a nearest neighbour Au(cut) estimation was undertaken, to be used for validation. A separate OK grade estimation for sulfur (S) was undertaken using a unique set of estimation, search, and variogram parameters developed specifically for that element. Sulfide sulfur (SS) was not estimated; rather, it was calculated using linear regressions based on the estimated sulfur grades.

Several methods were used to honour the observed styles of mineralisation and local variability. These included a dynamic search ellipse orientation for the mineralised domains, and the use of sub-domaining to implement of hard / soft boundaries proximal to contact mineralised zones (SUBDOM) and forced sub-celling with sub-cell estimation at lower contacts in Jasperoids.

11.1.11.1 Search Parameters

The search parameters used for the estimation were developed based on several criteria relating to the nature of the mineralisation and the composition of estimation domains.

Each of the 218 individual domains across the full spectrum of MODLITH and FAULTZON combinations were able to be categorised into two broad domain types. These were 'thick' and 'thin' domains. Thick domains are comprised mainly of whole parent cells and long drillhole intercepts. Thin domains comprise predominately sub-cells and have shorter drillhole intercepts.

For both the thick and thin domains the nature of the mineralisation is the same. The grades are more consistent laterally and change much quicker in the vertical direction. Lateral change in grade can still be significant, however, and the local grade conditions should be emphasised in the estimation. This was achieved by selecting search parameters that directed the estimation to select samples close to the cell and reduce the number of samples used from more distant locations.

The singular factor differentiating the two domain types (thick and thin) was the length of the drillhole intercept and the number of samples present in each drillhole. This factor was of primary concern for appropriately selecting the minimum and maximum sample attributes, to ensure that the goal of producing an estimation that represented the local grade conditions was met.

These concepts regarding the nature of the mineralisation and the sample data led to the following concepts being incorporated into the search volume criteria:

- The orientation of the search volume will be rotated to the local conditions by the dynamic anisotropy function. However, the Z axis search distance was to be reduced compared to the X and Y axes to honour both the variography and the visual observations of grade continuity being lower in the Z direction.
- A minimum of two drillholes are required for a cell to estimate in the first, second and third estimation passes. A single drillhole may be used for the fourth estimation pass.
- No more than six samples from any individual drillhole to be used in the thick domains and no more than three samples from any individual drillhole to be used in the thin domains. Due to the angle of the drillholes, 6 m of drillhole generally represents 5 m vertical metres, or a full parent cell of the model. Therefore, capping the samples from any individual drillhole at six ensures that a full 5 m high parent cell is using approximately five vertical metres of drilling data.
- The maximum number of samples used to estimate a cell is 14 for the thick domains and 12 samples for the thin domains. The selection of these values, in conjunction with the maximum samples per hole values was designed to limit the number of distant holes / samples used in the estimation in preference to local grade conditions. This, while still ensuring that two, but preferably three holes were used to estimate most cells.
- No octant search restrictions were used.

The search parameters for grades estimation are shown in Table 11.21.

Table 11.21 Ardich Search Volume Criteria for Grades Estimation in All Domains

LITHOLOGY	DOMAIN TYPE	Search Ellipse Rotation			Search Volume		Search Distance (m)			No. of Samples		Max. Samples Per Hole
		Rotation 1 Axis 3	Rotation 2 Axis 1	Rotation 3 Axis 3	Search Pass	Volume Factor	X	Y	Z	Min.	Max.	
Jasperoid, Listwanite, Dolomite, Cataclasite, Hornfels, Ophiolite, & Silica Cap	THICK	DA	DA	DA	1	1	40	40	10	8	14	6
					2	2	80	80	20	8	14	6
					3	3	120	120	30	8	14	6
					4	3	120	120	30	4	14	6
Cataclasite (FAULTZON 2)	THICK	DA	DA	DA	1	1	40	40	10	8	12	6
					2	2	80	80	20	8	12	6
					3	3	120	120	30	8	12	6
					4	3	120	120	30	4	12	6
Diorite	THICK	045	0	0	1	1	40	40	10	8	14	6
					2	2	80	80	20	8	14	6
					3	3	120	120	30	8	14	6
					4	3	120	120	30	4	14	6
Jasperoid & Listwanite	THIN	DA	DA	DA	1	1	40	40	10	4	12	3
					2	2	80	80	20	4	12	3
					3	3	120	120	30	4	12	3
					4	3	120	120	30	3	14	3
Diorite & Ophiolite	THIN	045	0	0	1	1	40	40	10	4	12	3
					2	2	80	80	20	4	12	3
					3	3	120	120	30	4	12	3
					4	3	120	120	30	3	14	3

11.1.1.2 Variography

Variograms were generated for Au and S using the 1 m composites (Table 11.22 and Table 11.23).

Due to the structural complexity of the deposit, many domains are relatively small and are often offset vertically from the same lithological unit in neighbouring domains. This often resulted in insufficient samples to generate a variogram at the individual domain level and the dislocation from domain-to-domain also hampered the development of a deposit-wide variogram model for each lithology.

FAULTZON 2.1 (SC1) was selected as a representative domain within the deposit that contained sufficient data in each of the main mineralised lithology units to generate robust variograms. Variograms were developed for the jasperoid, listwanite, and dolomite using the FAULTZON 2.1 (SC1) data, and these were applied across the deposit.

The use of the dynamic anisotropy function allowed the search volume orientation as well as the variogram to be rotated to the local conditions in the other domains.

The grade continuity identified in the gold variograms was consistent with the visual observations of the mineralisation with grade continuity highest perpendicular to the lithology surfaces and lowest in the Z direction. The sulfur variograms showed more grade continuity than the gold variograms with ranges often twice as long as the gold variograms. This higher continuity observed in the sulfur variogram data is supported by visual observations of the surface data.

Table 11.22 Gold Variogram Parameters

MODLITH	Rotation Angles			Nugget	Structure	Structure Variance	Range		
	Axis 3 (Z)	Axis 1 (X)	Axis 3 (Z)				Axis 1	Axis 2	Axis 3
Jasperoid and Diorite	–110	20	–25	0.38	1	0.62	85	106	10
Listwanite	–105	5	–160	0.06	1	0.94	150	60	10
All Other	–100	5	–5	0.13	1	0.87	123	84	12

Table 11.23 Sulfur Variogram Parameters

MODLITH	Rotation Angles			Nugget	Structure	Structure Variance	Range		
	Axis 3 (Z)	Axis 1 (X)	Axis 3 (Z)				Axis 1	Axis 2	Axis 3
Jasperoid	–105	10	–50	0.1	1	0.90	195	140	20
Listwanite	90	5	175	0.15	1	0.85	134	78	20
Dolomite	80	90	180	0.18	1	0.24	66	14	54
					2	0.58	179	23	89
Cataclasite	–140	170	0	0.04	1	0.96	153	96	12

11.1.12 Ardich Density Model

The density estimation was undertaken within a similar framework to the grade estimations, likewise, using ordinary kriging. The sub-domaining routines employed for the grade estimations were not used for the density estimation.

The model field 'SGESTFLG' was created using the LITHNUM and FAULTZON fields to control the estimation domaining.

Due to the lower number of samples present in the density dataset compared to the grade datasets (12,419 density samples vs. 72,432 Au assays), specific density estimation search parameters were developed. Density variogram models were also developed utilising samples from FAULTZONs SC1, C4, and EC2.

The density variogram models showed a longer range of continuity than was shown in the gold or sulfur variograms. The density variograms were different to the grade variogram models, however over-all the density variogram models could also be described as having greatest continuity parallel to the lithology contacts in the same way as the gold and sulfur variograms do. Therefore, the TRDIPDIR and TRDIP values estimated into the model and used for the grade estimation were also used for the density estimation.

Minimum and maximum sample numbers were developed based on the density dataset. In a similar manner to the grade search parameters a 'thick' and 'thin' domain type designation was applied depending on the domain.

There are a few notable differences between the density and grade estimations. First is removal of the fourth search volume, with the density estimation utilising only three search volumes. Secondly, cells in the 'thick' estimation domains can estimate from a single drillhole in the third search volume, whilst in the 'thin' domain's cells can estimate from a single drillhole in all search volumes. These conditions reflect the lower number of density samples and the distribution of these samples within these domains.

The search parameters for grades estimation are shown in Table 11.24.

Table 11.24 Ardich Search Volume Criteria for Density Estimation in All Domains

LITHOLOGY	DOMAIN TYPE	Search Ellipse Rotation			Search Volume		Search Distance (m)			No. of Samples		Max. Samples Per Hole
		Rotation 1 Axis 3	Rotation 2 Axis 1	Rotation 3 Axis 3	Search Pass	Volume Factor	X	Y	Z	Min.	Max.	
Jasperoid, Dolomite, Cataclasite, Ophiolite, & Listwanite	THICK	DA	DA	DA	1	-	40	40	10	4	8	3
					2	2	80	80	20	4	8	3
					3	5	200	200	50	3	8	3
Hornfels & Silica Cap	THICK	DA	DA	DA	1	-	40	40	10	4	8	3
					2	2	80	80	20	4	8	3
					3	5	200	200	50	3	8	3
Diorite	THICK	045	0	0	1	-	40	40	10	2	6	3
					2	2	80	80	20	2	6	3
					3	5	200	200	50	2	6	3
Jasperoid & Listwanite	THIN	DA	DA	DA	1	-	40	40	10	2	6	3
					2	2	80	80	20	2	6	3
					3	5	200	200	50	2	6	3
Diorite, Hornfels, & Silica Cap	THIN	045	0	0	1	-	40	40	10	4	8	3
					2	2	80	80	20	4	8	3
					3	5	200	200	50	3	8	3

11.1.13 Ardich Resource Classification

The grade estimates classifications were stored in the model field 'RESCAT'.

The values used to indicate classification in the RESCAT field are as follows:

- 1 = Measured
- 2 = Indicated
- 3 = Inferred
- 0 = Unclassified

RESCAT was considered in detail on the basis of the unique properties of each lithological unit within each domain.

Emphasis was placed on those lithologies that host the most-significant mineralisation in each domain (generally jasperoid and listwanite).

Unique polygons were digitised in plan view around areas considered to have higher confidence interpretations and estimates within each domain.

Because of the high degree of complication in the domain interpretations, and the variable nature of the mineralisation, the classification method was not based on any single attribute or parameter (such as drillhole spacing, search volume, distance to nearest sample, or number of samples). Rather, a more interactive and holistic approach to the classification was adopted.

The key factors in assessing classification were observations related to the geological and grade continuity of each domain. This, coupled with an assessment of the performance of the estimation, formed the primary basis for the classification. Additional information such as the drill spacing and the search volume were also considered during the classification process, however they were not used categorically or rigidly, and were not the primary drivers for defining the RESCAT shapes.

For example, a domain with well-understood geology and highly consistent mineralisation, but with relatively wide drill spacing, may receive a similar or a better RESCAT than a domain where the drill spacing is closer, but confidence in the geological interpretation is lower and the mineralisation is less consistent.

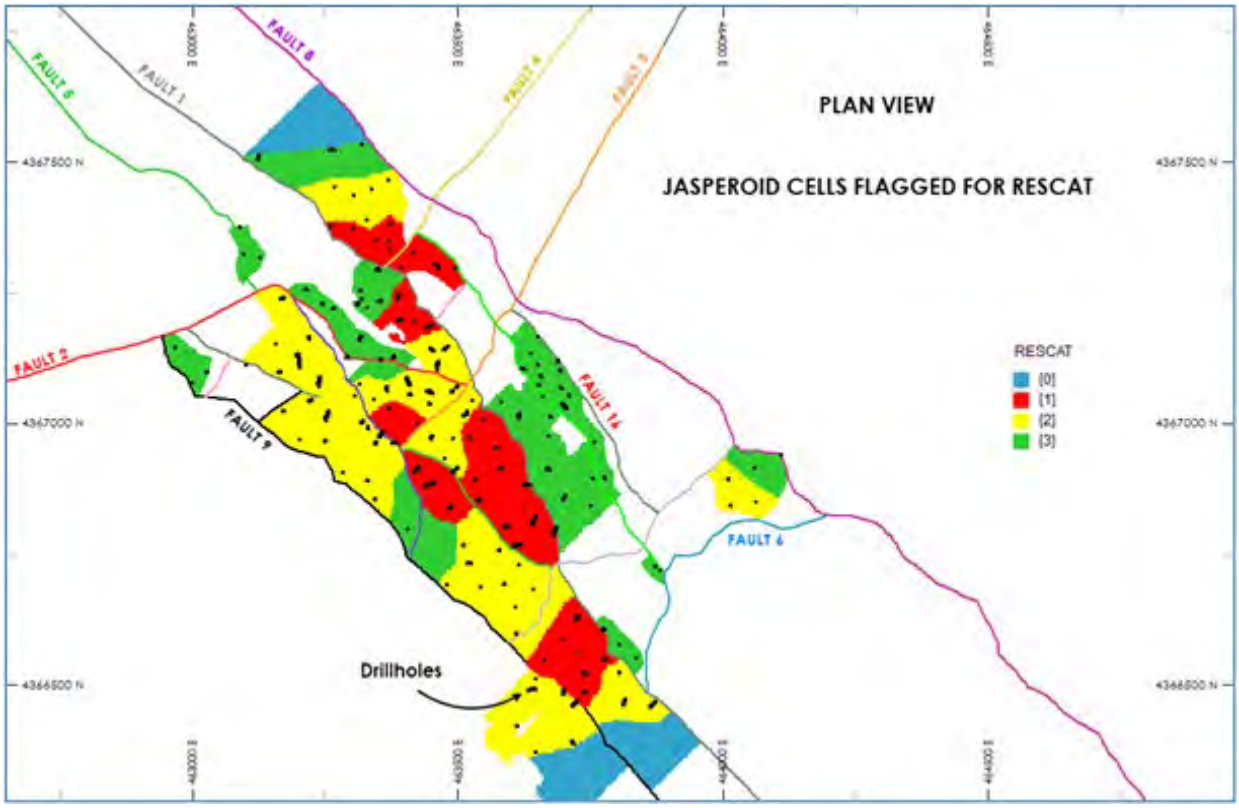
The most prominent role that the distribution of the drilling played in the classification was related to the overall number of drillholes informing the interpretation in a domain, rather than the drillhole spacing specifically.

A detailed log of the decision making process for each RESCAT polygon was developed and retained for future reference.

Figure 11.15, Figure 11.16, and Figure 11.17 show the model coloured by RESCAT for the jasperoid, listwanite, and upper dolomite lithologies.

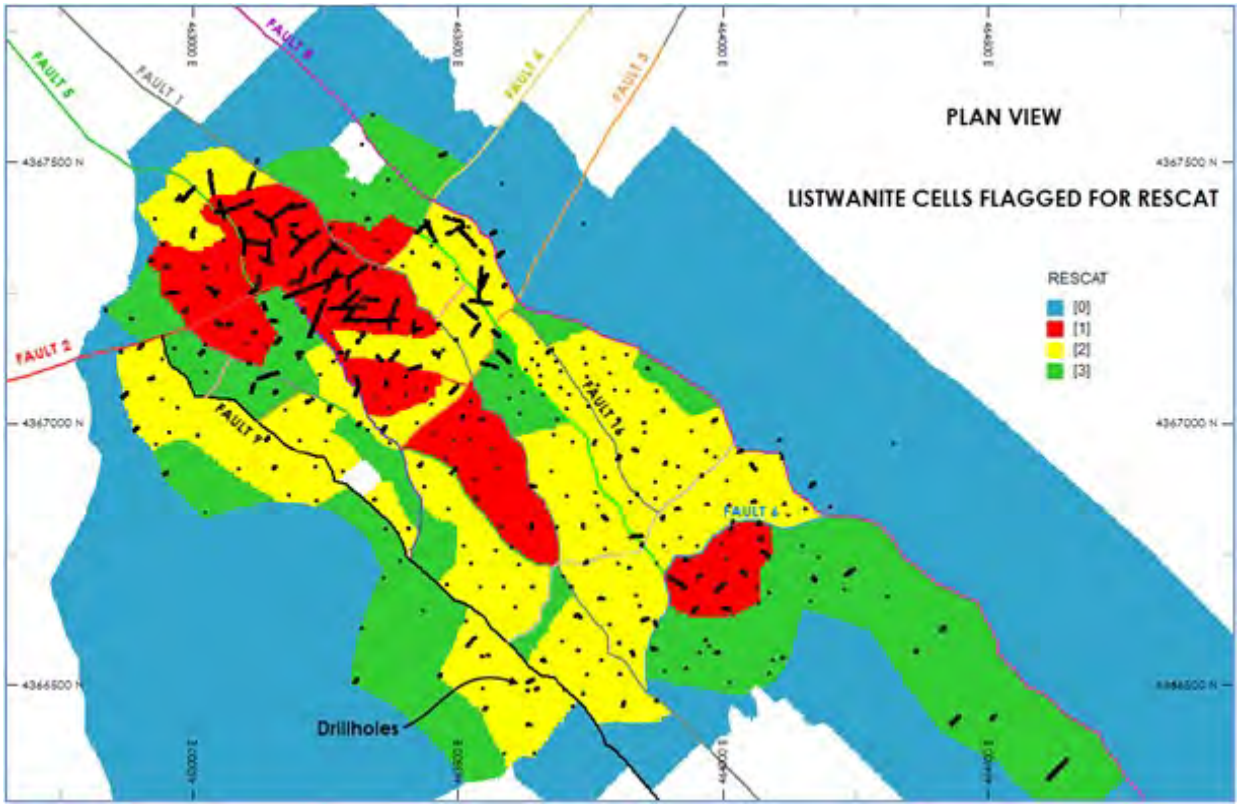
For unmineralised domains, such as the ophiolite, lower dolomite, and lower cataclasite, default RESCAT values were applied.

Figure 11.15 Plan View of Jasperoid Resource Classification



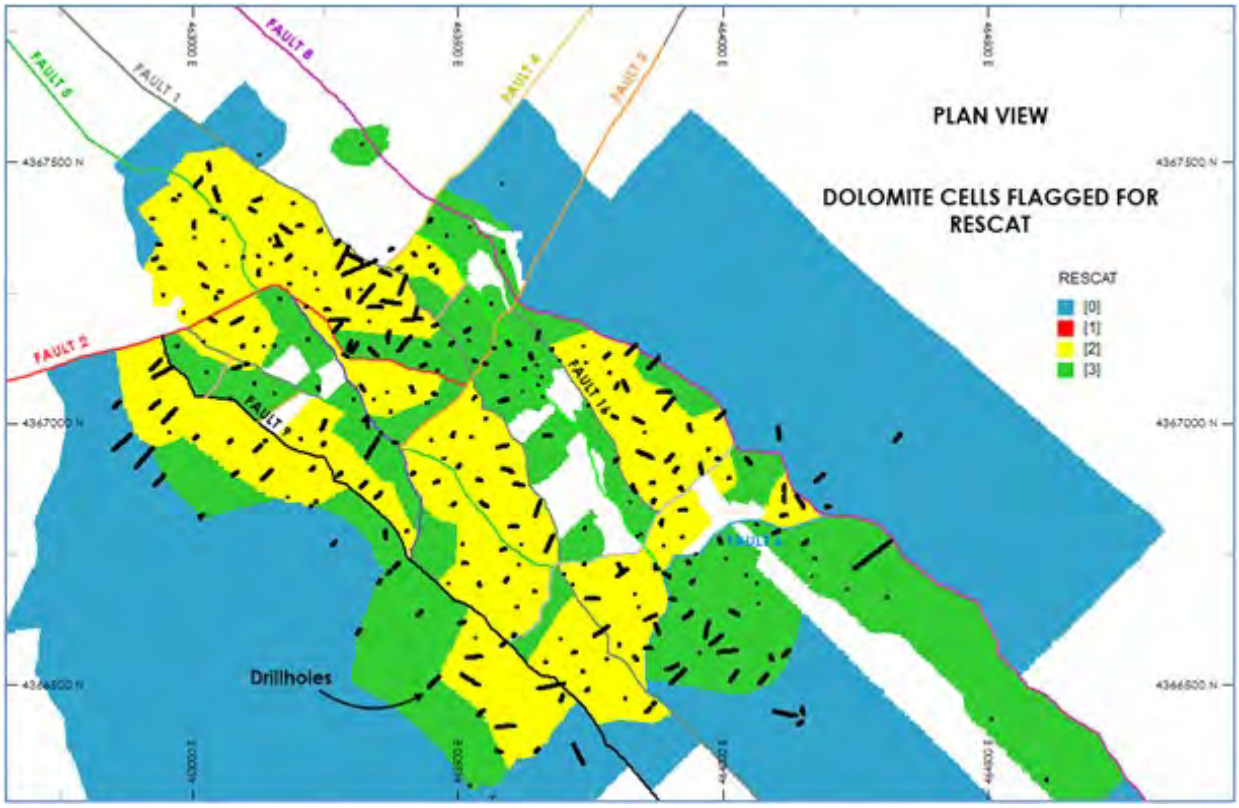
OreWin, 2021

Figure 11.16 Plan View of Listwanite Resource Classification



OreWin, 2021

Figure 11.17 Plan View of Upper Dolomite Resource Classification



OreWin, 2021

11.1.14 Ardich Model Validation

Model validation was approached in several ways:

- The estimated Au grades in the model were compared to the drillhole grades by visual inspection in plan views, sectional views, and in 3D. In general, the model and composite grades visually compared well and the estimates were considered to have honoured the interpreted mineralisation styles.
- The cell model was checked for global bias by comparing the Au and S statistics of the model estimates compared to the input sample file and a nearest neighbour (NN) estimation. The NN estimation produces a theoretically unbiased (de-clustered) estimate of the mean, offering an alternative metric to sample grade for comparing the estimation. The cells used to calculate these mean values were restricted to those cells that were classified as Measured, Indicated, or Inferred, thus removing any poorly estimated or default grade cells on the periphery of the domains. The means comparison shows that for the jasperoid and listwanite there is good correlation between the OK and NN estimations. Correlation is lower for the dolomite and cataclasite, which is not considered remarkable given the more-variable nature of those domains.
- Local trends in the grade estimates (also known as drift analysis) were assessed by plotting the mean values from the NN estimate versus the kriged results for Indicated model cells in east–west, north–south and vertical directions (swath plots). There is good correlation between the OK and NN estimations in all orientations. However, the correlation diverges at the model edges, especially in the north-eastern corner where data density becomes reduced and a single drillhole or sample can have a disproportionate effect on the NN estimates.

11.1.15 Ardich Change of Support

Mining has not occurred at the Ardich project area and therefore no production data is available. A 5 m mining bench is anticipated, with 5 m blastholes likely to be used. Grade estimation at Ardich is based on 1 m assay composites and interpreted geological (structural and lithological) boundaries to estimate resource model tonnes and grade using ordinary kriging.

11.1.16 Ardich Assessment of Reasonable Prospects of Eventual Economic Extraction

Mineral Resource estimates were shown to meet reasonable prospects for eventual economic extraction criteria by reporting only material that was contained within a conceptual pit shell using metal prices of $1,750/oz for gold with the parameters summarised in Table 11.25.

Table 11.25 Summary of Key Parameters Used in Conceptual Pit Shell at Ardich

Description	Unit	Minimum	Maximum
Heap Leach Gold Recovery	%	40.0	73.0
POX Gold Recovery	%	82.9	82.9
Mining Cost per tonne mined	$/t	1.82	1.82
Process Costs Heap Leach	$/t	10.68	10.68
Process Costs POX	$/t	36.25	36.25
Site Support and G&A	$Mpa	15	15
Internal Au Cut-off – Heap Leach	g/t	0.25	0.46
Internal Au Cut-off – POX	$/t NSR	0.77	0.77
Internal Au Cut-off – Cu Conc.	$/t NSR	9.05 + 36.25 x Pyrite Mass Pull	
Royalty	%	2.0	2.0

11.1.17 Ardich Mineral Resource Tabulation

Ardich Mineral Resources have been tabulated by resource classification and oxidation state in Table 11.30. Mineral Resources are presented on a 100% basis.

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

The overall tonnage and grade estimate have increased for oxide and sulfide material from the previously-reported estimate in 2019. This change is predominantly due to the change in the conceptual model, supported by the additional drilling obtained since 2020.

Resource pit shells were generated by OreWin using a metal price assumption of $1,750/oz gold. Gold mineralisation modelled at Ardich is primarily oxidised with a smaller portion of sulfur mineralisation having estimated total sulfur grades >2%. Low-sulfur (LS) oxide is defined as material with <1% total sulfur. High-sulfur (HS) oxide is material with total sulfur >1% and <2%. Sulfide material has ≥2% total sulfur. The Mineral Resources are shown in Table 11.30.

Internal cut-off grades for oxide material range from 0.30–0.55 g/t Au. Sulfide is material with >2% total sulfur above a 1.1 g/t Au cut-off.

11.4 Bayramdere Deposit

The Bayramdere deposit is located approximately 6.3 km east of the Çöpler mine and 5 km south-east of İliç. Bayramdere is within the Kartaltepe Mining Licence 7083. This licence is an operational licence and is 50% SSR-held.

Soil samples have been collected across the prospect on a 100 m x 100 m grid. Soil copper and gold anomalies are identified as coincident with each other, but the copper anomaly covers a larger area.

The Bayramdere mineralisation has an overall strike length of approximately 300 m. Mineralisation is localised within three stacked, shallow-dipping lodes that are very close to the surface, varying in depth 30–40 m below topography. Mineralisation appears to be open to the east and south.

The mineralisation has formed at the contacts of limestone and ophiolite lithologies with mineralisation replacing limestone along the contacts. The limestone to ophiolite contacts are low-angle thrusts, with limestone typically being trapped as wedges of material within a dominantly ophiolite stratigraphy. Mineralisation occurs within iron-rich gossan horizons.

Although a small deposit, Bayramdere is relatively high-grade and can support a high-stripping ratio to access mineralisation.

Small-scale open pit iron ore mining has occurred historically at Bayramdere. Iron mineralisation can be associated with gold mineralisation.

11.4.1 Bayramdere Domains

The geological interpretation was represented in the geological model through the creation of mineralised domains based on the continuity of the geology and mineralisation identified specific to each deposit and mineralised zone within the deposit. Separate domains were created for gold, silver, copper, and sulfur. In the creation of mineralised domains, a minimum mining width of 2.5 m was used based on anticipated open pit mining methods.

11.4.2 Bayramdere Geological Model

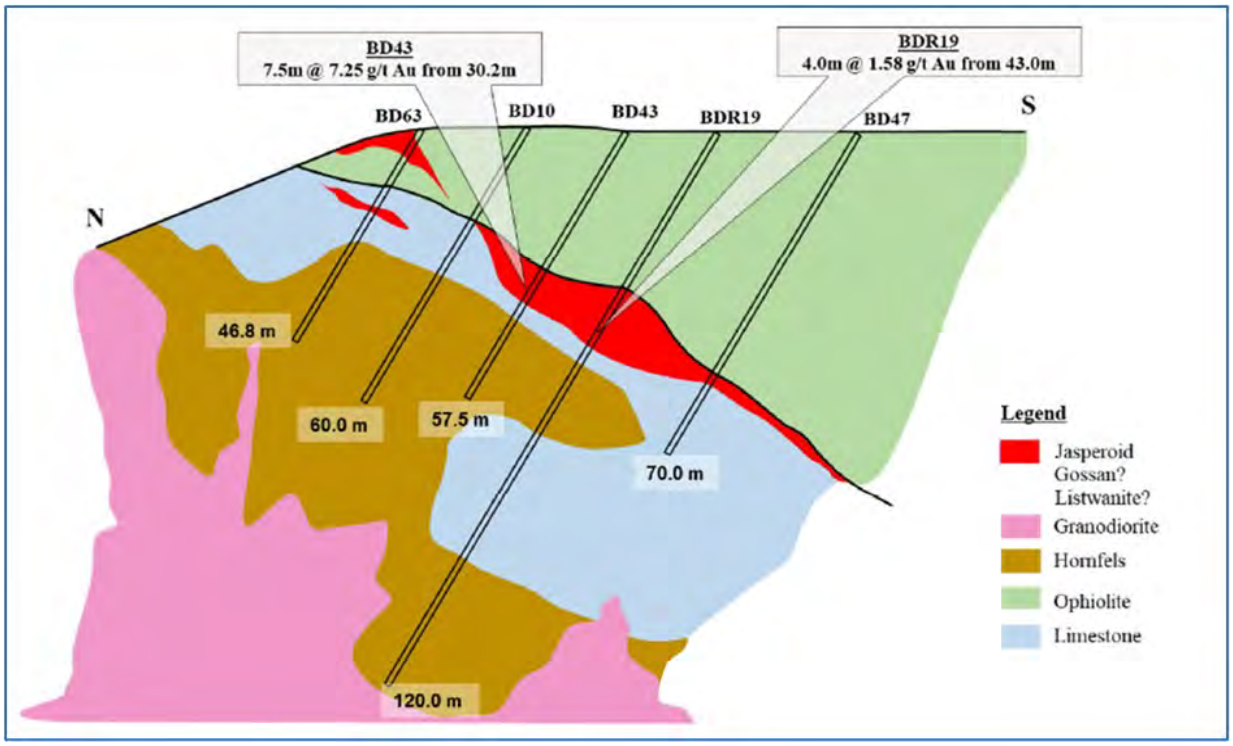
The Bayramdere deposit is a structurally controlled gold±minor copper±minor silver deposit displaying both epithermal and replacement mineralisation styles. At this stage of exploration, the deposit is dominantly represented by near-surface oxide mineralisation to a depth of up to 180 m below surface. Mineralisation is primarily associated with jasperoid and iron-rich gossan. Secondary pyrite is a commonly visible component within the jasperoids.

At depth, mineralisation transitions below the base of complete oxidation to disseminated pyrite, vein sulfides, and massive sulfide horizons generally occurring within shear zones, along shallow thrusts and diorite sill and dyke margins. The extent of sulfide mineralisation has not been tested.

As with the other Çöpler district deposits, Bayramdere is considered to be the result of a mineralised intrusion generating suitable conditions for mineralisation to be localised into a favourable geological setting of ophiolite, limestone, and hornfels lithologies (see Figure 11.18). A complex system of faults and thrusts have allowed mineralised fluids and diorite dykes and sills associated with the epithermal system to permeate into the stratigraphy.

Like the Çakmaktepe deposit, Bayramdere is associated with flat thrust structures. Key to each structurally associated style of mineralisation is the juxtaposition of ophiolites against limestone + hornfels to create suitable geochemical conditions for gold and other metals deposition. Ophiolite is not associated with mineralisation at Çöpler, this association at present is considered to be unique to Bayramdere and Çakmaktepe.

Figure 11.18 Bayramdere Geology Schematic Section



Anagold, 2017

11.4.3 Bayramdere Data Summary

The Bayramdere deposit has been drilled on 25 m lines with 20–25 m spaced holes on each line.

A total of 120 resource definition drillholes have been drilled at Bayramdere for a total length of 10,734.2 m, inclusive of metallurgical holes. The assay database includes 8,283 sample intervals for a total assayed length of 10,483.4 m.

When categorised according to type of drilling (excluding geotechnical and metallurgical drillholes), 30% are RC samples, 65% DD core samples, and 6% are a combination of RC and DD core.

Drilling has been completed on drill grids aligned at right angles to mineralisation trends or lithology dip and strike. Several areas contain scissor holes that test mineralisation at 180° from each other.

11.4.4 Bayramdere Drillhole Compositing

Sample compositing has not been applied. The predominant sample length is 1.0 m (52%), followed by 2 m as the next most prevalent length (17%).

11.4.5 Bayramdere Top Cutting

High-grade top cuts were applied after selecting appropriate limits based on cumulative frequency plots and value grade curves of the upper portion of the sample population.

11.4.6 Bayramdere Cell Model

The Bayramdere cell model parameters are shown in Table 11.26.

Sub-celling was permitted to 2 m x 2 m x 1 m to better honour the domain boundaries.

Table 11.26 Bayramdere Cell Model Prototype Parameters

Direction	Minimum (m)	Maximum (m)	Range (m)	Cell Size (m)	Number of Cells
East	466,000	466,600	600	10	60
North	4,363,800	4,364,100	300	10	30
RL	1,250	1,420	170	5	34

11.4.7 Bayramdere Estimation Method

Estimation was limited to the interpreted domains, with each domain informed only by samples contained within that domain. Outside the mineralised domains a 'mineralised waste' estimate was completed.

Mineralisation domains were also developed for silver, copper, and sulfur.

Lithological domains were used for estimates outside of the mineralisation domains.

Ordinary kriging was used to estimate Au, Ag, and Cu into parent cells. Variography was completed to inform estimation.

11.4.8 Bayramdere Density Model

Density has been assigned as a default for each of the mineralisation and lithological domains (see Table 11.27 and Table 11.28 respectively). The assigned densities reflect the arithmetic average of the domain-relevant data taken from DD core samples.

Table 11.27 Bayramdere Density Values for Mineralisation Domains

Domain	Density (t/m^3)
mz100	2.69
mz101	2.49
mz200	2.55
mz201	2.79
mz300	2.29
mz301	2.29
mz400	2.49
mz500	2.42
mz600	2.49
mz700	2.49

Table 11.28 Bayramdere Density Values for Lithology Domains

Domain	Weathering State	Density (t/m^3)
Gossan	Weathered	2.50
Diorite		2.44
Limestone		2.54
Ophiolite		2.36
Gossan	Fresh	2.50
Diorite		2.44
Limestone		2.54
Ophiolite		2.36
Overburden	All	1.40

11.4.9 Bayramdere Resource Classification

Grade estimates were classified using the following Anagold guidelines:

- Indicated Mineral Resource should be quantified within relative ±15% with 90% confidence on an annual basis, and
- Measured Mineral Resources should be known within ±15% with 90% confidence on a quarterly basis.

Drillhole spacing for support of classification of Inferred Mineral Resources was required to be 50 m x 25 m spacing. For Indicated Mineral Resource classification, the drillhole spacing requirement was reduced to 25 m x 25 m spacing. Appropriate drillhole pattern spacing selection was based on the understanding of the nature of the mineralisation being structurally controlled, mineral continuity, and assessment of data quality.

The drillhole spacing at Bayramdere is considered sufficient to support grade continuity, geological continuity, depth, and lateral extents of mineralisation.

No Bayramdere estimates were classified in the Measured category.

Mineral Resources were tabulated using multiple cut-off grades due to variable recoveries and based on gold price only. Cut-off grades vary from 0.35–0.50 g/t Au and are calculated based on the equation:

$$Xc = Po / (r * (V-R))$$

where Xc = Cut-off Grade (g/t), Po = processing cost of ore (USD/tonne of ore), r = recovery, V = gold sell price ($/g), R = refining costs ($/g).

Mineral Resources are reported inclusive of Mineral Reserves.

11.4.10 Bayramdere Validation

Bayramdere grade estimates were validated against alternate interpolation methods. Estimated grades were compared to an ID2 model to check for global bias. Swath plots were used to check for a local bias. The estimated Au grades in the model were compared to the composite grades by visual inspection in plan views and cross-sections. Composite samples were queried by domain to confirm appropriate sample flagging.

11.4.11 Bayramdere Assessment of Reasonable Prospects of Eventual Economic Extraction

Mineral Resource estimates were shown to meet reasonable prospects for eventual economic extraction criteria by reporting only material that was contained within a conceptual pit shell using metal prices of $1,400/oz for gold and $19/oz for silver, with the parameters summarised in Table 11.29. These parameters have not been updated since 2017, primarily because no further work has been completed at Bayramdere since that time.

Table 11.29 Summary of Key Parameters Used in Conceptual Pit Shell at Bayramdere

Description	Unit	Minimum	Maximum
Heap Leach Gold Recovery	%	75.0	75.0
Mining Cost per tonne mined	$/t	1.75	1.75
Process Costs Heap Leach	$/t	9.99	9.99
Site Support per tonne processed	$/t	3.19	3.19
Internal Au Cut-off – Heap Leach	g/t	0.35	0.50
Royalty	%	2.0	2.0

11.5 Mineral Resources Statement

Mineral Resources have been classified in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300) and were estimated by Sharron Sylvester BSc (Geology), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director – Geology. Mineral Resources are presented on a project basis and have an effective date of 31 December 2021.

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

Mineral Resources are reported exclusive of Mineral Reserves and have been summarised by project, resource classification, and oxidation state in Table 11.30.

Table 11.31 shows the cut-off values, metallurgical recoveries, and SSR ownership percentage associated with the Mineral Resources.

Table 11.30 Summary of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserves as at 31 December 2021 Based on $1,750/oz Gold Price

Mineral Resource Classification	Tonnage (kt)	Grades			Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Çöpler Mine – Oxide							
Measured	81	1.39	4.67	0.16	4	12	281
Indicated	27,173	0.84	2.30	0.16	737	2,012	97,057
Measured + Indicated	27,254	0.84	2.31	0.16	740	2,024	97,339
Inferred	35,021	0.90	6.87	0.13	1,016	7,741	97,941
Çöpler Mine – Sulfide							
Measured	151	0.83	3.72	0.18	4	18	590
Indicated	47,084	1.06	3.66	0.19	1,608	5,535	198,365
Measured + Indicated	47,235	1.06	3.66	0.19	1,612	5,553	198,955
Inferred	49,798	1.24	13.60	0.17	1,982	21,773	181,890
Çakmaktepe – Oxide							
Measured	–	–	–	–	–	–	–
Indicated	3,341	1.55	8.33	–	167	894	–
Measured + Indicated	3,341	1.55	8.33	–	167	894	–
Inferred	1,205	0.85	4.04	–	33	157	–
Ardich – Oxide							
Measured	2,840	1.67	3.99	0.02	153	364	1,031
Indicated	9,794	1.01	2.74	0.00	317	861	410
Measured + Indicated	12,634	1.16	3.02	0.01	469	1,226	1,442
Inferred	13,896	1.27	3.47	0.02	570	1,550	5,181
Ardich – Sulfide (Incl. sulfide and sulfide-with-Cu)							
Measured	234	5.76	8.25	0.04	43	62	215
Indicated	1,410	2.07	3.80	0.01	94	172	403
Measured + Indicated	1,645	2.59	4.44	0.02	137	235	619
Inferred	3,226	2.64	4.53	0.01	274	470	576
Bayramdere – Oxide							
Measured	–	–	–	–	–	–	–
Indicated	145	2.34	20.82	–	11	97	–
Measured + Indicated	145	2.34	20.82	–	11	97	–
Inferred	8	2.17	19.95	–	1	5	–
CDMP21 Mineral Resources – Oxide Subtotal							
Measured	2,920	1.67	4.01	0.02	156	376	1,313
Indicated	40,454	0.95	2.97	0.11	1,231	3,865	97,467
Measured + Indicated	43,374	0.99	3.04	0.10	1,387	4,241	98,780
Inferred	50,130	1.00	5.86	0.09	1,619	9,453	103,122
CDMP21 Mineral Resources – Sulfide Subtotal							
Measured	386	3.82	6.47	0.09	47	80	805
Indicated	48,494	1.09	3.66	0.19	1,702	5,707	199,265
Measured + Indicated	48,880	1.11	3.68	0.19	1,749	5,787	200,071
Inferred	53,024	1.32	13.05	0.16	2,256	22,243	182,465
CDMP21 MINERAL RESOURCES – OVERALL TOTAL (Exclusive of Mineral Reserves)							
Measured	3,306	1.92	4.30	0.03	204	457	2,118
Indicated	88,948	1.03	3.35	0.15	2,933	9,572	296,733
Measured + Indicated	92,254	1.06	3.38	0.15	3,136	10,029	298,851
Inferred	103,154	1.17	9.56	0.13	3,875	31,695	285,587

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis. Çöpler Mineral Resources are located on ground held 80% by SSR, Çakmaktepe and Bayramdere Mineral Resources are located on ground held 50% by SSR, and approximately 96% of Ardich Mineral Resources are located on ground held 80% by SSR, with the remainder located on ground 50% held by SSR.
4. Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere: oxide is defined as material <2% total sulfur.
5. Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%).
6. At Çöpler and Ardich: sulfide cut-off uses an NSR value in $/t based on gold price $1,750/oz, silver price $22.00/oz Ag and copper price $3.95/lb with allowances for payability, deductions, transport, and royalties.
7. All Mineral Resources in the CDMP21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19/oz for silver for Bayramdere, and $1,750/oz for gold, $22/oz for silver for all other projects).
8. The point of reference for Mineral Resources is the point of feed into the processing facility.
9. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 11.31 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Resources Estimates Exclusive of Mineral Reserve (as at 31 December 2021) Based on Gold Price $1,750/oz, Silver Price $22.00/oz Ag and Copper Price $3.95/lb

Mineral Resource Classification	Tonnage (kt)	Grades			Cut-off Value/s	Metallurgical Recovery (%)	SSR Ownership (%)
		Au (g/t)	Ag (g/t)	Cu (%)			
Çöpler Mine – Oxide							
Measured	81	1.39	4.67	0.16	0.19–0.24 g/t Au	62.3–78.4	80
Indicated	27,173	0.84	2.30	0.16			
Measured + Indicated	27,254	0.84	2.31	0.16			
Inferred	35,021	0.90	6.87	0.13			
Çöpler Mine – Sulfide							
Measured	151	0.83	3.72	0.18	$34.88/t NSR or >0.10% Cu and $7.68/t NSR	Au 55–91 Ag 10–45 Cu 84–98	80
Indicated	47,084	1.06	3.66	0.19			
Measured + Indicated	47,235	1.06	3.66	0.19			
Inferred	49,798	1.24	13.60	0.17			
Çakmaktepe – Oxide							
Measured	–	–	–	–	0.36–0.76 g/t Au	38.0–80.0	50
Indicated	3,341	1.55	8.33	–			
Measured + Indicated	3,341	1.55	8.33	–			
Inferred	1,205	0.85	4.04	–			
Ardich – Oxide							
Measured	2,840	1.67	3.99	0.02	0.23–0.41 g/t Au	40.0–73.0	75
Indicated	9,794	1.01	2.74	0.00			76
Measured + Indicated	12,634	1.16	3.02	0.01			75
Inferred	13,896	1.27	3.47	0.02			65
Ardich – Sulfide (Incl. sulfide and sulfide-with-Cu)							
Measured	234	5.76	8.25	0.04	$36.25/t NSR or >0.10% Cu and $9.05/t NSR	Au 55–91 Ag 10–45 Cu 84–98	78
Indicated	1,410	2.07	3.80	0.01			71
Measured + Indicated	1,645	2.59	4.44	0.02			75
Inferred	3,226	2.64	4.53	0.01			71
Bayramdere – Oxide							
Measured	–	–	–	–	0.35–0.50 g/t Au	75	50
Indicated	145	2.34	20.82	–			
Measured + Indicated	145	2.34	20.82	–			
Inferred	8	2.17	19.95	–			
CDMP21 Mineral Resources – Oxide Subtotal							
Measured	2,920	1.67	4.01	0.02	As Above	As Above	75
Indicated	40,454	0.95	2.97	0.11			75
Measured + Indicated	43,374	0.99	3.04	0.10			75
Inferred	50,130	1.00	5.86	0.09			74
CDMP21 Mineral Resources – Sulfide Subtotal							
Measured	386	3.82	6.47	0.09	As Above	As Above	78
Indicated	48,494	1.09	3.66	0.19			80
Measured + Indicated	48,880	1.11	3.68	0.19			80
Inferred	53,024	1.32	13.05	0.16			79
CDMP21 MINERAL RESOURCES – OVERALL TOTAL (Exclusive of Mineral Reserves)							
Measured	3,306	1.92	4.30	0.03	As Above	As Above	76
Indicated	88,948	1.03	3.35	0.15			77
Measured + Indicated	92,254	1.06	3.38	0.15			77
Inferred	103,154	1.17	9.56	0.13			77

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Resources (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe, Bayramdere and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights. Totals and Ardich ownership percentages are weighted averages.
4. Oxide definitions: At Çöpler: oxide is defined as material <2% total sulfur and sulfide material is ≥2% total sulfur. At Ardich and Çakmaktepe, oxide is comprised of low-sulfur (LS) oxide (<1% total sulfur) and high-sulfur oxide (≥1% and <2% total sulfur). At Bayramdere: oxide is defined as material <2% total sulfur.
5. Sulfide definitions: At Ardich, sulfide is comprised of standard sulfide material (≥2% total sulfur) and sulfide-with-Cu material (sulfide with Cu>0.10%).
6. At Çöpler and Ardich: sulfide cut-off uses an NSR value in $/t based on gold price $1,750/oz, silver price $22.00/oz, and copper price $3.95/lb with allowances for payability, deductions, transport, and royalties.
7. All Mineral Resources in the CDMP21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual pit shells ($1,400/oz for gold and $19/oz for silver for Bayramdere, and $1,750/oz for gold, $22/oz for silver for all other projects).
8. The point of reference for Mineral Resources is the point of feed into the processing facility.
9. Tonnage is metric tonnes and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

11.6 Comparison of 2021 Mineral Resource to Previous Mineral Resource

The 2021 Mineral Resource inventory is detailed in Table 11.30.

For comparison, a summary of the overall 2020 Mineral Resource inventory is shown in Table 11.32. This comparison compares Mineral Resources exclusive of Mineral Reserves.

Table 11.32 EOY 2020 Mineral Resources Summary – Exclusive of Mineral Reserves (as at 31 December 2020)

Mineral Resource Classification	EOY 2020 Mineral Resources Total (Exclusive of Mineral Reserves)						
	Tonnage (kt)	Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Measured	5,707	1.70	0.20	0.00	312	36	482
Indicated	70,619	1.34	3.10	0.04	3,049	7,039	59,884
Measured + Indicated	**76,326**	**1.37**	**2.88**	**0.04**	**3,362**	**7,076**	**60,366**
Inferred	73,741	1.30	9.16	0.06	3,089	21,708	94,896

The factors contributing to the differences between the 2021 Mineral Resources and the previous Mineral Resources reported as at 31 December 2020 are as follows:

Ardich

- A significant proportion of the Measured plus Indicated (M+I) tonnage increase in 2021 is attributed to the updated Ardich model, which incorporates 194 additional drillholes (233 holes in 2020 vs. 427 holes in 2021), with the net result of significantly improving confidence in the interpretation, thereby increasing M+I inventory.
- There was no Mineral Reserve declared for Ardich in 2020. A maiden Mineral Reserve has been declared for Ardich in 2021, and this depletes the report of Mineral Resources exclusive of Mineral Reserves.

Other

- A drop in cut-off grade and the inclusion of copper extraction has resulted in a larger conceptual pit shell for Çöpler that contains additional volume above the cut-off.
- Review of metallurgical recoveries.
- Depletion through mining since 31 December 2020.

There has been an 30% increase in tonnage above the cut-off across all combined Mineral Resource categories, with a corresponding 9% increase in contained gold.

11.7 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Resources reported in the CDMP21TRS are suitable for reporting as Mineral Resources using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

The CDMP21TRS includes an Initial Assessment Case that uses Measured, Indicated, and Inferred Mineral Resources to examine the impact of adding two new processing options to extract copper. The Initial Assessment Case is considered to be the same as a Preliminary Economic Assessment (PEA) under NI 43-101. This is because even though Mineral Reserves have been previously disclosed at the project, the change in processing method would allow a PEA to be published.

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

12 MINERAL RESERVES ESTIMATES

12.1 Summary

Open pit mining at the Çöpler project is carried out by a mining contractor and managed by Anagold. The mining method is a conventional open pit method with drill and blast to facilitate extraction utilising excavators and trucks. Anagold currently operates a sulfide process plant and an oxide heap leach facility. Costs are based on actual operational costs and the Anagold budget assumptions.

The Mineral Reserves were developed based on mine planning work completed in 2021 and estimated based on an end-of-September 2021 topography surface. Çöpler oxide ore cut-off grades vary from 0.47–0.59 g/t Au. The Çöpler sulfide ore cut-off grade is 1.05 g/t Au. Çakmaktepe oxide cut-off grades vary from 0.52–0.69 g/t Au. There is no Çakmaktepe sulfide Mineral Reserve. Average oxide gold recoveries are 61% and average sulfide gold recoveries are 91%.

The cut-off grades for the Mineral Reserves estimates are based on a gold price of $1,350/oz. There are no credits for silver or copper in the cut-off grade calculations. Economic analysis has been carried out using long-term metal prices of $1,600/oz gold, $20.25/oz silver, and $3.05/lb copper, and average metal prices of $1,658/oz gold, $21.55/oz silver, and $2.95/lb copper.

12.2 Mineral Reserves Statement

The Mineral Reserves statement is shown in Table 12.1. Mineral Reserves have been classified in accordance with S-K 1300 and were estimated by Bernard Peters BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director – Mining. Mineral Reserves are presented on a project basis and have an effective date of 31 December 2021.

Table 12.2 shows the cut-off values, metallurgical recoveries, and SSR ownership percentage associated with the Mineral Reserves.

The CDMP21TRS Reserve Case is at a feasibility level of study. The Mineral Resource estimates have been reported in the CDMP21TRS. The Mineral Resource models include dilution. Measured Mineral Resources were converted to Proven Mineral Reserves, and Indicated Mineral Resources were converted to Probable Mineral Reserves. Inferred Mineral Resources were treated as waste and were not converted to Mineral Reserve. The Çöpler Mineral Reserve has been demonstrated to be viable by the CDMP21TRS.

Table 12.1 Summary of CDMP21TRS Mineral Reserves Estimates (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grades			Contained Metal		
		Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Çöpler Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	2,204	1.22	11.17	0.13	87	792	6,304
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	2,204	1.22	11.17	0.13	87	792	6,304
Çöpler Mine – Sulfide							
Proven Mineral Reserve	408	2.02	6.69	–	26	88	–
Probable Mineral Reserve	35,828	2.13	4.96	–	2,455	5,713	–
Probable – Stockpile	12,468	2.25	–	–	900	–	–
Total Mineral Reserve	48,703	2.16	3.70	–	3,382	5,801	–
Çakmaktepe Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	274	1.26	10.91	–	11	96	–
Probable – Stockpile	11	2.69	–	–	1	–	–
Total Mineral Reserve	285	1.32	10.49	–	12	96	–
Ardich – Oxide Reserve							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	381	464	208
Probable Mineral Reserve	13,305	1.74	1.98	0.01	742	849	2,933
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	20,050	1.74	2.04	0.01	1,124	1,313	3,141
Ardich – Sulfide							
Proven Mineral Reserve	1,871	5.55	10.83	–	334	651	–
Probable Mineral Reserve	2,253	3.13	4.35	–	227	315	–
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	4,124	4.23	7.29	–	560	966	–
CDMP21 Mineral Reserves – Oxide Subtotal							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	381	464	208
Probable Mineral Reserve	15,783	1.66	3.42	0.03	840	1,736	9,237
Probable – Stockpile	11	2.69	–	–	1	–	–
Total Mineral Reserve	22,539	1.69	3.04	0.02	1,222	2,200	9,445
CDMP21 Mineral Reserves – Sulfide Subtotal							
Proven Mineral Reserve	2,278	4.92	10.09	–	360	739	–
Probable Mineral Reserve	38,081	2.19	4.92	–	2,682	6,028	–
Probable – Stockpile	12,468	2.25	–	–	900	–	–
Total Mineral Reserve	52,827	2.32	3.98	–	3,942	6,768	–
CDMP21 MINERAL RESERVES – OVERALL TOTAL							
Proven Mineral Reserve	9,024	2.55	4.15	0.00	741	1,203	208
Probable Mineral Reserve	53,863	2.03	4.48	0.01	3,522	7,765	9,237
Probable – Stockpile	12,479	2.25	–	–	901	–	–
Total Mineral Reserve	75,366	2.13	3.70	0.01	5,164	8,968	9,445

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves were scheduled based on End-of-August 2021topography surface. Small differences between the Mineral Reserve statement and the production schedule may occur.
3. Mineral Reserves are shown on a 100% basis. Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights.
4. Mineral Reserve cut-offs are based on $1,350/oz gold price; average oxide recoveries are 61% and average sulfide recoveries are 91%.
5. Cut-off values are shown in Table 12.2. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations.
6. There is no Çakmaktepe sulfide Mineral Reserve or Bayramdere Mineral Reserve.
7. Economic analysis has been carried out using a long-term gold price of $1,600/oz.
8. The point of reference for Mineral Reserves is the point of feed into the processing facility.
9. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 12.2 Summary of Cut-off Values, Metallurgical Recoveries, and SSR Ownership of CDMP21TRS Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grades			Cut-off Value/s (g/t Au)	Metallurgical Recovery (%)	SSR Ownership (%)
		Au (g/t)	Ag (g/t)	Cu (%)			
Çöpler Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	2,204	1.22	11.17	0.13	0.47–0.59	62.3–78.4	80
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	2,204	1.22	11.17	0.13	0.47–0.59	62.3–78.4	80
Çöpler Mine – Sulfide							
Proven Mineral Reserve	408	2.02	6.69	–	1.05	85	80
Probable Mineral Reserve	35,828	2.13	4.96	–			
Probable – Stockpile	12,468	2.25	–	–			
Total Mineral Reserve	48,703	2.16	3.70	–			
Çakmaktepe Mine – Oxide							
Proven Mineral Reserve	–	–	–	–	–	–	–
Probable Mineral Reserve	274	1.26	10.91	–	0.52–0.71	14–80	50
Probable – Stockpile	11	2.69	–	–			
Total Mineral Reserve	285	1.32	10.49	–			
Ardich – Oxide							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	0.44–0.80	40–73	77
Probable Mineral Reserve	13,305	1.74	1.98	0.01			
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	20,050	1.74	2.04	0.01	0.44–0.80	40–73	77
Ardich – Sulfide							
Proven Mineral Reserve	1,871	5.55	10.83	–	1.11	83	78
Probable Mineral Reserve	2,253	3.13	4.35	–			72
Probable – Stockpile	–	–	–	–	–	–	–
Total Mineral Reserve	4,124	4.23	7.29	–	1.11	83	75
CDMP21 Mineral Reserves – Oxide Subtotal							
Proven Mineral Reserve	6,745	1.76	2.14	0.00	0.44–0.80	14–80	77
Probable Mineral Reserve	15,783	1.66	3.42	0.03			77
Probable – Stockpile	11	2.69	–	–	0.52–0.71	14–80	50
Total Mineral Reserve	22,539	1.69	3.04	0.02	0.44–0.80	14–80	77
CDMP21 Mineral Reserves – Sulfide Subtotal							
Proven Mineral Reserve	2,278	4.92	10.09	–	1.05–1.11	83–85	78
Probable Mineral Reserve	38,081	2.19	4.92	–			79
Probable – Stockpile	12,468	2.25	–	–			80
Total Mineral Reserve	52,827	2.32	3.98	–			79
CDMP21 MINERAL RESERVES – OVERALL TOTAL							
Proven Mineral Reserve	9,024	2.55	4.15	0.00	0.44–1.11	14–85	77
Probable Mineral Reserve	53,863	2.03	4.48	0.01			79
Probable – Stockpile	12,479	2.25	–	–			80
Total Mineral Reserve	75,366	2.13	3.70	0.01			78

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves were scheduled based on End-of-August 2021topography surface. Small differences between the Mineral Reserve statement and the production schedule may occur.
3. Mineral Reserves are shown on a 100% basis. SSR Ownership is an average based on location of Mineral Reserves (gold) relative to licenses: Çöpler and part of Ardich are on Anagold 80:20 ground on which SSR holds 80% rights, and Çakmaktepe and the remainder of Ardich are on Kartaltepe 50:50 ground on which SSR holds 50% rights. Totals and Ardich ownership percentages are weighted averages.
4. Mineral Reserve cut-offs are based on $1,350/oz gold price; average oxide recoveries are 61% and average sulfide recoveries are 91%.
5. All cut-off values include allowance for royalty payable. There are no credits for silver or copper in the cut-off calculations.
6. There is no Çakmaktepe sulfide Mineral Reserve or Bayramdere Mineral Reserve.
7. Economic analysis has been carried out using a long-term gold price of $1,600/oz.
8. The point of reference for Mineral Reserves is the point of feed into the processing facility.
9. Tonnage is metric tonnes and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Significant factors that could materially affect the Mineral Reserve are:

- Environmental, Permitting, Social, and Community – the Çöpler project is subject to the laws and regulations of Turkey, the mine has several local communities that are nearby. In order to operate the mine, Anagold must maintain appropriate relations with all the authorities and stakeholders. Social, community and government relations are managed by Anagold and include programmes and engagement with the local communities and both local and national governments. Anagold has remained in compliance with all aspects of the Environmental Impact Assessments (EIA) and operating permits throughout the history of the project.
- Seismic impacts – the Çöpler project is in an area with a history of significant seismic activity that could negatively impact mining operations.
- Metal price impacts – gold is the primary revenue element and silver and copper are produced as by-products. The ore is mined at an elevated cut-off grade and low-grade ore is stockpiled for processing after mining is completed. The use of the elevated cut-off grade serves to mitigate the risks from periods of lower gold prices.
- Mining impacts – the mining equipment is suitable for a selective mining unit (SMU) of approximately 3 m x 3 m x 5 m. This allows for selectivity in mining and enhances the opportunities for blending the feed to the sulfide plant. The total mining rates in the CDMP21TRS mine plan are at 22.5 Mtpa (Çöpler mining only), In the past, total mining rates of 36.5 Mtpa (combination of Çöpler and Çakmaktepe mining) have been achieved, increasing the total mining rate may allow gold to be brought forward in the production schedule but will require additional stockpile storage areas.
- Geotechnical impacts – slope recommendations have significant impacts on the Mineral Reserve and the continued study will allow the Mineral reserves to be maximised.
- Processing impacts – the processing analysis in the Reserve Case includes incorporation of a flotation circuit into the existing sulfide plant to upgrade sulfide sulfur (SS) to fully utilise grinding and pressure oxidation (POX) autoclave capacity. Continued debottlenecking of the sulfide plant and optimisation of the flotation circuit may improve costs and recoveries, changing cut-off grades and impacting the Mineral Reserve.
- The addition of the flotation circuit to the sulfide plant required new grade control protocols and associated stockpile strategies to be implemented to manage the required sulfide plant feed blend. It is likely that there will need to be ongoing modification of the stockpiling cut-offs and procedures for both short-term and longer term blending as the mine progresses. Measures such as increasing the number of active mining areas, increasing the mining rate, and increasing the size or number of run-of-mine (ROM) stockpiles may be required.

12.3 Comparison of 2021 Mineral Reserves to 2020 Mineral Reserves

The 2021 Mineral Reserves inventory is detailed in Table 12.1.

For comparison, a summary of the overall 2020 Mineral Resource inventory is shown in Table 12.3.

Table 12.3 EOY 2020 Mineral Reserves Summary as at 31 December 2020

Mineral Resource Classification	EOY 2020 Mineral Resources Total (Exclusive of Mineral Reserves)						
	Tonnage (kt)	Au (g/t)	Ag (g/t)	Cu (%)	Gold (koz)	Silver (koz)	Copper (klb)
Proven	2,196	2.31	7.70	0.01	163	544	249
Probable	54,610	2.10	5.03	0.02	3,681	8,836	18,116
Probable Stockpile	–	–	–	–	84	–	–
Total	**56,807**	**2.10**	**5.14**	**0.01**	**3,928**	**9,379**	**18,365**

The factors contributing to the differences between the 2021 Mineral Reserves and the previous Mineral Reserves reported as at 31 December 2020 are as follows:

Ardich

- There was no Mineral Reserve declared for Ardich in 2020. A maiden Mineral Reserve has been declared for Ardich in 2021, and this has added 24Mt at 2.17 g/t Au to the Mineral Reserve, increasing the total by 1.68 Moz of gold.

Other

- New designs for two new phases beneath the Çöpler pit
- Depletion through mining since 31 December 2020

There has been an 33% increase in tonnage above the cut-off across all combined Mineral Reserve categories, with a corresponding 31% increase in contained gold.

12.4 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Reserves reported in the CDMP21TRS are suitable for reporting as Mineral Reserves using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

13 MINING METHODS

The objective of the CDMP21TRS is to provide a consistent and structured growth plan for the business. Mine plans were updated to improve metal production, through a revised development sequence, available information was then consolidated into a growth strategy, for communication to all levels of the business, using recognised progress reporting systems.

13.1 Geotechnical

13.1.1 Pit Slope Stability – Çöpler

This section contains a summary of the feasibility study level mining geotechnical investigation and design conducted for the Çöpler mine. Much of this work has been prepared prior to 2020, however the work and the recommendations are still applied to the mine designs and workings.

The Çöpler mine maintains an on-site geotechnical monitoring programme that consists of 58 prisms, 33 extensometers, a long-range synthetic aperture radar, and daily data and field monitoring. Additional work is currently in progress to implement pit slope depressurisation. It is expected that pit slope depressurisation will be used extensively throughout the Main pit as the sulfide pit phases are progressed.

In April 2015, Golder Associates (Golder) completed a pit slope optimisation study intended to further optimise the pit slope angles as defined in their earlier study completed in April 2014. This programme included the drilling of five oriented geotechnical core holes to identify any prevalent jointing throughout the Çöpler deposit.

Golder completed the 2015 pit slope optimisation study using recommendations from the 2014 Golder pit slope review with the intention of identifying opportunities to increase definition of potential problem areas within the Çöpler pit. This would allow for mine planning and designs to take advantage of steeper slope angles in some areas. No material changes in-pit slope recommendations were made with the updated report. Anagold chose to continue using the more conservative slope angle recommendations made by Golder in 2014.

The results of the study have provided Anagold with a much better understanding of potential highwall conditions. Not all slope angle recommendations made by Golder were able to be fully followed due to a lack of data and modelling of alteration zones within the Çöpler deposit. Where slope angles were not able to be further refined, Golder recommended that Anagold follow the recommendations set forth in the 2014 geotechnical review.

13.1.2 Review of 2021 Geotechnical Studies

Golder completed three additional Geotechnical Studies / Reports in 2021 which include:

- Golder, Data Review and Geotechnical Model, Çöpler Geotechnical Design Review (October 2021), (PowerPoint Presentation).
- Golder, Çöpler Pit Slope Design Review (November 2021).
- Golder, 2021 Ardich Project Slope Stability Study, Geotechnical support for the Pre-Feasibility Study (December 2021).

A geotechnical review of the 2021 Golder reports was completed in December 2021. Key areas of concern and recommendations, where applicable, are provided in Section 13.1.2. The Golder reports focus on the following keys areas:

- Update on structural data

- Update on rock and soil strengths
- Update on rock mass quality
- Comments on the geological surfaces
- Comments on geotechnical studies commissioned by Anagold
- Geometric review of design
- Review of piezometer data

13.1.2.1 Structural Data

The outcomes of the update on structural data, with focus of areas where faults provided potential control on overall slopes (circled areas in Figure 13.3), are considered appropriate.

13.1.2.2 Rock and Soil Strengths

Whilst the November 2021 report suggests limited 'new' laboratory testing of rock strength materials, there was significant testing by Golder in 2020 to justify a review of the 2019 intact rock strengths. Table 13.1 provides an overview and indicates significantly lower intact strengths to those reported by Golder in 2019 (Pit Slope Stability Evaluation, Çöpler Open Pit Mine, November 2019) and with the bolded values in Table 13.1 highlighting the significant changes. Based on Hoek & Brown envelopes and with comparison over a normal stress range of 40–700 kPa the 2021 strengths are somewhat lower than previous Golder studies and with reductions of nominally 35% for Diorite and 12% for Metasediments.

Table 13.1 Golder Intact Strength Estimates

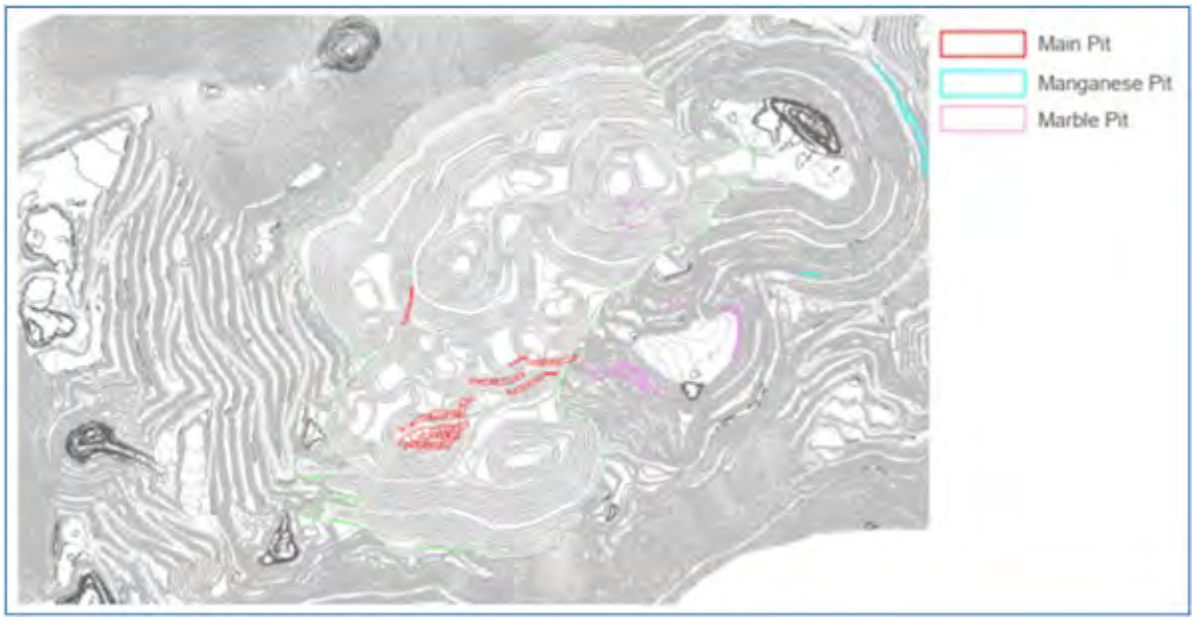
Rock Type	Golder 2019		Golder 2021[1]	
	UCS (MPa)	mi	UCS (MPa)	mi
Metasediments	49	22	41	**14**
Diorite	42	28	**22**	24
Carbonates	41	10		

[1] 35% percentile values suggested by Golder

13.1.2.3 Rock Mass Quality

It is understood that Anagold has undertaken mapping of rock mass quality, GSI, within the pit between 2015 and 2017, Figure 13.1.

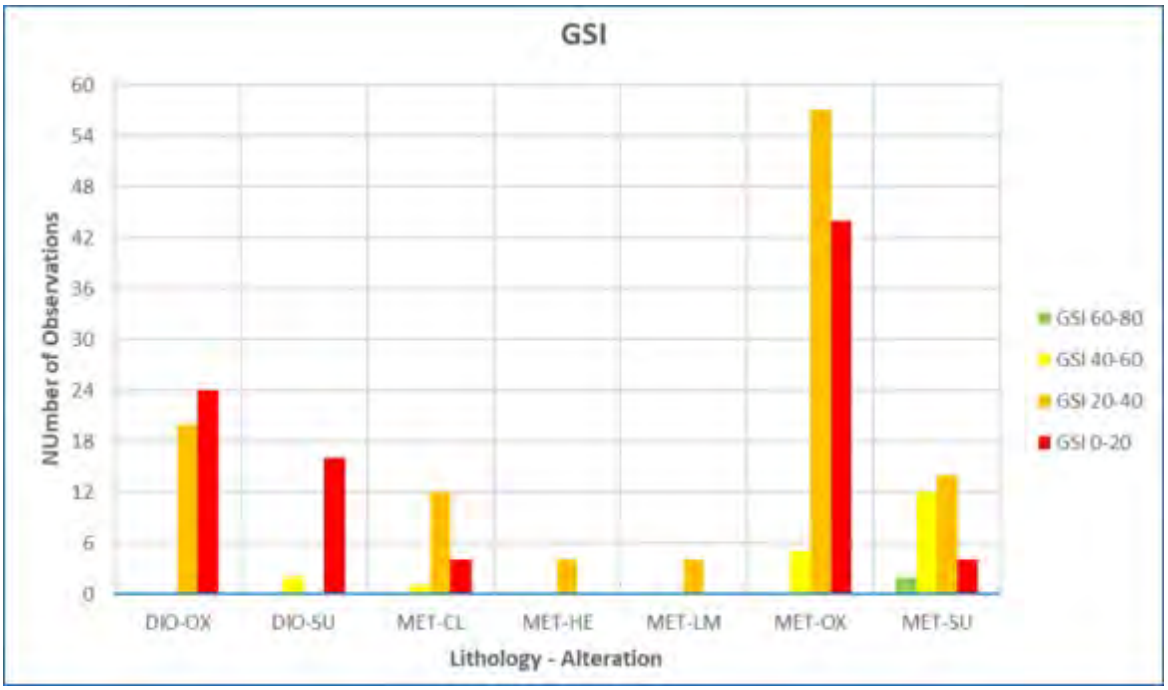
Figure 13.1 Rock Mass Quality Mapping Locations (2015–2017)



The mapping indicates GSI values typically below 40. Figure 13.2 provides the data from mapping of the Main pit, predominantly of Diorite and Metasediments and where the majority of mapping took place (225 measurements). Whilst additional mapping of the Marble and Manganese pits also took place, mapping was limited to 42 data points. There is no legend provided for alteration types so it is assumed the alteration noted as OX relates to altered materials and SU relates to presence of sulphides and hence fresh rock. The data in Figure 13.2 infers median GSI values of nominally:

- 19 for altered diorite
- Less than 20 for fresh diorite
- 23 for altered metasediments
- 38 for fresh metasediments

Figure 13.2 Rock Mass Quality Mapping of Main Pit



The Anagold mapping indicates significantly lower rock mass quality than what has been adopted in the Golder studies and with the following values noted for rock like materials by Golder:

- 41 for diorite
- 52 for metasediments
- 61 for marble

Golder assign the lower GSIs mapped by Anagold, largely as a result of two factors:

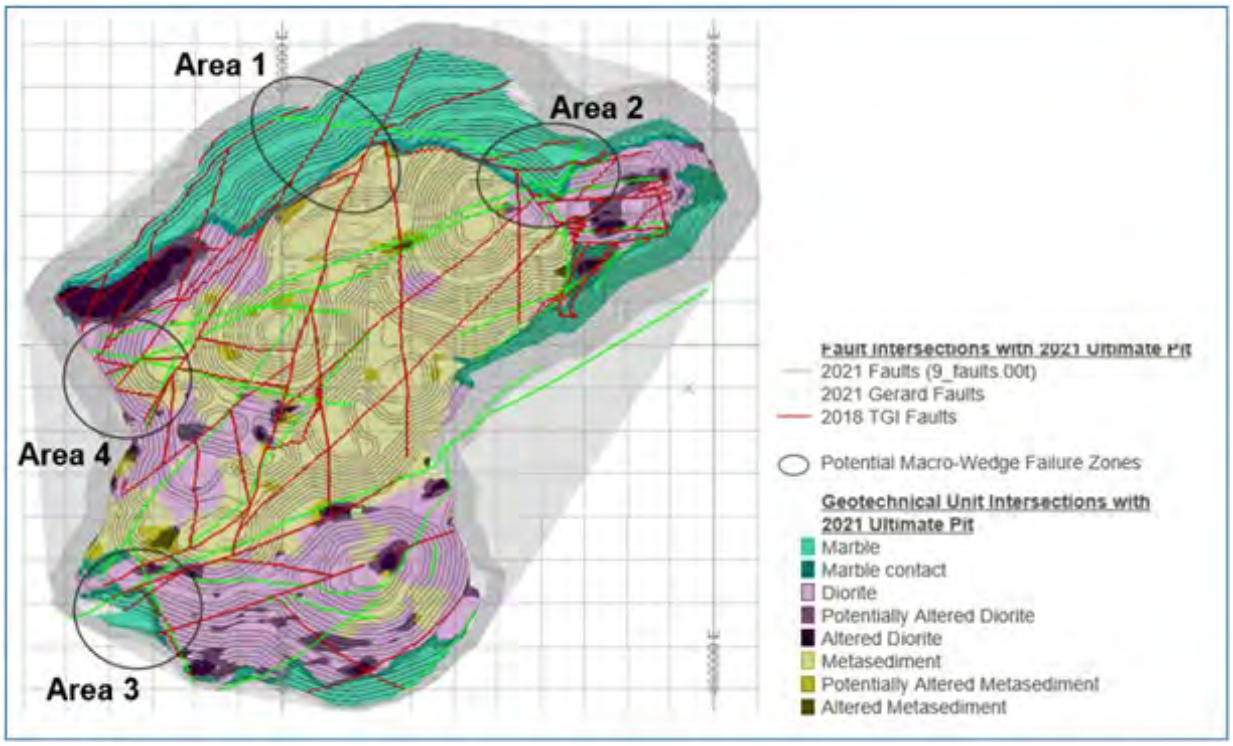
- Observed intact strengths and RQD in the field being lower than typically seen in the core which had been utilised by Golder in assessing rock mass quality of the rock like materials.
- Greater percentage of soil-like material in the exposures and hence significantly poorer GSIs.

The last item is considered as significant and particularly in view that Golder has assumed the percentages of rock-like material comprise 60% of the diorite and 75% of the metasediments. This aspect is further discussed in the following Section.

13.1.2.4 Geological Surfaces

Golder discusses the Anagold geological models that comprise major lithological units and an RQD block model, the latter utilised by Anagold to provide alteration state. Anagold has utilised comments in the Barr 2012 study (Pit Wall Stability Analysis, Çöpler Mine, August 2012) whereby an RQD of less than 15% implied as signifying altered material, Anagold nominally accepting an RQD of 15 to 25% as being potentially altered and an RQD greater than 25% as unaltered. Figure 13.3 provides the Anagold geotechnical units and which suggest alteration in the final pit occurs in limited areas.

Figure 13.3 Geotechnical Units



Golder comments that the RQD ranges selected by Anagold are too narrow and suggest altered material could have RQD of up to 40% and unaltered material with RQD greater than 60%. These comments by Golder appear appropriate if one considers the location of the rock mass quality mapping discussed above, compare Figure 13.1 and Figure 13.2, which is largely in unaltered materials according to the Anagold model but with the mapping results suggesting largely soil-like materials.

It's recommended a rock mass quality model be created to allow the slope design recommendations to be appropriately implemented. Such a model needs to take into consideration the Anagold rock mass quality mapping, which suggests there is a higher proportion of soil like materials in the slopes than the Golder estimates.

13.1.2.5 Geotechnical Reporting Commissioned by Anagold

Golder notes several studies, including both external and internal reports. Two reports relate to internal design checks, which indicate a requirement for localised flattening of designs in areas of altered materials. For the two examples presented, the issues relate to potential impacts on slopes over two benches high and with very high Factors of Safety (FOS) for global stability. Golder also notes "local instabilities may occur where pockets of altered rock mass are exposed on benches. If the altered rock mass area is significant (i.e., exposed over more than 2 benches) or if the local instabilities cannot be managed by operations, then the mine may need to locally adapt the slope configuration to the altered rock mass slope design or change the whole domain to the shallower altered rock mass design angles".

Golder notes Anagold had engaged a third party, Professor Tamer Topal, to address the south wall failure in the Marble pit. The scope appears to be limited to a single stability analysis (i.e., one cross-section) based on piezometer data from specific drilled boreholes and utilising all available monitoring (inclusive of inclinometers). However, the scope does not comprise slope recommendations for the failure. Whilst the study has merit, with three large failures and with the Marble pit south wall having failed twice previously it would be prudent that the failures be appropriately back-analysed to confirm that the Geotechnical Model and design assumptions remain appropriate as a key check on inputs for the designs. Without consideration of all failures the results of the Topal study, limited to the current failure, may not provide robust feedback on geotechnical parameters for slope designs going forward.

13.1.2.6 Geometric Review of Design

Golder notes the following regarding the 2021 LOM design "the geometric design for the Çöpler pits conforms with Golder pit slope design recommendations, however, some critical areas have been identified and further design evaluations are recommended". Following is a summary of the key aspects noted by Golder:

- "Details of the operational pit slope performance is currently unknown to Golder. The pit slope performance would provide valuable information".
- Requirement for slope stability analyses to address "maximum vertical height for uninterrupted inter-ramp slopes and geotechnical berm widths".
- "Anagold has recently developed 3D solids for altered and potentially altered rock masses based on the RQD evaluation from the entire database. Golder currently is not completely aware of the details of how these models were developed and how they are representative of the field conditions".
- "Adequacy of the planned set back distance from designed pit crest to the existing waste rock dump should be evaluated with the slope stability analyses".

For Items 2 and 4 above, Golder does not clarify if these stability analyses would utilise revised geotechnical parameters. It is considered these would be best addressed once the rock mass quality model is created and which would include and consider results of back-analyses and slope performance.

Item 3 above requires appropriate interaction between Anagold and Golder such that an appropriate rock mass quality model is developed either "back-boned" to existing Anagold models or appropriately utilising geotechnical borehole logging data and rock mass quality mapping to develop a model. The primary aim, regardless of approach is that the Golder slope design recommendations relate to an Anagold model so that designs can be appropriately implemented.

13.1.2.7 Piezometer Data

The available seepage locations and piezometer data are provided by Golder but there is key information that is not addressed by Golder and these comprise:

- The seepage is focused at the contact between Diorite and Metasediments, compare Figure 13.3 and Figure 13.4.
- No clear indication of significance of the piezometer data.

The nominal piezometer locations are presented in Figure 13.4 (red dots) and the compiled data in form of a hydrograph in Figure 13.5. The followings trends observed are as follows:

- Significant compartmentalisation in piezometer Pa3.
- Lower groundwater level near limestone contact, piezometer Pa1.
- Groundwater conditions elsewhere indicating phreatic surface at the mined slope and with a Hu of nominally 70% (i.e., 70% of hydrostatic) and indicating depressurisation of the slopes.

Figure 13.4 Locations of Seepage and Ponding

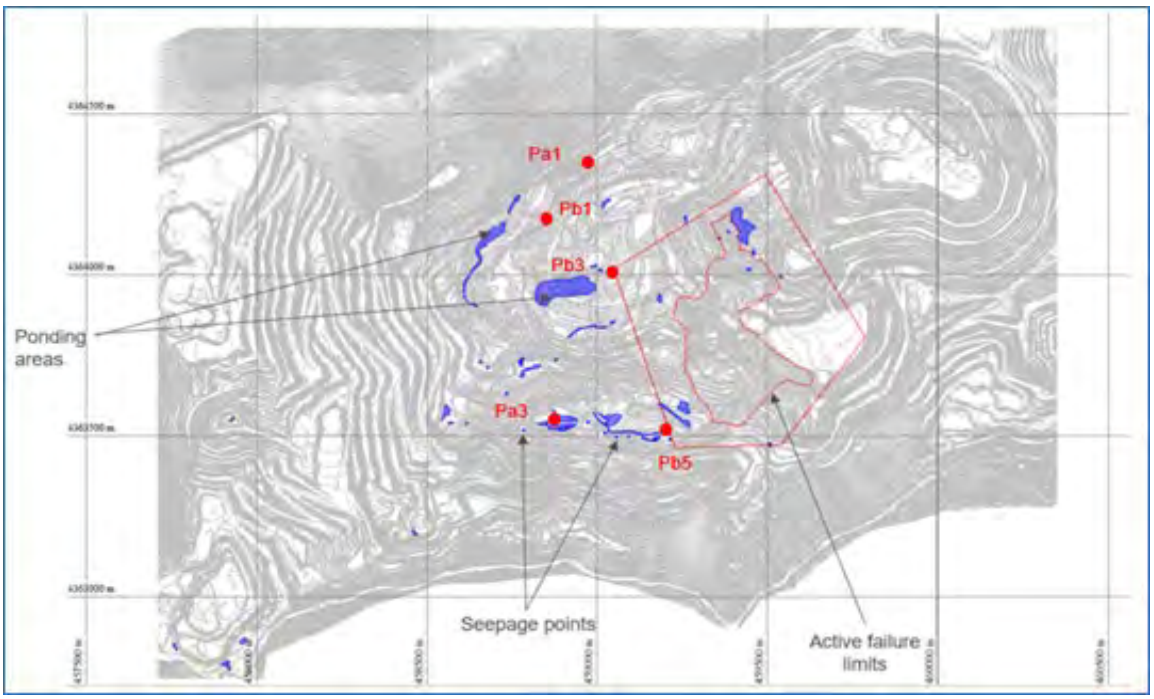
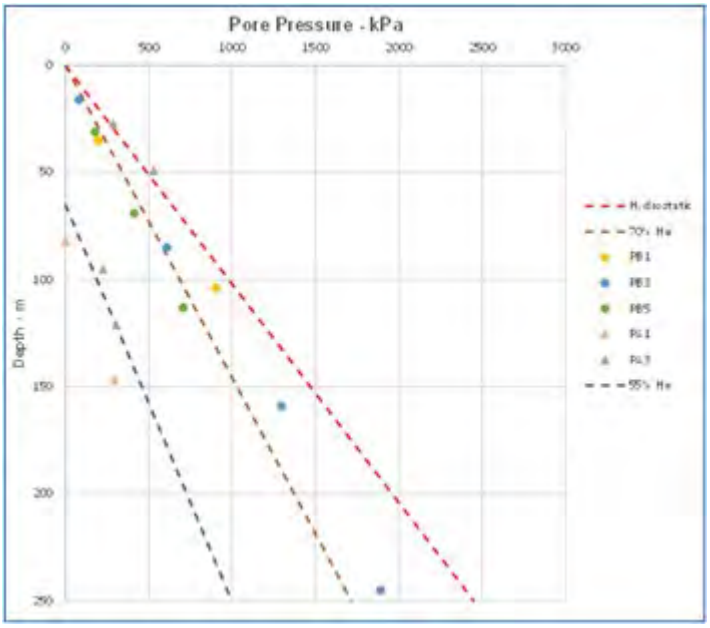


Figure 13.5 Çöpler VWP Data



13.1.2.8 Review Summary of 2021 Çöpler – Golder Geotechnical Reports

The review of the 2021 Çöpler – Golder Geotechnical Reports has highlighted potential issues of concern. The following are key recommendations from the Geotechnical review.

- Appropriate interaction between Anagold and Golder is required such that an appropriate rock mass quality model is developed either "back-boned" to existing Anagold models or appropriately utilising geotechnical borehole logging data and rock mass quality mapping to develop a model. The primary aim, regardless of approach is that the Golder slope design recommendations relate to an Anagold model so that designs can be appropriately implemented.
- A Feedback loop of appropriate revision of strengths based on back-analysis of failure and review of slope performance.
- Stability analyses once the above components are completed and with appropriate revision of slope design parameters.

13.1.3 RQD Model

RQD is used as a simple and inexpensive indication of rock mass quality. RQD does not account for joint orientation, continuity, or gouge material. Joints sets parallel to the core axis will not intersect the core and therefore is it recommended to use RQD in combination with other geotechnical inputs. RQD is a measure of percent core recovery with artificial fractures ignored.

At the Çöpler project, it has been determined that RQD is a generally reliable indicator of alteration. Therefore, areas with RQD modelled as being less than 15% are considered altered.

Standard testing of RQD was collected on 661 diamond core holes, 30 of which were drilled within the pit for metallurgical purposes. The 661 holes represent approximately 34% of all drilling in the Çöpler deposit. The Main pit contains RQD measurements for holes evenly spaced with data gaps occurring in the Manganese, Marble, and West pits.

RQD was interpolated in the resource model using the inverse distance method, weighted to the power of two (ID2) with 2 m drillhole composites. A total of six domains were used to estimate RQD values and included a distinction between oxide and sulfide material. To account for the variance in sample spacing, a two-pass approach was used to capture available samples. Model cell estimates were limited to the search distances used with no attempt to assign RQDs to unestimated cells.

13.1.4 Pit Slope Design Parameters

The pit slope design parameters remain unchanged and those applied for each deposit are shown in Table 13.2. Note that for Çakmaktepe, design parameters are in relation to the Central pit and based on the 2018 Golder study which are defined based on azimuth (i.e., direction the slope faces).

Table 13.2 Çöpler Mine Pit Slope Parameters

Çöpler Rock Type	**Interramp Slope Angle Çöpler Pits**	
	Altered RQD<15%	**Un-altered (Fresh) RQD>15%**
Diorite	23	38
Metasediment	32	43
Marble	50.5	50.5
Gossan Massive Sulfides	40	40
Çakmaktepe Slope Direction	Interramp Slope Angle Çakmaktepe Central Pits	
0° to 180° (south-west wall)	34	
180° to 360° (all other walls)	40	

Golder site review, Çöpler and Golder 2018 for Çakmaktepe

13.1.5 Mine Operations Monitoring and Management

Pit slopes in the Çöpler pit are monitored daily to ensure safety and stability. Daily inspections of the active mining areas are conducted by shift engineers to identify hazards such as unstable rock on benches above, excessive water in and around the highwalls, and any visible cracking and movement of the highwalls. In addition, Anagold employs a geotechnical management team consisting of surveyors, geologists, and geotechnical engineers. This team conducts regular highwall inspections, measurement of movement through extensometers and prism surveys, and data collection and interpretation of the long-range synthetic aperture radar measurements.

Mining at Çöpler utilises perimeter pre-split blasting techniques in areas where competent rock is encountered (typically, limestone/marble, unaltered metasediment, and unaltered diorite). The pre-split holes are drilled according to the bench face angle recommendations as shown in Table 13.2. Blasting is conducted in a manner to minimise back-break through usage of delays and providing adequate relief. A typical pre-split highwall at Çöpler is shown in Figure 13.6.

Where pre-splitting is not practical, highwalls are sloped by excavator to the recommended bench face angle.

Figure 13.6 Typical 15 m Pre-Split at Çöpler Mine

Anagold, 2020

13.1.6 Geotechnical Domains

Based on the 2014 Golder geotechnical site review, the following geotechnical domain categories are considered appropriate for design recommendations to be founded upon:

- Marble / limestone – characterised by competent rocks and marbleised near the Çöpler intrusion.
- Fresh diorite – characterised as a fresh to slightly weathered or altered moderately strong rock.
- Hydrothermally altered diorite – alteration sufficient to significantly reduce strength relative to fresh diorite, but without the shearing and intense clay alteration of contact and fault zones.
- Weathered diorite and metasediment – highly weathered, extremely weak rock and soil that occurs in the oxidised zone (depth typically to 30 m).
- Fresh metasediment – fresh to slightly weathered, weak to moderately strong rock consisting of a turbidite sequence that may also be structurally complex near faults.
- Hydrothermally altered metasediment – alteration sufficient to significantly reduce strength relative to fresh metasediment, but without the shearing and intense clay alteration of Contact and Fault zones.
- Fault gouge including intrusive contact and intense sulfide alteration – slicken sided plastic clay with rock fragments that occurs in fault zones including the intrusive contacts.

The character and extent of the hydrothermal alteration beyond the fault zones is poorly defined. Where data are lacking within the alteration zones the most conservative pit slope angle is assumed, representing up-side potential should the alteration zone be further defined in the geological model.

The above listed geotechnical domains are mostly well known and modelled in a geologic model. The alteration zones, however, vary significantly and have not been modelled to an extent to where variations by alteration type are well defined. It has been recommended by Golder that the best way to identify alteration zones is by modelling RQD in the geologic model. For this purpose, RQD values of 15% and less are considered altered and RQD values greater than 15% are considered un-altered, or fresh.

13.1.7 Pit Dewatering

Earlier studies have predicted the formation of pit lakes at various stages of mining. Golder's hydrogeological study was used to predict pit lake formation. The groundwater flow model predicted that a pit lake would form over time after mining. These results, in conjunction with the acid rock drainage (ARD) work being conducted by SRK Turkey, are being used to predict pit lake water quality.

Sources of groundwater recharge include direct infiltration of precipitation and/or infiltration during storm water run-off events throughout the entire site. Fractured or karstic openings in the bedrock and alluvial sediments along drainages are considered to be the predominant pathways for infiltration. The main hydrogeological units and features considered in the groundwater model were:

- Limestone (modelled hydraulic conductivity = 0.6 m/day)
- Diorite (modelled hydraulic conductivity = 0.0002 m/day)
- Metasediments (modelled hydraulic conductivity = 0.0002 m/day)
- Alluvium (modelled hydraulic conductivity = 10 m/day)
- Various fault systems (Sabirli, Çöpler, and Other) (modelled hydraulic conductivity = 6.1 m/day)

The calibrated groundwater model was used to predict pit inflows and pit lake development based on a pit design with a maximum depth to 875 m. This analysis estimated pit inflow at less than approximately 1,100 m^3/day. Estimations of pit lake formation suggest that over a 100-year scenario, based on a pit design with a maximum depth to 875 m, pit lake water elevations are projected to reach the 906 m elevation (±20 m). Modelling results indicate that water from beneath the Lower Çöpler West waste rock dump (WRD) will take more than 1,000-years to flow to the Karasu River. Groundwater located beneath the Lower Çöpler East WRD is estimated to discharge to the Karasu River within approximately 300-years.

Revisions to the pit design since the groundwater model was constructed and calibrated (in 2012) show that the minimum pit elevation (895 mRL) will be higher than the minimum pit elevation simulated in the model (875 mRL). Additionally, the area on the north side of the pit and the southern and south-eastern portions of the pit will be mined to a lower elevation than simulated in the model. Limestone in these areas may increase discharge to the pit during dewatering and may impact the formation of a pit lake following closure. Updating and possibly recalibrating the model based on the revised ultimate pit configuration and available data since 2012 would be required to better quantify the magnitude of the increase or impact.

13.2 Mine Plan

Open pit mining at the Çöpler project is carried out by a mining contractor and managed by Anagold. The mining method is a conventional open pit method with drill and blast and utilising excavators and trucks operating on bench heights of 5 m. The mining contractor provides operators, line supervisors, equipment, and ancillary facilities required for the mining operation. SSR provides management, technical, mine planning, engineering, and grade control functions for the operation.

SSR currently operates a sulfide process plant and an oxide heap leach facility. Costs are based on the actual operational costs and project budget assumptions. Production schedules and costs are based on current site performance and contracts.

The parameters, costs and throughput assumptions used to prepare cut-off grades and the production schedule are listed in the following sections.

13.2.1 Ore Definition

A revised set of processing parameters was used to calculate the internal Au cut-off grades for ore definition. The cut-off grades for the CDMP21TRS were calculated using the parameters described in the following sections.

13.2.1.1 Oxide Heap Leach Parameters

Table 13.3 details the gold recovery parameters by material type and location.

Table 13.3 Heap Leach – Gold Recoveries

Location	Unit	Material Types						
		LMS	M/SED	GOSS	JASP	DIO	MNDIO	OPH
Çöpler Manganese	%	78.4	66.8	71.2	–	71.2	71.2	–
Çöpler Main	%	68.6	66.8	71.2	–	71.2	71.2	–
Çöpler Marble	%	75.7	66.8	65.1	–	62.3	62.3	–
Çakmaktepe Central	%	70.0	80.0	–	73.0	61.0	–	70.0

Table 13.4 details the silver recovery parameters by material type and location.

Table 13.4 Heap Leach – Silver Recoveries

Location	Unit	Material Types						
		LMS	M/SED	GOSS	JASP	DIO	MNDIO	OPH
Çöpler Manganese	%	27.3	32.5	27.5	–	37.8	37.8	–
Çöpler Main	%	24.6	32.5	27.5	–	37.8	37.8	–
Çöpler Marble	%	34.0	32.5	27.5	–	32.0	32.0	–
Çakmaktepe Central	%	17.0	28.0	–	17.0	24.0	–	19.0

Table 13.5 details the copper recovery parameters by material type and location.

Table 13.5 Heap Leach – Copper Recoveries

Location	Unit	Material Types						
		LMS	M/SED	GOSS	JASP	DIO	MNDIO	OPH
Çöpler Manganese	%	3.5	13.8	3.3	–	15.8	15.8	–
Çöpler Main	%	3.5	13.8	3.3	–	15.8	15.8	–
Çöpler Marble	%	3.5	13.8	3.3	–	15.8	15.8	–
Çakmaktepe	%	–	–	–	–	–	–	–

Table 13.6 details the operating costs by location.

Table 13.6 Oxide Operating Costs

Parameter	Unit	Çöpler	Çakmaktepe
Rehandle Cost	$/t	0.32	0.64
Processing – Fixed	$/t	3.05	3.05
Processing – Variable	$/t	8.94	8.94
G&A (Process and Site)	$/t	3.17	3.17
Ore Haulage	$/t	–	1.53
Mining Cost	$/t mined	1.89	1.59

13.2.1.2 Sulfide Plant Parameters

The following sections outline the processing parameters for the sulfide plant. Average life-of-mine (LOM) sulfide gold recoveries are 91%.

Throughput

Total Plant Throughput = Direct POX Feed + Float Plant Feed

POX Plant Throughput = Direct POX Feed + Float Plant Concentrate

Table 13.7 details the maximum plant throughputs for each part of the plant. The front-end limit of 400 tph means when the flotation plant is running at full capacity (i.e., 150 tph), the direct feed to the pressure oxidation (POX) circuit will be limited to 250 tph.

Table 13.7 Plant Throughput Limits

Parameter	Unit	Maximum Throughput
Float Plant	t/hr	150
POX Plant	t/hr	280
Total	t/hr	400

Float Plant Throughput = 216345 x Feed SS%^{2} – 30592 x Feed SS% + 980.24

Float Concentrate Mass Pull = 277.09 x Feed SS%^{2} – 15.17 x Feed SS% + 0.33

The POX circuit throughput is also limited by the sulfide sulfur (SS) in the feed to the autoclave, which must be less than 13.75 tph. If the SS content is too high, then the POX circuit throughput will need to be reduced until the rate is less than 13.75 tph SS.

Recovery – POX Gold

POX Gold Recovery = a x (1 - EXP(- b x (Au(g/t) - c))) + d.

Table 13.8 details the POX gold recovery factors by material type.

Table 13.8 POX – Gold Recovery Parameters

Material Type	a	b	c	d
Limestone/Marble	98.3	1.4	–1.5	–1.00
Metasediment	97.7	1.4	–1.4	–1.00
Gossan	98.3	1.4	–1.5	–1.00
Jasperoid	98.3	1.4	–1.5	–1.00
Diorite	98.3	1.4	–1.5	–1.00
Mn Diorite	96.7	1.2	–1.4	–1.00
Ophiolite	98.3	1.4	–1.5	–1.00

Recovery – Float Plant

Float Concentrate Gold Recovery = 55%

Float Tails Gold Recovery = 43%

Float Concentrate SS Recovery = 75%

Table 13.9 details the operating costs by location

Table 13.9 Sulfide Operating Costs

Parameter	Unit	Amount
Rehandle Cost	$/t	0.90
Processing – Fixed	$/t	8.32
Processing – Variable	$/t	19.10
Processing – Variable (SS)	$/t SS	2.68
G&A (Process and Site)	$/t	6.60

13.2.1.3 Metal Prices and Realisation Assumptions

Cut-off grades were determined using a gold price of $1,350/oz. There are no credits for silver or copper in the cut-off grade calculations. Table 13.10 details revenue and realisation assumptions for the Au cut-off grades.

Table 13.10 Au Cut-off Grade Revenue and Realisation Assumptions

Parameter	Unit	Au Cut-off Assumption
Payment and Deductions		
Gold	$/oz	1,350
Payable	%	100
Treatment and Refining		
Selling	$/oz	8.54
Royalties		
Çöpler	%	2
Çakmaktepe	%	4

13.2.2 Ore Cut-off Grades

Internal cut-off grades have been calculated for each of the material types based on the economic inputs and assumptions are shown in Table 13.11. Internal cut-off grades have been used to calculate process quantities within the Reserve Case pit stages.

The addition of the flotation circuit to the sulfide plant required new grade control protocols and associated stockpile strategies to be implemented to manage the required sulfide plant feed blend. It is likely that there will need to be ongoing modification of the stockpiling cut-offs and procedures for both short-term and longer term blending as the mine progresses. Measures such as increasing the number of active mining areas, increasing the mining rate, and increasing the size or number of ROM stockpiles may be required.

Table 13.11 Internal Au Cut-off Grades

Mining Area	Ore Type	Rock Type	Zone	COG (Au g/t)
Çöpler	Oxide	Limestone / Marble	Manganese	0.47
			Main	0.53
			Marble	0.48
		Metasediment	Manganese	0.55
			Main	
			Marble	
		Gossan	Manganese	0.51
			Main	0.51
			Marble	0.56
		Diorite	Manganese	0.51
			Main	0.51
			Marble	0.59
		Mn Diorite	Manganese	0.51
			Main	0.51
			Marble	0.59
	Sulfide	All	All	1.05
Çakmaktepe	Oxide	Limestone / Breccia	Central	0.60
		Jasperoid		0.57
		Diorite		0.69
		Metasediment		0.52
		Ophiolite		0.60

13.2.3 Pit Design

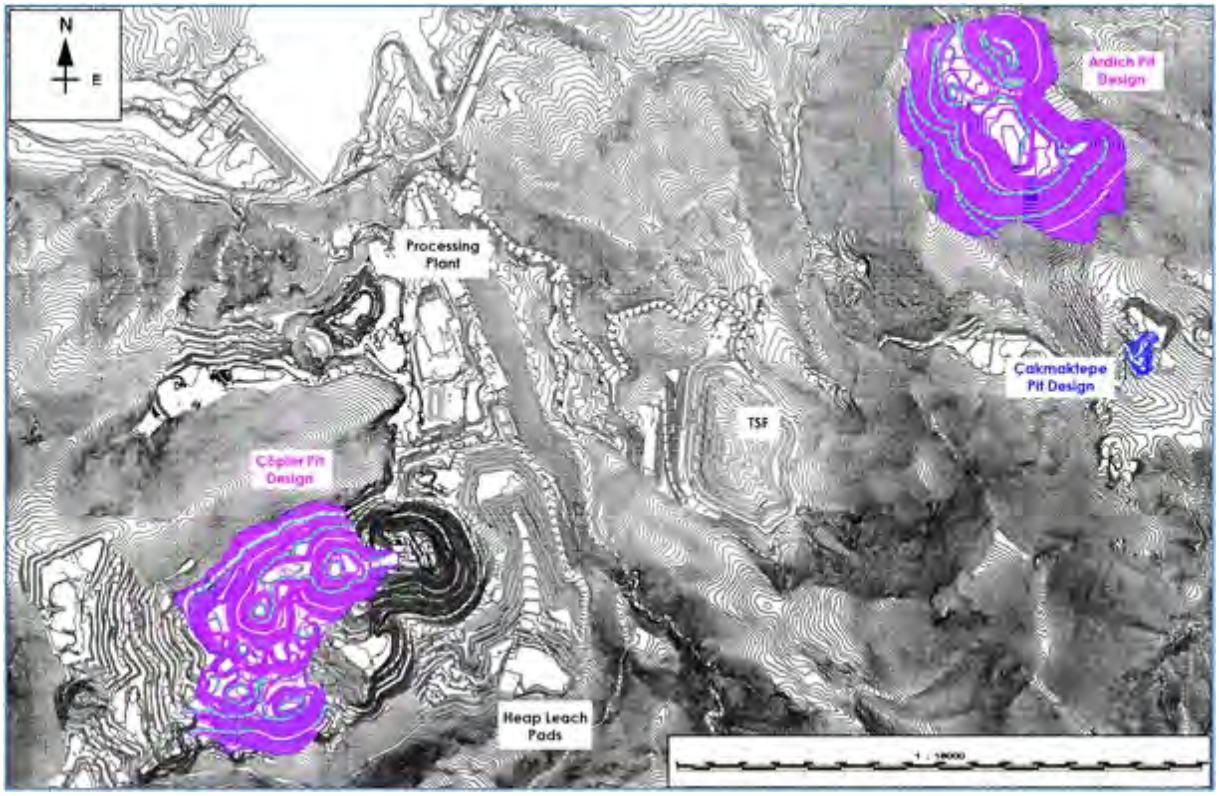
New pit designs were created in 2021 based on updated metal prices and costs.

The key aims of the optimised pit designs are:

- Minimise mining costs and maximise economic return by exposing the highest value ore with minimum waste mining.
- Address operational requirements for loading, hauling, slope stability, and rockfall, as follows:
  - Loading – the phases were designed with a minimum operational width of 15–30 m between phases (depending on bench configuration) to allow efficient mining for the equipment scale.
  - Hauling – generally, two exit haul roads per phase were included: the west bound exit to the crusher, low-grade stockpile, and west dump; and the east bound exit to the potentially acid forming (PAF) and non-acid forming (NAF) dumps. Haul roads are generally 15 m wide at a 10% gradient. Single-lane haulage traffic is allowed in the lower benches of the mine and is set at 10 m wide.

Pit designs for the Çöpler pit were updated in 2021. Ardich pit designs were prepared in 2021 and updated in 2022. The Çöpler, Ardich, and Çakmaktepe pit design for 2034, when in-pit mining is completed for the Reserve Case, is shown in Figure 1.4. Following completion of in-pit mining, the sulfide plant will be fed from stockpiles until 2043.

Figure 13.7 Ultimate Pit Designs – CDMP



Anagold, 2022

13.2.4 Waste Dump and Stockpile Design

The mine plan allows for the use of five WRDs to store mined waste rock and sulfide ore that is extracted during mining operations. These five WRDs are Lower Çöpler East, Lower Çöpler West, Upper Çöpler, West, and Marble Backfill WRDs. Current operations do not use the Lower Çöpler West and Marble Backfill WRDs. The Lower Çöpler East and Upper Çöpler WRDs will primarily be utilised as sulfide ore stockpile areas, with the Upper Çöpler WRD being mined out to allow for future pushback extension of the Marble pit towards the north and allow for leach pad extensions to the west. Figure 13.8 shows the site layout.

The Lower Çöpler East WRD has a capacity of 14.9 Mm^3 (26.8 Mt) of mine waste and 5.5 Mm^3 (9.9 Mt) of sulfide ore. The total surface area impacted by the Lower Çöpler East WRD is 51.5 ha. The Lower Çöpler West WRD has a capacity of 94.6 Mm^3 (170.3 Mt) of mine waste and 12.4 Mm^3 (22.3 Mt) of sulfide ore. The total surface area impacted by the Lower Çöpler West WRD is 206.5 ha. The Upper Çöpler WRD has a capacity of 7.6 Mm^3 (13.6 Mt) of sulfide ore. The total surface area impacted by the Upper Çöpler WRD is 26.1 ha. The West WRD complex has a capacity of 34.4 Mm^3 (61.9 Mt) of mine waste. The total surface area impacted by the West WRD is 108.9 ha.

An estimated 69.8 Mt of waste rock will be consumed in the construction of the tailings storage facility, haul road, and tailings pipeline corridor. Total constructed waste rock storage capacity is 155.0 Mm^3 (279.1 Mt). The total surface area impacted by all WRDs and stockpiles is 366.9 ha. When possible and economically preferable, waste rock will be backfilled within mined out areas of the pits as they become available.

13.2.4.1 Waste Rock Dump (WRD) Geotechnical Design

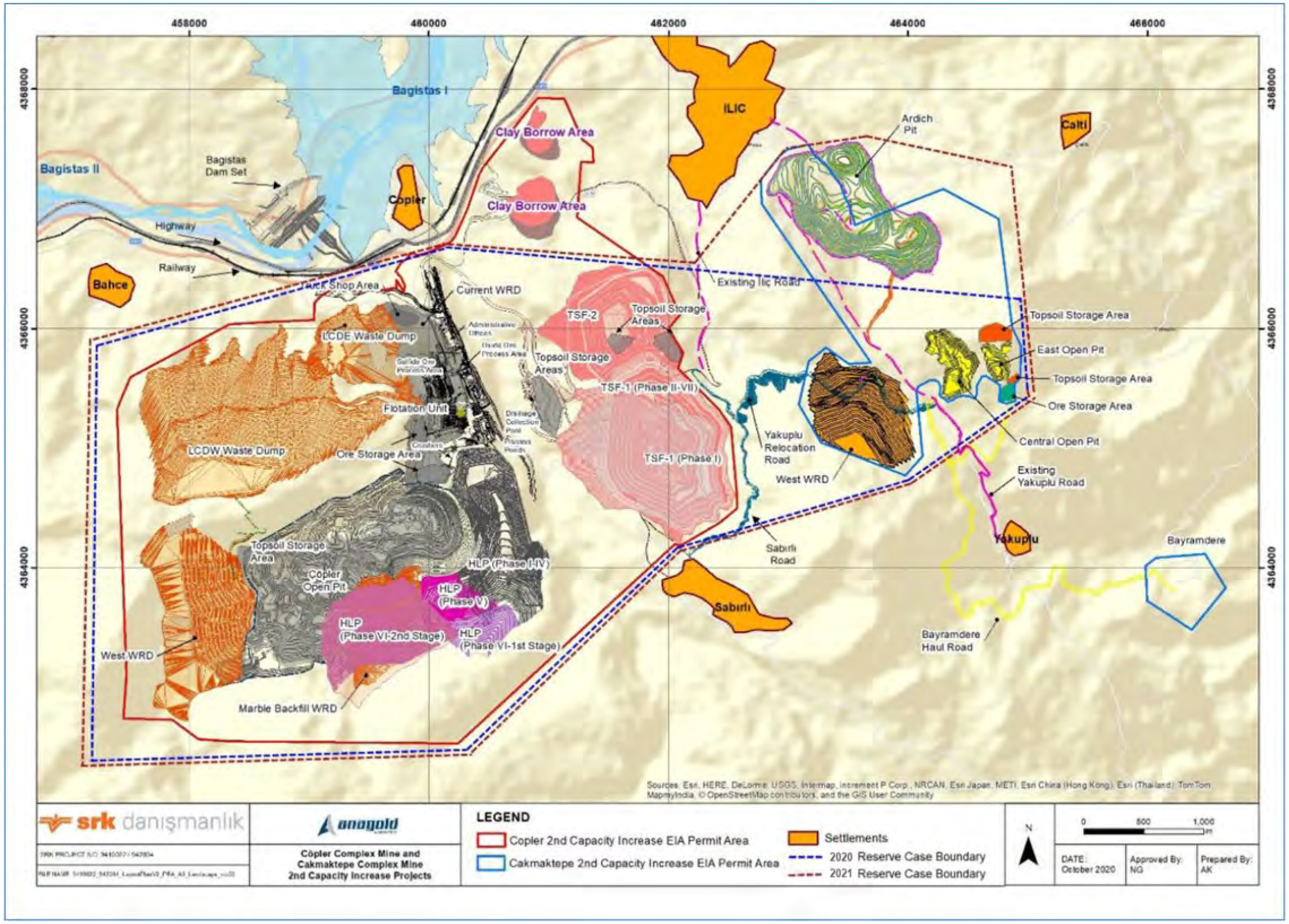
The WRDs will generally consist of 15 m tall lifts deposited at the waste material's angle of-repose of approximately 1.33H:1V. The typical bench width will be 17 m and 15 m wide haul roads will be used to construct the WRDs. The WRDs will have overall slopes ranging from 2.5H:1V to 2.6H:1V.

In February 2014, Golder completed an evaluation of the geotechnical stability of the four WRD designs (Golder, 2014a), later updated in May 2015 (Golder, 2015b) to account for the updated material properties developed by Golder during the pit slope optimisation study and the updated waste dump designs and layouts developed by Anagold. Six of the most critical cross-sections were evaluated to determine the minimum Factor of Safety (FOS) for the proposed waste dumps. The sections were aligned to pass through the highest part of the waste piles, the steepest waste pile slopes, and the steepest foundation grades.

In addition to static stability analyses, pseudo-static stability analyses were performed to account for seismic loading conditions for the WRDs. The pseudo-static analyses were conducted based on the procedure proposed by Hynes-Griffin and Franklin (1984) in which a horizontal acceleration equal to 50% of the peak ground acceleration at bedrock is applied to the model. The design criteria peak ground acceleration is 0.30 g for the magnitude 7.0 operating basis earthquake (OBE). Therefore, a horizontal pseudo-static acceleration of 0.15 g was applied to the WRD sections in the seismic stability analyses.

The results of the stability analysis are summarised in Table 13.12.

Figure 13.8 CDMP21TRS Reserve Case Site Plan



Anagold, 2022

Table 13.12 Waste Rock Dump (WRD) Design Factor of Safety (FOS)

WRD	Section	Loading Condition	Failure Surface Location	Minimum Computed FOS
Lower Çöpler East	A	Static	Shallow	1.4
		Pseudo-static		1.1
		Static	Deep	1.9
		Pseudo-static		1.3
	B	Static	Shallow	1.7
		Pseudo-static		1.3
		Static	Deep	1.9
		Pseudo-static		1.3
Lower Çöpler West	C	Static	Shallow	1.7
		Pseudo-static		1.3
		Static	Deep	1.9
		Pseudo-static		1.3
	D	Static	Shallow	1.6
		Pseudo-static		1.2
		Static	Deep	1.8
		Pseudo-static		1.3
West Çöpler	E	Static	Shallow	1.6
		Pseudo-static		1.1
		Static	Deep	1.9
		Pseudo-static		1.3
	F	Static	Shallow	1.6
		Pseudo-static		1.2
		Static	Deep	2.0
		Pseudo-static		1.4

The Lower Çöpler East WRD facility will be constructed over a portion of the existing North-east WRD. Foundation conditions underlying the existing North-east WRD and the proposed Lower Çöpler East facility consist of Munzur Limestone. Minimum computed factors of safety for the Lower Çöpler East facility are 1.4 and 1.1 for static and seismic loading conditions, respectively.

The Lower Çöpler West WRD facility will be founded on Munzur limestone. Limit equilibrium stability analyses indicate minimum computed FOS of 1.6 and 1.2 for static and seismic loading conditions, respectively (Golder, 2015b).

The West WRD is to be constructed adjacent to the Çöpler open pit and will be founded on Munzur Formation limestone and metasediment with sporadic diorite intrusions. Minimum computed FOS are 1.9 and 1.3 for static and seismic loading conditions, respectively.

13.1.1.2 Waste Rock Geochemical Review

Anagold mines and monitors the waste rock types to determine PAF and NAF material according to the Çöpler waste rock management plan to ensure proper disposal of PAF material as it is encountered during the ore control process. SRK established the criteria for identifying PAF and NAF material as shown in Table 13.13.

Table 13.13 Waste Rock Geochemical Classification

Lithology	Sulfide Sulfur (SS%) Cut-off Grade	Waste Rock Groups	Descriptions
Diorite	0.8	PAF/High-sulfide diorite	Diorite with SS ≥0.8%
		NAF/Low-sulfide diorite	Diorite SS <0.8%
Metasediment	0.8	PAF/High-sulfide MTS	Metasediment with SS ≥0.8%
		NAF/Low-sulfide MTS	Metasediment with SS <0.8%
Limestone / Marble	2	High-sulfide LMS	Limestone with SS ≥2%.
		Low-sulfide LMS	Limestone with SS <2%.
Gossan	–	Gossan – NAF	All Gossan unit
MnOx	–	MnOx – NAF	All MnOx unit
Massive Pyrite	–	Massive Pyrite – PAF	All Massive Pyrite unit

In September 2015, SRK completed a geochemical impact assessment for the Çöpler WRD facilities. The key findings from the SRK report suggests that all WRD facilities at Çöpler, except one, have a neutralising potential (NP) to acid potential (AP) ratio of greater than 20:1; indicating that the Çöpler material has excellent neutralisation capacity for ARD. The one exception to this was the West WRD which was estimated to have a NP:AP ratio 1:3. It was recommended that Anagold optimise the WRD construction sequencing in order to take advantage of the neutralisation potential of the other WRD facilities by blending higher quantities of NAF material into the West WRD. Anagold anticipates that this will be a readily achievable solution that will not add any additional costs to the Project.

A series of waste rock samples representing the LOM distribution were tested by SRK in order to measure the immediate reactivity, future acid potential, and long-term acid potential of the waste rock.

Regarding immediate reactivity, a paste pH test was conducted that resulted in all samples generating near-neutral and slightly alkaline paste pH.

Regarding future acid potential, a large majority of all samples taken reside above the NP:AP 1:1 boundary. The remainder of the samples that fall below the 1:1 boundary are extremely close to the 1:1 boundary and should only pose a minimal risk to ARD generation. In terms of long-term acid potential, only two samples registered below the 1:1 NP:AP ratio.

13.1.5 Ore Stockpiles, Rehandle and Blending

Oxide and sulfide ore are processed through separate crushing circuits.

Oxide ore that is unable to be directly dumped into the crushing circuit is placed on the appropriate stockpile for processing at a later time. Oxide ore is typically segregated according to clay content and grade. The processing engineer determines the desired blend on a daily basis in order to maintain a consistent feed grade and rock type blend going to the heap leach pad.

All sulfide ore is currently placed in one of three primary stockpiles: High-grade, medium-grade, and low-grade. Sulfide ore is directed to the primary stockpiles or to the crusher pad. There is no allowance for material to be directly dumped into the sulfide crushing circuit. All material is rehandled by a loader from the crushing pad into the crushing circuit.

The following Au grade bin assumptions were used for the Mineral Reserves:

- High-grade Au >4.0 g/t Au

- Medium-grade Au 2.5–4.0 g/t Au
- Low-grade Au 1.05–2.5 g/t Au

Currently site typically experience a lack of sulfide sulfur (SS) feed to the POX, requiring additional cost to run the POX plant. The flotation plant was designed to upgrade (increase) the SS feed into the POX circuit. For the POX autoclave to operate autogenously, SS feed must be above 10.20 tph and less than 13.75 tph to achieve target oxidation with current oxygen availability. If the SS feed rate is too high, then the feed to the plant will need to be reduced until the POX SS feed rate is less than 13.75 tph limit. Operating performance of the autoclaves indicates that higher than design oxygen utilisations efficiencies are possible, which may allow greater than 13.75 tph sulfide sulfur to be treated. This oxygen utilisation efficiency along with increased oxygen availability is upside to the CDMP21TRS Reserve Case.

Plant feed will therefore need to be blended to achieve the target SS feed range of 10.20–13.75 tph into POX.

To blend on SS feed, new grade control protocols have been developed and implemented on-site. Site grade control is currently being done on Au and SS grades to aid in achieving the ideal range for SS feed into the plant and assist with the development of a new stockpile strategy.

The following SS grade bin assumptions were used for the Mineral Reserves inside each Au grade bin:

- High-grade SS >4.8% SS
- Medium-grade SS 3.2% to 4.8% SS
- Low-grade SS <3.2% SS

The effectiveness of these new grade bins in controlling the SS blend will need to be monitored on an ongoing basis as the plant matures and adjustments to the grade bin parameters (and size of stockpiles) may be required. This work will need to continue as the mine progresses and new mining areas are included.

The smallest parcel size for plant feed considered for the Mineral Reserves was one month.

The operation will need to be in control of the plant feed blend at a more granular level than was modelled for the Mineral Reserves. If maintaining a plant feed blend at a more granular level was found to be problematic, there are several measures that site could implement to manage any short-term and longer term concerns:

- Mine working areas

  Given the relatively small size of the mining fleet, the number of active mining working areas could be increased, increasing mining selectivity, and therefore improving the blending capacity from the mine.
- Stockpile size

  The size of stockpiles could be adjusted to reduce feed impacts from short-term fluctuations coming from the mine.
- Mining rate

  Given the current site contract mining arrangement, site could ramp up the mining rates to reach sufficient material (of the required type) to maintain the required blend.
- Variation of grade bins

  Grade bin designations could be adjusted to have better control of the grade bands that are causing problems in the plant feed blend.

13.1.6 Grade Control

All ore control operations are managed by Anagold technical staff. Anagold maintains an on-site laboratory with the capacity to assay an average of 600 blasthole samples per day.

Prior to sampling, blastholes are identified as 'potential ore' (oxide or sulfide) or 'potential waste' (oxide or sulfide) based on grade control data from the bench above and the mining model prediction. A 10 m outside buffer is then applied to the potential ore areas to ensure appropriate sampling density. All potential ore blastholes are sampled for AuFA (fire assay for Au). Approximately 50% of potential ore blastholes are sampled for AuCN (cyanide soluble Au), total carbon, and total sulfur. Additionally, all potential sulfide ore blastholes are sampled for SS. Approximately 25% of potential waste blastholes are sampled for AuFA, AuCN, total carbon, and total sulfur.

Sampling of the blasthole drill cuttings is performed according to the formal procedure by using a sample scoop to extract a complete cross-section of the cutting pile. The sampled cuttings are deposited into a canvas bag, which is labelled with the drillhole identifier (ID) and with a laboratory information management system (LIMS) bar code tag inserted into the bag with the cuttings. Sample bags are sealed and sent to the on-site laboratory for analysis. The sample scoop is cleaned prior to collecting each sample to avoid contamination between samples.

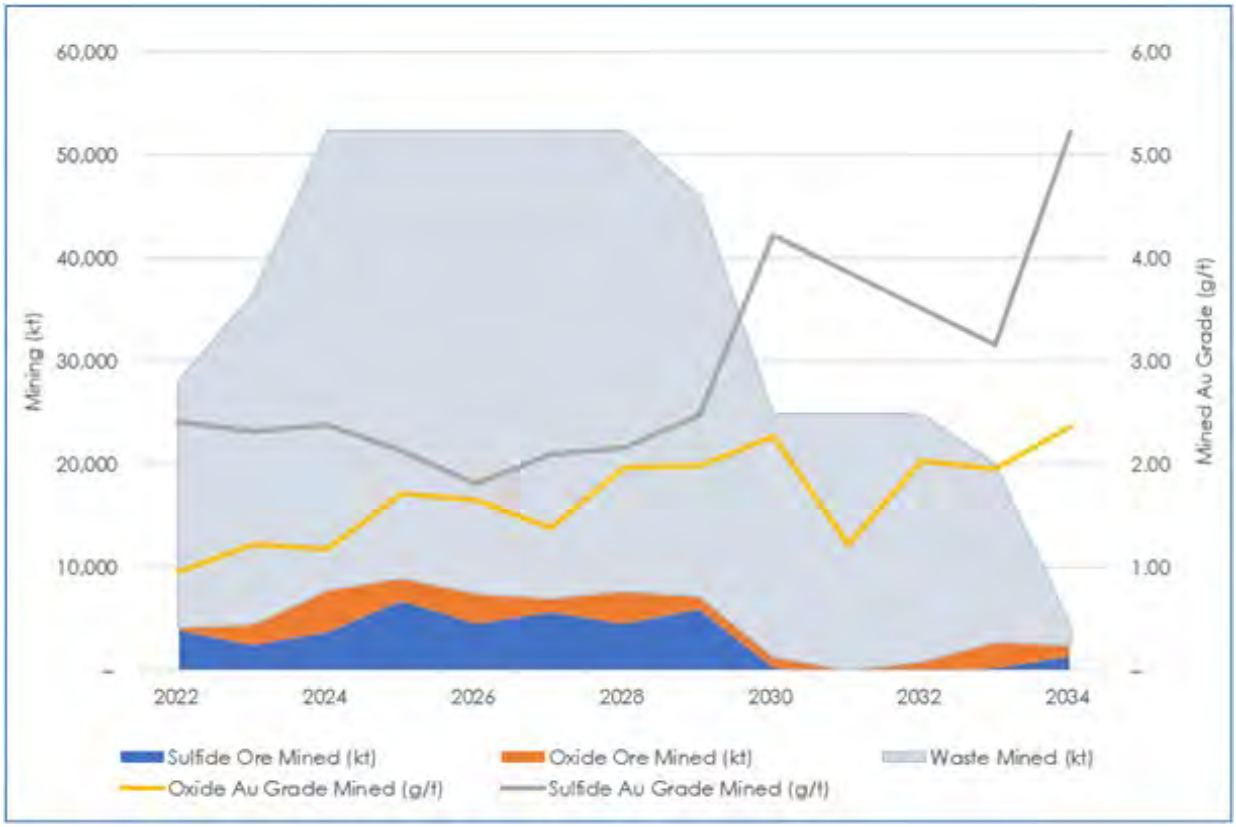
Assay results are uploaded to the ore control database with reference to each specific drillhole ID. The assay results are then estimated into a cell model with parent cell sizes of 3 m x 3 m x 5 m using ordinary kriging (OK) to estimate ore grade and type. The ore control geologist will then digitise mining shapes with a minimum width of 3 m (to match the SMU) and minimum tonnage of 500 t. These mining shapes are then sent to the survey group for layout in the mine using colour coded flagging under the supervision of the ore control geologist.

To effectively blend the sulfide feed on SS content, new grade control protocols were developed and implemented on-site in 2021. They are undergoing further review to optimise and improve production.

13.3 Mine Production Schedule

The Reserve Case has examined production from three open pit mining locations at the Çöpler mine, the Çöpler deposit, the Ardich deposit and the Çakmaktepe deposit. The Çakmaktepe pit, which contains only oxide ore, is almost exhausted. Anagold has prepared the open pit production schedules. The case adopted for the Reserve Case is based on Mineral Reserves only and does not include Inferred Mineral Resources. Figure 13.9 shows total mine production and the tonnages and grades for each ore type.

Figure 13.9 CDMP21TRS Reserve Case Mining Production



OreWin, 2022

13.3.1 Scheduling Assumptions

The following scheduling methodology was used to balance mine, mill, and stockpile quantities:

- Heap leach:
  - Oxide ore is not limited by processing capacity.
  - Oxide ore that is unable to be directly dumped into the oxide crushing circuit is placed in the appropriate stockpile for future processing.
  - Oxide ore is segregated dependent on clay content and average grade.
- Sulfide plant:
  - All sulfide ore is segregated into one of three primary gold stockpiles: high-grade, medium-grade, and low-grade, which are each further split by SS grade.
  - Existing stockpiles are mined at the average grade of each stockpile.
  - All material is rehandled by a loader from the crushing pad into the crushing circuit (no direct tipping).
  - The flotation circuit was commissioned in December 2021 with circuit ramp up and a transition to stable operations expected in early-2022.
  - Plant throughput capacity is calculated from the available mill hours and varies by material type.

- The production schedules are based on Proven and Probable Mineral Reserves only. No Inferred Mineral Resources were used.
- The open pit schedules were based on mining inventories by bench reported within the pit stages.
- Low-grade stockpiling was used to balance the mining rate where necessary.

13.3.2 Production Schedule

The input assumptions for Reserve Case were adjusted based on current mine and production performances including throughput rates and recoveries.

All throughput rates are reported inclusive of all availability and utilisation factors on a calendar year. Total mine production is limited to an annual average of 22.5 Mtpa. The throughput assumptions are supported by current mining rates including productivity allowances for winter and summer conditions. Mining rates are limited based on vertical advance and bench configuration in order to ensure that the schedule is achievable. Production is not limited by the mining rate and increases in rate would be possible to bring forward oxide ore or increase stockpiling to bring higher grade feed to the sulfide plant.

Mining in the Reserve Case is completed in 2034, after which the sulfide plant is fed from stockpiles.

The objective of the production schedule is to maximise the early cash flow by delaying costs and bringing revenue forward with ore feed to meet concentrator throughput capacity. Considerations for the LOM scheduling include:

- Ensuring continuous ore supply to the concentrator by delivering the highest value ore first and meeting physical mining and milling hours capacity constraints.
- Achieving excavator productivities and sinking rates to deliver ore at maximum utilisation of milling hours available at the concentrator.
- Maximising annual utilisation hours for the mine loading equipment.
- Maintaining a balance of ore throughput rates (material types) and mill cut-off grades that allows milling hours to be maximised.

The mine schedule incorporates strategic stockpiling considerations by optimising the number of excavators on the benches of early phases, increasing the opportunity to raise mill cut-off grades. This leads to stockpiling medium-grade and low-grade material and sending higher grade ore to the mill sooner. The open pit total movement is shown in Table 13.14. The mining schedule by material type is in Table 13.14.

Table 13.14 CDMP21TRS Reserve Case Mining Schedule

Mining Year	Total Tonnes (kt)	Oxide Ore				Sulfide Ore				Waste Tonnes (kt)
		Tonnes (kt)	Au (g/t)	Ag (g/t)	Cu (%)	Tonnes (kt)	Au (g/t)	Ag (g/t)	SS (%)	
2022	28,065	353	0.95	5.74	0.11	3,884	2.41	4.27	–	23,828
2023	36,516	1,920	1.22	9.43	0.06	2,582	2.32	8.73	–	32,014
2024	52,435	3,980	1.18	2.04	0.00	3,814	2.39	2.33	–	44,641
2025	52,375	2,196	1.72	2.04	0.00	6,817	2.13	5.32	–	43,362
2026	52,331	2,880	1.66	2.05	0.01	4,607	1.81	3.93	–	44,843
2027	52,340	1,266	1.39	2.04	0.01	5,745	2.09	4.47	–	45,329
2028	52,389	3,136	1.97	2.72	0.01	4,614	2.16	4.70	–	44,639
2029	46,088	1,230	1.99	5.57	0.04	5,988	2.48	6.37	–	38,870
2030	25,000	992	2.27	2.04	–	392	4.23	4.23	–	23,616
2031	25,000	30	1.23	2.04	–	–	–	–	–	24,970
2032	25,000	918	2.03	2.04	–	–	–	–	–	24,082
2033	20,000	2,504	1.95	2.04	–	338	3.16	4.23	–	17,158
2034	4,496	1,083	2.37	2.04	–	1,384	5.22	4.23	–	2,029
Total	**472,035**	**22,486**	**1.69**	**3.02**	**0.01**	**40,167**	**2.34**	**4.90**	**–**	**409,382**

Table shows mining schedule does not show processing or existing stockpile rehandle

13.3.3 Processing Schedule

The processing schedule was balanced to meet the maximum build rates for the oxide heap leach pads, or available mill hours for the sulfide plant.

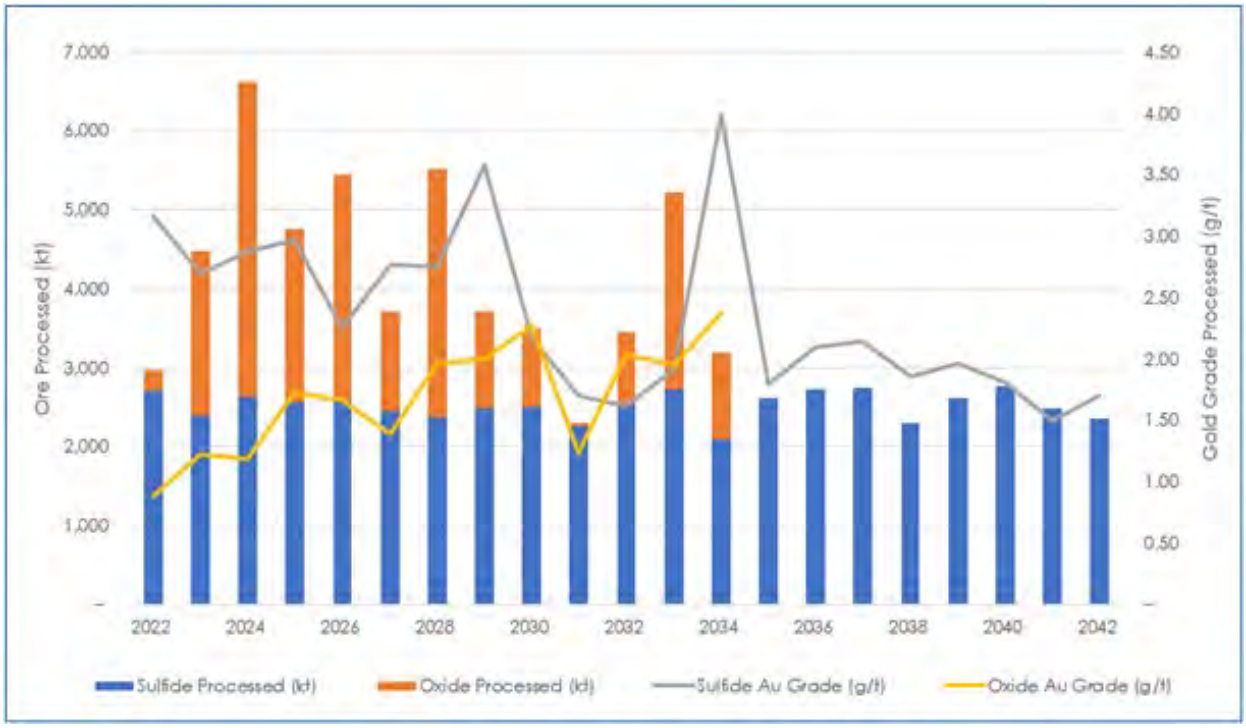
Sulfide ore production throughputs are limited dependent on ore tonnage, SS tonnage, and carbonate content, (expressed as C). The sulfide plant crusher / grinding circuit is limited to 400 tph, while the limitations on SS tonnage exist due to the consumption of oxygen by SS in the POX circuit and carbonate content to maintain an operable acid balance through the acidulation and POX circuits. The process facilities are limited by the amount of oxygen that can be provided to the POX process. Based on current performance, high-SS is unlikely to be a problem, and any higher material would be blended down using low-SS material. The carbonate:SS ratio will potentially be an issue with declining SS grades. The main issue currently appears to be a lack of SS in the feed, forming the justification for the flotation circuit. The flotation circuit upgrades the SS content into the autoclave feed and rejects carbonate.

In order to target the highest value material, the sulfide production schedule is therefore required to target the highest value material, while also balancing the plant throughput rates and required range of sulfide sulfur into the autoclave.

The Reserve Case production is predominantly from sulfide ore. The oxide heap leach and sulfide plant processing schedules feed type, Au grade, and gold production are shown in Figure 13.10. Gold production and recovery is shown in Figure 13.11. The annual production schedule is in Table 13.15.

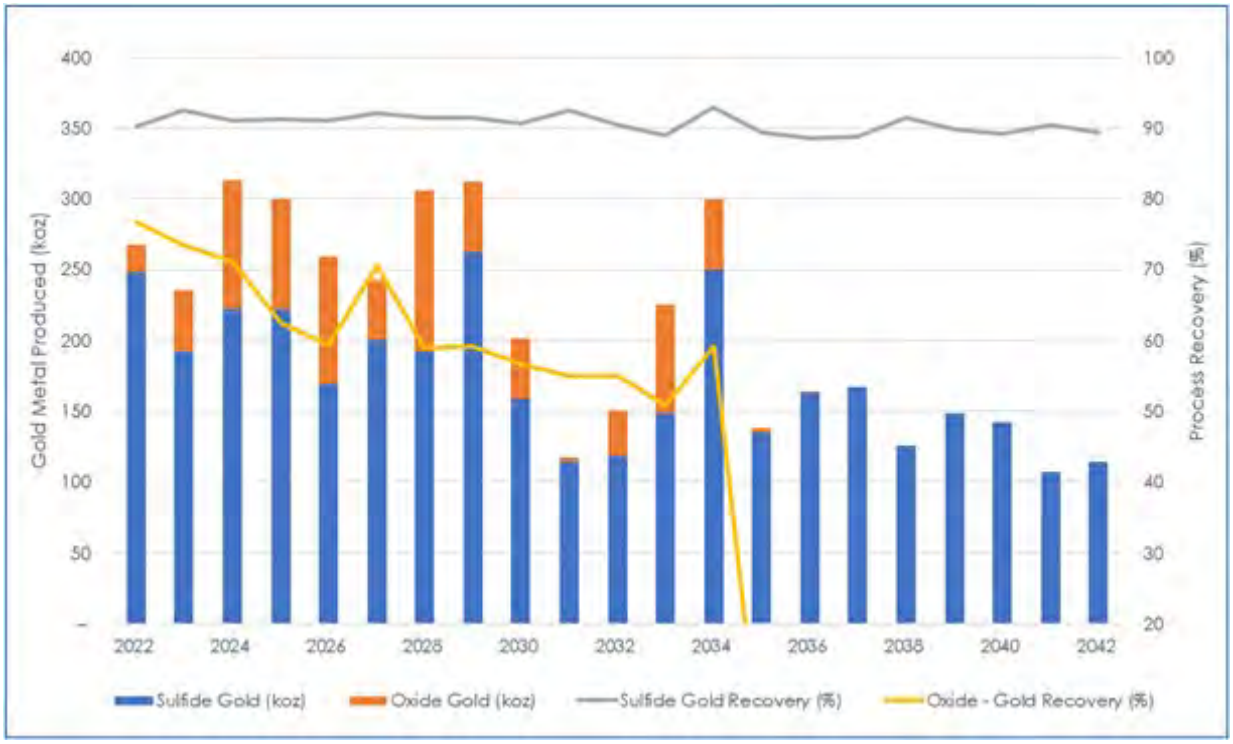
The Reserve Case production includes 22.5 Mt at 1.69 g/t Au oxide ore processed by heap leaching and 52.9 Mt at 2.33 g/t Au processed in the sulfide plant. Total ore production is 75.4 Mt at 2.14 g/t Au. Total gold production is 4.4 Moz. Mining at the Çöpler pit is completed in 2029 and at Ardich in 2034. Oxide heap leach stacking is completed in in 2034, while sulfide processing will continue from stockpiles until 2042. Sulfide processing will continue from stockpiles until 2042 for a 21-year mine life. The production schedule is for the period 1 January 2022 through 2042.

Figure 13.10 CDMP21TRS Reserve Case Processing Schedule



OreWin, 2022

Figure 13.11 CDMP21TRS Reserve Case Gold Production and Recovery



OreWin, 2022

Table 13.15 CDMP21TRS Reserve Case Production Schedule

Description	Units	Total	Year																		
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Heap Leach Stacked	**kt**	**22,557**	**263**	**2,080**	**3,980**	**2,196**	**2,880**	**1,266**	**3,136**	**1,230**	**992**	**30**	**918**	**2,504**	**1,083**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Au Feed Grade	g/t	**1.69**	0.88	1.22	1.18	1.72	1.66	1.39	1.97	1.99	2.27	1.23	2.03	1.95	2.37	–	–	–	–	–	–	–	–
Ag Feed Grade	g/t	**3.04**	4.90	9.41	2.04	2.04	2.05	2.04	2.72	5.57	2.04	2.04	2.04	2.04	2.04	–	–	–	–	–	–	–	–
Cu Feed Grade	%	**0.01**	0.10	0.07	0.00	0.00	0.01	0.01	0.01	0.04	–	–	–	–	–	–	–	–	–	–	–	–	–
Sulfide Plant Feed	**kt**	**52,892**	**2,708**	**2,395**	**2,635**	**2,551**	**2,569**	**2,442**	**2,378**	**2,490**	**2,504**	**2,269**	**2,538**	**2,718**	**2,101**	**2,607**	**2,730**	**2,739**	**2,305**	**2,623**	**2,759**	**2,476**	**2,356**
Au Feed Grade	g/t	**2.33**	3.16	2.69	2.87	2.97	2.25	2.77	2.75	3.58	2.18	1.70	1.61	1.91	3.99	1.80	2.10	2.14	1.86	1.96	1.80	1.49	1.69
Ag Feed Grade	g/t	**3.89**	3.82	4.71	1.99	3.96	3.67	4.72	4.48	7.24	4.89	4.80	5.39	4.11	4.34	2.14	1.33	0.68	3.08	5.99	4.13	4.49	2.34
Total Feed	**kt**	**75,448**	**2,970**	**4,475**	**6,614**	**4,747**	**5,449**	**3,709**	**5,514**	**3,720**	**3,495**	**2,299**	**3,456**	**5,222**	**3,184**	**2,607**	**2,730**	**2,739**	**2,305**	**2,623**	**2,759**	**2,476**	**2,356**
Total Metal Recovered																							
Au Recovered	koz	**4,369**	268	238	318	302	264	245	310	314	203	118	152	228	301	139	164	167	126	148	143	107	115
Ag Recovered	koz	**663**	21	156	55	38	43	28	66	74	26	12	23	38	22	5	3	2	7	15	11	11	5
Cu Recovered	klb	**161**	24	87	12	3	17	1	5	12	1	0	–	–	–	–	–	–	–	–	–	–	–

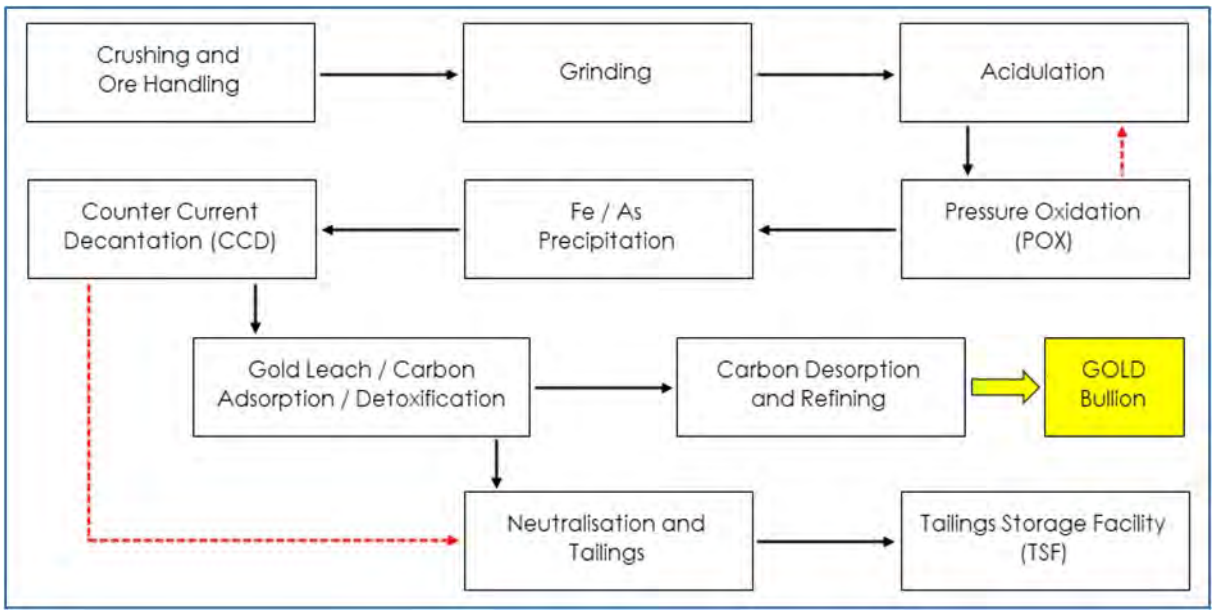
14 PROCESSING AND RECOVERY METHODS

14.1 Sulfide Ore Processing

The sulfide plant commenced commissioning in Q4'18. The basic flow sheet is shown in Figure 14.1 and comprises:

- Crushing and ore handling
- Grinding
- Acidulation
- Pressure oxidation
- Iron / arsenic precipitation
- Counter current decantation (CCD)
- Gold leach, carbon adsorption, and detoxification
- Carbon desorption and refining
- Neutralisation and tailings
- Tailings storage facility (TSF)

Figure 14.1 Çöpler Process Flow Sheet for Sulfide Plant

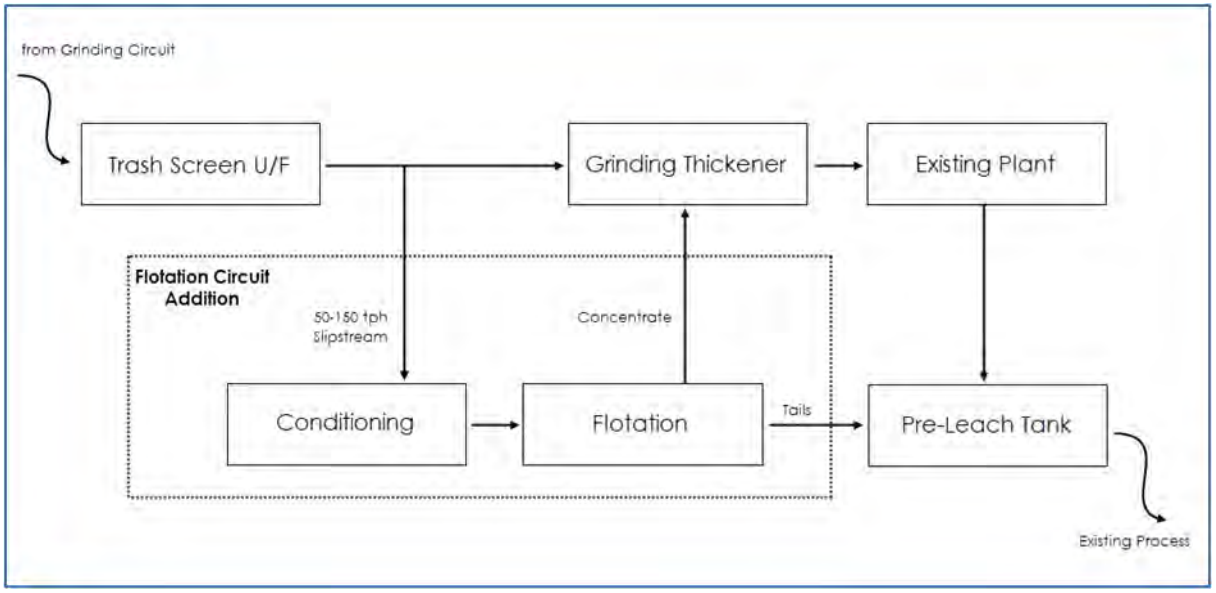


Anagold, 2020

The incorporation of a flotation circuit into the existing sulfide plant to upgrade sulfide sulfur (SS) to fully utilise grinding and pressure oxidation (POX) autoclave capacity has completed construction and commenced commissioning on ore in January 2022. This addition to the sulfide plant is incorporated between grinding and acidulation, as shown in Figure 14.2, by taking a bleed / slip stream from the grinding thickener feed, floating sulfides, and returning the sulfide concentrate to the grinding thickener to be combined with direct feed. Gold not recovered to flotation concentrate will report with flotation tails to the gold leaching and recovery circuit and combined with material process through the POX autoclave circuit to recover gold.

The flotation circuit will also reject carbonates to flotation tails, bypassing acidulation and POX, providing additional benefits in the acid balance through POX.

Figure 14.2 Flotation Block Flow Diagram



Anagold, 2020

The existing sulfide circuit, before the addition of flotation, has demonstrated additional latent capacity in throughput controlling sections of the circuit, crushing/grinding and autoclaves. The incorporation of flotation will allow the POX autoclaves to maximise throughput and sulfide sulfur oxidation capacity, utilising latent capacity in the process plant, in particular the grinding and pressure oxidation circuits. Fully utilising this latent capacity with the addition of a small flotation plant allows with minimal capital cost the increase in overall plant throughput.

The throughput from crushing and grinding was designed with a nominal volumetric capacity of 306 tph will increase up to a maximum of 400 tph. Additionally, the POX autoclave circuit has demonstrated it can process up to a long-term average maximum of 280 tph feed (two autoclave operation) and 13.75 tph sulfide sulfur, compared to design of 245 tph and 12.5 tph respectively. The limit of 13.75 tph sulfide sulfur is dictated by the capacity of the oxygen supply to effect oxidation of the sulfides, design 96%.

The flotation plant feed rate is variable between 50–150 tph based on sulfide sulfur feed grade and the oxidation capacity of the POX autoclaves to oxidise sulfides. Operating performance of the autoclaves indicates that higher than design oxygen utilisations efficiencies are possible, which may allow greater than 13.75 tph sulfide sulfur to be treated. Alternatively, increased autoclave throughput with reduced sulfide oxidation is possible, with a resultant reduction in overall gold recovery. This oxygen utilisation efficiency, along with increased oxygen availability, is upside to the CDMP21TRS Reserve Case.

14.1.1 Sulfide Plant Performance

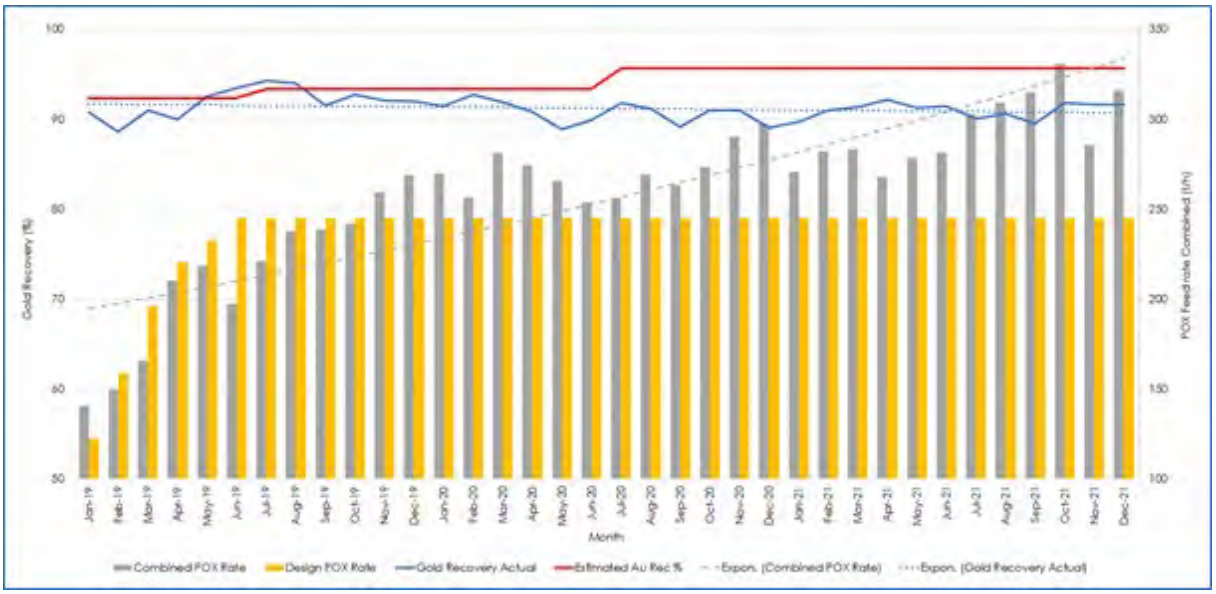
The sulfide plant commenced commissioning in Q4'18.

The operating performance is summarised in Figure 14.3 for throughput and recovery against the design for the period 2020 and 2021.

Since completing ramp-up of the sulfide plant in June 2020, POX throughput has progressively improved to exceed design up to a monthly average peak of 330 tph and at the maximum SS of 13.7 tph. The gold recovery has remained at around 91%, lower than design, with the tailings grade remaining stable between 0.25–0.30 g/t Au.

Further improvements have been implemented during 2020–2021. The includes the installation of oxygen to leach to supplement air to maintain sufficient oxygen levels for gold leaching has led to improved recoveries.

Figure 14.3 Gold Recovery and Throughput Comparison



Anagold, 2020

14.1.2 Sulfide Plant Description

A detailed sulfide flow sheet is shown in Figure 14.4. The following description of the sulfide plant includes the existing operating circuits and the flotation circuit.

14.1.2.1 Crushing and Ore Handling

Haul trucks from the mine tip ore onto designated stockpile fingers. The ore is withdrawn from stockpiles by front end loader (FEL) and deposited into the run-of-mine (ROM) dump hopper. A static grizzly is fitted to the top of the ROM bin to remove coarse oversize.

ROM ore is reclaimed from the bin by the sizer apron feeder, which discharges material into the mineral sizer. The sizer is a tooth roll unit which crushes the ore from a feed top size of 500 mm to a nominal top size of 250 mm. Discharge from the sizer drops down a chute onto the sizer discharge conveyor.

The sizer teeth are configured in a manner to direct oversize rocks to one end where they pass through a spring-loaded oversize rejection gate and fall to a reject bunker. The crushed product is carried by the sizer product conveyor to the semi-autogenous grind (SAG) mill feed conveyor. The SAG mill feed conveyor has a belt scale to monitor the ore flow to the SAG mill and this information is used to control the sizer apron feeder speed.

14.1.2.2 Grinding

The SAG milling stage consists of a high aspect SAG mill with water cannon pebble recycle. The SAG mill grinds the crushed ore to produce a discharge particle size distribution P_{80} of approximately 1,400 µm.

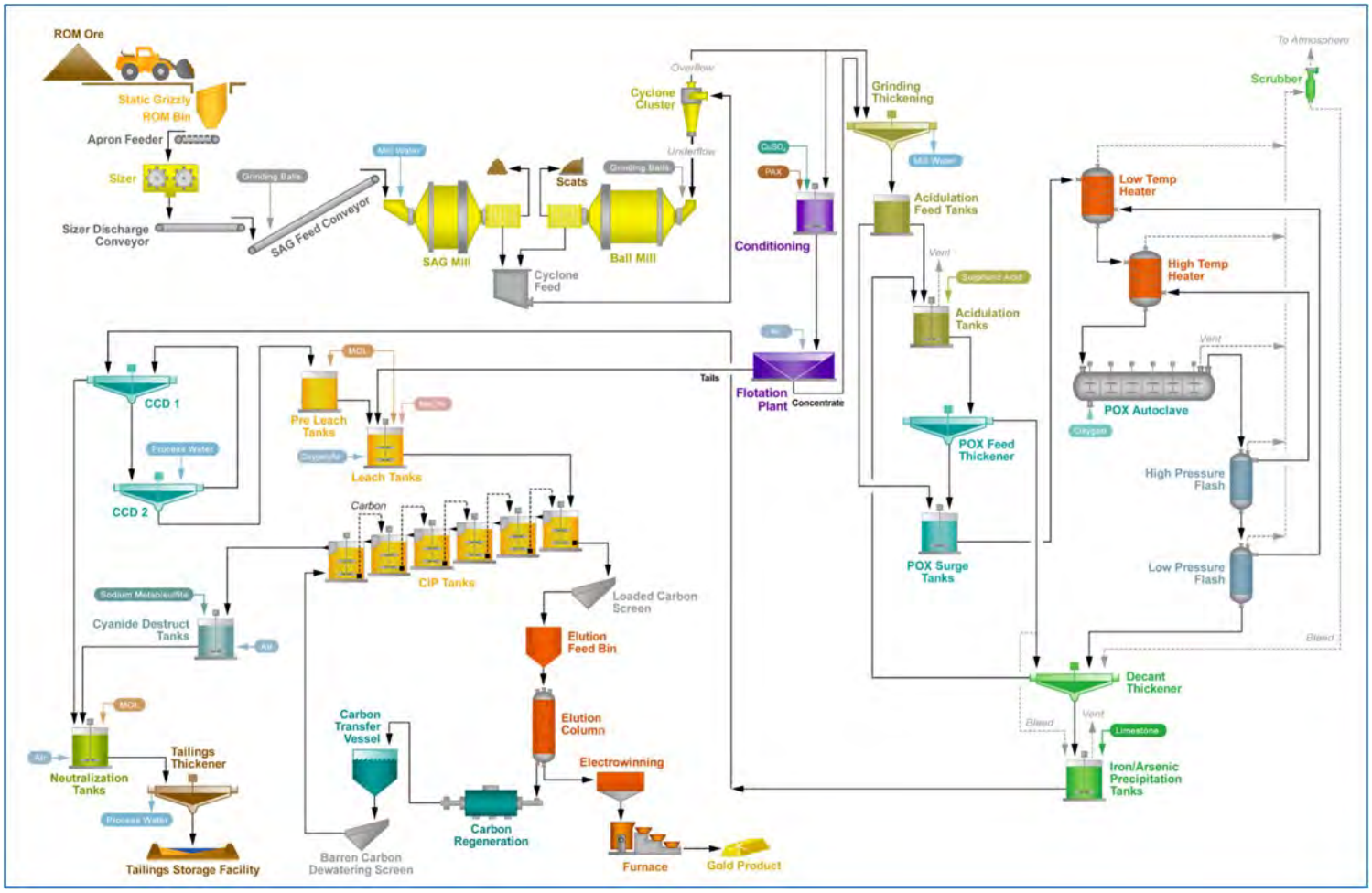
Large ore particles are retained in the SAG mill by the internal SAG discharge grate. Particles too large for ball milling are retained as oversize on the SAG mill trommel screen and this oversize is washed by trommel sprays. The trommel screen oversize is either projected back into the SAG mill using a high-pressure water cannon or rejected via a conveyor. Slurry that passes through the trommel screen discharges into the grinding cyclone feed pump box where it mixes with the ball mill discharge slurry and density control water.

Slurry collected in the grinding cyclone feed pump box from the SAG mill and ball mill is fed to the grinding cyclone cluster. The cyclones produce an overflow product with a P_{80} of 100 µm, which is screened to remove any trash (organic material, etc.) by the grinding trash screen. Coarse particles report to cyclone underflow, which is returned to the ball mill for further size reduction until it is fine enough to report to cyclone overflow and leave the circuit.

The slurry product from the grinding circuit, trash screen undersize, is currently thickened in a high rate thickener and excess water reports to the thickener overflow for immediate re-use within the grinding circuit. The thickened slurry discharging from the thickener underflow is pumped to the grinding thickener underflow storage tanks.

To provide for the flotation circuit, a portion of the trash screen undersize, dependent on POX autoclave sulfide sulfur requirements, will be diverted to the flotation circuit where the remaining slurry continues to the thickener.

Figure 14.4 Process Flow Sheet for Sulfide Plant



Anagold, 2020

14.1.1.3 Flotation

A portion of the grinding trash screen undersize will be diverted to the flotation circuit and pumped to the conditioning tanks. This proportion, between 50 tph and 150 tph, will depend on SS feed grade and POX autoclave SS requirements. The flotation circuit can operate as a single or dual train, each train will have a maximum throughput of 75 tph.

The flotation plant consists of two equally sized conditioning tanks, in series, for copper sulfate, if required, and potassium amyl xanthate (PAX) conditioning with a nominal residence time of seven minutes each tank. From conditioning, the slurry is pumped to two equally sized flotation trains consisting of six 50 m^3 tank cells with a residence time of nominally 60 minutes at maximum throughput (75 t/h each). Frother dosing and supplemental collector dosing will occur down the trains in every second cell. The plant is designed to handle high mass pull to maximise sulfide recovery, with preference to high recovery over high selectivity.

The flotation concentrate is pumped to the grinding thickener feed mixing with slurry directly from the grinding circuit upgrading the sulfide sulfur material fed to the acidulation and POX circuit. The flotation tail is pumped to the gold leach tanks for recovery of gold present in the non-sulfidic portions of the ore.

14.1.1.4 Acidulation

The grinding thickener underflow storage tanks provide process surge and effectively decouple the upstream crushing, grinding and flotation, when operating, circuits from the downstream hydrometallurgical circuit. If the acidulation feed tanks reach their high-level limit then ore feed to the upstream circuits will be stopped. If the tanks are approaching their low-level limit then the upstream circuit feed rate can be increased to compensate.

The tanks are agitated for solids suspension and mixing and have a total residence time of 12-hours. Agitation achieves short term blending of the incoming feed from the upstream circuits and this provides a relatively slow-changing feed composition to the downstream hydrometallurgical circuit. Antiscalant can be added to these tanks if necessary, to reduce scale build-up in the downstream acidulation circuit.

The acidulation circuit uses recycled solution, containing free acid, from the decant thickener to leach the carbonate minerals in the ore. Supplemental concentrated sulfuric acid can also be added, when required, to meet total acid addition demand. The total acid addition targets nearly-complete destruction of acid soluble carbonates in the acidulation tanks. Acidulation is conducted in two reaction tanks. The acidulation tanks are agitated to disperse the slurry, acid and decant thickener overflow recycle throughout the tank and ensure the carbonates in the ore react with the acid in solution.

Depending on the ore type being processed the slurry from the grinding thickener underflow storage tanks is split between acidulation and the POX feed tanks. The proportion of this split is determined by how much carbonate in the feed material requires destruction to achieve the target of 22.5 g/L free acid content in the POX autoclave discharge slurry. This free acid level favours the formation of an iron mineral reaction product which exhibits better settling behaviour in downstream thickeners (hematite favoured over jarosite), while also reducing the potential for excessive CO_2 gas evolution and gypsum scaling in the POX autoclaves.

Additional concentrated sulfuric acid is added if required to maintain the targeted acid soluble carbonate destruction in the acidulation tanks. When there are low-carbonate levels in the feed, and little or no acidulation is required, POX feed thickener overflow solution is recycled to the acidulation tanks (instead of decant thickener overflow solution) to limit the maximum concentration in the tanks to 30% solids.

Slurry overflows from acidulation tank 1 into acidulation tank 2 and then discharges into the POX feed thickener mix tank. Either of the acidulation tanks can be bypassed, if required. The diluted slurry from acidulation requires thickening prior to storage in the POX feed tanks. The POX feed thickener recovers excess solution and advances it to the decant thickener (as wash water) and/or to the iron / arsenic precipitation circuit (to maintain the water balance in the acidulation circuit) or recycles it to acidulation tank 1.

POX thickener underflow slurry is pumped to the POX feed thickener underflow surge tank. The storage in the surge tank allows blending in the correct proportions of the acidulated slurry with the un-acidulated grinding thickener underflow slurry in the POX feed tank to ensure the total level of acid soluble carbonates in the POX feed slurry is within target levels.

The decant thickener recovers acid (that is generated in the POX autoclaves) from the POX discharge slurry and recycles it to the acidulation circuit for carbonate destruction. The underflow slurry is pumped from the thickener to the iron / arsenic precipitation circuit by the decant thickener underflow pumps. Thickener overflow gravitates to the decant thickener overflow tank from where it is pumped to the acidulation tanks by the decant thickener overflow pumps. Solution is bypassed to the POX feed thickener overflow tank when processing low-carbonate ores.

14.1.1.5 Pressure Oxidation

The POX feed surge tanks 1 and 2 are a common feed system that services both POX autoclave trains (T1 and T2). The tanks are agitated to mix / blend the incoming slurry and provide approximately 18 hours of slurry storage to minimise disruptions to the POX circuit. For simplicity, where only POX T1 is discussed in this document it is assumed that both T1 and T2 have identical configurations and controls.

Slurry is pumped to the POX trains 1 and 2 low-temperature heaters by the POX heating feed pumps. The low-temperature (LT) heater receives incoming feed slurry and vent gas (predominantly steam) recovered from the LT flash vessel. The gas heats the slurry to approximately 95°C before being transferred to the high-temperature (HT) heater. The steam in the gas condenses and any excess is vented to the wetted elbow of the POX T1 Venturi scrubber.

The HT heater receives slurry from the LT heater and vent gas (predominantly steam) recovered from the HT flash vessel. The gas heats the slurry to approximately 150°C before being pumped to the POX autoclave. The steam in the gas condenses and any non-condensing gases accumulate in the vapor space at the top of the vessel, prior to being vented.

Slurry is pumped to the autoclave by two pumping trains.

If one full autoclave train is offline, the remaining autoclave train can operate at 150% of normal capacity, provided both of its feed pumping trains are operating.

A horizontal multi-compartment autoclave is used to oxidise the sulfides in the ore at high-temperature and pressure using gaseous oxygen. The oxidation of sulfide material in the autoclave generates heat and when the rate of heat generation exceeds that required to achieve the target temperature of 220°C quench water is added. Sufficient quench water is added to control the temperature to the target. The quench water is pumped through the same sparge pipe that introduces gaseous oxygen addition into the autoclave. There is one sparge pipe underneath each autoclave agitator.

A vent controls the pressure in the autoclave to prevent the water boiling. This pressure is called overpressure and results from the presence of gases such as oxygen, nitrogen, and CO_2.

Slurry discharges from the autoclave through a severe service let down valve to the HT flash vessel. The HT flash vessel operates at a lower pressure than the autoclave and the resulting pressure drop for the discharge slurry entering the HT flash results in steam being flashed from the slurry. The flashing of steam cools the slurry to the equilibrium temperature corresponding to the pressure in the flash vessel.

Steam vented from the HT flash is sent to the HT heater to heat the feed to the autoclave, excess steam is vented to the venturi scrubber for treatment prior to discharge.

Slurry discharges from the HT flash vessel through a severe service let down valve to the LT flash vessel. The LT flash vessel operates at a lower pressure than the HT flash vessel, the resulting pressure drop for the discharge slurry entering the LT flash results in steam being flashed from the slurry. The flashing of steam cools the slurry to approximately 100°C at a pressure just above atmospheric. Slurry is forced from the HT flash vessel to the LT flash vessel by the pressure difference between the two vessels.

Steam vented from the LT flash is sent to the LT heater to heat the feed to the HT heater, excess steam is vented from the LT heater to the Venturi scrubber for treatment prior to discharge.

Steam, entrained slurry, together with gas, including carbon dioxide and unreacted oxygen vented from various points in the autoclave circuit, is scrubbed in Venturi scrubber to remove entrained acidic slurry droplets.

Demineralised water is used in the POX circuit for steam production and for seal water.

Flashed slurry is pumped from the LT flash vessel by decant thickener feed. The decant thickener was described previously and the decant thickener underflow is feed to iron / arsenic precipitation.

14.1.1.6 Fe/As Precipitation

Iron / arsenic precipitation uses limestone slurry addition to the decant thickener underflow slurry to neutralise the free acid and raise the pH to approximately 2.8, which removes ferric iron and arsenic from solution.

The decant thickener underflow duty pump transfers the thickener underflow slurry to iron / arsenic precipitation tank 1. Limestone is added for pH control, and low-pressure air is sparged into the tanks to oxidise any ferrous iron that may be present to ferric iron. The ferric ions combine with the residual arsenic, also leached in the POX circuit, and precipitate together as the pH of the solution is raised. Limestone reacting with the free acid generates carbon dioxide gas and gypsum.

The two iron / arsenic precipitation tanks normally operate in series. The treated slurry overflows from the second iron / arsenic precipitation tank to the CCD 1 Mix Tank.

The low-pressure air and CO_2 generated during the limestone neutralisation reactions rise above the slurry surface on top of the tanks and carry some entrained solution / slurry.

These off gases from the iron / arsenic precipitation tanks (1 and 2) are vented via the iron / arsenic precipitation tank fans 1 and 2 and fed to the iron / arsenic scrubber.

The iron / arsenic scrubber is a Venturi type scrubber. The off gases are cooled and scrubbed of the entrained solution / slurry in the scrubber. The clean gases are emitted to the atmosphere.

14.1.1.7 Counter Current Decantation

Counter current decantation (CCD) washes the iron / arsenic stage discharge slurry with process water using two stages of thickeners operating in counter current mode. The remaining soluble metals in solution exiting the iron / arsenic precipitation circuit are washed from the slurry and report to CCD 1 overflow. The slurry discharging from CCD 2 underflow has the soluble metals washed from the slurry to sufficiently low-levels to feed into the cyanide leach circuit.

CCD thickener 1 overflow solution gravitates into the CCD thickener 1 overflow tank. The duty CCD thickener 1 overflow pump transfers the CCD thickener 1 overflow solution to the neutralisation circuit. The CCD thickener 1 underflow pump transfers the thickener underflow slurry to CCD 2 mix tank. Process water is added in the CCD 2 mix tank as wash solution to wash the solids. Diluted flocculant solution is added in the CCD 1 and 2 thickener feeds to aid in the settling of solids in the thickeners. Duty CCD thickener 2 underflow pump transfers the underflow slurry from the CCD thickener 2 to the pre-leach tank.

14.1.1.8 Cyanide Leach, Carbon Adsorption and Detoxification

The cyanide leach circuit consists of one pre-leach tank and two leach tanks. Slurry is received in the pre-leach tank from the duty CCD thickener 2 underflow pump and flotation tails. The pre-leach tank has a residence time of nominally 10 minutes and is used to raise the pH of the slurry to pH 10–11 prior to the slurry entering the leach tanks where cyanide is added for gold leaching.

The leach tanks have a total residence time of up to six-hours and slurry flows through the leach tanks by gravity and discharges the final leach tank to enter the carbon adsorption circuit. The leach tanks operate at 30% solids concentration and have low-pressure air and oxygen, from the Air Liquide oxygen plant, added to maintain sufficient oxygen in solution for gold leaching.

The carbon adsorption circuit consists of six agitated tanks with a total residence time of up to 12-hours. Each tank contains activated carbon to adsorb the leached gold contained in solution. Slurry flows by gravity from tank 1 to tank 6 and discharges into the detoxification circuit. Carbon flow is counter-current to slurry and therefore is transferred stage wise from tank 6 through to tank 1, using dedicated recessed impeller pumps. Each tank has interstage screens installed so that the carbon remains in each tank and does not follow the direction of the slurry flow.

Gold is loaded onto the carbon as it moves from tank 6 to tank 1 and reaches its maximum loading in adsorption tank 1. The loaded carbon is pumped from adsorption tank 1 to the loaded carbon screen where spray water on the screen washes the carbon prior to it entering the elution column for carbon desorption and recovery of gold through the refining circuit.

Slurry exiting adsorption tank 6 flows to the detoxification circuit where destruction of the residual cyanide contained in the slurry occurs. The detoxification circuit consists of one tank with a total residence time of one-hour. Air and sodium metabisulfite are added to the circuit to destroy the residual cyanide down to a concentration of less than 5.0 ppm CNWAD. Residual copper in the slurry catalyses the cyanide destruction process.

14.1.1.9 Carbon Desorption and Refining

The carbon desorption method selected is a split AARL elution. A common stainless steel column is used for acid wash, cold cyanide strip for copper, when required, and a hot gold elution cycle to recover gold. The elution column is a 6 t column and is designed to handle the stripping of three carbon batches per day. Loaded carbon enters the elution column via the loaded carbon screen.

The first step of stripping the carbon is an acid wash using nitric acid solution to remove loaded impurities such as calcium. After the acid wash, a pre-soak solution is added to the elution column prior to commencement of the eluent recycle for initial stripping of copper, when required, followed by a hot elution cycle to strip gold from the carbon.

Pregnant eluate is collected in the pregnant eluate tank and pumped through electrowinning cells with gold metal plated out onto stainless steel cathodes. Smelting of gold recovered from the stainless-steel cathodes is conducted in the gold refinery.

Desorbed carbon from the elution column is regenerated through a horizontal diesel fired rotary kiln to remove organic material loaded onto the carbon.

14.1.1.10 Neutralisation and Tailings

Slurry from cyanide destruction and the CCD 1 thickener overflow solution are neutralised with lime to precipitate residual metals in solution. Air is added for the oxidation and removal of ferrous iron and manganese.

Normally the two neutralisation tanks operate in series. Discharge from the neutralisation feed box gravity flows into neutralisation tank 1 prior to overflowing into neutralisation tank 2. Discharge from neutralisation tank 2 gravitates into the tailings thickener mix tank.

The first neutralisation tank is equipped with a sodium metabisulfite addition system and this allows it to be used for the detoxification step when the normal detoxification tank is bypassed for maintenance or descaling. Both neutralisation tanks can also be bypassed as required to allow for maintenance.

The discharge slurry from neutralisation flows by gravity into the tailings thickener mix tank before overflowing into the tailings thickener. Tailings thickener overflow water overflows directly into the process water storage tank. The underflow slurry from the tailings thickener is pumped to the agitated tailings tank. The discharge slurry from the tailings tank is pumped to a TSF on a continuous basis via the 4.3 km long tailings pipeline.

A schematic flow sheet of the process is shown in Figure 14.4 including the flotation circuit addition.

14.1.1.11 Tailing Storage Facility

The process tailings slurry is deposited into the TSF for final storage. Operators will alternate the location within the facility where the tailings are deposited to maximise the storage and dewatering within the facility.

In the TSF the solids compact and reject excess water which is recovered for recycling to the process plant. The controlled deposition of tailings at alternating locations around the perimeter of the TSF creates a pond that collects water, which decants from the tailings slurry as it settles and compacts. This decant water collected within the pond area is recycled to the process water system tank via the tailings water reclaim pumps.

The TSF is developed and constructed in stages ahead of requirements.

14.1.1.12 Reagents

There are ten major reagents used in the process plant, listed as follows:

- Oxygen
- Sulfuric acid

- Limestone
- Sodium hydroxide
- Flocculant
- Sodium metabisulfite
- Milk of lime
- Sodium cyanide
- Nitric acid
- Antiscalant

The flotation plant has the following main reagents:

- Frother
- Collector
- Copper Sulfate

All reagents are delivered in bulk tankers, containers, or bags with storage on-site. Any reagents that require dilution or mixing prior to use are prepared on-site on a batch wise basis, as required. Oxygen is produced on-site supplied from an Air Liquide owned and operated oxygen plant under a gas supply agreement. Additional oxygen can be delivered as liquid into on-site storage.

14.1.1.13 Utilities

The major utilities used in the process plant are as follows:

- Iron / arsenic low-pressure air
- CIP leach low-pressure air
- Plant air
- Instrument air
- Raw water
- Fire water
- Potable water
- Process water
- Diesel fuel

These utilities are reticulated throughout the process plant to their end user.

14.2 Oxide Heap Leach Processing

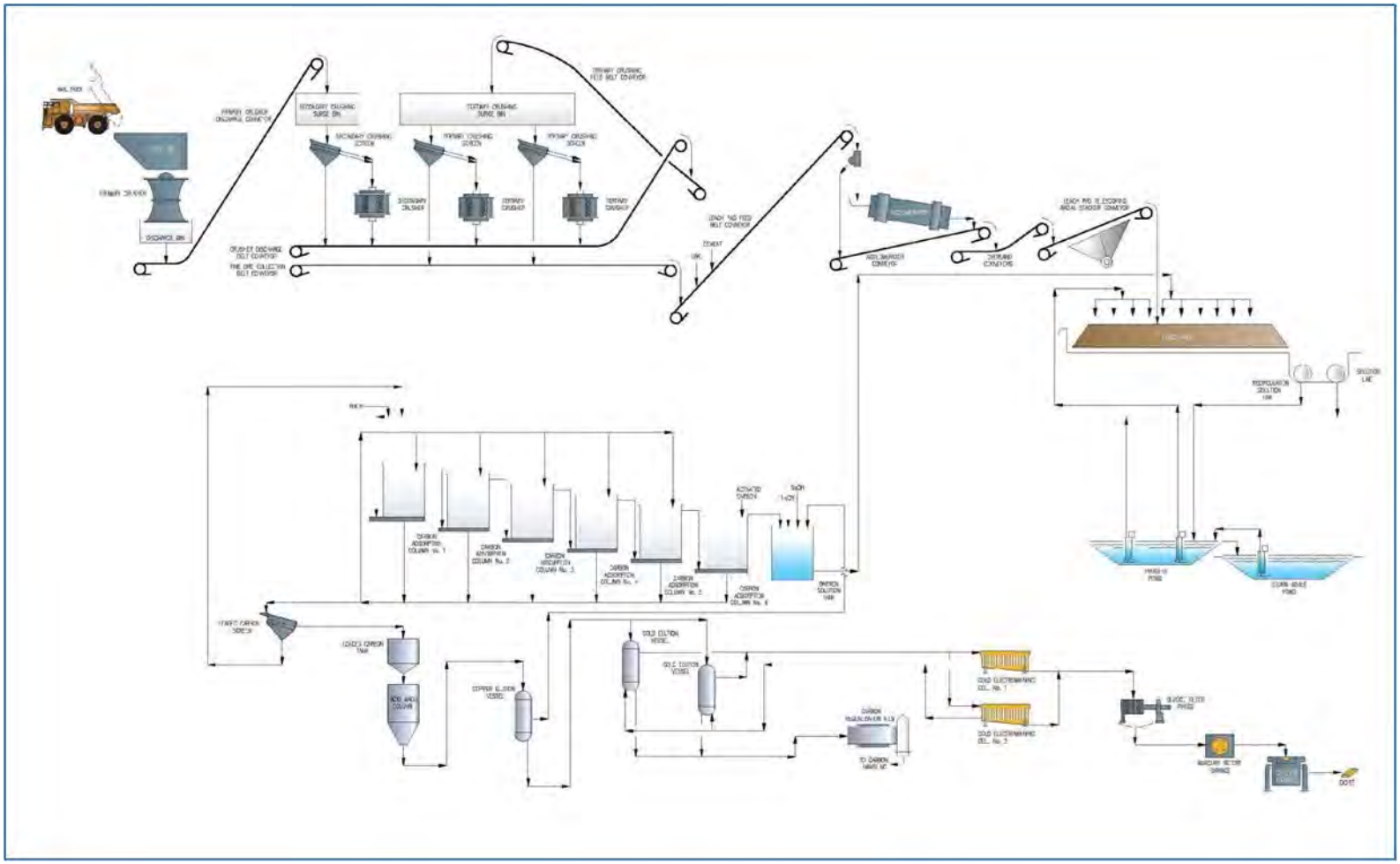
The oxide heap leaching and associated facilities were commissioned in the second half of 2010 and initial gold production was achieved in Q4'10. The process was originally designed to treat approximately 6.0 Mtpa of ore by three-stage crushing (primary, secondary, and tertiary) to 80% passing 12.5 mm, agglomeration and heap leaching on a lined heap leach pad with dilute alkaline sodium cyanide solution. Gold is recovered through a carbon-in-column (CIC) system, followed by stripping of metal values from carbon, electrowinning and melting to yield a doré (containing gold and silver) suitable for sale. Control of copper in leach solutions is undertaken in a sulfidisation, acidification, recycling, and thickening (SART) plant which also regenerates cyanide. The process flow sheet is summarised in Figure 14.5.

14.2.1 Oxide Heap Leach Performance

Since commissioning through the end-of-December 2021, an estimated 55.1 Mt of oxide ore was placed on the heap at an average grade of 1.35 g/t Au.

At the end-of-December 2021, a total of approximately 1,837 koz had been produced as bullion.

Figure 14.5 Heap Leach Process Flow Sheet



Anagold, 2016

15 INFRASTRUCTURE

15.1 Introduction

The facility infrastructure supports the mine, and process areas of oxide heap leach and sulfide plant. The existing infrastructure, and the tailings storage facility (TSF) and heap leach pad area when the planned expansion are complete will be sufficient for the current Mineral Reserves. The infrastructure for the addition of flotation to the sulfide plant will be supported by the existing facility infrastructure with some components modified to meet the addition of the flotation circuit. The flotation circuit is located within the sulfide plant foot-print adjacent to the grinding circuit building.

The location of the processing facilities, Çöpler mine, Ardich Reserve pit, TSF, and the haul road from Ardich to Çöpler is shown in the site plan in Figure 15.1.

Figure 15.1 Çöpler Project Plan

Anagold, 2022

The current leach pad consists of four phases designed to accommodate approximately 58 Mt of oxide ore heap with a nominal maximum heap height of 100 m above the pad liner. The additional two phases (5 and 6), with a capacity of 20 Mt will be constructed during 2022 to 2024 to accommodate the remainder of the Ardich Reserve. The phase 5 pad construction has been approved by the Ministry of Environment, Urbanisation, and Climate Change (MoEUCC).

The TSF is developed and constructed in stages. TSF 1 phase 3 has been constructed and approval for use was received in February 2021 by the MoEUCC. Ongoing work in ensuring sufficient long-term capacity for storage of tailings has been undertaken. Studies by Anagold have determined, that the effect of the addition of the flotation plant to the sulfide plant circuit would result in an increase in the solids content and improvement in the final settled density based on an increase in the rate of tailings consolidation.

Construction and development of TSF 1 will provide storage of tailings for up to 70.8 Mt, more than sufficient to accommodate the CDMP21TRS tailings to be produced.

A PFS level study (TSF 2) has been carried out that identifies approximately 13.4 Mt additional tailings storage capacity in a site adjacent to TSF 1, should it be required in the future.

15.1.1 Existing Infrastructure

The existing site infrastructure supporting the existing operation includes the following:

- Site security gate and guard station
- Site administration building
- Site warehouse
- Site assay laboratory
- Container or modular type offices
- Cyanide receiving and mixing system
- Site kitchens and eating areas
- Site single living dormitory with adjacent multi-purpose room
- Site family housing
- Contractor (mining) dormitories, kitchens, and offices
- Site raw water wells, pumping system and storage tanks
- Site potable water treatment and distribution system
- Two sanitary wastewater collection and treatment systems
- Sulfide maintenance building
- Sulfide control rooms
- Combined oxide and sulfide gold refinery building
- Sulfide process buildings:
  - Grinding building
  - Pressure oxidation (POX) building
  - Carbon desorption building
- Tailings pump building
- Main control room and electrical building
- HV switchyard electrical building
- Crusher electrical building
- POX flocculant building
- Limestone building
- Potable water booster pump house
- Reagent building
- Tailings and process water pump house
- Plant and instrument air compressor building
- Counter current decantation (CCD) electrical building
- Reagent dry storage

- Leach air compressor building
- Aw water pump building
- Lime slaking (MOL) building
- Fe/As air compressor building
- Emergency diesel generators building
- TSF reclaim electrical building
- TSF drainage tank electrical building
- TSF OD-UD pond electrical building
- CIP CCD ablutions block
- Pump shelters with monorails
- Carbon elution building – electrical room
- Raw water bores P/P house and electrical building
- Gatehouse
- Fire water pump house
- Community relations centre
- Raw water wells

15.1.2 Flotation Building

The flotation circuit is an insulated engineered building. The building is equipped with an overhead crane for flotation cell and pump maintenance. Flotation reagent mixing and distribution are contained in a lean-to off the main flotation building.

15.2 Site Water Management

15.2.1 Hydrology Background

The only perennial surface water in the vicinity of the Çöpler Mine is the Karasu River flowing in the northern and western part of the area. All other valleys are either ephemeral streams or dry valleys. The average flow rate of the Karasu River measured at the Bağıştaş / Karasu Gauging Station in the upper Euphrates Basin, is approximately 145 m³/sec, draining an area of 15,562 km². A hydroelectric dam (Bağıştaş -1 Dam) was built on the Karasu River downstream of the mine site. When the reservoir is at high-levels the impoundment will extend into the very lower reaches of both the Çöpler and Sabırlı Creeks and the maximum inundation elevation will be 916.5 m as it is released into the spillway. The Çöpler and Sabırlı streambeds in the project area do not flow perennially. They both discharge into the Karasu River. The drainage area of the Sabırlı Creek is approximately 35 km² and that of the Çöpler Creek is approximately 10 km².

The project submitted a Five-Year Water Management Report in December 2019, prepared by SRK Danışmanlık ve Mühendislik A.Ş., as part of the Environmental Impact Assessments (EIA) conditions. This report benchmarks the expected results with those achieved. Overall results achieved were generally as predicted. In 2020, as part of updating the EIA, further hydrogeology studies have been undertaken by SRK Danışmanlık ve Mühendislik A.Ş. The report has updated the surface water and hydrological models based on actual data over the operating period of the mine to improve the model.

15.2.2 Site-Wide Surface Water Hydrology

Existing mine site facilities are located primarily within the Çöpler and Sabırlı Creek watersheds immediately upstream of their confluence with the Karasu River. Site-wide surface water management for the included diversion facilities consist of a network of diversion channels and retention structures to minimise storm water run-on to the mine site facilities to prevent mine-impacted storm water run-off from exiting the site and discharging to the Karasu River.

The sub-basin areas, characterisation of the surface run-off conditions, and design rainfall data were used to construct the existing conditions hydrology model. The hydrology analysis utilised HEC-HMS software to develop estimates of the peak flow rates and volumes generated by the existing watersheds.

15.2.3 Surface Water Management Structures

Engineered surface water management structures are constructed to minimise effects of storm water run-off to critical mine facilities and to control the release of mine-impacted water to the environment. A combination of interim and permanent diversion channels and retention ponds are utilised to achieve these goals. Interim structures will be reclaimed at closure while permanent structures will remain in place post-closure. Other flood control structures were developed to control or direct run-off away from pit crests and are planned for run-off that does not discharge to surface water drainages or streams and therefore do not require lining.

Sediment ponds to control run-off and sediment release are lined based on the EIA commitments. Interim diversion channels are designed to convey the 25-year storm event with 1.5 m of freeboard and the 100-year storm with no freeboard. Permanent diversion channels are designed to convey the 100-year storm with 0.5 m of freeboard. Lined sediment ponds are downgradient of the waste dumps and are sized to contain the 100-year run-off volume with an emergency spillway to safely discharge the peak flow. The TSF is designed to contain the volume generated by the 24-hour probable maximum precipitation (PMP) within the operating freeboard.

15.2.4 Fresh Water Supply

Fresh water is supplied by existing wells to the site, supporting the operation. Figure 15.2 shows the location of the mine water extraction wells. An additional three wells were developed in 2018, wells WM-45, WM-46 and WM-47, to increase water supply for the project. Two raw water storage tanks support the demands of the heap leach and sulfide process equipment and the fire water requirements.

Figure 15.2 Mine Water Supply Well Locations

Anagold, 2020

15.2.5 Potable Water Treatment

The site is serviced by a potable water treatment system and distribution system. The system consists of multi-media filtration, carbon filtration, ultraviolet (UV) disinfection system (plus further softening and reverse osmosis for water used in the dining room), which directly feeds the site potable water distribution system.

15.2.6 Waste Management

Waste will be generated from multiple sources such as human waste, food spoilage, and process and maintenance wastes.

Hazardous wastes will be contained, packaged, and disposed of in accordance with local, regional, and national regulations. Non-hazardous wastes will either be buried on-site or transported offsite to the appropriate processing site in accordance with local, regional, and national regulations.

15.3 Power to Site

The existing 154 kV line provides power to the mine and process plant. The following structures are associated with site power distribution:

- HV switchyard 154 kV
- Main electrical building
- Oxygen plant substation
- CCD electrical building
- Crushing electrical building
- Grinding electrical building
- Carbon elution electrical room
- TSF area electrical buildings
- Bore field area electrical building

15.4 Emergency Backup Power

Motors and loads for certain critical equipment and systems were identified as requiring power in the event of a utility outage. A load shedding scheme is applied to feed critical electrical users automatically in the event of a utility outage.

Generators are diesel fuelled with a minimum of eight-hours of diesel storage based on generators operating under full load.

15.5 Communications

The Project uses networks for the DCS, precious metals search (PMS), the integrated process related and security CCTV system, security systems (access control / card reader), information technology (IT) and telephones and communication between the DCS and packaged control systems.

Single mode fibre and copper cabling is distributed within the sulfide plant area and selected buildings for the tailing pipeline and dam.

15.6 Site Roads

The Çöpler project has access provided via the main access road and sulfide plant roads.

Generally, site roads have an overall width of 6 m and provide everyday operational access for large trucks or facility access for site personnel vehicles. These roads are limited to a maximum grade of 9%. All roads are compacted hardstand surfaced with 100 mm wearing course and cross-sloped to provide positive drainage.

15.7 Plant Fire Protection System

A separate plant fire protection system is provided for the sulfide facility and will include the flotation building.

A combined sprinkler, hose reel and hydrant underground piping system is provided for the active fire protection of the facility.

A gas-based fire suppression system is used in the main control and electrical building.

15.8 Site Water Management

15.8.1 Hydrology Background

The only perennial surface water in the vicinity of the Çöpler Mine is the Karasu River flowing in the northern and western part of the area. All other valleys are either ephemeral streams or dry valleys. The average flow rate of the Karasu River measured at the Bağıştaş / Karasu Gauging Station in the upper Euphrates Basin, is approximately 145 m³/sec, draining an area of 15,562 km².

A hydroelectric dam (Bağıştaş -1 Dam) was built on the Karasu River downstream of the mine site. When the reservoir is at high-levels the impoundment will extend into the very lower reaches of both the Çöpler and Sabırlı Creeks and the maximum inundation elevation will be 916.5 m as it is released into the spillway.

The Çöpler and Sabırlı streambeds in the project area do not flow perennially. They both discharge into the Karasu River. The drainage area of the Sabırlı Creek is approximately 35 km² and that of the Çöpler Creek is approximately 10 km^2.

The project submitted a Five-Year Water Management Report in December 2019, prepared by SRK Danışmanlık ve Mühendislik A.Ş., as part of the EIA conditions. This report benchmarks the expected results with those achieved. Overall results achieved were generally as predicted.

In 2020, as part of updating the EIA, further hydrogeology studies have been undertaken by SRK Danışmanlık ve Mühendislik A.Ş. The report has updated the surface water and hydrological models based on actual data over the operating period of the mine to improve the model.

15.9 Heap Leach Facility

The heap leach includes the leach pad and collection ponds that consist of process ponds and a storm pond. The current leach pad consists of four phases and designed to accommodate approximately 58 Mt of oxide ore with a nominal maximum heap height of 100 m above the pad liner. The additional two phases, 5 and 6, with a capacity of 20 Mt were approved in October 2021 and phase 5 has received construction approval from MoEUCC in November 2021. The heap is stacked in 8 m thick horizontal lifts at the natural angle-of-repose with intermediate benches to achieve an overall heap slope of 2H:1V.

15.9.1 Heap Leach Pad Development

The heap leach facility pad development is in six phases, and is in the same geographical area, adjacent to the Çöpler open pit as shown on Figure 13.8. The heap leach phases 1 to 4 are completed.

The remaining phases of pad development 5 and 6 are yet to be constructed and will have a combined capacity of approximately 20 Mt.

The phase 5 (15 Mt capacity) was approved for pad construction in November 2021.

The phase 6 (5 Mt capacity) sits above phase 4B and 5 and will be the last to be constructed and stacked. Approvals and construction will be scheduled well in advance of being required for ore stacking and leaching.

15.10 Tailings Storage Facility

The existing tailings storage facility (TSF) at the Çöpler mine was designed by Golder Associates Inc. (Golder) with support from Golder Associates Turkey, Ltd (Golder Turkey). The TSF initial design was developed to provide a capacity of 45.9 Mt through six phases with a crest elevation of 1,265 m. The TSF was permitted through submission of a Turkish Design Application Report to the MoEUCC and subsequently approved based on the design through phase 5.

Anagold is advancing the development of the Çöpler Mine. Recently developed a prefeasibility level design for an additional TSF, referred to as TSF 2 in the valley adjacent and to the north of the existing TSF 1. Both TSF 1 and TSF 2 were included in the EIA submitted by Anagold in 2014.

The current designs for TSF 1 and TSF 2 are within the 2014 EIA boundaries, except for a small portion of TSF 1, phase 7. Expansion beyond phase 3 of TSF 1 is currently limited by the construction and re-routing of a new road to Sabırlı Village as well as purchase of some small tracts of private land located within the phase 4 limits on the east side of the existing road to Sabırlı Village. Construction of the new Sabirli Village road commenced in Q3'21 and is on schedule. Acquisition of the private land parcels have substantially progressed through regulatory processes.

Based on the prefeasibility design, TSF 2 has capacity for 13.4 Mt. To maximise capacity of TSF 1, phase 7 was developed as part of the design to a crest elevation of 1,280 m at a conceptual level and to support further planning, including planned updates to the site Environmental Assessment. Select engineering evaluation of phase 7 has been completed to support future planning including updated stability analysis, water balance, and consolidation modelling. Anagold's preference is to continue with development of TSF 1 phase 4 and to consider other options, if required depending on tailings capacity requirements, due to the higher capital costs related to construction of TSF 2 at this time. Without construction of TSF 2, TSF 1 alone provides for tailings capacity of up to 70.8 Mt through phase 7.

Figure 15.3 through to Figure 15.7 show the revised TSF 1 design for phases 4–7, and the TSF 2 design.

15.10.1 TSF Development and Summary of Current Operations

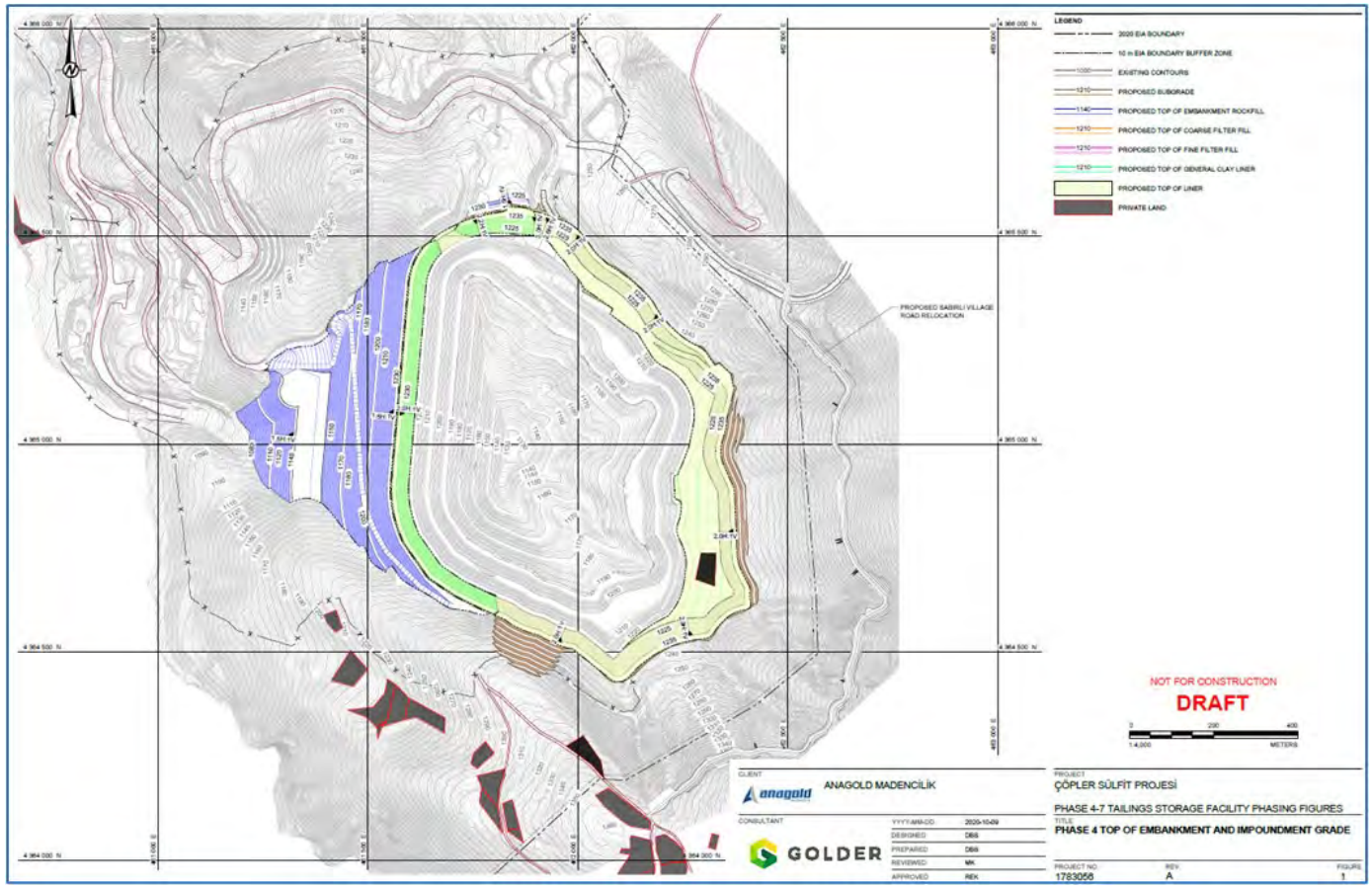
Construction of phase 1 of TSF 1 began in December 2016 and was completed in November 2018 with commissioning of the sulfide plant. Tailings were deposited initially from the emergency spigot and then typically from two to three spigots around the perimeter of the 1,190 m crest of the phase 1 embankment. The tailings initially have exhibited a solids content on the order of 24%. During the first two-years of operations 4–5 m of water has been present over the top of the tailings surface. Reclaim water was managed by pumps on a rail-mounted sidehill reclaim system. The second raise, or phase 2 of TSF 1, was completed in April 2020 and construction of phase 3 is ongoing. The management of reclaim water has improved in the past-year and currently the tailings surface is nominally 3 m below the top of the tailings water. A bathymetry survey was completed on 11 September 2020 and indicated a tailings average dry density of 0.68 t/m^3.

The reclaim water management system was converted to a conventional pontoon system accessible for maintenance from ramps constructed within the northern portion of the impoundment. Based on additional tailings testing completed in early 2020, the solids content of the tailings has improved to approximately 28% as a direct result of improved throughput stability at the sulfide plant, improvements to type of flocculants used and process control in the tailings thickener. As part of this tailings testing in early 2020, Golder evaluated the effect of the addition of the flotation plant to the sulfide circuit. The testwork indicated an increase in the solids content to 34% and improvement in the final settled density based on an increase in the rate of tailings consolidation.

15.10.2 Site Classification

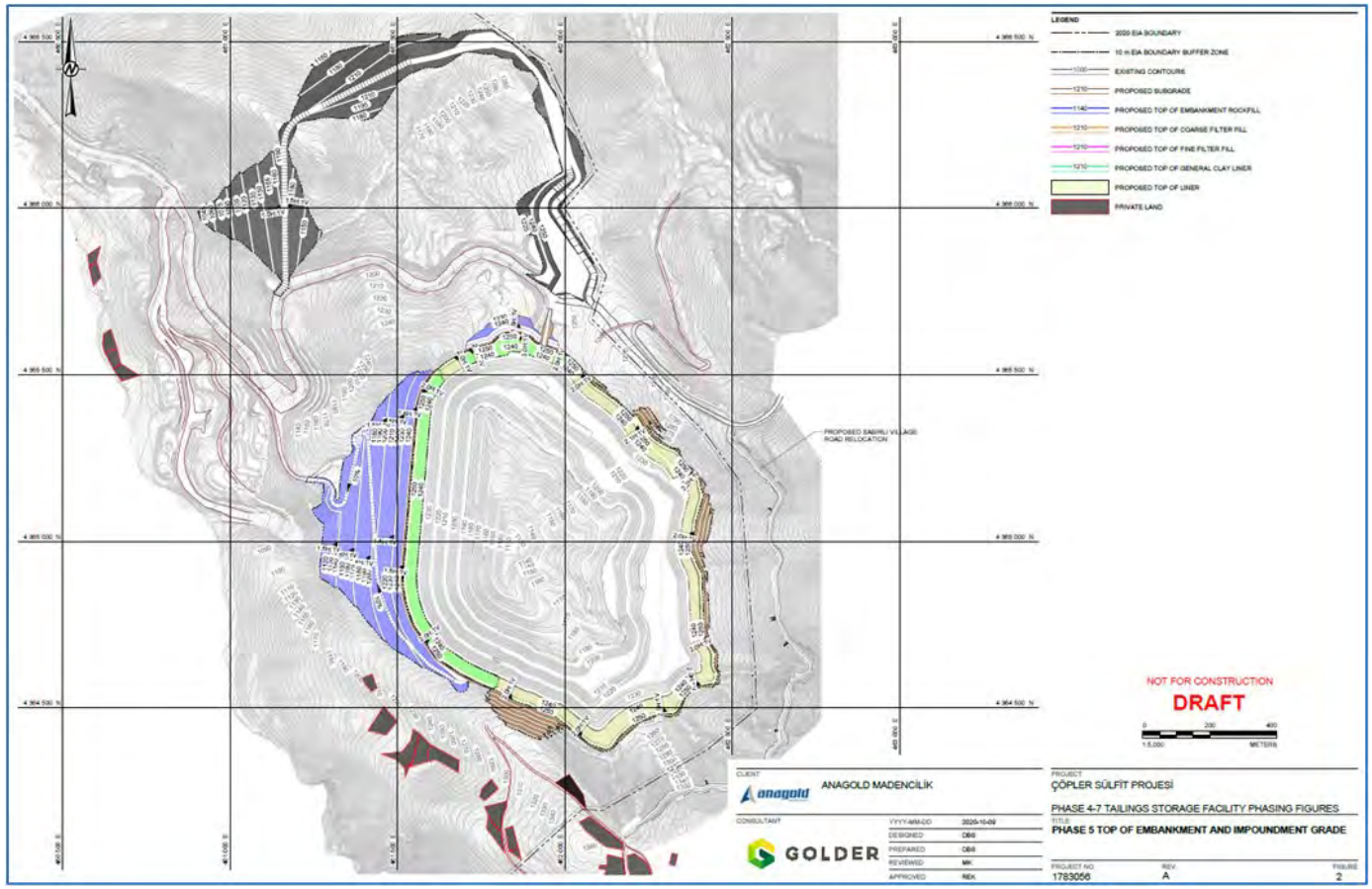
The facilities are classified in accordance with the Canadian Dam Association (CDA) guidance (2013 Edition) as 'High' for the operational and post-closure phases. The 'High' classification is the third lowest in terms of risk with the dam classes being from least risk to greatest risk: Low, Significant, High, Very High, and Extreme.

Figure 15.3 Phase 4 – Top of Embankment and Impoundment Grade



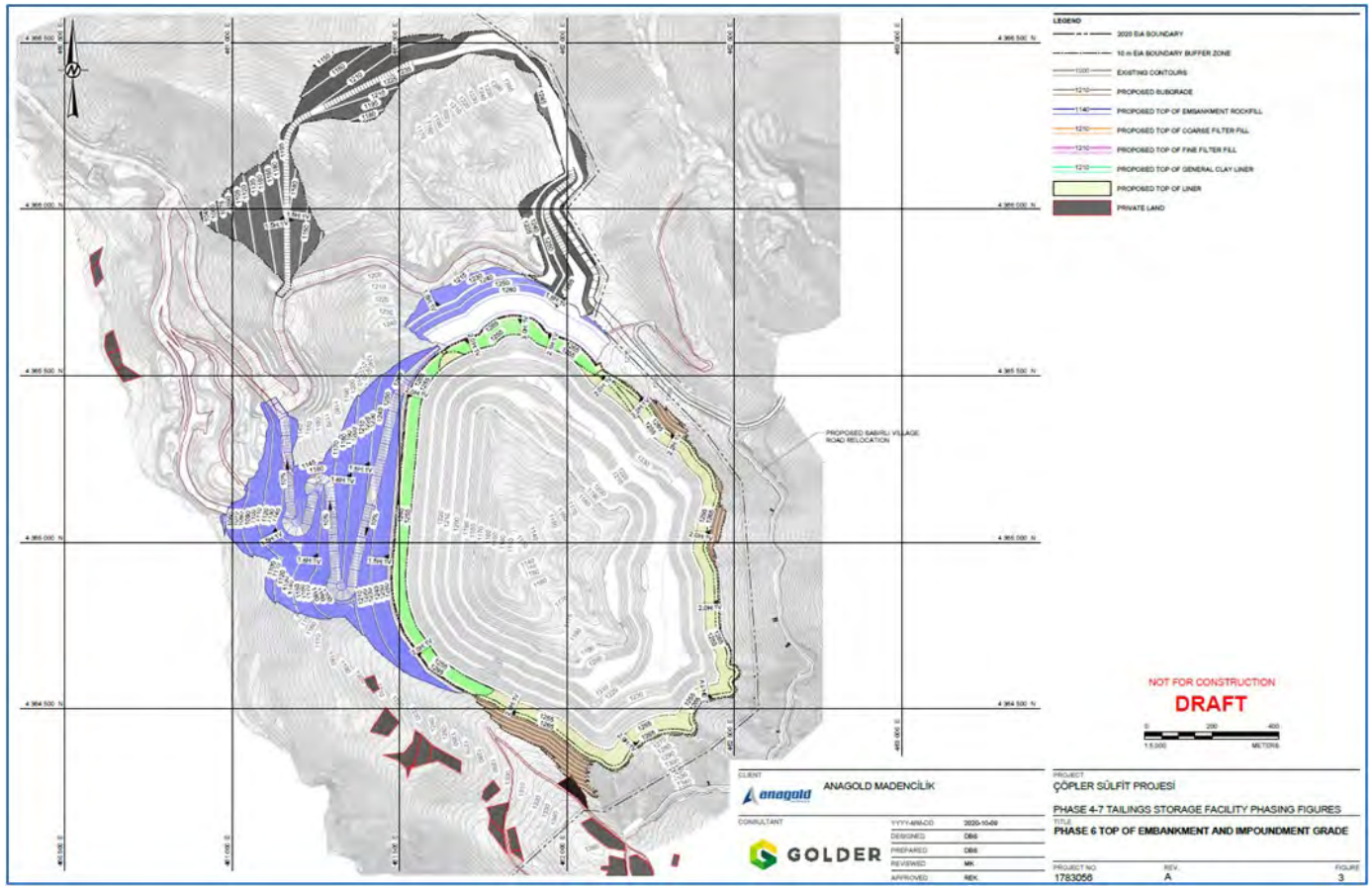
Anagold, 2020

Figure 15.4 Phase 5 – Top of Embankment and Impoundment Grade



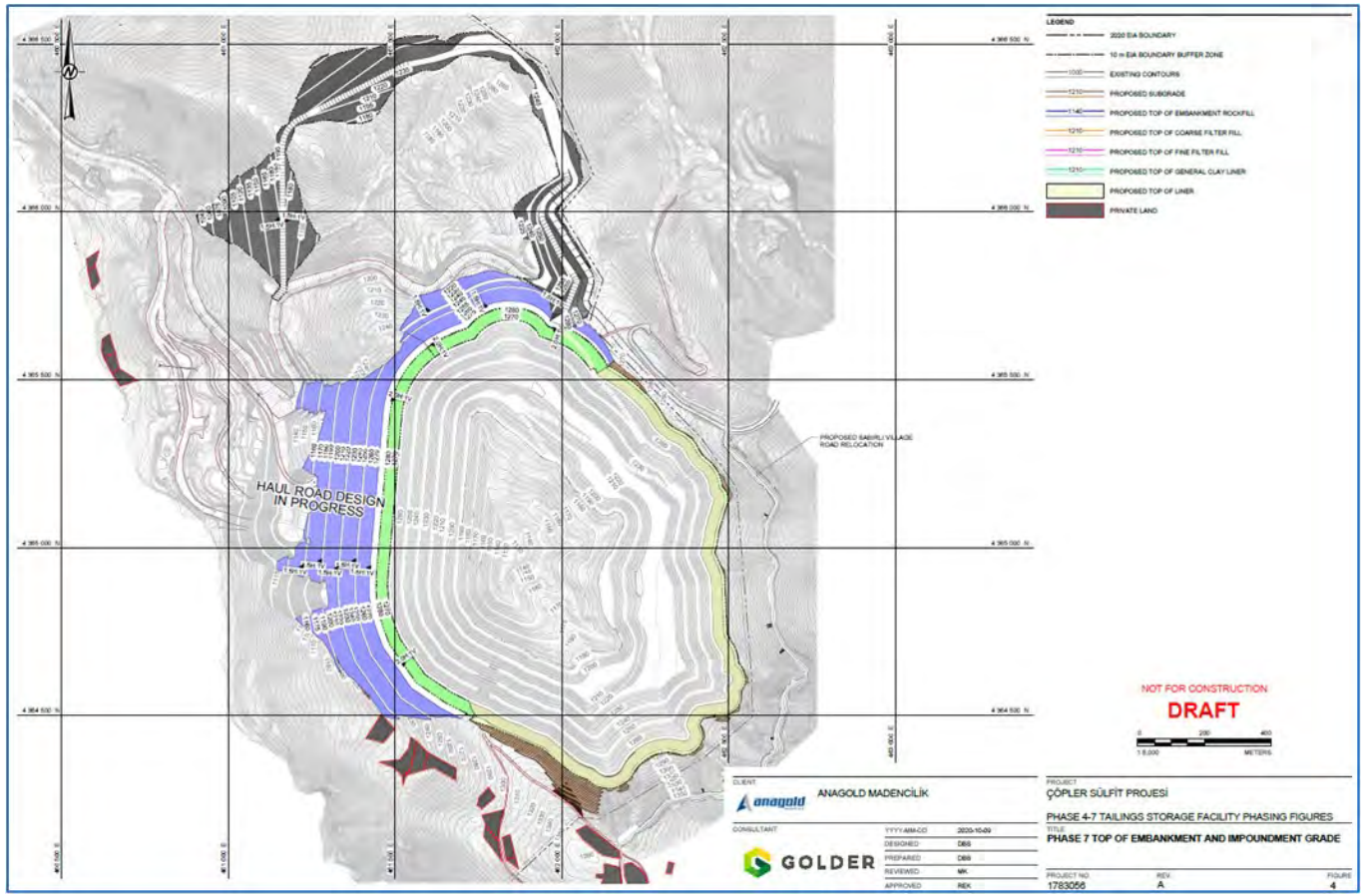
Anagold, 2020

Figure 15.5 Phase 6 – Top of Embankment and Impoundment Grade



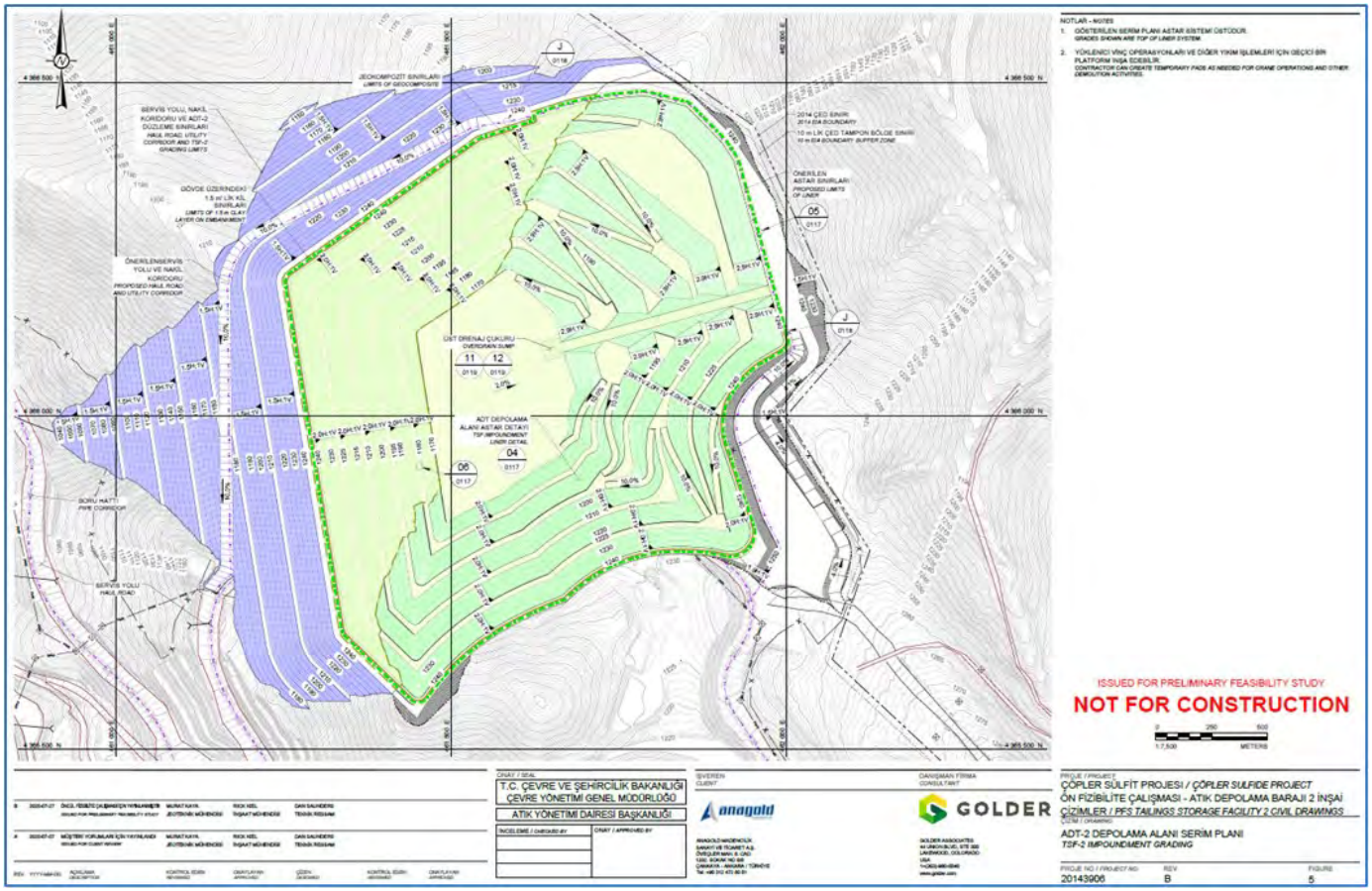
Anagold, 2020

Figure 15.6 Phase 7 – Top of Embankment and Impoundment Grade



Anagold, 2020

Figure 15.7 TSF 2 Impoundment Grading



Anagold, 2020

15.1.3 Monitoring and Inspection

An Operational, Maintenance, and Surveillance (OMS) Plan was prepared by Golder with input and support from Anagold. The OMS Plan was prepared in accordance with the Turkish mining regulations (MoEU 2017) with additional guidance published by the Mining Association of Canada (MAC 2019). The OMS Plan is a 'living document' that is updated on an annual basis. In addition to providing the basic guidance for the management of process fluids, the OMS Plan does the following:

- Summarises the roles and responsibilities of Anagold personnel.
- Presents a description of the facility and pertinent design details.
- Provides maintenance and surveillance parameters and procedures.
- Outlines abnormal operating conditions.
- Details emergency preparedness and response protocols.
- Presents a conceptual closure plan.

The OMS Manual provides a documented framework for action, as well as a sound basis for measuring performance and demonstrating due diligence. It is intended to be a dynamic document that is reviewed and revised by site personnel and the Engineer of Record (EoR) on an annual basis and as operating conditions require. The OMS Manual includes a requirement for the annual dam safety inspection prepared by the EoR which includes a series of inspections at site that is documented in an annual Dam Safety Inspection Report. The first annual inspection for TSF 1 was conducted in Q4'19. The results of the inspection and data review indicated that the Çöpler TSF 1 is in good condition and operating in general accordance with the intended design of the facility. A review of the instrumentation indicated normal data trends and no unanticipated abnormal readings or 'triggering events' observed. Of the action items included in the report, none were considered serious in nature or otherwise a concern to the safety of the Çöpler TSF.

The TSF is inspected daily for signs of stress or damage. Daily and monthly operating data is collected on-site and provided in a monthly report. The report estimates the settled solids volume in the TSF based on estimated bulk densities and provides for a comparison of actual tailings and water pool elevations compared to estimates made by Golder using data from the mine and tailings production plans and from the consolidation model that predicts settlement of the tailings. The difference between the actual tailings elevation and predicted elevations have shown close agreement generally less than 1 m.

In addition, members of the Anagold's HSSER team also inspect the TSF monthly. The TSF is subject to fortnightly external official audits by the Erzincan Provincial Environmental Directorate. The authorised hydraulic structures inspection company, Hidro Dizayn, is always on-site during construction, on behalf of the MoEUCC. The TSF design and engineering consultant is also on-site during construction to ensure quality and conformance to design.

Anagold has established an Independent Tailings Review Board (ITRB), as per leading international best practices, to review tailings facilities as part of the review and oversight process. The ITRB reports directly to the senior management at a corporate level.

15.1.4 TSF Design

The TSF at Çöpler is a downstream, mass filled, dam. The technical specifications for the construction of the TSF conform with both Turkish national requirements and accepted good practice standards for tailings facilities, including; World Bank Standards, Canadian Dam Association Safety guidelines, Mining Association of Canada (MAC) Guide and the International Commission on Large Dams (ICOLD) to the Management of Tailings Facilities.

Both the TSF 1 and TSF 2 designs consist of fully lined impoundments, including a compacted earth and rockfill embankment. The TSF 1 and TSF 2 designs include the following primary components:

- A compacted earth and rockfill embankment with a zoned upstream granular filter protection system. Both facilities will have 1 m of freeboard under their crest elevations and are designed to contain the PMP storm event. The downstream face of the ultimate embankments will be constructed at a composite slope of 1.7H:1V. The upstream face of the embankment will be constructed at a slightly shallower slope with slopes of 2.0H:1V to facilitate placement of the filter layers and liner system and a resultant composite slope on the order of 2.6H:1V after considering the operational benches. The filter layers and low-permeability soil layers are designed to be 1.5 m thick, as measured perpendicular to the slope. Measured horizontally, the layers are designed at 3.3 m wide each.
    - TSF 1 is a downstream raise construction which will consist of seven phases (six raises)
    - TSF 2, if constructed, is a downstream raise construction and is currently designed to be constructed in one phase.
- A composite liner system consisting of a 2 mm thick, double-sided, textured high-density polyethylene (HDPE) geomembrane and geosynthetic clay liner (GCL) over a low-permeability soil (i.e., clay) liner system that provides an equivalent protection to that provided by 5 m of a geologic barrier with k <10-9 m/s. A GCL is also substituted with low-permeability clay on select slopes steeper than 3H:1V as allowed by Turkish regulations.
- An impoundment gravity flow underdrain system for collection and monitoring of naturally occurring seeps and springs.
- An impoundment overdrain system for the collection and management of tailings seepage water through natural consolidation and drainage of excess process water.
- Perimeter roads and benches within and around the impoundment area for access and tailings distribution / reclaim water pipes.
- Tailings delivery and distribution system.
- Reclaim Systems.

15.1.5 Seismic Deformation Evaluation

The current deformation model provides the deformations under seismic loading conditions for a TSF 1 with 1,264 m crest elevation, which corresponds to phase 6 in the current design. Based on the average predicted deformations and the expected levels of liner strain, the TSF 1 phase 6 embankment is expected to remain stable when subjected to the design strong motion events. Simple deformation analysis by Bray and Travasarou (2007) was performed to assess the magnitude of earthquake induced movements on the phase 7 TSF 1 Embankment.

No deformation analysis was performed for TSF 2 considering it is a smaller dam and has a lower embankment height than TSF 1 and because of the similarities in design and foundation conditions. TSF 2 deformations are expected to be smaller than TSF 1 and in the acceptable deformation range as per the design criteria.

15.1.6 Tailings Consolidation and Capacity

Golder updated the tailings consolidation modelling to include the TSF 1 and TSF 2 joint operations and to account for the tailings characteristics obtained from 2020 laboratory tests on POX and Flotation tailings. The updated consolidation model also included the current mine plan. In the model, TSF 1 was first filled to elevation of 1,219 m (to the limits of phase 3 with a crest elevation of 1,220 m allowing for 1 m freeboard) and then tailings deposition was switched to TSF 2 and tailings in the TSF 1 was let to rest until TSF 2 is filled for a period of approximately 3.4 years. The rest period in TSF 1 increases the tailings density from 0.85 t/m^3 to 1.08 t/m^3 due to the natural consolidation and results with an average settlement on the order of 7 m which results in a capacity gain of 3.2 Mm^3 in TSF 1. The model results show that with the current mine plan and tailings characteristics TSF 1 and TSF 2 would have approximately 76 Mt and 14 Mt tailings capacity, respectively, over approximately 19.2 years of TSF 1 filling time.

The tailings tonnage estimate requires the sulfide plant feed to be adjusted to allow for the limestone added during processing for pH control. The limestone reacts with the acid to form gypsum. The applicable factor is 1.146. Commissioning of the Flotation Plant commenced in January 2022, once operational will also directly contribute to the tailings placed.

Based on the updated consolidation analysis and assumptions on the mine plan, tailings characteristics, and operational plans as stated herein, approximately 90.6 Mt of tailings can be stored in TSF 1 and TSF 2 combined. The average dry tailings density expected at end of filling is 1.17 t/m^3 and 0.89 t/m^3 in TSF 1 and TSF 2, respectively.

15.1.7 TSF Schedule Assumptions

The key assumptions related to the ongoing construction and expansion of TSF 1 as follows:

- Phase 4:
  - There is a parcel of private land located east of Gully B that has not yet been purchased. If the private land cannot be purchased, contingent measures are in place to allow phase 4 to be constructed.
  - Construction of the new Sabirli Road is required for Phase 4 to be completed. Construction commenced in Q3'21 and at the time of this report is on schedule for timely completion
- Phases 5 to 7:
  - The design of the access roads and utility corridor for phases 5 to 7 considered construction of the haul road developed as part of the TSF 2 design which requires nominally 4 Mm^3 of rock fill. This design has been shown starting with phase 5. If TSF 2 were not developed, the access road and utility corridor could be further optimised depending on the extent of development. If only phase 5 were to be developed, the access could be provided by a much smaller ramp. If phase 6 and/or phase 7 are developed, then a route like that shown would be required.
- Schedule:
  - The current mine plan and schedule provides capacity within phase 3 through Q1'23, which generally required that construction of phase 4, would start in 2021. Phase 4 embankment works were progressed approximately 66% during 2021 and embankment and impoundment works are scheduled to continue through 2022. As an ongoing option, the TSF 2 design and approval activities were also substantially progressed during 2021

Sabirli road completion is scheduled for completion in time to achieve phase 4 TSF construction works.

15.1.8 Further Work

There are opportunities that may offer significant reduction in capital costs with consideration of the following:

- Alternative TSF Considerations – The dam capacity to fill ratio for TSF 2 was approximately 1:25, which is significantly lower than TSF 1 due to the narrow and small valley where it is located. Several other options were identified in the CDMP21TRS Siting Study that would provide for reduced capital costs. Sites identified as TSF 4 and TSF 7 were determined to have dam capacity to fill ratios of 1:3.2 and 1:1.9, respectively based on conceptual designs only. Of the other sites considered in the CDMP21TRS Siting Study, TSF 4 was ranked second behind TSF 7 based on several environmental and social considerations namely due to its proximity and location with the Bağıştaş area, however, TSF 4, provides a significantly greater potential storage capacity with less fill required. TSF 7 would be highly visible to the Sabirli community but on the opposite side of Sabirli creek.
- Waste Rock Encapsulation – There are opportunities to consider encapsulation of potentially acid-generating (PAG) waste rock within portions of the downstream embankment within the limestone. A study commenced in Q3'21 to evaluate this potential

16 MARKET STUDIES

16.1 Markets

The markets for gold and silver doré are readily accessed and available to gold producers. Currently, 100% of the gold and silver is delivered to the Istanbul Gold Refinery. Copper precipitate is currently produced from the sulfidisation, acidification, recovery, and thickening (SART) plant and sold into local markets in Turkey. The sulfide plant does not currently include a copper circuit. Provisions have been made in the plant design to include the copper circuit in the future if market conditions warrant.

16.2 Contracts

Anagold contracts the mining operations to a Turkish mining contractor. The contract contains provisions for escalation / de-escalation of fuel prices, foreign exchange rates, haul grade and distance and Turkish inflation. The terms and prices for the mining contract are within industry standards for mining contracts.

17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS

17.1 Environmental Studies and Material Impacts

The Çöpler mining and processing operations involve open pit mining from multiple pits, construction of multiple waste dumps to accommodate mined materials, processing of oxide ores and placement on a heap leach pad, and processing of sulfide ores with placement of tailings in a tails storage facility (TSF). These activities and facilities are carried out on treasury, pasture, and forestry lands, including some private lands.

In addition to the direct impacts on the involved lands, the operations impact on the surrounding lands and the local communities. Physical impacts may include changes to local surface and groundwater (including potential pollution), air quality impacts particularly from dust, and increased noise and vibration from mining and processing operations.

Operation of the Çöpler mining and processing facilities, and subsequent mining at Çakmaktepe, has been investigated and authorised by means of a series of Environmental Impact Assessments (EIAs), with positive decisions obtained from the Turkish Ministry of Environment, Urbanisation, and Climate Change (MoEUCC). These EIAs include specific actions designed to address all material impacts of the mining and processing operations. Anagold has remained in compliance with all aspects of the EIA and operating permits throughout the history of the project.

The original 2008 EIA obtained on 16 April 2008 included three main open pits (manganese, marble contact, and main zones), five waste rock dumps (WRDs), a heap leach pad, a processing plant, and a TSF. The 2008 project description involved only the oxide resources.

The Çöpler project started its open pit and heap leach operation in 2010 and first gold was poured in December 2010. Additional EIA investigations have been submitted and approved, as required, to support ongoing mining and processing operations, including:

- EIA to allow operation of a mobile crushing plant approved 10 April 2012.
- EIA to allow waste dump capacity expansion, oxide capacity expansion to 23,500 tpd and a sulfidisation, acidification, recovery, and thickening (SART) plant approved 17 May 2012.
- EIA to allow the sulfide plant and heap leach area expansion approved 24 December 2014.
- EIA to allow the Çakmaktepe satellite pits expansion approved 26 January 2017.
- EIA to allow a Çakmaktepe capacity increase approved 9 August 2018.
- EIA to allow a second capacity expansion, including heap leach pads 5 and 6. TSF expansion and operation of a flotation plant approved 7 October 2021.

In addition, pending EIA processes include:

- EIA to allow Çakmaktepe second capacity increase to include initial mining from Ardich with EIA description file. The EIA project description file was submitted in October 2020 and a Public Hearing was held in November 2020. All public institutions gave positive feedback regarding the report and the approval process is ongoing with the MoEUCC.
- A review and evaluation meeting was held on the 15 December 2021 for Çakmaktepe EIA and the approval process is ongoing.

After the EIA positive decisions, additional permits and licences were required to be issued by government agencies consistent with the Turkish governing laws and regulations. These include land access permits (pasture and forestry); environmental permits and licences; workplace opening and operating permits; and licences and certificates. The status of project permits and operating licences is documented in Section 3 of this report.

In the period following the receipt of the 2008 EIA permit, Anagold has conducted further technical studies to supplement the Turkish EIA studies and to establish plans and procedures to manage potential project impacts and meet IFC requirements. Significant operational management plans established as a result of these prior and ongoing studies include:

- Non-mining Wastes Management Plan
- Mining Waste Management Plan
- Water Resources Management Plan
- Biodiversity Management Plan
- Soil Management Plan
- Air Quality and Emissions Management Plan
- Mine Closure and Rehabilitation Plan
- Environmental Management System Framework
- Environmental Noise and Vibration Management Plan
- Hazardous Substances Management Plan
- Mine Closure Framework
- Resource Efficiency and Pollution Prevention Management Plan
- Cyanide Management Plan

17.2 Physical Features

The project site is in a transition region between Central and Eastern Anatolian climates. The region has a continental climate, where summers are hot and dry, and winters are cold and relatively humid. Owing to the mountain ranges bordering Erzincan Province on all sides, the region has a milder climate than the neighbouring provinces.

The long-term annual average precipitation for the project site is 367 mm, including snow in the winter months. The annual average wind speed is 2.6 m/s. Maximum wind speeds are observed in spring. The prevailing wind direction is south.

The project site is in a rural area with no significant commercial or industrial air pollution sources. Scattered slag piles and ore extraction sites remain from the former manganese mining operations.

The ambient air quality monitoring programme on-site indicated that SO_2 and NO_2 levels, and particulate matter (PM10) and dust deposition levels in ambient air are well below the limit values defined in Turkish Air Quality Standards. Heavy metal concentrations in dust were well below the limit values defined by European Commission (EC), World Health Organisation (WHO), and Turkish standards.

The railway and the İliç-Kemaliye Road passing near the Euphrates River are the mobile sources of noise in the area. The Euphrates-Karasu River is the largest surface water body near the project; it borders the northern edge of the project area. Peak flow rates are observed in April and May following the snow melt and rainfalls. All other streams in the vicinity of the project area are intermittent, flowing between March–June.

The surface water quality within the site was investigated at various water sampling locations throughout the site. Water quality is classified from class I (very good quality) to class IV (highly polluted, poor quality water). Sampling has indicated class IV water quality for Sabırlı and Çöpler Creeks, and Karabudak Stream. Similarly, the Euphrates-Karasu River is classified as a class IV water resource. For all streams, metal concentrations, including aluminium, iron, copper, and arsenic are high, especially in the drainage from Sabırlı and Çöpler creek catchments. Elevated metal concentrations in these catchments are attributed to natural metallic enrichment from the surrounding geology.

17.2.1 Land Use

The prevalent land use and cadastral information for the Project and its environs is presented in Figure 17.1. The land use patterns are based on maps produced by the General Directorate of Rural Services. As observed in Figure 17.1, most of the project area consists of pastureland, treasury, and forest. The Land Use Capability Classes (LUCC) for the project area and environs is given in Figure 17.2.

Under the LUCC system, there are three main categories and eight classes (ranging between I and VIII).

- The first category covers classes I through IV and describes lands, which are suitable for cultivation and animal husbandry. This category has few limitations, except for class IV, which requires very careful management because of its greater limitations.
- The second category covers classes V through VII, which are unsuitable for cultivation, but which can support perennial plants when intensive conservation and development practices are applied. Under controlled conditions, this land may also support grazing and forestry. The soil type included in class VII has severe limitations, preventing the growth of cultivated plants due to characteristics such as the formation of steep slopes (which are exposed to medium to severe erosion) and shallow soil layers, possessing stony, salty, and sodic texture. As such their utilisation for agricultural purposes is very limited.
- The third category contains only the class VIII, which is suitable only for wildlife, sports, and tourism-related activities.

As shown in Figure 17.2, the project area has VI, VII, and VIII classes of LUCC. The land use types in the project area and its vicinity are:

- Degraded forest lands and coppice
- Barren forest lands
- Agricultural lands
- Settlements

The project area and surroundings are generally of low-land use capability and not suitable for agricultural activities. Although the agricultural activities are limited in the area, there are several small gardens which belong to the local villagers.

The forests in the area are under stress due to high grazing and illegal land use practices; pasture lands are used for the purpose of grazing, but it is illegal to use forestry lands for grazing. In general, the local soil has poor fertility due to its nature and elevation such that it only supports limited species of vegetation.

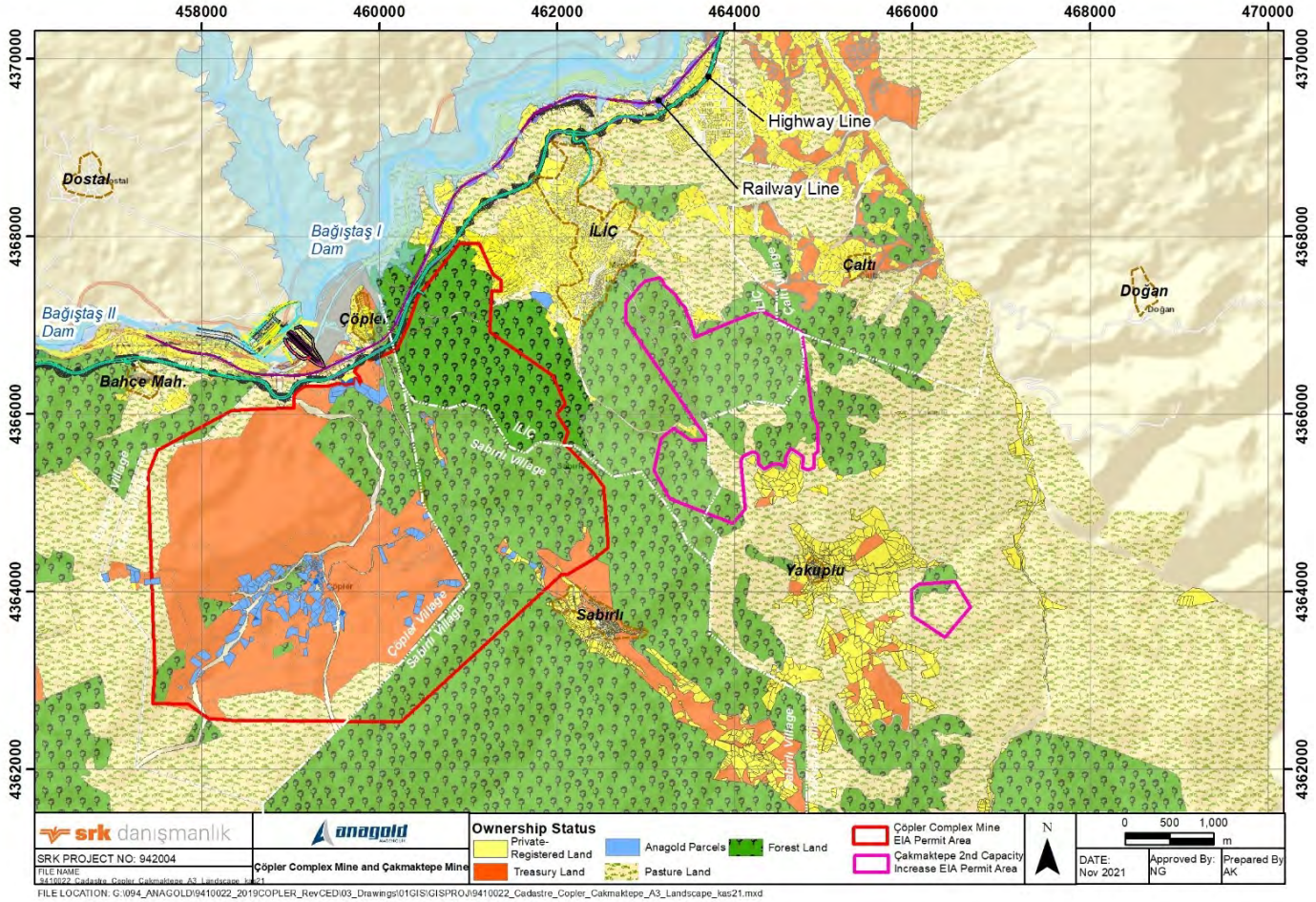
17.2.2 Biological Features

Floral species from the Irano-Turanian and Mediterranean phytogeographic regions are dominantly observed at the site. Most of the flora species are identified in the dry meadow habitats in the project area. Ruderal habitat (such as roadsides etc.) and rocky areas follow dry meadow habitats with respect to the floristic species diversity.

Flora and fauna surveys were conducted in the framework of the 2005–2007 EBS by specialists from Hacettepe University. Biodiversity of the site has been updated by the specialists from Gazi University and Hacettepe University via three seasonal surveys during 2011–2012. A Biodiversity Action Plan (BAP) was prepared, and a BAP Report has been provided as an appendix of the Environmental and Social Impact Assessment (ESIA) Report for the Sulfide Expansion Project. The flora species were classified according to their thread status with respect to Turkish Red Data Book of Plants and the International Union for Conservation of Nature (IUCN) and European Red List (ERL) Categories and Criteria.

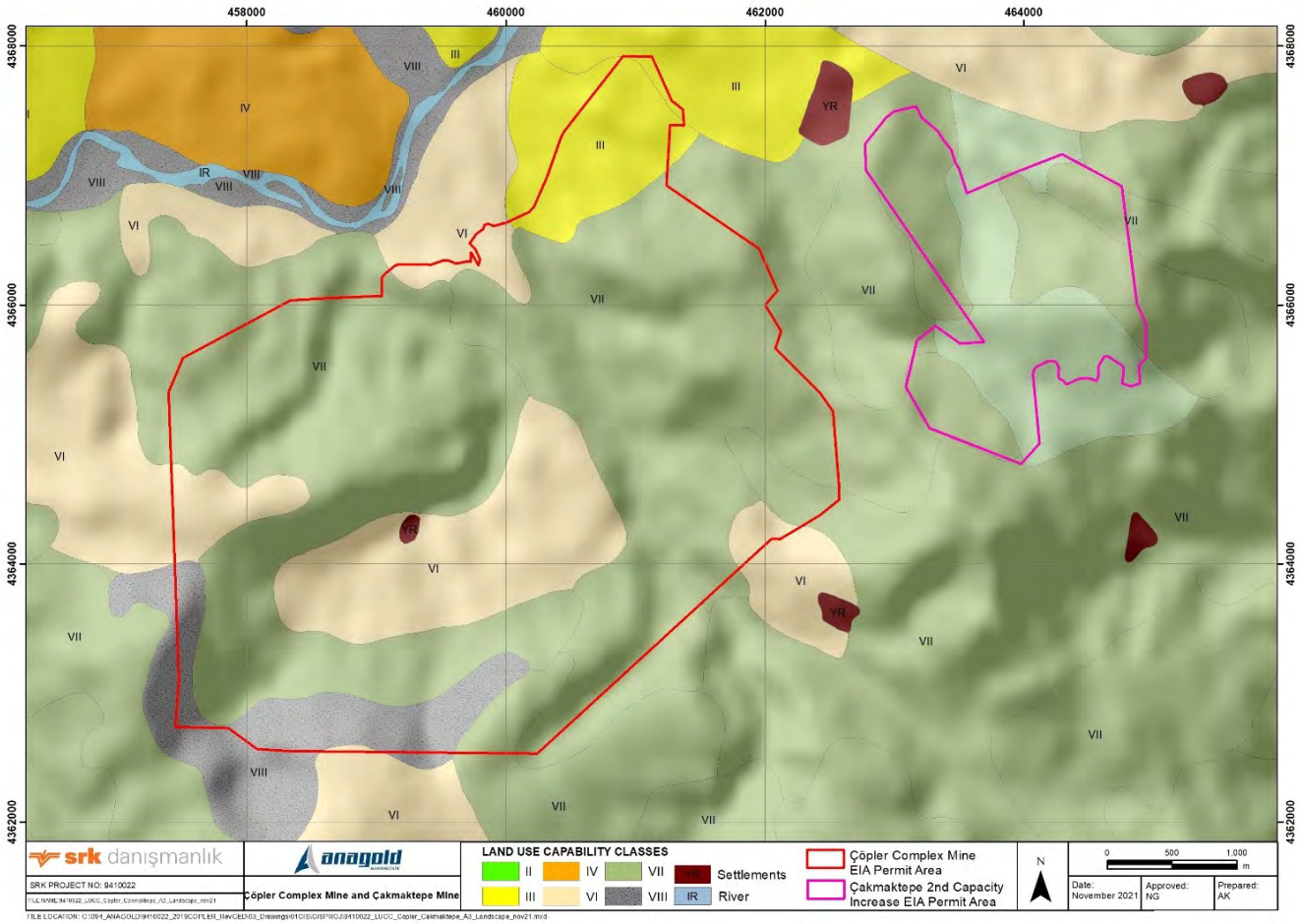
There are four main vegetation types in the area namely: Quercus petraea subsp. pinnatiloba; Quercus libani and Quercus brantii forests; Irano-Anatolian steppe vegetation; and wooded steppes and rock habitat, while the rest of the site is designated for main mining activities. The faunal composition of the site is considered weak.

Figure 17.1 Current Land Use Types and Cadastral Map for the Çöpler Project



Anagold, 2016

Figure 17.2 Land Use Capability Classes (LUCC)



Anagold, 2016

17.3 Social and Community Plans

The EIA studies are conducted according to the format stipulated by the Turkish EIA Regulation. The scope of the Turkish EIA studies differs from the scope of international ESIA studies (as established by the International Finance Corporation's (IFC)'s Environmental and Social Performance Standards), especially in terms of social impacts and public disclosure processes. While the social impact assessment and public disclosure processes are also parts of the Turkish EIA studies, they are treated less rigorously than in IFC standards.

Anagold has conducted further investigations to supplement the Turkish EIA studies, initially to support the original project establishment and, then subsequently, to monitor the social and community attitudes and the impacts of ongoing mining operations on the adjacent communities. The fundamental data to assess social impact is derived from direct survey of the local community members in villages impacted by the mining operation. Significant (primary) surveys have included:

- Initial survey of 51 households in three villages (Sabirli, Bagistas and Dostal) presented collectively as part of the 2009 Çöpler Gold Project Social Impact Assessment (SIA) by KORA.
- Survey of 153 households in six villages (Çöpler, Bagistas, Bahcecik, Dostal, Yakuplu and Sabirli) presented individually performed by Middle East Technical University (January 2013).
- Survey of six villages performed by UDA Consulting (December 2014).
- SIA by SRK (2015).
- Survey by TANDANS Company (2017).
- Çöpler Mine phase 2 SIA Peer Review Report by Intersocial Company.
- Çakmaktepe 2nd Expansion Project SIA Works by SRK (Ongoing).
- Survey by TANDANS Company (Ongoing).

Anagold has considered the outcomes from the community surveys and SIA assessments as a key input to establish and monitor the social action plans associated with the project. These are also the basis to develop a strategic and planned approach to community investment and development programmes. Some significant social and community plans and policies developed as a result of these investigations address the following:

- Community health and safety
- Local employment
- Local procurement
- Community development fund (SKF)
- Donations
- Stakeholder engagement and community relations
- Grievance management
- Environmental and social sustainability
- Training management
- Cultural Heritage
- Land access and resettlement
- Communications

The performance and effectiveness of social and community plans are monitored, reviewed, and updated, as required, to meet changing community needs and expectations.

17.4 Mine Closure

Mine rehabilitation and closure obligations are prepared and updated annually for the Çöpler project. Scheduling and costing of the closure tasks are made in accordance with the Anagold mine plan.

Cost estimates rely on data from mine operations including labour and equipment rates, material costs, groundwater well inventories, and electronic topography data.

Closure costs are estimated using the Standardised Reclamation Cost Estimator (SRCE). The SRCE is an industry standard tool developed to facilitate accuracy, completeness, and consistency in the calculation of costs for mine site reclamation.

SRCE utilises lengths, areas, volumes, flow rates, quantities, etc., provided or estimated by the user (based on the reclamation or closure actions). Some actions require crews and fleets with productivities either provided by the SRCE default settings or those provided by Anagold to estimate the time it takes to perform the work. Where available, these times are then multiplied by labour and equipment rates provided by Anagold.

The Heap Leach Draindown Estimator (HLDE) model is another industry standard tool used for estimating heap leach pad draindown curves for reclamation bonding purposes. The HLDE inputs are derived from site-specific data.

17.4.1 Closure Cost Estimate Assumptions – Waste Rock Dumps

All slopes on the WRDs will be regraded to 2.5H:1V to prepare them for covering, scarification, and revegetation. The sequence of costs in the schedule corresponds to the assumption that reclamation will occur as soon as each WRD reaches final configuration.

Anagold plans to encapsulate all potentially acid-generating (PAG) waste rock within the WRDs as part of mining operations, leaving no PAG material on the surface or outer portions of the WRDs at closure. Therefore, although some PAG cells are currently exposed, costs for construction of a buffer layer encapsulating PAG waste rock are accounted under operational costs and no additional costs for mitigation of current configurations are included in the ARO estimates.

Per the EIA Report, waste rock management will be carried out to allow for the construction of a buffer layer to prevent degradation of seepage and these costs are accounted under operational costs. The seepage collection ponds active during the operations period will be reclaimed during closure. Seepage from the WRDs will not be monitored during closure and post-closure.

17.4.2 Closure Cost Estimate Assumptions – Pits

Berms will be constructed around the perimeter of the pit to discourage public access. There are no other physical reclamation measures assumed for the pit walls.

Rapid refilling of the pits with water is the preferred method for the western part of the pit. Costs for pit refilling by pumping flow of 66 litres per second (L/s) for four-years are included in the ARO estimates.

Some PAG rock will remain exposed in the pit walls after formation of a pit lake; therefore, some reclamation work will be necessary to address the requirement (legal obligation) to cover remaining PAG materials exposed in the pit after mining ceases.

It is assumed that areas within the pit where PAG materials are exposed will be covered with 1 m of non-PAG (or non-acid-generating – NAG) material. The PAG materials exposed within the pit walls are assumed to be located on gentle or nearly-flat slopes. Additional measures (e.g., reduction of pit wall slopes in exposed PAG areas to facilitate cover placement) are not taken into consideration at this time. No PAG cover will be required below the final pit lake elevation.

17.4.3 Heap Leach Pad

All slopes on the heap leach pads will be regraded to 2.5H:1V or flatter to establish a geotechnically stable closure configuration. Following regrading, the areas will be covered, scarified, and revegetated. The ARO estimates reflect the requirement per the EIA report that identifies 2–3 m of cover placement on the heap leach pad followed by growth medium placement after the reduction of heap and pond fluid inventory.

Although not a requirement in the EIA plan, there is a provision for extending half of the heap leach pad perimeter liner to contain heap material regraded beyond the existing liner during reclamation.

East and west buttresses are considered part of the heap leach pad area. The physical reclamation of this area by growth media placement and revegetation is included as a WRD.

The 2014 EIA discusses rinsing of the heap with fresh water with no subsequent fluid management. Rinsing of heap leach pads has been shown to be typically unnecessary and potentially detrimental to long-term chemical stability of gold heap leach.

Per the approach of the HLDE model mentioned above, heap drain-down will be initially managed for inventory reduction via recirculation and active evaporation, followed by active evaporation only. Active evaporation will continue until drain-down flows are reduced to a rate amenable to management with passive evaporation.

Following active solution management, when the heap drain-down flow rate decreases to a level where it can be managed exclusively within available emergency and process pond via passive evaporation, the two ponds will be converted to evapotranspiration (ET) cells. To convert process ponds to ET-cells, the ponds will require relining followed by backfilling with select material and revegetation.

Conversion costs are calculated based on experience from multiple Nevada sites.

In scheduling costs, the cost of construction of ET-cells is included at a time when drain-down rates reach a level that will allow fluid to be managed through the evapotranspirative capacity of ET-cells.

17.4.4 Tailings Storage Facility

Anagold submitted an EIA in 2014 that included TSF 1 and TSF 2. The current designs for TSF 1 and TSF 2 are within the 2014 EIA boundaries, except for a small portion of TSF 1 phase 7. TSF 1 phase 3 has been constructed and approved for use in October 2021 by the MoEUCC. The current mine plan only requires construction of TSF 1. Long-term management costs are included in the estimate and proportioned for the size of the TSF construction.

Reclamation of the life-of-mine (LOM) TSF includes the following actions:

- Reclamation of the TSF surface by placing a traffic layer and growth media followed by revegetation.
- Reclamation of the final TSF embankment.

- Fluid management including managing drainage from the TSF and removal of water ponding on the TSF surface due to consolidation of the tailings.

The estimate includes costs for placement of a traffic layer over the tailings material in addition to the growth media layer. The starter embankment is built at 1.5H:1V with the final embankment at 2.0H:1V. The costs of placing 1 m cover over the embankment are also included.

Costs are included for tailings fluid management crews, pumping for recirculation and forced evaporation, as well as removal of the supernatant in the period soon after the TSF operations end.

17.4.5 Other

SRCE estimates costs to demolish buildings using productivities in conjunction with building volumes, wall areas, and slab volumes. Decontamination costs are included in the estimate for a decontamination crew to pressure-wash the plant site over a nominal number of weeks.

Production wells are assumed to be closed at the end of operation of the sulfide plant and monitoring wells are assumed to be abandoned at the end of the post-closure monitoring period.

17.4.6 Monitoring

The water quality and flow monitoring schedule during the operation, closure and post-closure monitoring period includes numbers of samples, frequencies, and durations for each closure phase. The monitoring locations include the groundwater monitoring wells around the heaps, WRDs, TSF and springs as well as pit lake water quality once the rapid filling begins.

17.4.7 Closure Planning

Closure planning costs are typical industry costs for development of closure plans and studies, reporting and preparation of closure designs and engineering.

17.4.8 Construction Management

Construction management costs include one supervisor during active reclamation. Costs are included for road maintenance, which will be carried out with a water truck and grader during active reclamation.

17.4.9 Human Resources

Closure personnel include a closure general manager, environmental manager, environmental technician, security, and surveyor for whom terminal benefits are included. Under the LOM schedule, the closure general manager would be present during the years of active reclamation and closure. Camp costs are included under general and administration costs.

For solution management, the cost of the heap drain-down management crew is assumed to be shared with those of the TSF. The annual Asset Retirement Obligation reports for EOY'20 and EOY'21 have been completed.

17.4.10 Closure Schedule

The EOY'20 closure was scheduled separately for the oxide and sulfide projects according to the mine plan and is consistent with the long-term management obligations expected for the TSF.

Heap drain-down management starts at the end of heap leaching operations in the mine plan. Ore will be sent to the leach pad until the end-of-2030, although at a reduced rate after 2020. Management and reclamation on the heap will take place while other components of the Çöpler sulfide project continue to operate, with the active closure period starting after the end of deposition in the TSF.

17.4.11 Further Work

There may be an opportunity to utilise the heap drain-down solution in the sulfide circuit rather than disposing of it by forced evaporation, potentially reducing costs. This will require changes to the design of the evapotranspiration cells included in the current estimate.

Further studies and design work are required for the mitigation of PAG materials exposed in the pits to verify whether the proposed 1 m of non-PAG cover is practical and effective to implement.

The growth media inventory and expected amount to be recovered over the course of the project should be compared to the sum of the growth media requirements of the project facilities. Further work is required to determine the most sustainable revegetation covers to be employed.

17.5 Sustainability

Anagold aims to provide sustainability governance that not only meet or exceed the requirements of Turkish legislation, but also align with the expectations of ICMM (International Council of Mining & Metals) guidance and International Finance Corporation (IFC) Performance Standards, and the World Gold Council. The Anagold approach to policy development is to identify the most stringent standards and integrate them into project policy.

Çöpler project policies are supplemented by site-specific environmental and safety standards, management plans and procedures that are specifically tailored to the unique environmental and social challenges and permitting regulations of the site. These plans are certified to the requirements of international standards including ISO14001: 2015 and ISO45001.

Anagold maintains annual sustainability reporting for the project, the report is produced to be in accordance with GRI Standards. The 2020 Sustainability Report has been completed and is publicly available. The 2021 Sustainability Report is currently under development.

Anagold has a dedicated Environmental, Health, Safety and Sustainability (EHS&S) Committee. The EHS&S Committee oversees, monitors, and reviews practice and performance in areas of safety, health, stakeholder relationships, environmental management, and other sustainability issues.

Sustainability is also a key responsibility for group level executives and site teams. The approach to sustainability is underpinned by the principle of collective responsibility and a belief that every employee must contribute to our sustainability performance – particularly on issues of health and safety and reporting of incidents.

17.5.1 Stakeholder Engagement

At the Çöpler project, Anagold has a wide-ranging stakeholder engagement programme which sets out the ways in which Anagold engages with stakeholders and ensures regular communication with stakeholder groups.

During 2021 stakeholder consultations included meetings with shareholders, analysts, local communities, local and national authorities, contractors, government representatives, NGOs, universities, political parties, and trade union officials. Some of the key topics discussed included the Mine Expansion Project, Social Development Fund, exploration activities, cyanide and environmental awareness, local procurement, local contracting opportunities, training, and job creation.

The grievance mechanism is an important part of the Anagold local stakeholder engagement programme and the overall governance of sustainability. The community grievance mechanism has been developed to meet the requirements of both Turkish regulations and the IFC Performance Standards. The mechanism is designed to be widely accessible and there are access points available throughout each of the affected communities. There is also a dedicated access point for suppliers.

17.5.2 Health and Safety

Health and Safety Policy is guided by two key goals. First, to eliminate fatalities and serious injuries from our operations, and second, to continually reduce the number of minor injuries occurring on-site. To fulfill these goals on the ground we implement:

- Robust systems and plans
- Risk assessment and controls
- Employee engagement
- Training

Anagold measures safety performance by tracking a range of leading and lagging safety indicators, the safety statistics reported also include exploration activities. All significant incidents are investigated and, based on findings, corrective action plans are developed to prevent recurrence.

17.5.3 Training and Development

The approach to the development of people is to strategically and continuously invest in staff training to ensure the business and operational needs both now and in the future are met. The development opportunities provided include technical skill development, leadership and business literacy skills, procedures and standards, and career development for staff. Çöpler has a specialised training centre with a capacity of 150 trainees.

Anagold carries out training and capability development programmes for our neighbouring community. Training is directed to future roles with the project, while other training is focused on general skills development to enable people to seek gainful employment in other industries and locations throughout Turkey. This will help to broaden the economy and skills base in the Iliç District.

17.5.4 Industrial Relations

The workforce has no restrictions on union representation. Approximately 60% of the workforce at the Çöpler project are union members and have collective agreements in place. There have been no instances of industrial action.

17.5.5 Diversity and Inclusion

Anagold does not set diversity or gender quotas for the workforce. Personnel are appointed based on merit and have specific objectives in place to ensure that the candidate pools for any position available throughout the company are made up of a range of qualified and diverse candidates. Women are paid equal with men in similar positions. The Anagold Diversity Policy commits the project to provide:

- An environment in which all employees are treated with fairness and respect; and
- Equal access to opportunities - regardless of race, gender, sexual orientation and/or religious beliefs.

The approach to recruitment is to first look to local communities with appropriate skills. If unsuccessful, this is followed by recruiting from the wider region, followed by nationally, before finally looking internationally. The Anagold commitment to employing and developing local and national workers is reflected by the targets set for the Çöpler project:

- 90% of unskilled workers to be drawn from communities impacted and affected by Anagold operations.
- 80% of semi-skilled worker to be drawn from impacted and affected communities.
- 80% of skilled workers to be Turkish citizens.

Suppliers are also encouraged to employ local workers whenever possible.

Local supply chains are preferred. Where supplier skills are lacking Anagold work with the suppliers to build capacity by providing training and mentoring.

17.5.6 Sustainable Community Development

To promote economic development in the communities neighbouring the Çöpler mine a Social Development Fund (SDF) was established in 2018. The SDF provides a structure under which Anagold will work in partnership with communities neighbouring the Çöpler mine, applicable Government agencies, third-party development partners and other relevant stakeholders, with the objectives of:

- Ensuring Anagold's SDF funding of community programmes and projects is managed and distributed in a fair, transparent, and equitable manner.
- Building capacity within the local communities to participate in the benefits afforded by the mine and related regional economic and social development more actively.
- Moving away from donations type community relations expenditure by developing sustainable projects and programmes which address agreed social and community development priorities in the areas of agriculture, health, education, non-mine related income generation, and empowerment of underrepresented and disadvantaged groups.
- Where appropriate, reviving and promoting traditional customs and practices.
- Promoting independence from Anagold operations and assisting the communities to prepare for life beyond mining.
- Where appropriate, community relations expenditure by developing sustainable projects and programmes which address agreed social and community development priorities and/or benefit of public such as infrastructure, renovation, sponsorship, and construction.

Anagold will work with the community and other development partners in a manner that reflects the core values and principles of the SDF which include:

- Fairness and Equality – Impartial administration of the SDF, with all sectors of the SDF communities treated equally.

- Transparency – Clear, publicly available processes for how the SDF is managed, and timely and fulsome reporting of decisions that are made, including financial reporting everyone has access to the same information.
- Cooperation and Partnership – Anagold working with the Community to focus on agreed development priorities. The SDF will not initiate programmes that are not requested by the community and in which the community do not have active and meaningful participation.
- Mutual respect – Everyone has a right to be heard and their opinion considered.
- Sustainability – Focusing on what counts over the long term and preparing for life beyond mine closure.
- At all times being fully compliant with relevant Turkish and International laws and conventions, and Anagold corporate policies and commitments.

While recipients of the SDF expenditure are the communities neighbouring the Çöpler mine, Anagold will retain ownership and governance control over all aspects of Anagold's financial and in-kind contributions to the SDF. Anagold's contribution to the SDF includes direct financial support, managerial/administrative support, and limited technical support.

Direct financial support has been approved by Anagold's partners (SSR and Lidya) for ongoing annual funding to the SDF of $2 per ounce of gold produced from the Çöpler orebody. The SDF will replace a substantial proportion of Anagold's existing discretionary community expenditure and direct funding towards development proprieties which are agreed with the community. The continuation of Anagold's support to the SDF is at Anagold's discretion, and will be influenced by, among other things, the success of the SDF and the community's participation in ensuring the objectives of the SDF are achieved.

Managerial and administration support will be provided to the recipients of the SDF and Anagold's policies, procedures, and management plans. Anagold will also cover the costs associated with stakeholder communication and consultation during the roll-out of the SDF, including support for the first three years in establishing a help-desk facility for SDF applicants to receive assistance in preparing their applications.

While support to the SDF applicants on how to apply and administer their applications and projects will be available through a dedicated SDF help-desk, where appropriate, and where relevant skills exist within the Company (and timing permits), Anagold will also support the SDF applicants with limited ad-hoc technical support as projects are being developed, and during the implementation phase. However, where a project requires specific and ongoing technical support, project applicants must ensure this is identified and resourced appropriately using third-party technical resources.

Anagold's intensions for the SDF initiative are based on good-will and respect for its neighbouring communities, however, Anagold acknowledges that other individuals, organisations, and government agencies may be more skilled and adept at identifying and implementing social and community development programmes and projects. As such it is Anagold's desire that the SDF be implemented in such a way that third parties are attracted to participate in supporting community based SDF initiatives. In this way, the SDF can realise a greater funding base as well as attract leading skills in social and community development programme implementation. Third-party partners can include organisations providing development support or financial support including Government agencies, NGOs, or other credible development organisations. The SDF will not be used to fund third-party projects outside the approved SDF catchment area. Where a third-party partnership is part of an SDF application, the working relationships between Anagold, project applicants, and third-party partners must be clearly detailed in the project application. Details of these relationships will form part of the application review process and be thoroughly scrutinised with respect to Anagold's FCPA policy.

While Anagold's annual contribution to the SDF is substantial, not every project will receive funding. The SDF will be established to focus on participatory needs-based development priorities which support the above-mentioned purpose. It is proposed that development priorities will be re-assessed every three-years.

15.5.7 Environmental Management

Anagold's commitment to responsible environmental management is set out in the Environmental Policy, which complies with in-country legislation, the IFC Performance Standards, and the Equator Principles. The Çöpler Environmental Management System (EMS) is certified to the international ISO14001: 2015 standard. The latest ISO14001: 2015 external audit was completed successfully in December 2019.

15.5.8 Water Risk

The Çöpler project is in a high desert region in Eastern Turkey near the culturally significant Euphrates River. All water used at Çöpler is governed by strict permitting rules regarding abstraction and discharge under Turkish regulations. The approach to water management is to use water as efficiently as possible and to only draw as much needed and allowed within permitted limits. All water abstract is groundwater. Water used on-site is recycled and re-used in the process plant. Water is not discharged to the environment.

15.5.9 Energy and Climate Change

All the electricity the Çöpler project uses is drawn from the Turkish national grid. Approximately 41% of Turkey's national grid capacity comes from hydropower stations. The treatment of sulfide ore requires a more energy and CO2 intensive process than the oxide ore process that was previously the only ore treated at the Çöpler project. Anagold plan to use 2019, 269 GWh, as the baseline year for electricity use and efficiency, and to set targets based on 2019. The greenhouse gas emissions are published in the Anagold sustainability report.

15.5.10 Tailings Dam Management

Tailings produced by the Çöpler project are classified as class II non-hazardous. All tailings are sent to a carefully engineered TSF. Anagold has procedures in place to ensure that all parts of the TSF life cycle from construction to closure align with international best practice standards.

The TSF at the Çöpler project is a downstream mass filled dam. It became fully operational during the final quarter of 2018 with the start-up of the sulfide plant. The technical specifications for the construction of the Çöpler project TSF conforms with both Turkish national requirements and accepted good practice standards for tailings facilities, including:

- World Bank Standards
- Canadian Dam Association Safety Guidelines
- ICOLD (International Commission on Large Dams) Bulletins
- Turkish Hydraulic Works' Technical Codes
- Mining Association of Canada (MAC) Guide to the Management of Tailings Facilities.

The Çöpler project TSF has been designed to withstand significant earthquakes up to a magnitude of 7.5 on the Richter scale. Modelling showed that even in the most severe seismic event, the wall of the TSF will heave with minimal risk of altering facility location or strength. There are no communities living directly downstream of the Çöpler project TSF.

The TSF uses a combination of technology, regular inspections and external oversight and audits to monitor the Çöpler project TSF (see Section 18.10.3).

In addition to stability designs and monitoring, Anagold also has three groundwater monitoring wells in place both above and below the Çöpler project TSF, to monitor for signs of groundwater contamination. It was designed to meet the best in class requirements for class I (hazardous) waste, even though all tailings are classified as class-II (non-hazardous).

15.5.11 Water Management

The process of removing ore from the ground and extracting gold creates significant non-hazardous and some hazardous waste, which must be appropriately dealt with over the long- and the short-term. Ensuring all waste is responsibly dealt with is crucial to protecting the health of the local environment and neighbouring communities.

To ensure that all waste, whether hazardous or non-hazardous, is reduced and dealt with in a safe and responsible manner, the Çöpler project has a detailed and comprehensive waste management plan. This is underpinned by the goal to reduce the amount of waste generated and to maximise the proportion of waste sent for recycling.

The bulk of the waste created at the Çöpler project is waste rock. All the waste rock created by the Çöpler project is carefully disposed of in engineered waste rock dumps. The design and management of all waste rock dumps is overseen by geotechnical engineers to ensure they have safe slope angles, maximum structural stability and management of any potentially acid forming materials are conducted appropriately by mine operations and thus meet the requirements of Turkish national regulations, industrial best practices and the IFC Performance Standards.

15.5.12 Cyanide Management

The use of cyanide is a critical part of the gold mining process. However, if not handled correctly, cyanide can have significant impacts on both environmental and human health. The use of cyanide at the Çöpler project is governed both by the requirements of Turkish national laws and regulations and aligned with industrial best practice. All employees and contractors who handle, transport, or dispose of cyanide are required to undertake specialised training in cyanide handling.

15.5.13 Biodiversity

The size, scale and location of mining operations means they can have a negative impact on local biodiversity. Failure to manage these risks and minimise the impacts on biodiversity could affect the social licence to operate and reputation. The Anagold aim is to restore sites (both operational and exploratory) and repair any damage done to the extent practicable. To do this, detailed records of the full range of biodiversity present as part of feasibility studies of any project or expansion. These studies form the basis for a Biodiversity Action Plan (BAP). The BAP sets out how impacted ecosystems are to be restored to their original state (or as close as possible) at the time of closure. Both the Çöpler project, its associated TSF and prospects have Biodiversity Action Plans in place. Anagold also conducts biodiversity monitoring studies each quarter with experts from Gazi and Hacettepe Universities.

15.5.14 Air Quality

There is a potential for dust to be generated across many parts of the operation, including blasting, crushing, and milling, and the movement of large vehicles on haul roads. Dust management is a key focus across all facets of the operation. Air quality and the presence of dust is an important factor for local communities and workers. Ensuring management air quality for workers and communities is an important part of environmental management. Anagold has put in place a dust management plan at the Çöpler project to minimise the levels of dust in the air and ensure they fall within Turkish and IFC guideline limits. There are several monitoring stations across site and in the local communities. These stations record levels of airborne particulate matter and dust fall out. The results from the monitoring stations are reported to the relevant national authorities, and to local communities.

18 CAPITAL AND OPERATING COSTS

Capital and operating cost estimates have been developed based on the current project costs, the mine and process designs, and discussions with potential suppliers and contractors. The estimated capital costs are to a feasibility level of accuracy and include a contingency of 10%.

18.1 Capital Costs

Growth capital costs in the Reserve Case includes costs for:

- Ardich establishment and mine development
- Heap leach phases 5 and 6
- Road relocation, studies, and project management
- Explosives magazine relocation

Sustaining capital in the Reserve Case includes costs for:

- Tailings storage facility (TSF)
- Project team
- Technical services
- Administration
- Assay laboratory
- Mining
- IT
- Sulfide processing
- Oxide processing
- Environment
- Mineral / lands rights
- Health & safety
- Security
- Supply chain
- Reclamation

Capital costs assumptions to the end of 2021 and for the life-of-mine (LOM) are shown in Table 18.1.

Table 18.1 Capital and Reclamation Costs

Description	Unit	Total LOM
Oxide		
Growth	$M	69
Sustaining	$M	29
Sulfide		
Growth	$M	–
Sustaining	$M	413
Reclamation and Other		
Reclamation	$M	114
Working and Other	$M	–37
Total	$M	**588**

18.2 Operating Costs

Operating costs were estimated based on current site cost performance and contract costs including actual operational costs for labour, consumables, contracts and the Anagold budget assumptions. The projected LOM unit operating cost estimate is summarised in Table 18.2 and the average costs are shown in Table 18.3.

Table 18.2 Average Operating Costs Unit Rates

Activity	Unit	LOM Average Unit Cost
Mining	$/t mined	1.62
Processing – Heap Leach	$/t HL processed	14.45
Processing – Sulfide	$/t sulfide processed	35.91
Site Support and Office	$/t ore processed	5.21

Table 18.3 Summary of LOM Average Operating Costs

Cost	Total LOM ($M)	5-Year Average per year ($/t ore)	LOM Average per year ($/t ore)
Mining	766	14.98	10.15
Process	2,225	27.79	29.49
Site Support and G&A	473	7.14	6.27
Operating Costs	3,346	49.91	45.91

Mining costs include waste stripping costs

18.3 Mining Cost Summary

The mining costs were applied to the financial model as operating costs or capital costs. In the mining cost model, costs are broken down into specific areas including drill and blast, load and haul and rehabilitation.

Mining operations for the mine are currently contracted to a Turkish mining contractor. No capital cost is included for mining equipment or facilities. All such costs are built into the unit rate for mining operations included in the operating cost estimate.

Mining operating costs include:

- Drill and blast
- Load and haul
- Labour
- Dewatering
- Other indirects

Mining capital costs include:

- Fixed equipment
- Mobile equipment
- Office and supply
- Mine rehabilitation
- Studies

18.4 Processing and Infrastructure Cost Summary

The following has been included in the costs for processing:

- Oxide processing
- Sulfide processing
- Waste management
- TSF
- Utilities and services
- Reagents
- Plant infrastructure
- Plant mobile equipment

The following has been included in the capital costs for infrastructure cost estimates:

- Bulk services
- Site preparation
- Buildings and structures (new and refurbished)
- Communications
- IT hardware and software
- Security and access control
- Site costs
- Mobile equipment
- Services contracts
- Community support

The following has been included in the operating cost estimates:

- Plant consumables
- Crusher consumables
- Screens
- Grinding media
- Filters
- Packaging plant bags
- Plant reagents
- Plant mobile equipment
- Plant maintenance
- Power
- Labour
- Production and dispatch
- Plant and infrastructure day work services
- Plant technical services
- Shift maintenance
- Laboratory service level agreement
- TSF water treatment

18.5 General and Administration Cost Summary

The General and Administrative (G&A) costs include costs not directly attributable to operational output such as the mining and processing operations. The following costs have been included in total G&A cost:

- Office and general expenses
- Site support costs
- Off-site Anagold offices
- Internal and external consultants
- Maintenance and inspection contracts
- Equipment and sundry
- Fuels and utilities
- Rentals and leases
- Insurance and insurance taxes
- IT hardware and software
- Personnel transport
- Communications
- Licences and land fees
- Labour
- Accommodation and messing
- Medical support

- Flights
- Light vehicles
- Environmental, community development and engagement
- Banking and audit fees
- Legal

19 ECONOMIC ANALYSIS

19.1 Reserve Case Economic Analysis Results

The Reserve Case production includes 22.5 Mt at 1.69 g/t Au oxide ore processed by heap leaching and 52.9 Mt at 2.33 g/t Au processed in the sulfide plant. Total production is 75.4 Mt at 2.14 g/t Au. Total gold production is 4.4 Moz. Mining at the Çöpler pit is completed in 2029 and at Ardich in 2034. Oxide heap leach stacking is completed in in 2034, while sulfide processing will continue from stockpiles until 2042.

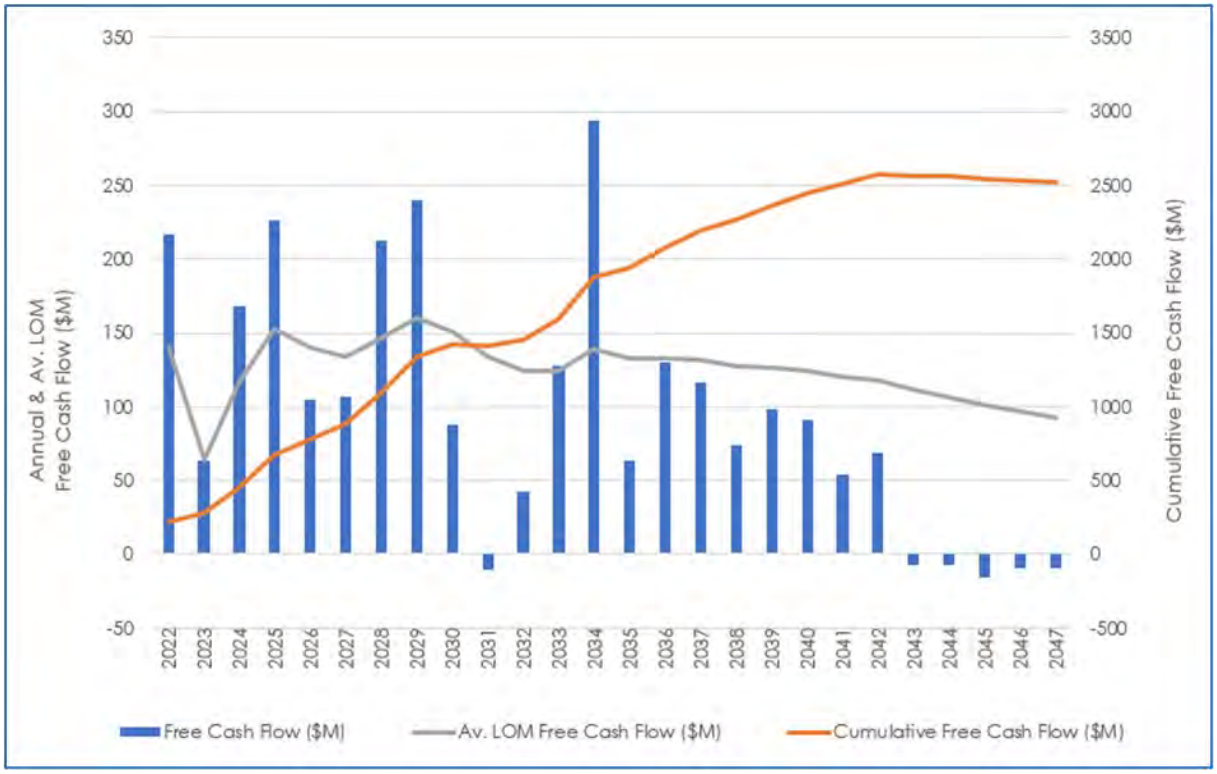
The Reserve Case results include:

- After-tax NPV at a 5% real discount rate is $1.73 billion.
- Mine life of 21 years.

An IRR is not reported as the operation is cash positive in each year of the mine plan until closure. The Reserve Case average all-in sustaining cost (AISC) is $966/oz gold. Key results of the Reserve Case economic analysis are shown in Table 19.1.

The after-tax cash flow is shown in Figure 19.1. The NPV results for before and after-tax over a range of discount rates is shown in Table 19.2. The sulfide and oxide production profiles are shown in Table 19.2 and gold production in Figure 19.3. Cash costs are shown in Table 19.3.

Figure 19.1 CDMP21TRS Reserve Case After-Tax Cash Flow



OreWin, 2022

Table 19.1 CDMP21TRS Reserve Case Results Summary

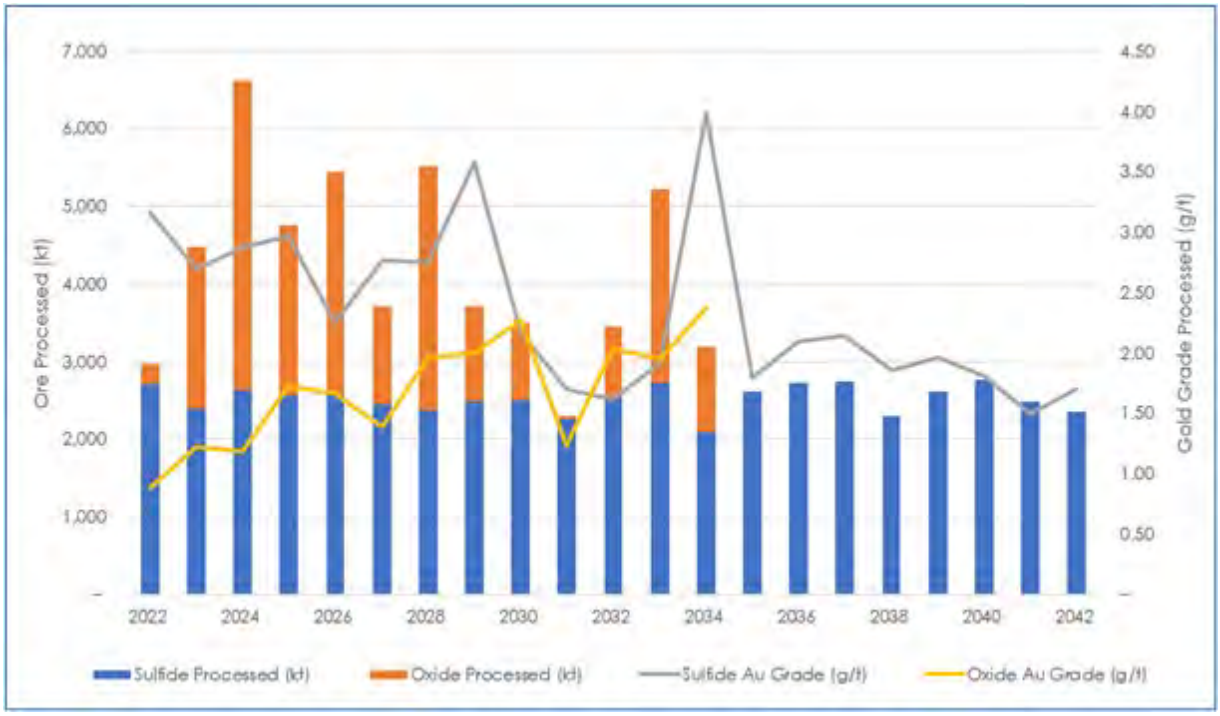
Item	Unit	Reserve Case
Oxide Processed		
Heap Leach Quantity	kt	22,557
Au Feed Grade	g/t	1.69
Sulfide Processed		
Quantity Milled	kt	52,892
Au Feed Grade	g/t	2.33
Total Processed		
Processed	kt	75,448
Gold Feed Grade	g/t	2.14
Total Gold Produced		
Oxide – Gold	koz	765
Sulfide – Gold	koz	3,604
Total – Gold	koz	4,369
Oxide – Gold Recovery	%	61
Sulfide – Gold Recovery	%	91
5-Year Annual Average		
Average Gold Produced	kozpa	278
Free Cash Flow	$Mpa	158
Total Cash Costs (CC)	$/oz gold	880
All-in Sustaining Costs (AISC)	$/oz gold	1,071
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz gold	803
LOM All-in Sustaining Costs (AISC)	$/oz gold	966
Site Operating Costs	$/t treated	45.91
After-Tax NPV5%	$M	1,732
Mine Life	years	21

5-Year Annual Average is for the period 1 January 2021 through 31 December 2025

Table 19.2 CDMP21TRS Reserve Case Before and After-Tax NPV

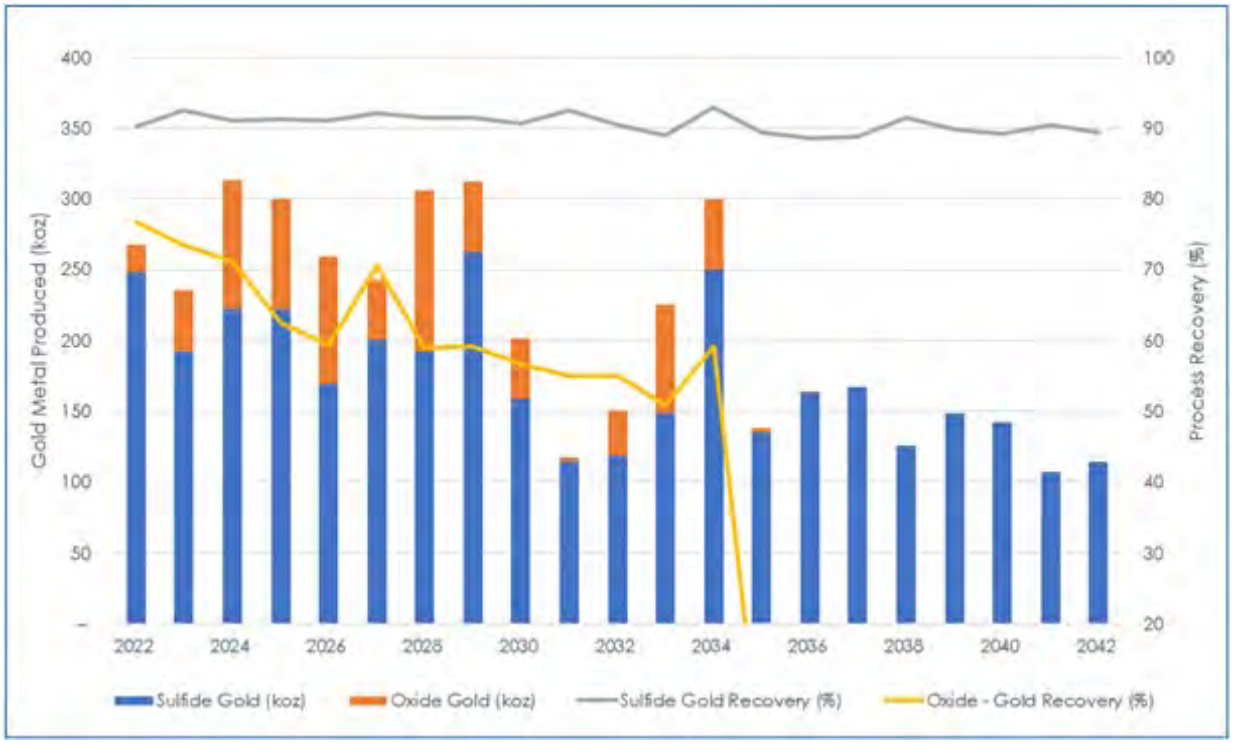
Discount Rate	Before-Tax NPV ($M)	After-Tax NPV ($M)
Undiscounted	2,729	2,555
5%	1,824	1,732
10%	1,322	1,268
12%	1,185	1,140

Figure 19.2 CDMP21TRS Reserve Case Processing



OreWin, 2022

Figure 19.3 CDMP21TRS Reserve Case Gold Production and Recovery



OreWin, 2022

Table 19.3 CDMP21TRS Reserve Case Cash Costs

Description	Units	Reserve Case
Mining and Rehandle	$M	766
Process, Freight, and Refining	$M	2,031
Site Support	$M	393
Royalties	$M	353
Total Production Costs	$M	3,543
Total Cash Costs (CC)	$/oz gold	803
Sustaining Capital	$M	442
Fixed Lease Payments	$M	192
Site G&A	$M	81
All-in Sustaining Costs (AISC)	$M	4,257
All-in Sustaining Costs (AISC)	$/oz gold	966

Process, Freight, and Refining includes by-product credits and excludes fixed lease costs.
Royalties are calculated in the period incurred and applied to cash flow in the subsequent year.

A financial model was prepared using the Reserve Case production schedule and operating and capital assumptions on an annual basis. The assumptions for taxes and royalties were provided by SSR. The corporate tax rate in Turkey is 23% in 2022 but will revert to 20% from 2023. The royalty rate for precious metals under Turkish Mining Law is variable and tied to metal prices. As Çöpler ores are processed on-site, the applicable royalty rate for POX processing is subject to a further 40% reduction for certain qualifying operating costs. The average royalty calculated as a proportion of gross revenue in the Reserve Case is approximately 4.9%.

Metal prices were estimated after analysis of consensus industry metal price forecasts and metal prices used in other comparable studies. The prices used for the economic analysis are shown in Table 19.4.

Table 19.4 CDMP21TRS Reserve Case Metal Price Assumptions

Metal Price	Units	2022	2023	2024	2025	Long-Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Copper	$/lb	4.00	3.80	3.80	3.80	3.40

The estimates of cash flows have been prepared on a real basis with a base date of Q4'21 and a mid-year discounting is used to calculate NPV. All monetary figures have a base date of Q4'21 with no allowance for escalation and are expressed in US dollars (US$) unless otherwise stated.

The after-tax NPV sensitivity to metal price variation is shown in Table 19.5 for gold prices from $1,000–$2,000/oz. Cost sensitivity is shown in Table 19.6.

Table 19.5 CDMP21TRS Reserve Case Gold Price Sensitivity

After-Tax NPV ($M)	Long-Term Gold Price ($/oz)							
Discount Rate	1,000	1,200	1,350	1,400	1,600	1,750	1,800	2,000
Undiscounted	967	1,546	1,974	2,104	2,555	2,890	2,985	3,398
5%	769	1,115	1,370	1,447	**1,732**	1,939	1,998	2,252
10%	645	866	1,029	1,079	1,268	1,405	1,444	1,611
12%	608	796	935	977	1,140	1,257	1,291	1,435
15%	563	712	822	856	987	1,082	1,110	1,226
18%	525	646	735	762	870	948	970	1,066
20%	504	610	687	711	806	875	894	979

Table 19.6 CDMP21TRS Reserve Case Cost Sensitivity

Change from Base NPV5% ($M)							
Variable	**Units**	**Base Value**	**–20%**	**–10%**	**0%**	**10%**	**20%**
Capital Cost	$M	575	1,790	1,761	1,732	1,702	1,671
Mining Cost	$/t mined	1.62	1,833	1,782	1,732	1,681	1,630
Processing Cost	$/t treated	29.49	1,957	1,845	1,732	1,618	1,503
Site Operating Cost	$/oz Au	108	1,785	1,758	1,732	1,705	1,679
Gold Royalty	$/oz Au	81	1,769	1,751	1,732	1,713	1,694

19.1.1 Project Cash Flow

The after-tax cash flow and average LOM AISC unit cost is shown in Table 19.3.

The annual revenue, operating cost and capital costs and net cash flow is tabulated in Table 19.7.

Table 19.7 CDMP21TRS Reserve Case Cash Flow

Item	TOTAL	Year																					
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044+
	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
Gross Revenue	**7,154**	**488**	**419**	**549**	**505**	**422**	**392**	**496**	**503**	**325**	**189**	**243**	**365**	**482**	**222**	**262**	**267**	**202**	**238**	**229**	**172**	**184**	**–**	**–**
Realisation Costs																								
Freight & Refining	19	1	1	1	2	1	1	2	1	1	0	1	1	1	1	1	1	0	1	1	0	0	–	–
Royalties	353	23	27	19	29	26	20	17	27	27	14	4	8	18	29	7	10	11	7	9	8	5	6	–
Total – Realisation Costs	**373**	**24**	**28**	**21**	**30**	**28**	**21**	**19**	**29**	**28**	**15**	**5**	**9**	**19**	**29**	**8**	**11**	**11**	**8**	**10**	**9**	**5**	**6**	**–**
Operating Costs																								
Mining	766	47	64	94	79	79	80	82	74	40	41	41	34	10	–	–	–	–	–	–	–	–	–	–
Processing – Heap Leach	326	13	24	53	32	42	18	45	18	14	0	13	36	16	1	1	–	–	–	–	–	–	–	–
Processing – Sulfide Plant	1,899	115	105	113	88	89	85	82	86	87	79	88	94	73	90	95	95	80	91	96	86	82	–	–
Site Support	393	32	32	31	27	27	27	27	23	23	19	19	19	19	9	9	9	9	9	9	9	9	–	–
G&A	81	5	5	5	5	5	5	5	5	5	5	5	5	5	2	2	2	2	2	2	2	2	–	–
Total – Operating Costs	**3,464**	**213**	**230**	**296**	**231**	**241**	**215**	**242**	**206**	**169**	**144**	**166**	**188**	**123**	**102**	**106**	**105**	**90**	**101**	**106**	**96**	**92**	**–**	**–**
Operating Surplus	**3,318**	**251**	**161**	**233**	**244**	**153**	**156**	**235**	**269**	**128**	**30**	**72**	**168**	**340**	**90**	**148**	**151**	**100**	**129**	**113**	**67**	**86**	**–6**	**–**
Total – Capital Costs	**588**	**25**	**81**	**65**	**12**	**49**	**49**	**12**	**12**	**29**	**29**	**19**	**25**	**25**	**25**	**12**	**14**	**14**	**12**	**11**	**6**	**1**	**1**	**58**
Net Cash Flow Before Tax	**2,729**	**226**	**80**	**168**	**232**	**104**	**107**	**223**	**257**	**98**	**0**	**53**	**143**	**315**	**66**	**136**	**137**	**86**	**116**	**101**	**61**	**85**	**–7**	**–58**
Tax	174	6	2	3	4	4	4	7	9	4	–	1	5	12	2	5	25	16	22	19	10	15	–	–
Net Cash Flow After Tax	**2,555**	**220**	**78**	**164**	**228**	**100**	**103**	**216**	**248**	**95**	**0**	**52**	**138**	**303**	**64**	**131**	**112**	**70**	**94**	**82**	**51**	**71**	**–7**	**–58**

Royalties are paid in the period after they are accrued
2044+ covers the period from 2044–2053

19.2 Economic Assumptions

The financial model was prepared using the Reserve Case production schedule, operating, and capital assumptions on an annual basis. The assumptions for taxes and royalties were provided by SSR.

19.2.1 Metal Prices

Metal prices for the economic analysis were estimated after analysis of consensus industry metal price forecasts and compared to those used in other published studies. The metal prices used for the economic analysis, shown in Table 19.8, are considered to be representative of industry forecasts.

Table 19.8 CDMP21TRS Economic Analysis Metal Price Assumptions

Metal Price	Units	2022	2023	2024	2025	Long-Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Copper	$/lb	4.00	3.80	3.80	3.80	3.40

19.2.2 Taxation

The Turkish government implemented a temporary rate increase from 20% to 22% for the periods of 2018-2020. From 2022 onwards, the effective tax rate is expected to return to 20%.

For tax purposes, a 20% accelerated depreciation rate is applicable for both the oxide and sulfide capital. The depreciation period is 10 years for general mining equipment, if not specifically defined by the tax office.

Investment incentive certificates (IIC) are available for investments that promote economic development. IIC's can be classified as strategic in specific circumstances, thereby providing additional incentives. Anagold received a strategic IIC for the sulfide process plant. An IIC generates credits that offset corporate income taxes generated by the investment. The amount of investment credits generated from the IIC is based on eligible capital expenditures. These investment credits reduce the corporate tax rate to a minimum of 2% in a given tax period until the last quarter of 2023, thereafter it is assumed subsequent non-strategic IIC's will be available and the minimum rate will be 4%. Incentive tax credits can be carried forward to future tax periods indefinitely until exhaustion. Incentive tax credits and other tax pools are determined in the local currency, Turkish Lira, and subject to devaluation and revaluation as fluctuations against the US dollar occur. The cash flow model is prepared on a constant Turkish Lira basis.

Value-added tax (VAT) in Turkey is levied at 18% and the project is eligible for the Turkish exemptions for mining projects and mining equipment purchases. In the CDMP21TRS assumes the cash flows are not subject to VAT.

Import duties are not included in the capital cost estimate for mining related imported equipment because they are exempted in the IIC's.

19.2.3 Royalties

Under Turkish Mining Law, the royalty rate for precious metals is variable and tied to metal prices. The Çöpler project is subject to a mineral production royalty which is based on a sliding scale to gold price and is payable to the Turkish government.

Table 19.9 details the current prescribed royalty rates applicable to heap leach production (revised September 2020). The royalties are calculated on total revenue with deductions allowed for processing and haulage costs of ore. As the Çöpler project produces silver and copper as by-products of the process of treating gold ore, revenue from by-products is included in the total revenue used for royalty calculations. Royalty rates are reduced by 40% for ore processed in country, as an incentive to process ore locally. The Çöpler project POX production is eligible for a 40% reduction to the royalty rate.

Table 19.9 Gold Royalty Rates

Metal Price ($/oz Gold)		Prescribed Royalty Rate	Royalty After 40% In-Country Processing Incentive
From	To	(%)	(%)
0	800	1.25	0.50
800	900	2.50	1.00
900	1,000	3.75	1.50
1,000	1,100	5.00	2.00
1,100	1,200	6.25	2.50
1,200	1,300	7.50	3.00
1,300	1,400	8.75	3.50
1,400	1,500	10.00	4.00
1,500	1,600	11.25	4.50
1,600	1,700	12.50	5.00
1,700	1,800	13.75	5.50
1,800	1,900	15.00	6.00
1,900	2,000	16.25	6.50
2,000	2,100	17.50	7.00
2,100	+	18.75	7.50

The Çöpler project effective life-of-mine (LOM) royalty rate based on the financial model metal price assumptions and applicable deductions is approximately 4.9%.

Other than the royalty payments, there are no other known back-in rights, payments, or other agreements and encumbrances to which the property is subject.

20 ADJACENT PROPERTIES

There are no adjacent properties that are applicable to the CDMP21TRS.

21 OTHER RELEVANT DATA AND INFORMATION

21.1 Çöpler Resource Initial Assessment

To support the 2021 Çöpler Mineral Resource estimate an Initial Assessment has been prepared to analyse the impact of changes in processing method for the Çöpler Mineral Resource. The project currently has two processing methods:

- Sulfide process plant
- Heap leach oxide processing facility

The sulfide plant includes the crushing, grinding, flotation and pressure oxidation to produce gold and small amounts of silver The heap leach facility produces gold and small quantities of silver and copper.

The scenario for the Initial Assessment Case analysis includes additional processing options to recover copper from the sulfide Mineral Resource. The two processing options are:

- Copper Concentrator producing a copper concentrate and a pyrite concentrate.
- Sodium Hydrosulfide (NaSH) copper recovery circuit to be installed in the current sulfide plant.

The copper concentrator would make a copper concentrate for sale to smelters and a pyrite concentrate to be fed into the autoclaves in the sulfide plant. The pyrite concentrate would have a high gold content and provide sulfur as a source of fuel for the autoclaves. The copper concentrator capacity is 1.8 Mtpa.

The Çöpler Mineral Resource has been selected for the Initial Assessment analysis because the other Mineral Resources at the project do not have significant amounts of copper.

Implementation of the copper recovery options will require capital expenditures and will also provide opportunities for operational cost and productivity improvements. The Initial Assessment Case shows the results of a shorter term analysis using the Reserve Case metal prices and the impact of the estimated capital and potential cost savings from economies of scale and reallocation of shared and fixed costs.

For the Initial Assessment economic analysis the Ardich and Çakmaktepe Mineral Reserves have been included in the cash flow analysis without change from the Reserve Case. This is to allow the analysis to quantify the impact of the copper concentrator and NaSH circuit and demonstrate the potential of the additional Mineral Resources.

The Initial Assessment Case production is oxide of 41.8 Mt at 1.26 g/t Au, 59.7 Mt at 2.45 g/t Au of sulfide, and an additional 24.9 Mt at 0.50 g/t Au and 0.2% Cu amenable to concentrator treatment for a total of 126.4 Mt at 1.67 g/t Au. The gold production in the Initial Assessment Case is 5.4 Moz and 164 Mlb of copper. Copper is produced from all three processing streams. The impact of including the copper concentrator as a processing facility is to expand the Çöpler pit, which ceases mining in 2043. Additional production in the Initial Assessment Case comes from feed of 1.8 Mtpa to the copper concentrator and also from additional sulfide and oxide processing feed that is exposed when the pit gets deeper. Total capital including contingency of 25% for the copper concentrator and the copper recovery circuit in the sulfide plant is $218M. The capital costs have an accuracy of ±50%.

The Initial Assessment Case results include:

- After-tax NPV at a 5% discount rate of $2.00 billion.
- Mine life of 22 years.

The initial Assessment Case shows an average AISC of $924/oz gold.

Key results of the Initial Assessment Case economic analysis are shown in Table 21.1. The after tax annual and cumulative cash flow is shown in Figure 21.1 and the before and after tax NPV at a range of discount rates is shown in Table 21.2.

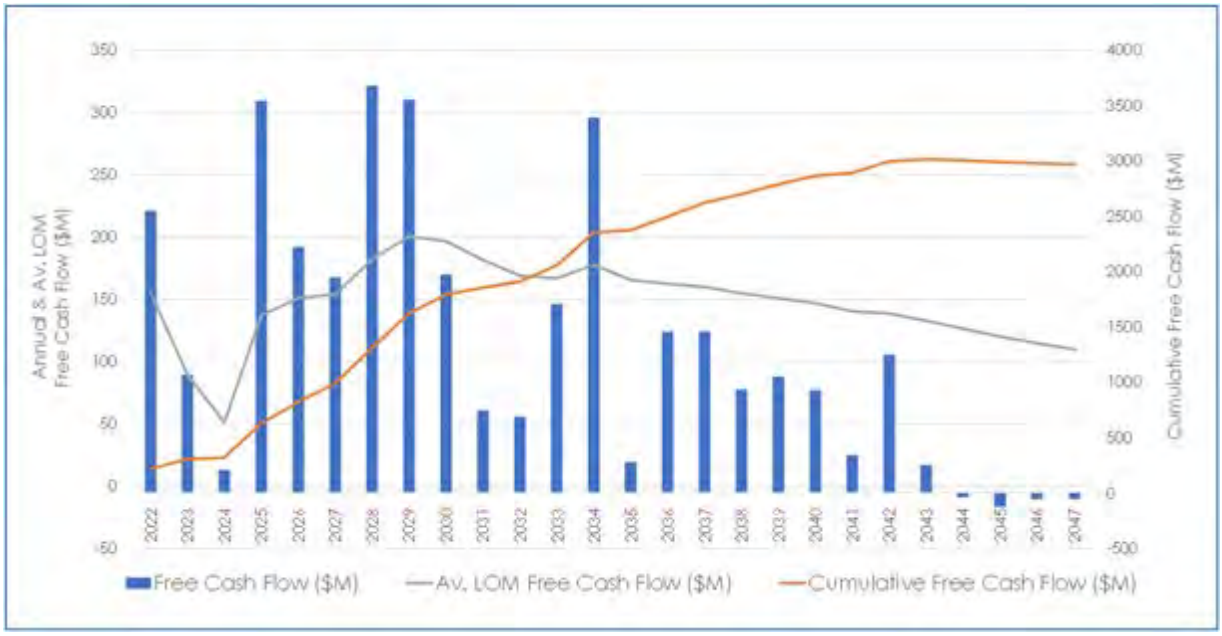
The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

Table 21.1 Çöpler Initial Assessment Case Results Summary

Item	Unit	Initial Assessment Case
Oxide Processed		
Heap Leach Quantity	kt	41,792
Au Feed Grade	g/t	1.26
Sulfide Processed		
Quantity Milled	kt	59,654
Au Feed Grade	g/t	2.45
Cu Concentrator Processed		
Quantity Milled	kt	24,939
Au Feed Grade	g/t	0.50
Cu Feed Grade	%	0.20
Total Gold Produced		
Oxide – Gold	koz	1,068
Sulfide – Gold	koz	4,078
Cu Concentrator – Gold	koz	222
Total – Gold	koz	5,368
Total Copper Production	Mlb	164
5-Year Annual Average		
Average Gold Produced	kozpa	300
Free Cash Flow	$Mpa	165
Total Cash Costs (CC)	$/oz gold	761
All-in Sustaining Costs (AISC)	$/oz gold	938
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz gold	783
LOM All-in Sustaining Costs (AISC)	$/oz gold	924
Site Operating Costs	$/t treated	43.79
After-Tax NPV5%	$M	2,004
Mine Life	years	22

5-Year annual average is for the period 1 January 2022 through 31 December 2026

Figure 21.1 Çöpler Initial Assessment Case After-Tax Cash Flow



OreWin, 2022

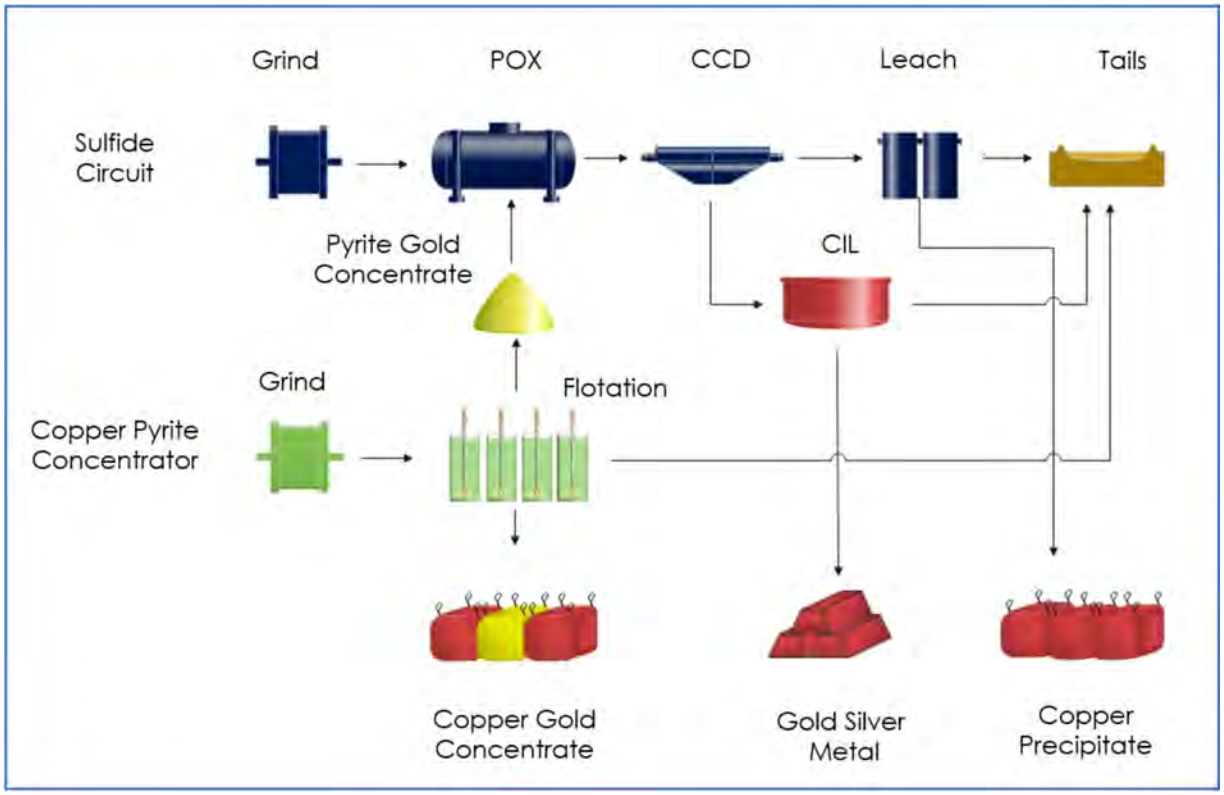
Table 21.2 Çöpler Initial Assessment Case Before and After-Tax NPV

Discount Rate	Before-Tax NPV ($M)	After-Tax NPV ($M)
Undiscounted	3,301	2,958
5%	2,194	2,004
10%	1,571	1,457
12%	1,398	1,304

21.2 Copper Recovery Processing Assumptions

A simplified process flow diagram after the addition of the copper concentrator and NaSH circuit is shown in Figure 21.2.

Figure 21.2 Çöpler Project Initial Assessment Simplified Process Flow Diagram



OreWin, 2022

21.2.1 Copper Concentrator

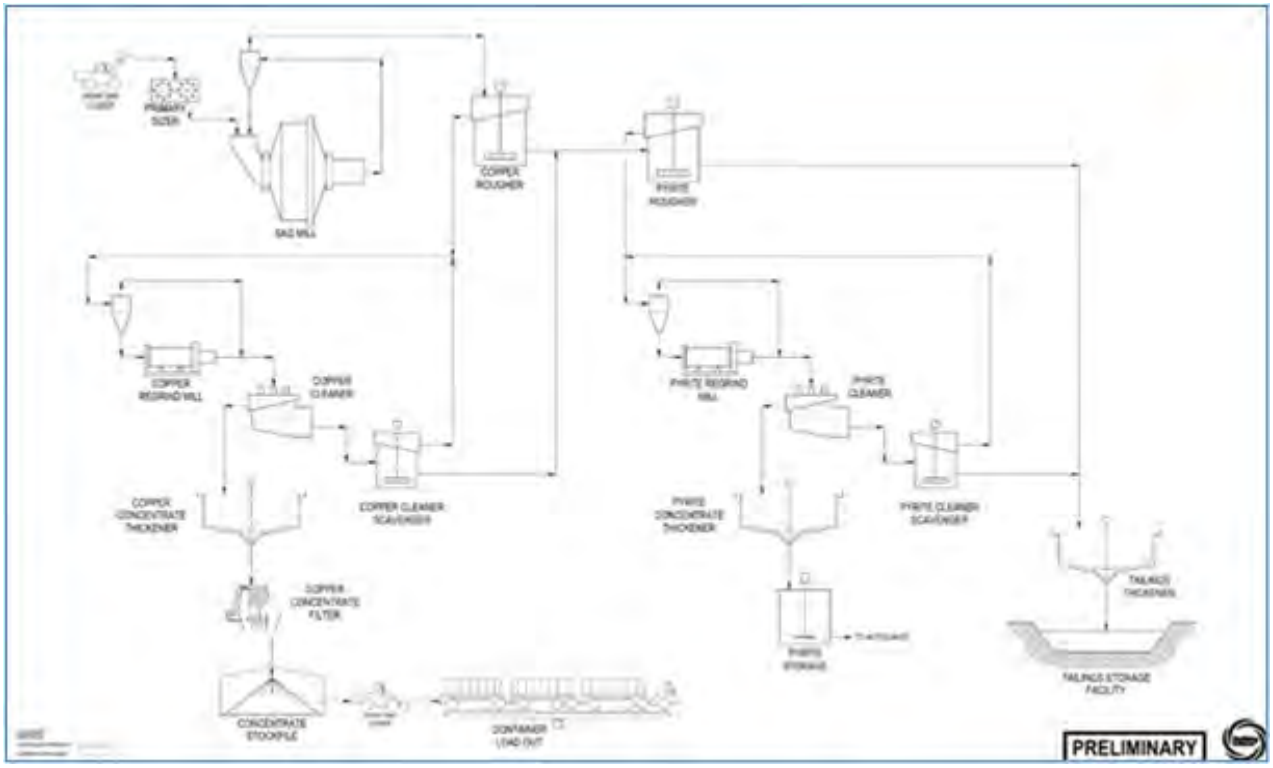
A preliminary design was developed for a concentrator to process copper and pyrite bearing ore at the Çöpler mine site. The design throughput rate was assumed to be 1.8 Mtpa of ROM ore producing saleable copper concentrate with gold and silver and a sulfur-rich pyrite concentrate containing gold for fuel in the autoclave.

The copper concentrator plant includes a ROM pad and a comminution circuit consisting of a sizer and single stage SAG mill. The concentrator consists of a copper flotation circuit inclusive of roughers, copper concentrate regrind, and cleaner flotation to produce a copper concentrate. The copper concentrate is thickened, filtered, and concentrate loadout into bulk bags for shipment to a smelter. Figure 21.3 shows the copper concentrator process flow diagram.

The pyrite flotation circuit treats the copper flotation tails and consists of roughers, a concentrate regrind mill, and cleaner flotation to produce a pyrite concentrate. The pyrite concentrate is thickened and stored in agitated tanks and pumped to the existing gold POX circuit as required to supplement autoclave sulfur requirements.

Final Tailings are thickened and pumped to the TSF. The circuit is inclusive of associated plant services including reagents, air, and water.

Figure 21.3 Çöpler Preliminary Copper Concentrator Process Flow Diagram



Ausenco, 2021

21.2.2 NaSH Copper Recovery Circuit

When originally constructed, the POX circuit did not include extraction of copper. A new circuit assuming precipitation from the pregnant leach solution by sodium hydrosulfide (NaSH) sulfidisation would be expected to achieve high copper recoveries.

Allowance was made in the existing plant for space to install a copper recovery circuit in the future.

21.2.3 NSR Inputs and Cut-off Grade Calculations

The cut-off grades for the Mineral Reserves are presented as a gold only cut-off grade because the majority of the model cell value is derived from gold. For the analysis of the copper recovery, the copper proportion of the plant feeds have a significant revenue, therefore it is necessary to determine the cell values from the three revenue elements: gold, copper, and silver. For this reason, a NSR was calculated for each cell in the Mineral Reserve model for the Initial Assessment for the sulfide and copper concentrator scenario.

Three processing material types were defined for the Initial Assessment. These three processing material types are shown in Table 21.3.

Table 21.3 CDMP21TRS Initial Assessment Case Process Types

Ore Type	Defining Criteria
Oxide	S% < 2
Sulfide	S% >= 2
Copper Concentrator	Cu% >= 0.1

21.2.3.1 Initial Assessment Processing Recoveries

The processing parameters used for the calculation of the NSR and cut-off grades are shown in Table 21.4 to Table 21.7.

Table 21.4 Heap Leach Recoveries

Item	Units	Amount
Au Recovery	%	62.3%–78.4%

Table 21.5 Copper Concentrate Recoveries

Item	Units	Amount
Au Recovery	%	55
Ag Recovery	%	45
Cu Recovery	%	84
Mass Pull = (2 x Cu + 0.15) / 100		

Table 21.6 Pyrite Concentrate Recoveries

Item	Units	Amount
Au Recovery	%	15
Ag Recovery	%	15
Cu Recovery	%	2
Mass Pull = (SS + 0.4) / 100		

Table 21.7 POX Plant Recoveries

Item	Units	Amount
Au Recovery	%	91
Ag Recovery	%	10
Cu Recovery	%	98

21.2.3.2 Costs

Costs have been estimated using actual costs from the project, review of plans for productivity and cost savings, previous capital estimates for a NaSH circuit, and the copper concentrator scoping study.

The accuracy of the estimates are within ±50%. A 25% contingency has been added to the direct capital costs of the copper concentrator and NaSH cost estimates.

Operating and capital costs are shown in Table 21.8 to Table 21.10.

Table 21.8 Operating Costs

Item	Units	Cost
Heap Leach Oxide	$/t oxide $Mpa	9.26 8.32
Sulfide Plant	$/t processed	34.67
Copper Concentrator	$/t processed	7.29
Site Support	$Mpa	26.78 to 19.31 8.55 after mining is completed
G&A	$Mpa	5.00
Mining Costs	$/t mined	1.49 to 3.53

Table 21.9 Copper Concentrator and NaSH Capital Cost

Item	Factor	Cost $M
Cu Concentrator	–	100.2
Sulfide Cu Recovery Circuit	–	33.1
Direct Costs	–	133.3
EPCM	18%	24.6
Owner's Costs	20%	26.7
Contingency	25%	33.3
Total Capital	–	217.9

Table 21.10 Other Capital Costs

Item	Units	Amount
Closure	$M	114
Heap Leach Sustaining	$/t	0.15

21.2.3.3 Metal Prices and Selling Costs

Metal prices for the economic analysis were estimated after analysis of consensus industry metal price forecasts and compared to those used in other published studies. The metal prices used for the economic analysis, shown in Table 21.11, are considered to be representative of industry forecasts.

Reserve cut-off metal prices are lower than the long-term forecasts and represent a conservative view of the long-term gold price. Metal prices used in cut-off's for Mineral Resources were selected to be higher than the long-term consensus prices and are in line with other price estimates used for Mineral Resources.

Realisation assumptions are shown in Table 21.12 and Table 21.13.

Table 21.11 CDMP21TRS Economic Analysis Metal Prices Assumptions

Metal	Units	2022	2023	2024	2025	Long- Term
Gold Price	$/oz	1,800	1,740	1,710	1,670	1,600
Silver Price	$/oz	24.00	23.00	22.00	21.00	21.00
Copper Price	$/lb	4.00	3.80	3.80	3.80	3.40

Table 21.12 Transport and Treatment Charges

Item	Units	Amount
Concentrate Moisture	%	12
Concentrate Transport	$/t wet	25
Concentrate Treatment	$/t concentrate	80

Table 21.13 Payable Metal Assumptions

Item	Units	Amount
Payable Au	%	97.5
Payable Ag	%	90.0
Payable Cu	%	96.0

21.2.3.4 Çöpler Cut-off grades

Cut-off grades in the Initial Assessment for oxide used gold cut-offs of 0.47–0.59 g/t Au.

In the sulfide Mineral Resource an NSR was calculated using the parameters discussed above.

For the copper concentrator, the cut-off applies to Mineral Resource with a Cu > 0.10%.
The cut-off used was as follows:

$7.68/t NSR + (Pyrite Mass Pull) x $34.88/t NSR

For the remaining sulfide Mineral Resource, the cut-off used was $34.88/t NSR.

21.3 Initial Assessment Case Mining

Mining in the Initial Assessment is planned to be the same as the current operation. A plan and section showing the Initial Assessment pit shell and the Reserve Case pit design are shown in Figure 21.4 and Figure 21.5

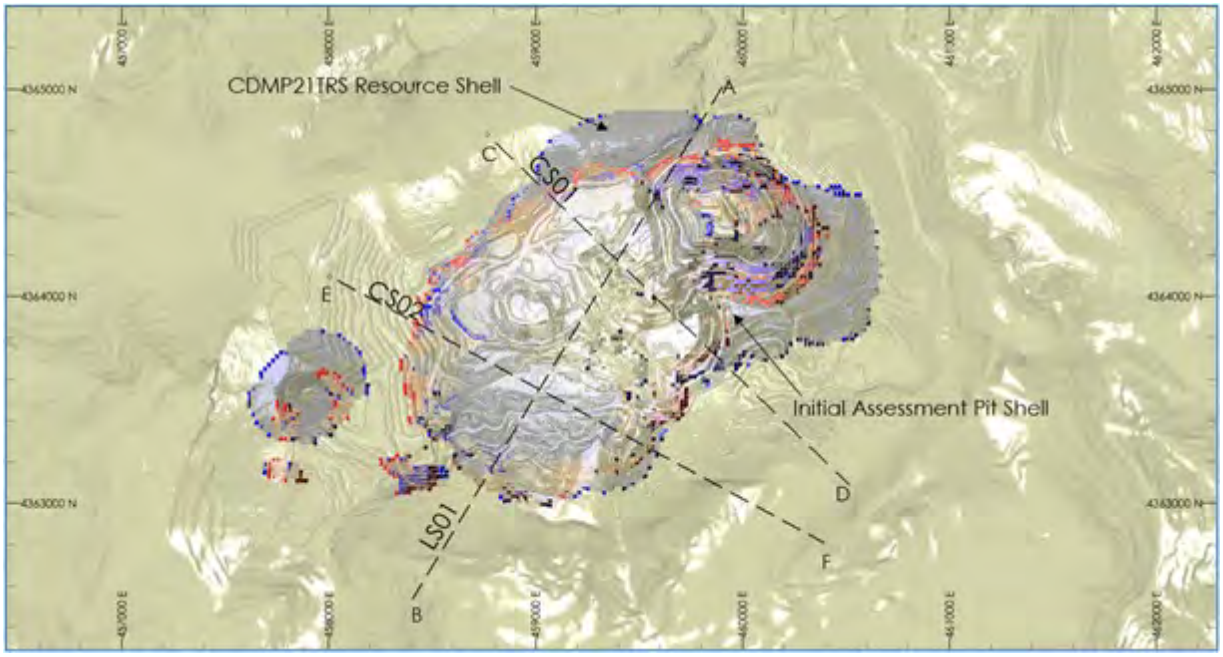
Pit optimisation was prepared using the assumptions described above to generate pit shells. Mineral Resources classified as Measured, Indicated, and Inferred were used in the optimisation. Previous work on the Çöpler pits prepared by OreWin produced pit shells that were used for designs on the Çöpler pit. The pit optimisation work generated pit shells that were considered a close match to the Reserve Case designs. Based on this experience it was considered reasonable to use the pit shells from the optimisation work for production analysis in the Initial Assessment.

21.4 Initial Assessment Case Production Schedule and Cash Flow

The annual mining production and process production for oxide heap leach, sulfide, and copper concentrator are shown in Table 21.14 and Table 21.15.

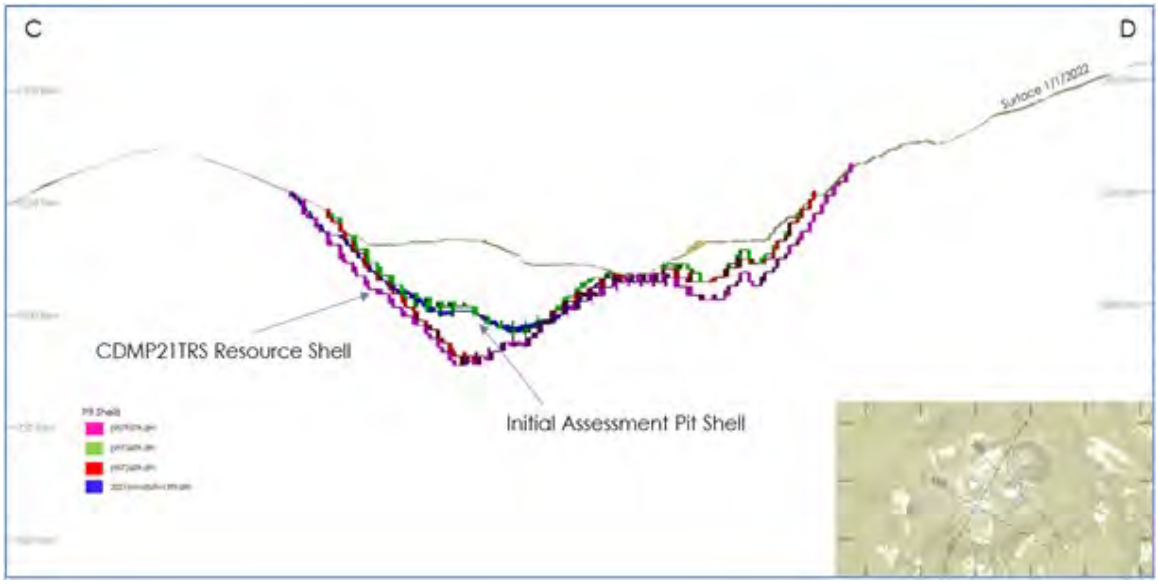
The Initial Assessment Case annual cash flow is shown in Table 21.16.

Figure 21.4 Çöpler Plan Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design



OreWin, 2022

Figure 21.5 Çöpler Long-section Initial Assessment Pit Shell, Resource Shell, and Reserve Pit Design



OreWin, 2022

Table 21.14 Çöpler Initial Assessment Case Production Schedule

Description	Units	TOTAL	Year																				
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Total Movement	**kt**	**721,847**	26,798	36,490	52,473	50,053	53,177	51,541	45,392	45,590	46,872	46,719	46,893	41,577	25,116	20,655	22,616	23,239	22,159	21,630	20,758	18,741	2,829	529
Waste	**kt**	**595,461**	23,828	32,015	44,655	43,362	44,843	45,329	37,456	39,722	39,649	41,003	40,115	33,191	18,062	16,033	16,033	16,033	16,033	16,033	16,033	16,033	–	–
Plant Feed	**kt**	**126,386**	2,970	4,475	7,818	6,691	8,334	6,212	7,936	5,869	7,223	5,716	6,778	8,386	7,053	4,621	6,583	7,206	6,126	5,597	4,725	2,708	2,829	529
Heap Leach Stacked	**kt**	**41,792**	**263**	**2,080**	**5,167**	**2,637**	**3,823**	**1,825**	**2,923**	**963**	**2,324**	**1,241**	**2,318**	**3,476**	**1,585**	**325**	**1,955**	**2,562**	**1,920**	**2,639**	**1,766**	**–**	**–**	**–**
Au Feed Grade	g/t	**1.26**	0.88	1.22	1.12	1.67	1.47	1.22	1.99	2.21	1.38	0.66	1.21	1.62	1.88	0.76	0.85	0.77	0.81	0.67	0.72	–	–	–
Ag Feed Grade	g/t	**1.63**	4.90	8.28	0.59	1.11	1.02	0.77	0.47	2.05	1.36	1.46	0.92	0.59	1.22	5.48	2.44	2.38	2.11	1.55	1.65	–	–	–
Cu Feed Grade	%	**0.09**	0.10	0.07	0.04	0.02	0.04	0.07	0.01	0.03	0.09	0.17	0.11	0.07	0.04	0.08	0.16	0.14	0.17	0.18	0.17	–	–	–
Au Recovered	koz	**1,068**	20	46	98	94	112	55	108	43	64	21	54	96	61	10	36	43	36	40	30	2	0.5	–
Ag Recovered	koz	**607**	11	133	7	31	38	15	14	19	30	18	21	20	19	18	45	58	41	40	29	–	–	–
Cu Recovered	klb	**9,875**	24	87	12	218	460	379	121	85	596	640	777	786	254	96	916	1,048	996	1,418	963	–	–	–
Sulfide Plant Feed	**kt**	**59,654**	**2,708**	**2,395**	**2,650**	**2,704**	**2,711**	**2,587**	**3,212**	**3,106**	**3,099**	**2,675**	**2,660**	**3,110**	**3,668**	**2,497**	**2,828**	**2,844**	**2,406**	**2,769**	**2,959**	**2,708**	**2,829**	**529**
Au Feed Grade	g/t	**2.45**	3.16	2.69	2.87	3.05	2.55	3.08	2.85	3.54	2.53	2.10	1.80	2.04	3.12	2.07	2.26	2.30	2.08	2.11	1.83	1.51	1.77	1.77
Ag Feed Grade	g/t	**4.08**	3.82	4.71	1.96	3.59	3.70	5.45	4.89	7.57	5.94	3.74	5.89	4.18	3.66	2.95	2.11	1.48	4.12	6.24	3.81	3.88	1.90	1.92
Cu Feed Grade	%	**0.13**	0.08	0.07	0.09	0.07	0.13	0.16	0.14	0.15	0.18	0.23	0.20	0.18	0.13	0.14	0.12	0.11	0.17	0.17	0.10	0.07	0.10	0.11
Au Recovered	koz	**4,078**	248	192	222	240	187	211	244	301	215	153	128	172	327	140	175	180	134	159	157	119	146	27
Ag Recovered	koz	**645**	10	11	5	31	30	41	43	65	54	27	46	38	38	19	13	8	26	50	36	34	17	3
Cu Recovered	klb	**71,961**	–	–	–	4,083	2,565	2,706	3,747	4,230	6,159	6,567	4,811	6,115	4,143	1,339	918	623	2,617	3,667	5,910	4,187	6,370	1,204
Cu Concentrator	**kt**	**24,939**	**–**	**–**	**–**	**1,350**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**1,800**	**189**	**–**	**–**	**–**	**–**
Au Feed Grade	g/t	**0.50**	–	–	–	0.69	0.77	0.74	0.71	0.45	0.37	0.43	0.43	0.44	0.40	0.41	0.41	0.41	0.41	0.41	–	–	–	–
Ag Feed Grade	g/t	**2.12**	–	–	–	1.11	1.59	2.84	4.25	1.91	1.93	1.52	1.56	1.90	1.97	2.20	2.20	2.20	2.20	2.20	–	–	–	–
Cu Feed Grade	%	**0.28**	–	–	–	0.39	0.46	0.44	0.40	0.25	0.20	0.24	0.24	0.24	0.20	0.21	0.21	0.21	0.21	0.21	–	–	–	–
Au Recovered	koz	**222**	–	–	–	17	24	23	23	14	12	14	14	14	13	13	13	13	13	1	–	–	–	–
Ag Recovered	koz	**135**	–	–	–	8	9	9	9	9	11	10	9	9	10	10	10	10	10	1	–	–	–	–
Cu Recovered	klb	**92,339**	–	–	–	5,711	6,208	6,351	6,362	6,418	7,353	6,811	6,175	6,342	6,819	6,769	6,769	6,769	6,769	711	–	–	–	–
Total Feed	**kt**	**126,386**	**2,970**	**4,475**	**7,818**	**6,691**	**8,334**	**6,212**	**7,936**	**5,869**	**7,223**	**5,716**	**6,778**	**8,386**	**7,053**	**4,621**	**6,583**	**7,206**	**6,126**	**5,597**	**4,725**	**2,708**	**2,829**	**529**
Au Feed Grade	g/t	**1.67**	2.96	2.01	1.71	2.03	1.67	1.85	2.05	2.37	1.62	1.26	1.23	1.52	2.15	1.33	1.34	1.29	1.19	1.37	1.42	1.51	1.77	1.77
Ag Feed Grade	g/t	**2.88**	3.91	6.37	1.06	2.11	2.02	3.32	3.12	4.93	3.47	2.55	3.04	2.20	2.68	2.84	2.23	1.98	2.92	3.89	3.01	3.88	1.90	1.92
Cu Feed Grade	%	**0.15**	0.08	0.07	0.06	0.12	0.16	0.21	0.15	0.16	0.16	0.22	0.18	0.15	0.13	0.17	0.16	0.15	0.18	0.18	0.13	0.07	0.10	0.11
Au Recovered	koz	**5,368**	268	238	320	351	323	289	375	358	291	188	195	283	401	163	225	236	183	200	187	121	147	27
Ag Recovered	koz	**1,387**	21	144	12	70	77	66	66	93	95	55	76	67	67	46	68	76	77	91	65	34	17	3
Cu Recovered	klb	**174,175**	24	87	12	10,013	9,233	9,436	10,230	10,733	14,108	14,018	11,763	13,242	11,216	8,204	8,604	8,439	10,382	5,796	6,872	4,187	6,370	1,204

Table 21.15 Çöpler Initial Assessment Case Copper Concentrator Processing Schedule

Description	Units	TOTAL	Year																				
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Cu Concentrator	kt	**24,939**	–	–	–	1,350	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	189	–	–	–	–
Au Feed Grade	g/t	**0.50**	–	–	–	0.69	0.77	0.74	0.71	0.45	0.37	0.43	0.43	0.44	0.40	0.41	0.41	0.41	0.41	0.41	–	–	–	–
Ag Feed Grade	g/t	**2.12**	–	–	–	1.11	1.59	2.84	4.25	1.91	1.93	1.52	1.56	1.90	1.97	2.20	2.20	2.20	2.20	2.20	–	–	–	–
Cu Feed Grade	%	**0.20**	–	–	–	0.23	0.19	0.19	0.19	0.19	0.22	0.20	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.20	–	–	–	–
Cu Concentrate	kt	**137**	–	–	–	8	9	10	10	10	11	10	9	10	10	10	10	10	10	1	–	–	–	–
Au Feed Grade	g/t	**50.30**	–	–	–	62.97	80.92	76.39	73.76	46.65	34.51	42.52	45.93	45.73	39.11	40.89	40.89	40.89	40.89	40.89	–	–	–	–
Ag Feed Grade	g/t	**173.26**	–	–	–	81.98	137.10	240.96	359.75	160.96	147.06	122.35	134.96	161.46	158.22	177.84	177.84	177.84	177.84	177.84	–	–	–	–
Cu Feed Grade	%	**29.50**	–	–	–	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	29.50	–	–	–	–
Pyrite Concentrate	kt	**169**	–	–	–	11	15	15	14	12	11	11	12	12	11	11	11	11	11	1	–	–	–	–
Au Feed Grade	g/t	**11.15**	–	–	–	13.13	13.46	13.16	13.38	10.46	9.21	10.16	10.20	10.29	9.93	10.15	10.15	10.15	10.15	10.15	–	–	–	–
Ag Feed Grade	g/t	**46.94**	–	–	–	20.90	27.88	50.73	79.76	44.11	47.95	35.73	36.64	44.43	49.08	53.99	53.99	53.99	53.99	53.99	–	–	–	–
Cu Feed Grade	%	**0.68**	–	–	–	0.66	0.50	0.52	0.55	0.68	0.84	0.74	0.67	0.68	0.78	0.76	0.76	0.76	0.76	0.76	–	–	–	–

Table 21.16 Initial Assessment Case Cash Flow

Cash Flow Statement ($M)	TOTAL	Year																					
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044+
Heap Leach - Gold Revenue	1,737	36	80	167	157	180	87	173	68	102	34	86	154	98	16	58	69	57	65	47	3	1	–	–
Sulfide Plant - Gold Revenue	6,999	447	334	379	429	338	375	427	505	363	267	226	298	543	244	302	309	236	256	252	191	234	44	–
By-Product Revenue	637	5	5	5	40	33	33	36	38	50	49	42	46	40	29	31	30	37	22	25	15	22	4	–
Net Revenue	**9,373**	**488**	**419**	**552**	**625**	**550**	**496**	**637**	**612**	**515**	**350**	**354**	**499**	**680**	**289**	**390**	**408**	**329**	**342**	**324**	**209**	**257**	**48**	**–**
Realisation Costs																								
Freight & Refining	68	1	1	1	4	5	5	5	4	4	4	4	4	5	3	4	4	4	2	1	0	1	0	–
Royalties	486	23	27	19	29	36	30	25	36	33	26	14	15	27	39	11	18	19	15	14	13	7	10	1
Total - Realisation Costs	**554**	**24**	**28**	**21**	**34**	**41**	**35**	**30**	**41**	**38**	**30**	**18**	**20**	**32**	**42**	**15**	**22**	**23**	**16**	**16**	**13**	**7**	**10**	**1**
Operating Costs																								
Mining	1,255	47	57	86	74	78	77	70	72	76	77	79	73	48	42	48	51	51	51	50	47	–	–	–
Processing - Heap Leach	550	13	21	64	33	44	25	35	17	30	20	30	41	23	12	27	32	26	33	25	–	–	–	–
Processing - Sulfide Plant	2,084	115	83	91	94	94	89	111	107	107	92	92	107	127	86	98	98	83	96	103	94	98	18	–
Processing - Cu Concentrator	182	–	–	–	10	13	13	13	13	13	13	13	13	13	13	13	13	13	1	–	–	–	–	–
Site Support	453	32	30	29	27	27	27	27	23	23	19	19	19	19	19	19	19	19	19	19	9	9	–	–
G&A	100	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	–	–
Total - Operating Costs	**4,624**	**212**	**196**	**275**	**242**	**261**	**237**	**262**	**237**	**253**	**227**	**238**	**259**	**236**	**178**	**211**	**219**	**197**	**205**	**202**	**154**	**107**	**18**	**–**
Operating Surplus / (Deficit)	**4,194**	**252**	**196**	**256**	**350**	**249**	**224**	**345**	**334**	**224**	**93**	**98**	**221**	**413**	**68**	**165**	**167**	**109**	**121**	**106**	**42**	**143**	**20**	**-1**
Capital Costs																								
Growth	357	4	69	192	22	–	–	–	–	–	–	18	18	18	18	–	–	–	–	–	–	–	–	–
Sustaining	458	32	55	52	12	49	49	12	12	30	30	12	12	12	12	12	12	11	11	10	10	10	–	–
Closure	114	–	–	–	–	–	–	–	–	–	–	7	13	13	13	–	2	3	1	1	1	1	1	58
Working & Other	-37	-12	-21	-4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total - Capital Costs	**893**	**25**	**103**	**239**	**34**	**49**	**49**	**12**	**12**	**30**	**30**	**36**	**42**	**42**	**42**	**12**	**14**	**14**	**12**	**11**	**11**	**11**	**1**	**58**
Net Cash Flow Before Tax	**3,301**	**227**	**93**	**17**	**315**	**200**	**175**	**333**	**322**	**195**	**63**	**62**	**178**	**371**	**26**	**153**	**153**	**95**	**108**	**95**	**30**	**131**	**18**	**–60**
Tax	344	6	3	4	6	8	7	12	11	25	2	6	31	74	6	28	29	17	20	18	5	26	1	–
Net Cash Flow After Tax	**2,958**	**221**	**90**	**13**	**310**	**192**	**168**	**322**	**311**	**170**	**61**	**56**	**147**	**296**	**20**	**124**	**125**	**78**	**88**	**77**	**25**	**106**	**17**	**-60**

2044+ covers the period from 2044–2052

21.5 Initial Assessment Summary Results

The Initial Assessment Case production is 126.4 Mt at 1.67 g/t Au this includes 24.9 Mt of feed to the copper concentrator at 0.5 g/t Au and 0.20% Cu. The metal production in the Initial Assessment Case is 5.4 Moz of gold and 164 Mlb of copper. The Mineral Resource in the Initial Assessment Case contains 27% Inferred Mineral Resource. The production schedule was prepared so that only Measured and Indicated Mineral Resources are processed in the first four years of the production schedule and there is only 10% Inferred Mineral Resource in the process feed fifth year of production. An additional cash flow analysis has been prepared using only Measured and Indicated Mineral Resources to show the impact of Inferred Mineral Resource on the economic analysis.

The increase in total production relative to the Reserve Case is from expansion of the Çöpler pit deeper than the current Reserve pit design. As well as the copper concentrator feed that is captured in the Initial Assessment pit shell additional oxide and sulfide Mineral Resource is exposed resulting in increased feed for both the heap leach oxide and sulfide processing facilities.

The Initial Assessment Case results include:

- After-tax NPV at a 5% real discount rate is $2.00 billion.
- Mine life of 22 years.

The Initial Assessment Case shows an average AISC of $924/oz gold.

The Reserve Case after-tax NPV at a 5% discount rate is $1.73 billion. Incremental analysis suggest that the impact from the addition of the copper concentrator and NaSH circuit to increase the after-tax NPV5% by $273M demonstrates the economic potential of the Çöpler Mineral Resource.

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

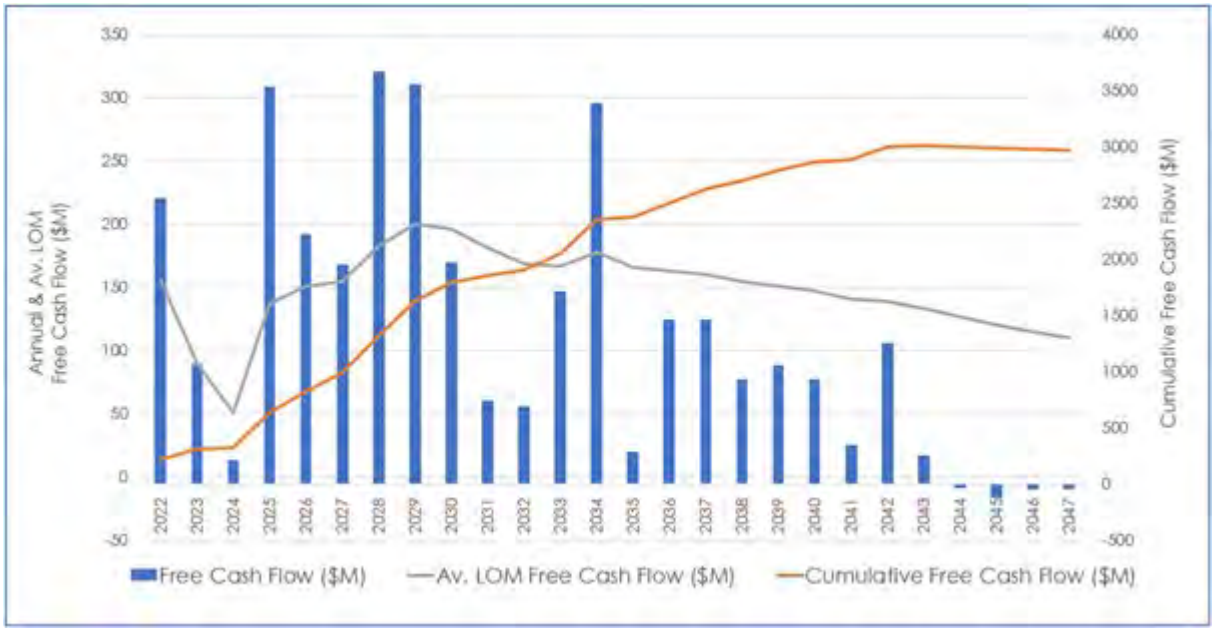
Key results of the Initial Assessment Case economic analysis are shown in Table 21.17. The after-tax cash flow is shown in Figure 21.6. The sulfide and oxide production profiles are shown in Figure 21.7 and gold production is shown in Figure 21.8. The NPV results for before and after-tax over a range of discount rates is shown in Table 21.18.

Table 21.17 Initial Assessment Case Results Summary

Item	Unit	Initial Assessment Case
Oxide Processed		
Heap Leach	kt	41,792
Au Feed Grade	g/t	1.26
Sulfide Processed		
Milled	kt	59,654
Au Feed Grade	g/t	2.45
Cu Concentrator Processed		
Milled	kt	24,939
Au Feed Grade	g/t	0.50
Cu Feed Grade	%	0.20
Total Gold Produced		
Oxide – Gold	koz	1,068
Sulfide – Gold	koz	4,078
Cu Concentrator – Gold	koz	222
Total – Gold	koz	5,368
Total – Copper	Mlb	164
5-Year Annual Average		
Average Gold Produced	kozpa	300
Free Cash Flow	$Mpa	165
Total Cash Costs (CC)	$/oz gold	761
All-In Sustaining Costs (AISC)	$/oz gold	938
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz gold	783
LOM All-In Sustaining Costs (AISC)	$/oz gold	924
Site Operating Costs	$/t processed	43.79
After-Tax NPV5%	$M	2,004
Mine Life	years	22

5-Year annual average is for the period 1 January 2022 through 31 December 2026

Figure 21.6 Initial Assessment Case After-Tax Cash Flow

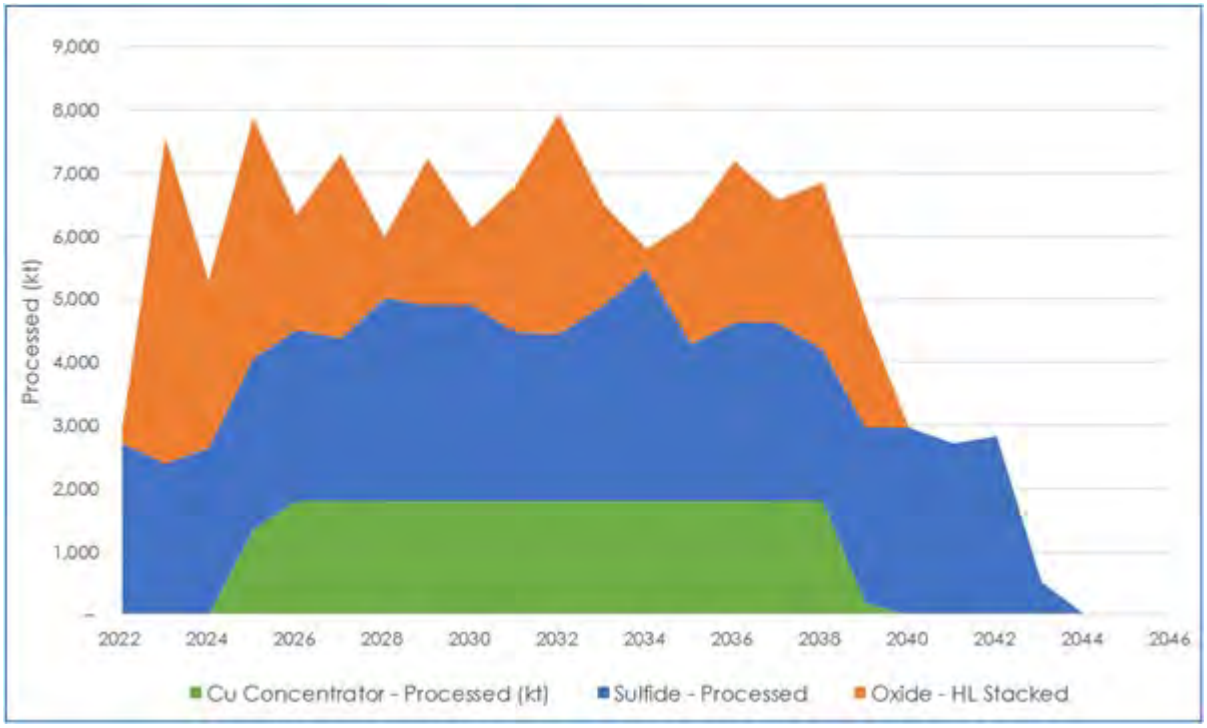


OreWin, 2022

Table 21.18 Initial Assessment Case Before and After-Tax NPV

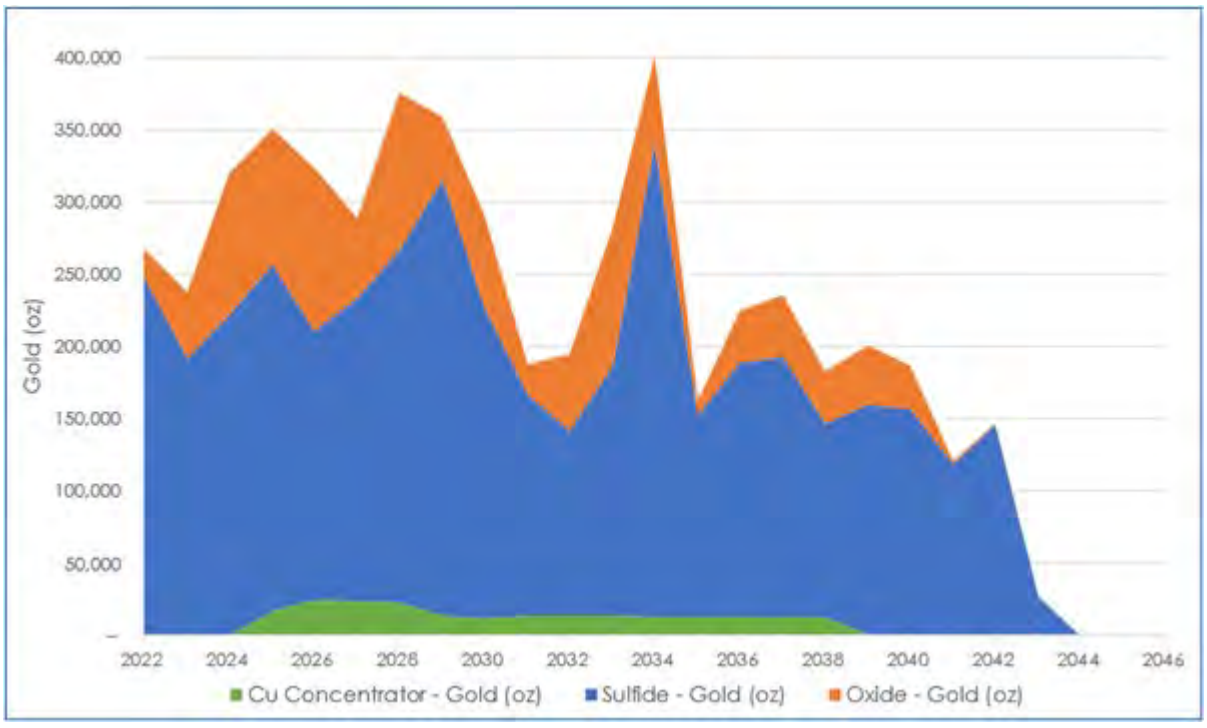
Discount Rate	Before Tax (NPV $M)	After Tax (NPV $M)
Undiscounted	3,301	2,958
5%	2,194	2,004
10%	1,571	1,457
12%	1,398	1,304

Figure 21.7 Initial Assessment Case Processing



OreWin, 2022

Figure 21.8 Initial Assessment Case Gold Production



OreWin, 2022

The Initial Assessment has been prepared to demonstrate economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

Costs, metal prices, taxation, and royalty assumptions used in the Initial Assessment Case economic analysis were the same as in the Reserve Case.

The estimates of cash flows have been prepared on a real basis with a base date of Q4'21 and a mid-year discounting is used to calculate NPV.

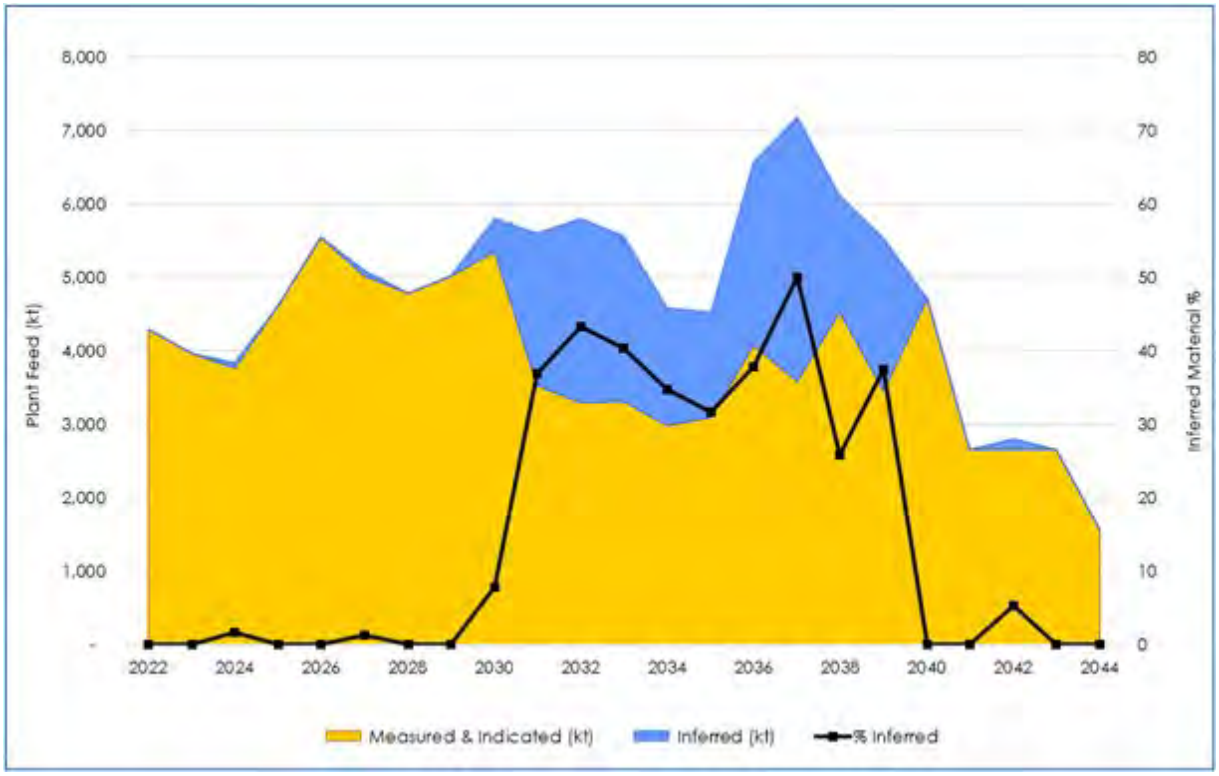
21.5.1 Impact of Inferred Mineral Resources

A separate analysis of the Initial Assessment Case was prepared using only Measured and Indicated Mineral Resources (MI Case). Comparison of the initial years of the Initial Assessment and the MI Case showed only 1.4% of the material processed in the first nine years of the Initial Assessment is Inferred Mineral Resource. Most of the Inferred material is processed in years 10 to 20 and does not exceed 50% of the total processing in any one year. This is shown in Figure 21.9.

The after tax NPV5% for this MI Case only analysis is $1,867M this is a reduction of $137M. To mitigate this additional resource development work and studies will need to done convert the Inferred Mineral Resources to Indicated or Measured Mineral Resources or find an alternative source.

The Initial Assessment has been prepared to demonstrate the economic potential of the Mineral Resources at the Çöpler Deposit. The Initial Assessment is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have modifying factors applied to them that would enable them to be categorised as Mineral Reserves, and there is no certainty that this economic assessment will be realised.

Figure 21.9 Initial Assessment Case Gold Production



OreWin, 2022

22 INTERPRETATION AND CONCLUSIONS

Mineral Resources and Mineral Reserves in the CDMP21TRS are reported in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300).

The CDMP21TRS has identified additional Mineral Resources and additional Mineral Reserves when compared to prior studies.

The Initial Assessment Case has demonstrated that there is significant economic potential that may be derived from the copper in the Çöpler Mineral Resource. Given this economic potential it is then concluded that it is valid to report the Mineral Resources using the Mineral Resource metal prices and pit shell.

Further study and analysis will be required to advance the understanding of this potential.

Significant factors that could materially affect the Mineral Resources and Mineral Reserve are:

- Environmental, Permitting Social and Community – the Çöpler project is subject to the laws and regulations of Turkey, the mine has several local communities that are nearby. In order to operate the mine, Anagold must maintain appropriate relations with all the authorities and stakeholders. Social, community and government relations are managed by Anagold and include programmes and engagement with the local communities and both local and national governments. Anagold has remained in compliance with all aspects of the Environmental Impact Assessments (EIA) and operating permits throughout the history of the project.
- Seismic impacts – the Çöpler project is in an area with a history of significant seismic activity that could negatively impact mining operations.
- Metal price impacts – gold is the primary revenue element and silver and copper are produced as by-products. The ore is mined at an elevated cut-off grade and low-grade ore is stockpiled for processing after mining is completed. The use of the elevated cut-off grade serves to mitigate the risks from periods of lower gold prices.
- Geotechnical impacts – slope recommendations have significant impacts on the Mineral Reserve and the continued study will allow the Mineral reserves to be maximised.
- Processing impacts – the processing analysis in the Reserve Case includes incorporation of a flotation circuit into the existing sulfide plant to upgrade sulfide sulfur (SS) to fully utilise grinding and pressure oxidation (POX) autoclave capacity. Continued debottlenecking of the sulfide plant and optimisation of the flotation circuit may improve costs and recoveries, changing cut-off grades and impacting the Mineral Reserve.
- The addition of the flotation circuit to the sulfide plant required new grade control protocols and associated stockpile strategies to be implemented to manage the required sulfide plant feed blend. It is likely that there will need to be ongoing modification of the stockpiling cut-offs and procedures for both short-term and longer term blending as the mine progresses. Measures such as increasing the number of active mining areas, increasing the mining rate, and increasing the size or number of ROM stockpiles.

23 RECOMMENDATIONS

Key recommendations from the CDMP21TRS are:

- Continue to update and evaluate the Çöpler District Master Plan as the existing Mineral Resources and Mineral Reserves are updated and as new prospects are advanced.
- Undertake infill drilling at Çöpler and update the copper Mineral Resource estimate.
- Prepare further studies of the copper recovery options.
- Geotechnical review and study of the re-evaluation of the pit re-designs.
- Optimisation of the sulfide flotation circuit, POX, and process operation.
- Metallurgical testwork on future oxide, sulfide, and copper ore sources.
- Optimisation of the oxide heap leach circuit.
- Optimisation of the mining rates to increase gold production.
- Stockpile reconciliation and management studies.
- Review and adapt the ore control and stockpiling strategies to optimise recovery and throughput and maximise gold production.
- Reconcile monthly blend and gold production with predictive modelling.
- Continue drilling at Ardich.
- Geotechnical studies of Ardich.
- Reconciliation studies of Çöpler.
- Update Çöpler and Ardich resource models and estimates.
- Further study of Initial Assessment Case and advance to next stage of study:
  - Geotechnical studies
  - Environmental Impact Assessments (EIA) and permitting
  - Blasting studies
- Metallurgical studies.

23.1 Mineral Resources

Specific recommendations related to the Mineral Resource are:

- Mineral Resource models should be updated on a campaign basis following the completion of planned drilling programmes. Where significant new data has been obtained (either exploration data, or production data), an annual model update roster should be adequate, but only required where warranted by the introduction of new data that has potential to result in a material change in the model (such as by significant modifications to the geological interpretation, or by substantial expansion of the dimensions of the mineralisation).
- The Çöpler model has not been updated since 2016. It is recommended that a new model be developed to incorporate the new exploration data obtained since that time, and to check interpretations relative to grade control data to help hone the interpretation.
- Continue drilling at Ardich.
- An update to the Ardich model is warranted given the quantum of new data that has been obtained since the most-recent update, and the status of the deposit as shown in the Initial Assessment Case.

- Both Çöpler and Ardich are geologically complex deposits with multiple metals that must be tracked along with oxidation type and lithological domains, further complicated by extensive structural disruption. Work on verifying and adjusting resource model domains and parameters should be continued to help facilitate a greater understanding of the deposits, hopefully resulting in improved resource estimates.
- Since the mineralisation locally follows the lithological contacts and structural features, using a search ellipse that follows these trends (dynamic anisotropy) should be evaluated.
- An audit of the databases used to house exploration and grade control data should be undertaken on a reasonably regular basis (e.g., annually). This should include review of all related procedures, monitoring observance to the procedures, and spot checks of the database itself to identify errors and omissions.
- A comprehensive and consistent suite of assays should be collected routinely in exploration drilling. This should be formalised as a requirement across all exploration drilling. Estimation into the resource models should involve all components that may be of future interest.
- The routine collection of in-pit mapping data is encouraged as this information provides invaluable experiential knowledge to inform interpretations based on exploration data.
- Detailed scheduling and design of the sulfide ore stockpiles should be completed. Results from ongoing metallurgical testwork will assist in determining the optimal stockpiling strategy and in reconciliation success.
- Further refinement of the modelled carbonate and sulfide sulfur (SS) grades in the resource model should be completed.
- Further mapping and definition of the local and regional fault structures, alteration types, and other domains should be completed to reduce or realise geotechnical risk in the areas where these structures intersect the pit.

23.2 Mineral Reserves

Specific recommendations related to the Mineral Reserve are:

- Re-design of Çöpler pits at updated metal prices.
- Geotechnical review and study of the re-evaluation of the pit re-designs.
- Optimisation of float circuit pressure oxidation (POX) and process operation including metallurgical testwork on Ardich and Çöpler.
- Review and monitor the stockpiling procedures and criteria to optimise the feed to the plant.
- Optimisation of the mining rates to increase gold production.
- Stockpile reconciliation and management studies.
- Geotechnical studies of Ardich.

24 REFERENCES

Abzalov, M.Z. Quality Control of Assay Data: A Review of Procedures for Measuring and Monitoring Precision and Accuracy, Exploration and Mining Geology, 17(3–4): 1–14, 2008.

Altman, K, Liskowich, M, Mukhopadhyay, D K, Shoemaker, S J, Çöpler Sulfide Expansion Project Prefeasibility Study, 27 March 2011.

Altman, K, Bascombe, L, Benbow, R, Mach, L, Shoemaker, SJ, Çöpler Resource Update, Erzincan Province Turkey, 30 March 2012.

Altman, K, Bair, D, Bascombe, L, Benbow, R, Mach, L, Swanson, B, Çöpler Resource Update, Erzincan Province Turkey, 28 March 2013.

Amec Foster Wheeler Çöpler Sulfide Expansion Project Feasibility Update 2015.

Anatolia (2009) Çöpler Project, East Central Turkey Preliminary Mine Reclamation & Closure Plan, 2009, Anatolia Minerals Development, Limited.

Barr (2012), Pit Wall Stability Analysis, Çöpler Mine, August 2012

Bloom, L., Analytical Services and QA/QC, for Society of Exploration Geologists, April 2002. Project Documents.

Easton, C L, Pennstrom, W J, Malhotra, D, Moores, R C, Marek, J M, Çöpler Gold Project East Central Turkey Preliminary Assessment Sulfide Ore Processing, 4 February 2008.

Golder (2013a), Çöpler Mine Sulfide Expansion Project, Flood Management Plan, May 2013 Golder Associates.

Golder (2013b), Çöpler Mine Sulfide Expansion Project, Groundwater Modeling Report, September 2013 Golder Associates.

Golder (2013c) Çöpler Sulfide Project Tailings Storage Facility Siting Study, 17 December 2013, Golder Associates.

Golder (2014a), Çöpler Sulfide Project – Stability Evaluation of Planned Waste Dump Facilities, Technical Memorandum, 28 February 2014, Golder Associates.

Golder (2014b), Geotechnical Report, Sulfide Plant Facilities – Updated Report Çöpler Sulfide Project, 10 March 2014, Golder Associates.

Golder (2014c), Çöpler Mine – Pit Slope Design Review, April 2014, Golder Associates.

Golder (2014d) Çöpler Sulfide Project – Tailings Storage Facility Analysis and Design, 28 July 2014, Golder Associates.

Golder (2015a), Çöpler Sulfide Project – Tailings Storage Facility, Summary of Design and Expansion to 46.6Mt Capacity, Technical Memorandum, March 2015.

Golder (2015b), Çöpler Sulfide Expansion Project – Stability Evaluation of Planned Waste Dump Facilities, Technical Memorandum, 14 May 2015, Golder Associates.

Golder (2015c), Geotechnical Report, Sulfide Plant Facilities – Detailed Design Recommendations, Çöpler Sulfide Project, 8 October 2015, Golder Associates.

Golder (2016a), Tailings Storage Facility, Detailed Design Criteria, Revision 3, February 2016.

Golder (2016b), Çöpler Sulfide Project – Tailings Storage Facility Summary of Design and Expansion to 45.9Mt Capacity, Technical Memorandum, April 2016.

Golder (2021), Data Review and Geotechnical Model, Çöpler Geotechnical Design Review 2021, October 2021.

Golder (2021), Çöpler Pit Slope Design Review, November 2021.

Golder (2021), 2021 Ardich Project Slope Stability Study, Geotechnical Support for the Pre-Feasibility Study, December 2021.

Golder (2021), Pit Slope Stability Evaluation, Çöpler Open Pit Mine, November 2019.

Hacettepe University, Gazi University (Hacettepe and Gazi Universities, 2014 (Interim), İliç (Erzincan) Çöpler Complex Mine Capacity Increase Project – Report on Biological Diversity, 2014 (Interim).

Independent Mining Consultants, Inc., Çöpler Project Resource Estimate Technical Report, 19 October 2005.

International Union for Conservation of Nature (IUCN), 1994: Red List: http:// www.iucnredlist.org/static/categories_criteria_3_1.

Jacobs (2012) Çöpler Sulfide Project Feasibility Study, Site Conditions, 30 May 2012, Jacobs.

Jacobs (2014a), Çöpler Sulfide Expansion Project Definitive Feasibility Report, 15 June 2014, Jacobs.

Jacobs (2014b), Crushing and Grinding Systems for Handling Clayey Ore Trade-Off Study, 21 January 2014, Jacobs.

Marek, J M, Pennstrom, W J, Reynolds, T, Technical Report Çöpler Gold Project Feasibility Study, 30 May 2006 (Samuel Engineering, Inc.).

Marek, J M, Moores, R C, Pennstrom, W J, Reynolds, T, Technical Report Çöpler Gold Project, 2 March 2007 as amended 30 April 2007 (Independent Mining Consultants, Inc.).

Marek, J M, Benbow, R D, Pennstrom, W J, Technical Report Çöpler Gold Project East Central Turkey, 5 December 2008 (Amended and Restated; supersedes 11.07.2008 version).

Marsden, J. O., Çöpler Project – Heap Leach Model Review, 24 October 2014, Metallurgium, Phoenix, AZ.

Marsden, J. O., Çöpler Heap Leach Project Gold Recovery Assumptions – Rev 1, 26 March 2015, Metallurgium, Phoenix, AZ.

Marsden, J. O., Çöpler Project Heap Leach Model Development and Gold Recovery Assessment – Final Rev 2, 27 March 2015, Metallurgium, Phoenix, AZ.

OreWin Pty. Ltd., 2020. Çöpler District Master Plan 2020, 27 November 2020. (CDMP20TR)

Outotec (2015a), Thickening Test Report S1482TE Çöpler, 16 September 2015, Perth, Australia.

Outotec (2015b), Thickening Test Report S1482TE_B Çöpler, 16 September 2015, Perth, Australia.

Outotec (2015c), Thickening Test Report S1482TF Çöpler Appendix, 16 September 2015, Perth, Australia.

Outotec (2015d), Thickening Test Report S1482TF Çöpler (repeats), 20 November 2015, Perth, Australia.

Outotec (2015e), Thickening Test Report S1482TE_B Çöpler (Repeats), 20 November 2015, Perth Australia.

Parrish, I.S. 1997. Geologist's Gordian knot: to cut or not to cut. Mining Engineering, vol. 49. pp 45–49.

Pyper, R., Description of Process Gold Production Model and Assumptions, 4 February 2015, Kappes, Cassiday & Associates, Australia Pty Ltd., Perth, Western Australia.

Samuel Engineering (2011) Çöpler Sulfide Expansion Project Prefeasibility Study, 27 March 2011, Samuel Engineering.

SGS Lakefield Oretest (2015), Anagold Çöpler Sulfide Pilot Plant and Batch Testing Program, Pressure Oxidation and Cyanidation Campaign 5 Main Report, Job No: CP100, 30 October 2015, Perth, Australia.

SRK (2008) Çöpler Complex (Manganese, Gold, Silver, Copper) Mining Project EIA Report, 2008, SRK Consulting.

SRK (2012a) Assessment of Çöpler Sulfide Tailings According to Waste Acceptance Criteria, August 17, 2012 (Memorandum) SRK Consulting.

SRK (2012b), Çöpler Mine Sulfide Expansion Feasibility Study – Environment and Permitting, November 2012, SRK Consulting (Turkey).

SRK (2012c), Çöpler Gold Mine-Sulfide Project Waste Geochemical Assessment, September 2012, SRK Consulting (Turkey).

SRK (2014), Çöpler Complex Mine Capacity Expansion Project, Final EIA Report. October, 2014, SRK Consulting (Turkey).

SSR (2020). Announcement: SSR Mining Announces Exploration Results on the In-pit Copper-Gold Porphyry C2 Target at Çöpler, 25 November 2002.

Watts, Griffis and McQuat Limited, Update of the Geology and Mineral Resources of the Çöpler Prospect, 1 May 2003.

Yetkin, E., various dates. Multiple independent QA/QC reports referred to specifically throughout Section 9.

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

OreWin has relied on the following information provided by SSR in preparing the findings and conclusions in this Technical Report Summary regarding the following aspects of modifying factors:

- Macroeconomic trends, data, and assumptions, and interest rates.
  - This has been used in Section 19
- Marketing information and plans within the control of the registrant.
  - This has been used in Sections 16 and 19
- Legal matters outside the expertise of the qualified person, such as statutory and regulatory interpretations affecting the mine plan.
  - This has been used in Sections 3 and 17
- Environmental matters outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17
- Accommodations the registrant commits or plans to provide to local individuals or groups in connection with its mine plans.
  - This has been used in Sections 3 and 17
- Governmental factors outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17

OreWin considers it reasonable to rely on SSR because SSR employs professionals and other personnel with responsibility in these areas and these personnel have the best understanding of these areas. OreWin is not qualified to provide advice on legal, permitting and ownership matters.

OreWin
Independent Mining Consultants

SSR MINING INC.

Marigold 2021
Technical Report Summary

February 2022

Job No. 21013

IMPORTANT NOTICE

This notice is an integral component of the Marigold 2021 Technical Report Summary (Marigold21TRS) and should be read in its entirety and must accompany every copy made of the report. The Marigold21TRS has been prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Marigold21TRS has been prepared for SSR Mining Inc. (SSR) by OreWin Pty Ltd (OreWin). The TRS is based on information and data supplied to OreWin by SSR and other parties and where necessary OreWin has assumed that the supplied data and information are accurate and complete.

This report is a Feasibility Study (FS) that represents forward-looking information. The forward-looking information includes metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and other assumptions used in the FS. Readers are cautioned that actual results may vary from those presented. The factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially are presented in the body of this report under each relevant section.

The conclusions and estimates stated in the Marigold21TRS are to the accuracy stated in the Marigold21TRS only and rely on assumptions stated in the Marigold21TRS. The results of further work may indicate that the conclusions, estimates and assumptions in the Marigold21TRS need to be revised or reviewed.

OreWin has used its experience and industry expertise to produce the estimates and approximations in the Marigold21TRS. Where OreWin has made those estimates and approximations, it does not warrant the accuracy of those amounts and it should also be noted that all estimates and approximations contained in the Marigold21TRS will be prone to fluctuations with time and changing industry circumstances.

The Marigold21TRS should be construed in light of the methods, procedures, and techniques used to prepare the Marigold21TRS. Sections or parts of the Marigold21TRS should not be read or removed from their original context.

The Marigold21TRS is intended to be used by SSR, subject to the terms and conditions of its contract with OreWin. Recognising that SSR has legal and regulatory obligations, OreWin has consented to the filing of the Marigold21TRS with US Securities Administrators and its Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). Except for the purposes legislated, any other use of this report by any third party is at that party's sole risk.

Title Page

Project Name:	Marigold
Title:	Marigold 2021 Technical Report Summary
Location:	Humboldt County, Nevada, USA
Effective Date of Technical Report Summary:	31 December 2021
Effective Date of Mineral Resources:	31 December 2021
Effective Date of Mineral Reserves:	31 December 2021

Qualified Persons:

- OreWin Pty Ltd (OreWin), an independent mining consultancy, is a third party firm comprised of mining experts. The Marigold21TRS was prepared by appropriately experienced technical professionals employed by OreWin. OreWin is responsible for the Mineral Resources and Mineral Reserves reported in the Marigold21TRS and for Sections 1 to 25 of the Marigold21TRS.
- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining, was responsible for the overall preparation of the Marigold21TRS and, the Mineral Reserve estimates, Sections 1 to 5; Sections 10; Section 12 to 25.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3; Section 6 to 9; Section 11; Sections 22 to 25.

Signature Page

Project Name:	Marigold
Title:	Marigold 2021 Technical Report Summary
Location:	Humboldt County, Nevada, USA
Date of Signing:	23 February 2022
Effective Date of Technical Report Summary:	31 December 2021

/s/ Sharron Sylvester

Sharron Sylvester, Director, OreWin Pty Ltd

/s/ Bernard Peters

Bernard Peters, Technical Director – Mining, OreWin Pty Ltd, BEng (Mining), FAusIMM (201743)

/s/ Sharron Sylvester

Sharron Sylvester, Technical Director – Geology, OreWin Pty Ltd, BSc (Geol), RPGeo AIG (10125)

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1

1.1 Introduction 1

1.2 Property Description and Location 1

1.3 Land Tenure and Ownership 1

1.4 Geology and Mineralisation 2

1.4.1 Regional Geology 2

1.4.2 Local and Property Geology 2

1.4.3 Property Structure 3

1.4.4 Mineralisation 3

1.4.5 Alteration 4

1.5 Exploration 4

1.5.1 Exploration – Marigold 4

1.5.2 Exploration – Trenton Canyon and Buffalo Valley 5

1.6 Mineral Resources 6

1.7 Mineral Reserves 7

1.8 Mining Operations 8

1.9 Mineral Processing 8

1.10 Infrastructure 10

1.11 Environmental, Permitting and Social Responsibility 10

1.12 Market Considerations 11

1.13 Capital and Operating Cost Estimates 11

1.15 Economic Analysis 13

1.15.1 Life-of-Mine Production 15

1.15.2 Cost Statistics 16

1.16 Interpretation and Conclusions 16

1.17 Recommendations 17
1.17.1 Processing 17
1.17.2 Metallurgy / Analytical 17
1.17.3 Mineral Resources 17
1.17.4 Mine Planning 18
1.17.5 Exploration Drilling 18
1.17.6 Mine Operations 18
1.17.7 Maintenance Operations 18
2 INTRODUCTION 20
2.1 Qualified Persons and Property Inspection 20
2.2 Units and Currency 20
2.3 Abbreviations and Acronyms 20
3 PROPERTY DESCRIPTION 24
3.1 Property Location 24
3.2 Corporate Structure 26
3.3 Land Tenure and Ownership 27
3.3.1 Owned Real Property 27
3.3.2 Owned Unpatented Mining Claims 28
3.3.3 Leasehold Rights 29
3.4 Royalties and Encumbrances 34
3.5 Environmental Liabilities 34
3.6 Operating Permits 34
3.7 Permits, Mineral, and Surface Rights 34
3.8 Other Significant Factors and Risks 35
4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY 36

4.1 Access 36
4.2 Climate and Physiography 36
4.3 Infrastructure 36
5 HISTORY 38
5.1 Historical Exploration Work 38
5.2 Historical Production Work 41
6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT 45
6.1 Regional Geological Setting 45
6.2 Local Geology 49
6.2.1 Stratigraphy 50
6.2.2 Igneous Rocks 51
6.2.3 Regional Structure 52
6.3 Property Geology 53
6.3.1 Property Stratigraphy 53
6.3.2 Property Structure 56
6.3.3 Mineralisation 58
6.3.4 Alteration 59
6.4 Deposit Geology 62
6.4.1 Mackay Pit 62
6.5 Deposit Type 64
7 EXPLORATION 67
7.1 Gravity Surveys 67
7.1.1 Gravity Survey Pre-2015 67
7.1.2 Gravity Survey Post-2015 67
7.1.3 Gravity Stations 67
7.1.4 Terrain Corrections 68

7.1.5 Interpretation 69
7.2 Exploration Drilling 70
7.2.1 Exploration Drilling at Marigold (Pre-2014) 70
7.2.2 Exploration Drilling at Marigold (2014–2017) 71
7.2.3 Exploration Drilling at Marigold (2018–2021) 71
7.2.4 Marigold Sulfide Drilling Programme 72
7.2.5 Exploration Drilling at Valmy (1968–2006) 72
7.2.6 Exploration – Trenton Canyon and Buffalo Valley 72
8 SAMPLE PREPARATION, ANALYSES, AND SECURITY 78
8.1 Sample Preparation and Analysis 78
8.2 Sample Security 82
8.2.1 Sample Security until 2013 82
8.2.2 Sample Security Valmy Property 82
8.2.3 Sample Security 2014–2021 82
8.3 Quality Assurance/Quality Control (QA/QC) Procedures 82
8.3.1 QA/QC Procedures Pre-2014 82
8.3.2 QA/QC Procedures Valmy Property 84
8.3.3 QA/QC Procedures 2014–2017 86
8.3.4 QA/QC Procedures 2018–2021 89
8.4 Opinion on Adequacy of Sample Preparation, Security, and Analytical Procedures 92
9 DATA VERIFICATION 93
9.1 Marigold Assay Database 94
10 MINERAL PROCESSING AND METALLURGICAL TESTING 96
10.1 Metallurgical Testwork 96
10.2 Process Optimisation Metallurgical Testwork 97

10.3 Gold Recovery Modelling 98

11 MINERAL RESOURCE ESTIMATES 100

11.1 Introduction 100

11.2 Drillhole Database 100

11.3 Domains 100

11.4 Geological Interpretation 103

11.5 Exploratory Data Analysis 105

11.5.1 Outlier Restriction 106

11.6 Material Density 107

11.7 Variograms 108

11.8 Cell Model and Grade Estimation 110

11.9 Model Validation 114

11.10 Resource Classification 118

11.10.1 Ore Reconciliation 119

11.11 Mineral Resources 119

11.12 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 120

12 MINERAL RESERVE ESTIMATES 121

12.1 Mineral Reserves Estimate 121

12.2 Cut-off Grade 122

12.3 Royalties, Net Proceeds and Excise Tax 123

12.4 Dilution 123

12.5 Mining Recovery 124

12.6 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 124

13 MINING METHODS 125

13.1 Geotechnical, Hydrological, Pit, and Other Design Parameters 125

13.1.1 Open Pit Geotechnical Reports Review 126
13.1.2 Pit Optimisations and Designs 127
13.2 Pit Phases and Timing 128
13.3 Production Rates, Mine Life, Dimensions and Dilution Factors 129
13.4 Stripping Requirements 131
13.5 Required Mining Fleet and Machinery 132
13.6 Ore Control Drilling and Method 133
13.7 Drilling and Blasting 134
13.8 Loading Operations 135
13.9 Hauling Operations 135
13.10 Mine Support 135
13.11 Mine Maintenance 136
13.12 Mine General and Administration 136
13.13 Mine Safety 136
13.14 Mine Dewatering 148
14 PROCESSING AND RECOVERY METHODS 152
14.1 Introduction 152
14.1.1 Ore Stacking on Leach Pad 152
14.1.2 Leaching Solution to the Pad 152
14.1.3 Pregnant Solution 153
14.1.4 Carbon Processing 154
14.1.5 Refining 154
14.1.6 Ventilation 154
14.1.7 Planned Processing Upgrade Projects 154
14.1.8 Reagents 154
14.2 Gold Recovery 155

14.2.1 Recovery from Heap Leaching 155
15 INFRASTRUCTURE 157
15.1 Site Access, Power and Water 157
15.1.1 Site Access 157
15.1.2 Power 157
15.1.3 Operations Water Supply 157
15.2 Buildings and Facilities 159
15.2.1 Buildings and Facilities in Main Plant and Offices Area 159
15.2.2 Additional Buildings and Facilities on Site 159
15.2.3 Additional Facilities on Section 20 160
15.3 Explosives Magazine 160
15.4 Tailings Storage Facility and Water Diversion 160
15.5 Leach Pads and Solution Ponds 160
15.6 Waste Dumps 160
16 MARKET STUDIES 163
16.1 Marketing and Metal Prices 163
16.2 Contracts 163
17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS 164
17.1 Environmental Studies 164
17.2 Environmental Permits 165
17.3 Environmental Impacts 166
17.4 Environmental Monitoring Programme 167
17.5 Reclamation and Closure 167
17.6 Community Relations and Social Responsibilities 168
18 CAPITAL AND OPERATING COSTS 169

18.1 Introduction 169
18.2 Capital Costs 169
18.3 Operating Costs by Category 170
18.3.1 Mine Operating Costs 170
18.3.2 G&A 172
19 ECONOMIC ANALYSIS 173
19.1 Introduction 173
19.2 Mine and Leaching Production Statistics 174
19.3 Sales and Refinery Process 176
19.4 Revenue 176
19.5 Operating Costs 176
19.6 Royalties 177
19.7 Cash Costs and AISC 177
19.7.1 Taxation 178
19.8 Excluded Costs 179
19.9 Sensitivity Analysis 179
20 ADJACENT PROPERTIES 182
21 OTHER RELEVANT DATA AND INFORMATION 184
22 INTERPRETATION AND CONCLUSIONS 185
23 RECOMMENDATIONS 187
23.1.1 Processing 187
23.1.2 Metallurgy / Analytical 187
23.1.3 Mineral Resources 187
23.1.4 Mine Planning 188
23.1.5 Exploration Drilling 188
23.1.6 Mine Operations 188

23.1.7 Maintenance Operations 188

24 REFERENCES 189

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT 193

TABLES

Table 1.1 Summary of Marigold Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 6

Table 1.2 Summary of Metallurgical Recoveries of Marigold Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 6

Table 1.3 Summary of Marigold Mineral Reserve Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 7

Table 1.4 Summary of Metallurgical Recoveries of Marigold Mineral Reserve Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 7

Table 1.5 Historical Heap Leach Production and Recovery 9

Table 1.6 Metal Prices 11

Table 1.7 Summary of Capital and Reclamation Costs 12

Table 1.8 Summary of Operating Costs 13

Table 1.9 Marigold Key Economic Indicators 14

Table 1.10 LOM Operating and Production Statistics Mining and Leaching Production 15

Table 1.11 LOM Average Costs per Payable Ounce of Gold Sold 16

Table 2.1 Abbreviations and Acronyms 21

Table 2.2 Units of Measurement 23

Table 3.1 Marigold Surface Lands 27

Table 3.2 MMC-Owned Unpatented Mining Claims 28

Table 3.3 Decker Lease Unpatented Mining Claims 30

Table 3.4 Vek & Andrus Lease Unpatented Mining and Millsite Claims 31

Table 5.1 Marigold Historical Production: Tonnes, Grade, Contained, and Recovered Gold Ounces as of 31 December 2021 42

Table 5.2 Marigold Mine Production April 2014 to 31 December 2021 42

Table 5.3 Summary of Exploration Work Carried out to End of November 2021 43

Table 7.1 Summary of Drilling History 76

Table 8.1 Analytical Methods for Gold for the Marigold Assay Resource Database 80

Table 8.2 Comparison of the NN Mean Gold Grades 86

Table 8.3 List of Certified Standards Used Between 2014 and 2017 88

Table 8.4 List of CRMs used between 2018 and 2021 91

Table 11.1 Basic Au g/t Statistics of 7.6 m Bench Composites within the Mineralised Envelopes by Domain 106

Table 11.2 Outlier Restriction Values and Distance for Various Domains 107

Table 11.3 Summary of Density for Different Material 107

Table 11.4 Correlogram Parameters Used to Estimate Different Domains 109

Table 11.5 Cell Model Limits 110

Table 11.6 Model Attributes 110

Table 11.7 Probability Percentages for Cells Au>0.14 g/t 111

Table 11.8 Estimation Parameters for Mineralised Stockpiles 113

Table 11.9 Resource Classification Parameters 118

Table 11.10 Ore Reconciliation for the Period Between 2018 and 2021 119

Table 11.11 Summary of Marigold Mineral Resources Estimate Exclusive of Mineral Reserves (as at 31 December 2021) Based on $1,750/oz Gold Price 120

Table 11.12 Details of Marigold Mineral Resources Estimate Exclusive of Mineral Reserves (as at 31 December 2021) Based on $1,750/oz Gold Price 120

Table 12.1 Summary of Marigold Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 122

Table 12.2 Details of Marigold Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price 122

Table 12.3 Key Economic Parameters for Mineral Reserves Estimate 123

Table 13.1 Overall Slope Angles by Azimuth 128

Table 13.2 Mining Phase Design Summary 129

Table 13.3 Annual Production Schedule Tonnes Mined 131

Table 13.4 Marigold Mining Fleet Equipment List 133

Table 13.5 RIB Design Criteria 150

Table 15.1 Pump Assets 157

Table 16.1 Metal Prices 163

Table 17.1 Baseline Studies 164

Table 17.2 Marigold Mine Permits 31 December 2021 165

Table 18.1 Summary of Capital and Reclamation Costs 169

Table 18.2 Summary of Operating Costs 170

Table 19.1 Marigold Key Economic Indicators 174

Table 19.2 Mining and Leaching Production 175

Table 19.3 Forecast Metal Prices 176

Table 19.4 Unit Operating Costs 176

Table 19.5 Operating Costs per Payable ounce of Gold Sold 177

Table 19.6 Cash and AISC Unit Costs 178

Table 19.7 Marigold21TRS Gold Price Sensitivity 179

Table 19.8 Marigold21TRS Gold Price Sensitivity 180

Table 19.9 Cash Flow 181

Table 20.1 Past Production and Mineral Resources for Adjacent Properties 182

FIGURES

Figure 3.1 Marigold Mine Location 25

Figure 3.2 Marigold Corporate Structure 26

Figure 5.1 View to the East–South-East over the Cyanide Leach Tanks from the Marigold Mine prior to World War II 38

Figure 5.2 Location of Marigold Areas 40

Figure 6.1 Location of the Marigold Mine in North-Central Nevada within the Basin and Range Physiographic Province 45

Figure 6.2 Model of Shelf-Slope to Basin in late Cambrian-early Ordovician of Nevada, with Carbonate Rocks to East and Siliciclastic and Volcanic Rocks to West 46

Figure 6.3 Schematic Model of Devonian - Mississippian Compression on the Western Margin of North America 47

Figure 6.4 Major Igneous, Tectonic, and Mineralising Events in Northern Nevada 49

Figure 6.5 Location of Marigold and the Battle Mountain Mining District on the Battle Mountain-Eureka Mineral Trend 50

Figure 6.6 Schematic Tectono-stratigraphic Section of the Rock Units at Marigold 53

Figure 6.7 Plan View Map Showing Distribution of Paleozoic Units at Marigold. 55

Figure 6.8 The Top Surface of the Valmy Formation with the Current Property Boundary 57

Figure 6.9 Cross Section 11,200N Highlighting Inferred Permian Growth Fault and Associated Antithetic Normal Faults with a Steep West Dip 57

Figure 6.10 Normal Displacement of Alluvium and Tuff Immediately South of the Basalt Pit 58

Figure 6.11 Plan View of the Marigold Mine Area showing the Spatial Distribution of 1.0 g/t Au Grade Shells Over an 8 km Northerly Trend 60

Figure 6.12 Gold in Arsenian Pyrite Overgrowths on Pyrite Grains in Unoxidised Rock 61

Figure 6.13 Native Gold Occurs with Iron Oxide in Weathered Rocks 61

Figure 6.14 Cross Section 13,200N Highlighting Distribution of Gold in Antler Sequence and Valmy Formation Rocks 63

Figure 6.15 Cross Section 16,000N Highlighting the HideOut Deposit Hosted by Antler Sequence Rocks 63

Figure 6.16 Plan Reference of Cross Sections in Figure 6.9, Figure 6.14, and Figure 6.15 64

Figure 6.17 Model Illustrating Inferred Processes Related to Formation of Carlin-Type Gold Deposits (CTGD) and Distal Disseminated Silver–Gold Deposits 66
Figure 7.1 Marigold Mine Gravity Survey Stations in 2014 68
Figure 7.2 Gravity Stations 69
Figure 7.3 Marigold Mine Gravity Survey Compilation, Complete Bouguer Anomaly Oblique Image 70
Figure 7.4 Plan View of Drilling Carried out on Trenton Canyon and Buffalo Valley 73
Figure 7.5 Chart of Drilling Completed by SSR since 2014 74
Figure 7.6 Plan View of Drilling Carried out by SSR Since 2014 75
Figure 7.7 Plan View of All Drilling to End of November 2021 77
Figure 8.1 Scatter Plot Between FA Gold Values with AA Finish and Gravimetric Finish 83
Figure 8.2 Q-Q Plot between FA Gold Values with AA Finish and Gravimetric Finish 84
Figure 8.3 Cross Section with SSR Drillholes (drillhole number prefix MRA) and Historical Drillholes Along Section 8000N 85
Figure 8.4 Cumulative Normal Distribution Comparing Composites from SSR Drilling and Historical Drilling 85
Figure 8.5 Blank Results 87
Figure 8.6 Cumulative Frequency Distribution Comparing Original and Duplicate (field) Assay Results 89
Figure 8.7 Blank Results 90
Figure 8.8 Cumulative Frequency Distribution Comparing Original and Duplicate (Field) Assay Results 92
Figure 9.1 Cross Section Showing the Increase in Tonnage Estimated as Mineralised 95
Figure 10.1 Column Test Results – All Marigold Areas 97
Figure 10.2 Bottle Roll vs. Column Recovery – All Marigold Areas 97
Figure 10.3 Exploration Database (2017) AuCN vs. AuFA – All Data 99

Figure 11.1 Location of the Seven Major Domains over Depleted Topography as at 31 December 2017 101

Figure 11.2 Oblique Plan View Showing the Major Structures 102

Figure 11.3 Typical East–West Cross Section Along 10,300 N 103

Figure 11.4 Typical Bench Plan (level=5000) 104

Figure 11.5 Typical East–West Cross Section Along 10,400N Looking North, with Estimated Cell Grades Au g/t 114

Figure 11.6 Typical Plan 4950 Elevation, with Estimated Whole Cell Grades Au g/t 115

Figure 11.7 Swath Plot Along Eastings 116

Figure 11.8 Swath Plot Along Northings 117

Figure 11.9 Swath Plot Along Elevation 118

Figure 13.1 Marigold Ultimate Pit (end of year 2032) 130

Figure 13.2 Mine Annual Production Schedule 132

Figure 13.3 End of Production Year 2022 137

Figure 13.4 End of Production Year 2023 138

Figure 13.5 End of Production Year 2024 139

Figure 13.6 End of Production Year 2025 140

Figure 13.7 End of Production Year 2026 141

Figure 13.8 End of Production Year 2027 142

Figure 13.9 End of Production Year 2028 143

Figure 13.10 End of Production Year 2029 144

Figure 13.11 End of Production Year 2030 145

Figure 13.12 End of Production Year 2031 146

Figure 13.13 End of Production Year 2032 147

Figure 13.14 Existing and Proposed Dewatering Wells 149

Figure 14.1 Simplified Marigold Processing Flowsheet 153

Figure 14.2 Average Annual Reagent Consumption 155

Figure 14.3 Marigold Heap Leach Pad Gold Recovery Curve from March 1990 through December 2021 156

Figure 15.1 LOM Site Map Showing Final Pit Limits, Waste Dumps, and Leach Pad 158

Figure 15.2 Well Sites 161

Figure 15.3 Main Infrastructure Area 162

Figure 15.4 Plant, Shops and Offices 162

Figure 20.1 Plan Map Showing Marigold Property Outline and Mineralisation Relative to Adjacent or Nearby Mines or Published Deposits 183

1 EXECUTIVE SUMMARY

1.1 Introduction

The Marigold 2021 Technical Report Summary (Marigold21TRS) has been in prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Marigold mine (Marigold or the Property) is located in Humboldt County, Nevada, U.S. and is directly owned by Marigold Mining Company (MMC), a wholly-owned (100%) subsidiary of SSR Mining Inc. (SSR).

SSR is a gold mining company with four producing assets located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR)

The Marigold21TRS was prepared by appropriately experienced technical professionals employed by OreWin Pty Ltd (OreWin), an independent mining consultancy, with input and assistance from MMC and SSR personnel.

1.2 Property Description and Location

Marigold is located in south-eastern Humboldt County, accessible by public road off Interstate Highway 80 corridor in the northern foothills of the Battle Mountain Range, Nevada, US.

Activities at the Property are centred at approximately 40°45′ north latitude and 117°8′ west longitude.

The Property is situated approximately 5 km south–south-west of the town of Valmy, Nevada at Exit 216 off Interstate Highway 80. Other nearby municipalities include Winnemucca and Battle Mountain, Nevada, which lie approximately 58 km to the north-west and 24 km to the south-east of the Property, respectively.

1.3 Land Tenure and Ownership

The authorised Marigold Plan of Operations (PoO) area for Marigold currently encompasses approximately 10,703 ha with approximately 3,296 ha within the PoO permitted for mining-related disturbance. Land and mineral ownership within the PoO are within the corridor initially governed by the Pacific Railroad Act of 1862, and, as such, these areas generally have a "checkerboard" ownership pattern. Mineral claims in Nevada are managed federally by the Bureau of Land Management (BLM).

SSR holds a 100% interest in the Property through its wholly-owned subsidiary, MMC. Surface and mineral rights at the Property comprise the following: real property owned by MMC; unpatented mining claims owned by MMC; and leasehold rights held by MMC with respect to unpatented mining claims, mill site claims, and certain surface lands.

Some of the leases require MMC to make certain net smelter return (NSR) royalty payments to the lessors and comply with other obligations, including completing certain work commitments or paying taxes levied on the underlying properties. The NSR royalty payments are based on the specific gold-extraction areas and are payable when the corresponding gold ounces are extracted, produced, and sold. The NSR royalty payments vary between 0% and 10.0% of the value of gold production, net of off-site refining costs, which equates to an annual average ranging from 3.7% to 10.0% and a weighted average of 7.8% over the life-of-mine (LOM).

1.4 Geology and Mineralisation

The Property is located on the northern margin of the Battle Mountain-Eureka trend of mineralisation, in the Battle Mountain Mining district, in north central Nevada, U.S.

1.4.1 Regional Geology

The western part of the North American continent has undergone a complex history of extensional and compressional tectonics from the Proterozoic through to the Quaternary. Predominantly Paleozoic rifting and basin subsidence led to the formation of thick (hundreds of metres) passive margin sedimentary sequences and repeated inter-plate collisions caused accretion of arc related volcanics and ocean floor rocks, which were pushed together with the basin sediments to form fold and thrust belts. Subsequent extension related to subduction and back arc basin rifting resulted in the development of Basin and Range topography. Crustal thinning caused by the extension allowed the rise of magma close to the surface, which produced extensive and voluminous magmatism from the middle Eocene to late Miocene. Crustal extension with bimodal (mafic and felsic) volcanism occurred in the region from the late Miocene to the present day.

Marigold is located in north-central Nevada within the Basin and Range physiographic province, bounded by the Sierra Nevada to the west and the Colorado Plateau to the east.

1.4.2 Local and Property Geology

Sedimentary Rocks

Four packages of Paleozoic sedimentary and metasedimentary rocks are present at Marigold. In ascending tectono-stratigraphic order, they include: the Cambro-Ordovician Preble-Comus Formation; the Ordovician Valmy Formation of the Roberts Mountain allochthon; the Pennsylvanian-Permian Antler overlap sequence; and the Mississippian-Permian Havallah sequence of the Golconda allochthon.

Comus-Preble Formation

The Comus-Preble Formation consists of fine-grained siliciclastic turbidite sequences, mudstone, siltstone, limey mudstone, limestone, debris flows, and mafic volcanic flows. Based on data compiled from downhole televiewer logs, abrupt lithologic change from overlying rocks correlates with a transition from tight, east-vergent, overturned folds to open folds.

Valmy Formation

The Valmy Formation consists of quartzite, argillite, and lesser chert and metabasalt, all of which are complexly folded and faulted in the Marigold mine area. The total thickness of the Valmy Formation is approximately 450 m at Marigold, although true thickness of the section is likely less than 200 m. Where the contact is not eroded or structurally displaced, the top of the Valmy Formation is unconformably overlain by rocks of Pennsylvanian age.

Antler Sequence

The Antler overlap sequence is composed of Pennsylvanian to Permian-aged rocks assigned to three formations: the basal Battle Formation; the Antler Peak Limestone Formation; and the Edna Mountain Formation. These Formations represent a transgressive sequence of fluvial-to-shallow marine rocks that include conglomerate, sandstone, limestone, siltstone, and debris flows. Antler sequence rocks are relatively undeformed, except for offset and rotation along Basin and Range normal faults and potentially low-amplitude, long-wavelength (kilometres to tens of kilometres) F4 folding likely related to Mesozoic deformation. The Antler sequence is in thrust contact with the overlying and partially contemporaneous Havallah sequence.

Havallah Sequence

The uppermost package of Paleozoic rocks exposed at Marigold is the Mississippian-Permian Havallah sequence. The Havallah sequence is an assemblage dominated by siltstone, metabasalt, chert, sandstone, conglomerate, and carbonate rocks. These marine sedimentary rocks were deposited in a fault-bounded deep-water trough (Ketner, 2008) and subsequently obducted over the Antler sequence along the Golconda thrust (Roberts, 1964).

1.1.3 Property Structure

The main structural corridor and apparent primary controlling feature for the localisation of the deposits at Marigold is a 1.5 km wide by >10 km long half graben rotated no more than 045° to the west and bound by east dipping early Permian growth faults and younger (post-Triassic) east dipping faults. This half graben structure is cut by north-west to north-east striking pre-mineralisation structures with relatively minor offset and a series of south-west striking post-mineralisation extensional normal faults parallel to the Oyarbide fault.

1.4.4 Mineralisation

The gold deposits at Marigold cumulatively define a north trending alignment of gold mineralised rock more than 8 km long.

Gold mineralising fluids were primarily controlled by fault structure and lithology, with tertiary influence by fold geometry. The deposition of gold was restricted to fault zones and quartzite-chert dominant horizons within the Valmy Formation and high permeability units within the Antler sequence. Gold mineralisation was also influenced by fold geometry in the Valmy Formation.

Rocks within the Marigold mine area are oxidised to a maximum depth of approximately 450 m. The redox boundary is not consistent throughout the Property and is substantially influenced by lithology. Shale, argillite, and siltstone units are frequently unoxidised adjacent to pervasively oxidised quartzite horizons. Gold occurs natively in fractures in association with iron oxide.

1.4.5 Alteration

Alteration of rocks includes silicification along high-angle mineralising structures and decalcification of carbonate horizons. Argillic alteration of quartz monzonite intrusive bodies occurs in fault zones and areas of high hydrothermal fluid flow. The intensity of alteration decreases towards the core of the intrusions.

1.5 Exploration

Currently, exploration work is performed by SSR staff. SSR self-funds all work to develop exploration targets.

1.5.1 Exploration – Marigold

1.5.1.1 Historical Exploration – Marigold

The first recorded gold production from Marigold was in 1938 from an underground mine. Approximately 9,000 t of ore averaging approximately 6.85 g/t Au was processed before World War II halted production. Several unsuccessful attempts were made to re-open and operate the mine before exploration activities re-commenced in 1968.

From 1968 through 1985, several companies took an interest in, and conducted exploration programs across, the Marigold area. The exploration activities during this time led to encouraging results and the acquisition of rights over additional parcels of land.

In 1986, a joint venture was formed between SFP Minerals (a subsidiary of Santa Fe Pacific Railroad) and the Cordex Group, which consolidated some of the land holdings over the Marigold area. In March 1988, a production decision was made on the 8S deposit, and by September 1988 stripping had begun on the 8S pit (McGibbon, 2004).

In August 1989, the first gold doré bar was poured at the Marigold mill.

In March 1992, Rayrock Mines (operating company for Cordex) purchased a two thirds ownership interest in the Property, and with the remainder held by Homestake Mining Company (Homestake).

In 1994, mining of the 8S deposit was completed, and the Marigold mill was no longer used to process ore. At this point, Marigold became a run-of-mine (ROM) heap leach operation.

Some five years later, under the ownership of Glamis Gold Ltd. (Glamis Gold), the Basalt, Antler, and Target II deposits were discovered in Section 31 at the south end of the Property and subsequently mined.

In 2007, discovery holes were drilled in the Red Dot deposit. and by mid-2009, a total of two million ounces of gold had been recovered from Marigold.

1.5.1.2 Exploration and Drilling Activities Since 2014 – Marigold

After SSR's purchase of Marigold was completed in 2014, the exploration activities of previous owners were reviewed.

Between 2014 and 2016, SSR completed gravity surveys from 3,164 stations with the main objective of delineating possible fluid conduits or feeder structures for the Marigold mineralisation.

Meanwhile, in October 2015, the three millionth ounce was poured at Marigold.

SSRs exploration programs targeted the discovery of near-surface gold mineralisation proximal to Marigold's open pits and had the result of upgrading existing Inferred Mineral Resources to Indicated Mineral Resources. SSR drilled a total of 713 drillholes for 178,272 m from 2014 to 2017.

From 2018 through to the end of 2021, a further 995 holes have been drilled. This era of drilling included:

- 950 reverse circulation (RC) holes,
- 45 diamond core holes.

The 2018–2021 drilling adds a further 343,232 m of drilling to the Project database, bringing the total drilling in the history of the Marigold project to 9,435 drillholes for 1,988,280 m. This includes recent drilling on the Trenton Canyon and Buffalo Valley prospects.

Marigold has now been in continuous operation for more than 30 years and poured the four millionth ounce of gold in 2020.

1.5.2 Exploration – Trenton Canyon and Buffalo Valley

The Trenton Canyon project is located approximately 4 km south of New Millennium at Marigold and is one of three historically producing mines on a 100%-owned 8,900 ha parcel acquired from Newmont in 2019. The Buffalo Valley project is located approximately 10 km south-west of New Millennium.

Gold mineralisation at Trenton Canyon is structurally controlled with significantly less dissemination than at Marigold, with the net result being higher gold grades in a smaller volume of mineralised rock.

Exploration work on the Trenton Canyon and Buffalo Valley properties consists of drilling, geophysical surveying, remote sensing, geochemical surveying, and mapping.

SSR has completed 13 exploration diamond core holes on Trenton Canyon totalling 10,131 m, and 249 RC drillholes for 73,165 m. As of December 2021, one diamond core hole has been completed at Buffalo Valley to a depth of 597.5 m.

1.6 Mineral Resources

The Mineral Resources for Marigold were estimated based on an optimised pit shell at a payable gold grade of 0.065 g/t (gold assay factored for recovery, royalty, and net proceeds) using an assumed gold price of $1,750/oz. The Mineral Resources are reported exclusive of Mineral Reserves in Table 1.1 and Table 1.2.

Table 1.1 Summary of Marigold Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

	Mineral Resource							
	Measured		Indicated		Measured + Indicated		Inferred	
	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)
Marigold	–	–	115.3	0.43	115.3	0.43	21.8	0.36
Total	–	–	115.3	0.43	115.3	0.43	21.8	0.36

1. The Mineral Resource estimate was prepared in accordance with S-K 1300.
2. The Mineral Resource estimate is based on an optimised pit shell at a cut-off grade of 0.065 g/t payable gold (gold assay factored for recovery, royalty, and net proceeds), with a gold price assumption of $1,750/oz.
3. The Mineral Resources estimate is reported below the as-mined surface as at 31 December 2021 and is exclusive of Mineral Reserves.
4. The point of reference for Mineral Resources is the entry to the carbon columns in the processing facility.
5. Metallurgical recoveries used are, on average, 67% for gold.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.

9. Totals may vary due to rounding.

Table 1.2 Summary of Metallurgical Recoveries of Marigold Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

Mineral Resource Classification	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (koz)	Cut-off Grade (Au g/t)	Metallurgical Recovery (%)
Measured	–	–	–	–	–
Indicated	115.3	0.43	1,611	0.065	66%
Measured + Indicated	**115.3**	**0.43**	**1,611**	**0.065**	**66%**
Inferred	21.8	0.36	250	0.065	75%

1. The Mineral Resource estimate was prepared in accordance with S-K 1300.
2. The Mineral Resource estimate is based on an optimised pit shell at a cut-off grade of 0.065 g/t payable gold (gold assay factored for recovery, royalty, and net proceeds), with a gold price assumption of $1,750/oz.
3. The Mineral Resources estimate is reported below the as-mined surface as at 31 December 2021 and is exclusive of Mineral Reserves.
4. The point of reference for Mineral Resources is the entry to the carbon columns in the processing facility..
5. Metallurgical recoveries used are, on average, 67% for gold.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

1.7 Mineral Reserves

The Mineral Reserve estimate, shown in Table 1.3 and Table 1.4 reported in accordance with S-K 1300. The Mineral Reserves estimate is based on all available data for Marigold.

Table 1.3 Summary of Marigold Mineral Reserve Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserve	Mineral Reserve						
	Proven		Probable		Total		
	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (koz)
In Situ	–	–	203.8	0.48	203.8	0.48	3,173
Leach Pad	–	–	–	–	–	–	237
Total	–	–	203.8	0.48	203.8	0.48	3,410

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,350 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 0.065 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. The point of reference for Mineral Reserves is the entry to the carbon columns in the processing facility.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 1.4 Summary of Metallurgical Recoveries of Marigold Mineral Reserve Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserves	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (koz)	Cut-off Grade (Au g/t)	Metallurgical Recovery (%)
Proven In Situ	–	–	–	–	–
Probable In Situ	203.8	0.48	3,173	0.065	74.69
Probable Leach Pad	–	–	237	–	–
Total	203.8	0.48	3,410	0.065	74.69

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,350 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 0.065 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. The point of reference for Mineral Reserves is the entry to the carbon columns in the processing facility.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

1.8 Mining Operations

Marigold uses standard open pit mining methods at a LOM sustained mining rate of approximately 250,000 tpd. The mine conducts conventional drilling and blasting activities with a free face trim row blast to ensure stable wall rock conditions. Electronic detonators are used to control the timing of the blasthole detonation.

Mining occurs on 15.2 m benches for prestripping waste and selected ore areas when mining with the P&H electric shovel. One blasthole sample is taken for ore control Blasting is done with an ammonium nitrate and fuel oil (ANFO) blend and a sensitised ANFO emulsion. The ore control mark-out procedure includes blast movement analysis for 90% of ore production blasts.

Loading operations are currently performed using one electric shovel and three hydraulic shovels. Waste and ore haulage is performed with a fleet of 300 t class haul trucks.

Equipment maintenance is performed on site for all equipment. There are no contract mining operations on site.

The Marigold geotechnical management plan (GMP) includes highwall monitoring using three radar systems which provide full coverage for the (largest) Mackay pit, or can be deployed in smaller pits, if required. Routine monitoring of waste dumps, leach pads and inactive pits using INSAR data is performed by a third party on a monthly basis.

1.9 Mineral Processing

The Marigold processing plant and processing facilities combine ROM heap leaching, carbon adsorption, carbon desorption and electro-winning circuits to produce a final precious metal (doré) product.

All processing of ore, which is oxide in nature, is completed via run-of-mine (ROM) heap leaching. ROM ore is delivered to the leach pad by haulage truck and stacked in 6.1 m to 12.2 m lifts. At any given time, approximately 0.5 million m^2 of pad area is being leached.

Barren leach solution (cyanide-bearing solution, very low in Au grade) is applied selectively to different areas of the heap leach pad.

The pregnant solution (gold-bearing) is then collected from the leach pad in pregnant solution pond(s) before it is pumped to carbon column trains where gold is adsorbed from solution onto activated carbon. Carbon loaded with gold is taken from the carbon columns and transported to the process facility where gold is stripped from the carbon by solution. The gold-bearing solution is passed through electro-winning cells where metals are plated out. The plated material is retorted for mercury removal and drying prior to smelting for final precious metal recovery.

From March 1990 through December 2021, gold recovery from the heap leach pad was 71.1%. Historical production figures for the Marigold heap leach pad are shown in Table 1.5. This recovery was achieved with 90–120 day primary leach. The current total gold recovery of more than 70% from ROM ore compares favourably to similar mining operations, and given current and past gold prices, suggests that a crushing circuit is not required.

Table 1.5 Historical Heap Leach Production and Recovery

Ore (Mt)	Gold Loaded (koz)	Au Grade (AuFA g/t)	Gold Recovered (koz)	Gold Recovery (%)
324	5,490	0.53	3,904	71.1

Marigold uses an assay method that measures cyanide-soluble gold. This technique generates a value that represents the head grade of the ore in terms of the amount of gold in a finely ground sample that can be dissolved by a strong sodium cyanide solution. The gold content of the final solution is measured using atomic absorption (AA).

All Marigold blasthole samples are assayed for cyanide-soluble gold. Samples from each ore polygon delineated by ore control are selected for fire assay based on the grade distribution for the polygon tonnage and targeting one sample per every 2,000 short tons of ore. Therefore, some samples have two assay values: an AuCN (cyanide soluble) value; and an AuFA (fire assayed) value. The ratio of AuCN:AuFA provides the theoretical maximum gold recovery that can be achieved.

Testwork has demonstrated that, generally, all ore at Marigold behaves similarly. The ratio of AuCN / AuFA is an important characteristic. A best fit linear regression from approximately 155,000 pairs of fire assays (field AUFA in the database) and cyanide soluble assays (field AUAA in the database shows the AuCN / AuFA ratio is 0.8037:1 (~80% cyanide soluble gold), based on the most recent assessment in 2017.

The LOM actual leach pad recovery is 74% (including in-process gold inventory through December 2021).

An adjustment factor can be calculated using the chemical maximum AuCN / AuFA recovery and the actual pad recovery:

Actual: 74% / Chemical: 80% = 0.92

Therefore, the estimated recovery from the ROM heap leach can be expressed as:

Heap Leach Recovery = AuCN / AuFA x 0.92

1.10 Infrastructure

Marigold is accessible via Interstate Highway 80 in northern Nevada and is approximately 5 km south–south-west of Valmy in Humboldt County. The site access road supports two lanes of traffic and consists of hard packed clay and gravel.

The infrastructure facilities at Marigold include ancillary buildings, offices and support buildings, access roads into the plant site, power distribution, source of fresh water and water distribution, fuel supply, storage and distribution, waste management and communications.

The power supply for Marigold is provided by NV Energy Inc. via a 120 kV transmission line to site. Site power draw is 5 MW. After exiting the main substation, power is distributed through a 25 kV distribution grid.

Water for Marigold is supplied from three existing groundwater wells located near the access road to the Property. Marigold owns groundwater rights and collectively allows up to 3.134 Mm^3 of water consumption annually, the majority of which is used as makeup water for process operations. On average, total freshwater makeup is 2.4 m^3/min. Approximately 5.3 m^3/min of fresh water is required during peak periods in the summer months. The water is primarily consumed by retention in the heap leach pad, evaporation, processing operations and dust suppression.

1.11 Environmental, Permitting and Social Responsibility

Significant portions of the Property exist on public lands administered by the BLM. Therefore, the majority of environmental studies related to mining activities are conducted under BLM authority as part of the National Environmental Policy Act (NEPA) regulations, which require various degrees of environmental impact analyses dictated by the scope of the proposed action. Marigold has undergone several significant NEPA actions in the normal course of operational planning; the most recent is an amendment to the existing PoO to permit the future mining of all pits to their planned maximum depths.

The environmental baseline studies to support the Environmental Impact Statement (EIS) process were initiated in 2013. These baseline studies completed in preparation for the Plan of Operations – Mackay Optimization Project Amendment included, but were not limited to, socioeconomics, air quality impacts, cultural and archaeological resources, groundwater model, pit lake model, screen level ecological risk assessment (SLERA), waste rock / material characterisation, water characterisation, sage grouse habitat evaluation, evaluations for flora and fauna, and feasibility evaluation and pilot testing for rapid infiltration basins.

The final EIS record of decision approving the amended plan of operations was received October 30, 2019. Scope of the amended plan of operations included:

- Increasing surface disturbance by 833 ha on private and public lands.
- Consolidation of multiple pits into three larger pits with associated expansion of pits, waste rock storage areas and leach pads.
- Mining below the historic water table requiring installation of facilities to extract and dispose of excess groundwater.

The approval allowed for infiltration of excess dewatering water by way of rapid infiltration basins (RIBs) on private (leasehold) land north of the mine. A proposed relocation of the RIBs to an alternative location on adjacent BLM land is in the process of being approved. RIB testing, approval and construction, and the associated water pollution control permit issuance is expected by early 2023. In the interim, mine dewatering and infiltration is proceeding according to the LOM plan by means of temporary surface discharge permits allowing water diversion into local watercourses.

Subsequent to the EIS, a minor modification was submitted and approved through the BLM and the NDEP to increase the total approved disturbance to 3,296 ha; which was related to converting some land for heap leach cell 19B construction, modifying waste rock storage facilities, and converting some land to infill.

SSR has a reasonable expectation that all necessary operating permits will be granted within the required timeframes to meet the LOM plan.

1.12 Market Considerations

The metal prices used in the Marigold21TRS are based on an internal assessment of recent market prices, long-term forward curve prices, and consensus among analysts regarding price estimates. For the economic analysis in the Marigold21TRS, the metal prices shown in Table 1.6 were used.

Table 1.6 Metal Prices

Metal	Unit	Average	2022	2023	2024	2025	2026	>2026
Gold Price	$/oz	1,647	1,800	1,740	1,710	1,670	1,600	1,600
Silver Price	$/oz	21.56	24.00	23.00	22.00	21.00	21.00	21.00

Marigold currently produces gold/silver doré bars. The doré refining terms are typical and consistent with standard industry practices and reflect similar contract conditions for doré refining worldwide.

The doré is securely transported by road freight to a refinery where it is refined into gold bullion. The bullion is sold by SSR to banks that specialise in the purchase and sale of gold bullion.

1.13 Capital and Operating Cost Estimates

Costs related to the development of reserves are based on a combination of historical site costs for fixed costs and a zero-base cost method for calculating variable costs. The variable costs are based on tonnage mined, tonnage processed, or hours worked for mining, maintenance, process, and administration costs. The total planned spend is divided by tonnes mined for mining and maintenance unit costs, and ore tonnes stacked for process and administration unit costs.

LOM project capital costs (excluding closure costs) are summarised in Table 1.7

Table 1.7 Summary of Capital and Reclamation Costs

Capital Costs	Total ($M)
Exploration and Development	9.1
Sustaining Capital	348.9
Mine Development	10.3
Total Capital Costs	**368.3**
Reclamation	71.8
Total Capital and Reclamation	440.1

Sustaining capital costs include:

- Replacement of mining equipment as it reaches its economic life during the remaining 11 years of mining. The majority relates to replacing haul trucks and excavators but is also covers drills and mine support equipment. Equipment replacement represents approximately 25% of future sustaining capital costs.
- Major equipment rebuilds and component replacement. In order to maintain equipment availability for the extended equipment lives, major equipment is programmed for rebuilds at set points during its economic life. Approximately 50% of future sustaining capital is capitalised parts and maintenance costs associated with these rebuilds. Major components with a life of more than one year are capitalised.
- Costs associated with on-going expansion of the leach pad and associated process infrastructure represents about 8% of future capital.
- Dewatering and permitting costs total about 17% of future sustaining capital, with the majority associated with dewatering infrastructure (wells, pipelines, rapid infiltration basins) that are required to lower the water table in advance of planned mine development.

1.14 Operating Costs by Category

The LOM operating costs estimate is $10.05/t of processed ore. Operating costs per tonne for the LOM and next five years of operations are shown in Table 1.8.

Table 1.8 Summary of Operating Costs

Operating Costs	Total LOM ($M)	$/t Ore	
		Years 1–5	LOM
Mining	1,469	7.53	7.18
Processing	373	1.57	1.82
Site Support	214	0.92	1.05
Total Operating Cost	**2,056**	**10.01**	**10.05**

Totals may vary due to rounding

1.15 Economic Analysis

This economic analysis presents the key economic performance indicators for Marigold, including cash costs, all-in sustaining costs (AISC) and net present value (NPV), based on a 5% discount rate and mid-year cash flows approach. The key results from the economic analysis are shown in Table 1.9.

Cash flow projections commenced on 1 January 2022 and are estimated over the remaining LOM based on estimates of sales revenue, site production costs, capital expenditures, and other cash flows, including taxes and reclamation expenditures, all presented on a real cash flow basis.

Cash inflows from sales assume all production within a period is sold, with minimal working capital movements, using the gold price in Table 1.6.

The estimates for site production costs, sustaining capital and reclamation expenditures have been developed specifically for Marigold and are presented in the relevant sections of the Marigold21TRS.

Based on SSR's projections as set forth in the Marigold21TRS, Marigold will incur cash costs of $1,009 per payable ounce of gold sold and AISC of $1,154 per payable ounce of gold sold over the LOM. The after-tax NPV using a 5% discount rate and mid-year cash flows approach is $860M over the LOM.

Table 1.9 Marigold Key Economic Indicators

Item	Unit	Amount
Oxide Processed		
Heap Leach Quantity Placed	Mt	205
Gold Feed Grade	g/t	0.48
Total Gold Produced		
Total Payable Gold	koz	2,536
Gold Recovery	%	79.7[1]
5-Year Annual Average		
Total Payable Gold Produced	koz/yr	215
Free Cash Flow	$M/yr	72
Total Cash Costs (CC)	$/oz payable Au	1,042
All In Sustaining Costs (AISC)	$/oz payable Au	1,278
Key Financial Results		
Total Cash Costs (CC)	$/oz payable Au	1,009
All In Sustaining Costs (AISC)	$/oz payable Au	1,154
Site Operating Costs	$/t treated	10.07
After-Tax NPV	$M	860
Discount Rate	%	5
Mine (processing) Life	years	17

1. Recovery includes impact of starting pad inventory
2. Includes operating cost plus $0.02/t refining cost
3. Differences between the Mineral Reserve and LOM quantities used in the economic analysis are due to differences between planned and actual 31 December 2021 face positions

1.15.1 Life-of-Mine Production

Mined material is either placed on the waste dumps or directly onto the leach pad over the course of eleven years of active mining.

A summary of projected mine and gold production over the LOM is shown in Table 1.10, resulting in total production of 2.5 Moz payable gold.

Table 1.10 LOM Operating and Production Statistics Mining and Leaching Production

Year	Total Mined (kt)	Ore Mined (kt)	Au Grade (g/t)	Waste Mined (kt)	Gold Recovery (%)	Recover-able Gold Stacked (koz)	Gold Produced (koz)
2022	102,616	21,818	0.53	80,798	76.4%	282.2	230.0
2023	90,646	22,010	0.38	68,637	76.2%	203.6	260.1
2024	92,828	21,410	0.42	71,418	76.4%	218.3	200.4
2025	93,988	15,713	0.50	78,275	74.9%	190.1	201.9
2026	90,633	16,538	0.40	74,095	76.1%	161.3	182.3
2027	83,225	20,857	0.40	62,369	74.0%	198.5	138.3
2028	90,358	20,207	0.64	70,151	73.8%	305.5	302.7
2029	78,934	26,911	0.43	52,023	71.5%	265.5	278.6
2030	93,861	18,188	0.47	75,673	72.4%	198.2	220.3
2031	87,403	13,103	0.68	74,299	75.6%	215.6	209.8
2032	28,105	7,792	0.72	20,313	75.6%	136.0	162.1
2033	–	–	–	–	–	–	77.7
2034	–	–	–	–	–	–	29.9
2035	–	–	–	–	–	–	15.0
2036	–	–	–	–	–	–	10.0
2037	–	–	–	–	–	–	7.0
2038	–	–	–	–	–	–	10.0
Total	**932,597**	**204,547**	**0.48**	**728,050**	**74.7%**	**2,374.9**	**2,535.9**

1. Gold produced from 2033 onwards is derived from the residual recoverable gold remaining in the leach pad when mining is completed and is recovered through continued leaching from 2033 to 2038.
2. Recoverable Gold Stacked on Pads refers to gold content of ore stacked on the pads in that period that is recoverable by the leaching process. Gold Produced refers to the amount of gold recovered from the heap in that period and processed to product for sale. The difference between the values in these columns is due to the lag effect of the leach cycle on gold dissolution in the heap and ounces already in the pads as of 1 January 2022.
3. Overall leaching recovery excludes impact of previously placed recoverable ounces
4. The mismatch between Mineral Reserves and the LOM production quantities is due to the difference between LOM plan and actual face positions at the end of 2021.
5. Totals may vary due to rounding.

1.15.2 Cost Statistics

Over the mine life, cash costs are estimated to average $1,009 per payable ounce of gold sold, and AISC is estimated to average $1,154 per payable ounce of gold sold.

Table 1.11 summarises the estimated components of the cash costs and AISC per payable ounce of gold sold over the LOM.

Table 1.11 LOM Average Costs per Payable Ounce of Gold Sold

Operating Costs	Value ($/payable oz of gold sold)
Mine Operations	579
Processing	147
General and Administration	84
Inventory Adjustment	54
Royalties and Refining (net of silver credits)	144
Total Cash Costs (CC)	**1,009**
Sustaining Capital	138
Other Capital	8
Total AISC	**1,154**

1. Inventory adjustment represents carrying values of starting leach pad and doré inventory at 1 January 2022, which are released into cash costs over the LOM through to 2038 as the associated gold ounces are sold.
2. Payable ounces of gold sold over the LOM total 2,535.9 koz.
3. Cash costs and AISC per payable ounce of gold sold are non-GAAP financial measures.
4. Totals may vary due to rounding.

1.16 Interpretation and Conclusions

The conversion of Mineral Resources to Mineral Reserves used industry best practices to determine operating costs, capital costs, and recovery performance. Therefore, the estimates are considered to be representative of actual and future operational conditions.

Possible areas of uncertainty that could materially impact the estimate of Mineral Reserves at Marigold include the commodity price assumptions, capital and operating cost estimates, estimation methodology, and the geotechnical slope designs for the pit walls. These reasonably foreseeable impacts of the uncertainties in the cost, operations and estimation assumptions are discussed in Section 22.

SSR has initiated exploration and Mineral Resources and Mineral Reserves development activities to enhance Marigold's operating margins and extend the mine life. Further studies will examine the sulfide-hosted gold and could include further drilling evaluation and metallurgical testwork.

1.17 Recommendations

SSR should continue its commitment to safe gold production and continuous progress within the guidelines of its environmental and social license to operate drive improvements at Marigold. The following recommendations include work that has already been identified by SSR and in some cases is in progress.

1.17.1 Processing

Pursue an upgrade to the barren pumping system in order to maintain a solution to ore ratio in excess of 1.5 as the leach pad increases height and new expansions are further from the barren ponds. An upgrade to the pumping system will aid in reducing the current WIP inventory and decrease the likelihood of building inventory in the future. Perform a trade -off study between CIC efficiency loss at high flow vs addition CIC trains with increased efficiency over the life of mine plan. The additional column trains to create a one-pass recovery system are a significant improvement to the system however there is still opportunity to optimize the flow rates through the columns and pull ounces forward through increased efficiency.

1.17.2 Metallurgy / Analytical

Investigate sample processing automation throughout the assay lab to decrease potential for bias and increase representivity. Continue work on fully implementing the ICP-OES to reduce detection limits for gold on leach pad, plant, and blasthole samples. Continue to conduct metallurgical test work with the goal of understanding all future leach ore at Marigold and how test results compare to resource model predictions. Perform more detailed test work on the sulfide ore types to better understand the value of this material at Marigold in the future. Utilize the new LECO machine for sulfur and carbon speciation both in current Marigold ore but also in conjunction with drilling activities being performed for near pit expansions. These data can be utilized to optimized reagent addition as well as reduce operational risks associated with preg-robbing material.

1.17.3 Mineral Resources

Incorporate geological data (from pit mapping) and hard boundaries (from faults that offset mineralisation) into the resource model. Costs associated with this project are minor. As the mine progresses into zones below the water table, undertake a review of the effects of the water table on grade distribution and potential loss of fines.

Re-assay all samples that report the cyanide soluble gold assay values as zero and have not been assayed by the FA method outside of the current LOM pit designs. This should be conducted in a phased-in manner and will help convert Mineral Resources to Mineral Reserves and increase the volume of Mineral Resources and Mineral Reserves.

Collect additional density samples from core holes and in pit, where required, to obtain an improved spatial distribution of density values. Attempt to obtain additional samples from the upper levels of the deposit at between 0–152.4 m deep. It is planned by SSR that one sample be collected for every 9.1 m (30ft) downhole from surface. The density testwork could be completed at Marigold's on-site laboratory and a propotion of these samples should be sent to a commercial laboratory for QA/QC purposes.

Upgrade the Mineral Resources classifications and infill drilling programme. Systematically design infill drill programs to increase the confidence of the model estimates based on the LOM plan within sparsely drilled areas and before ultimate pit walls are finalised.

1.17.4 Mine Planning

Develop and evaluate a digital twin of the mine haulage network utilising industrial mathematics to iterate on material destinations over the LOM and optimise haulage profiles. Code projections of dewatering progress to the mine planning model. Record weekly plan variances, explanations, and associated actions for trending.

1.17.5 Exploration Drilling

Conduct RC exploration drilling to target the lateral extensions of structures known to contain mineralisation. This drilling could target near-surface, higher grade oxide mineralisation. The estimated cost for this project is between $3M and $5M spent over a period of 3–5 years.

1.17.6 Mine Operations

The Marigold operations team anticipates undertaking work focused on improving quality of ore delivered to leach pads and tactical fleet resourcing optimisations for improved cost efficiencies in the haulage cycles.

To improve utilisation of existing dispatch tools onsite as well as implementation of industrial mathematics-based haulage simulation tools for strategically optimised efficiencies throughout the LOM. Training of dispatch personnel for operation of updated fleet management systems onsite to optimise load / haul fleet resourcing and positively improve site productivity should be undertaken. Site will also deploy simulation software for strategic haulage network planning. This haulage simulator can be used to identify opportunities for mine planners and operations personnel to optimise material destinations.

1.17.7 Maintenance Operations

The Marigold maintenance team is committed to remain focused on improved maintenance operations at the site with the aim of increasing equipment availabilities and reducing unit costs. Projects underway include disciplined work planning and execution and consumables wear optimisation.

Following improvements experienced from previous years' initiatives, Marigold's maintenance teams remain focused on improving quality of planned work execution at the site. Key areas of focus include plan compliance improvements, Komatsu PC7000 shovel availability increases, and coordination with supply chain for improved parts availability. These projects are primary enablers to ensuring site production requirements may be met.

In addition to systematic improvements, site has undertaken multiple trials to improve upon life of wear parts and maintenance consumables in the operation. These improvements include Shovel GET wear analysis, engine air filter pre-cleaners (de-risks potential supply chain shortages), and truck bed liner wear packages. Scale of sustaining improvements are pending based upon successful trials within the operation.

2 INTRODUCTION

The Marigold21TRS has been prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

SSR is a gold mining company with four producing assets located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

Marigold mine is owned directly by SSR's wholly-owned subsidiary, Marigold Mining Company (MMC).

The purpose of the Marigold21TRS is to report the Mineral Resources and Mineral Reserves for the project. The primary source of data for the Marigold21TRS is the Marigold 2021 Project Update Report.

A list of the references used to prepare the Marigold21TRS is provided in Section 24.

2.1 Qualified Persons and Property Inspection

The Qualified Persons are:

- OreWin Pty Ltd (OreWin), an independent mining consultancy, is a third party firm comprised of mining experts. The Marigold21TRS was prepared by appropriately experienced technical professionals employed by OreWin. OreWin is responsible for the Mineral Resources and Mineral Reserves reported in the Marigold21TRS and for Sections 1 to 25 of the Marigold21TRS.
- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining, was responsible for the overall preparation of the Marigold21TRS and, the Mineral Reserve estimates, Sections 1 to 5; Sections 10; Section 12 to 25.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3; Section 6 to 9; Section 11; Sections 22 to 25.

OreWin employees have completed site visits to the Marigold mine on 18–19 February 2020.

2.2 Units and Currency

Unless otherwise stated, all units in this Matigold21TRS are metric and all currency values are expressed in US dollars.

2.3 Abbreviations and Acronyms

A list of abbreviations and acronyms used in the Marigold21TRS is shown in Table 2.1. The units of measurement used are shown in Table 2.2.

Table 2.1 Abbreviations and Acronyms

Abbreviation/ Acronym	Term/Definition
%	percent
°C	degrees Celsius
µ	micron
3D	three dimensional
5N	5 North

8D	8 Deep
8N	8 North
8S	8 South
8Sx	8 South Extension
AA	atomic absorption
ADR	adsorption/desorption/recovery
Ag	silver (element)
AISC	all-in sustaining costs
amsl	above mean sea level
ANFO	ammonium nitrate and fuel oil
ARD	absolute relative difference
ARO	asset retirement obligation
As	arsenic (element)
ASX	Australian Stock Exchange
Au	gold (element)
AuEq	gold-equivalent
BLM	Bureau of Land Management
BTU	British thermal unit
CaO	lime
CIL	carbon-in-leach
cm	centimetre
CN	cyanide
CRD	carbonate-replacement deposit
CSR	corporate social responsibility
CTGD	Carlin-type gold deposit
Cu	copper (element)
d	day
DEM	digital elevation model
E	east
EA	Environmental Assessment
EDA	exploratory data analysis
EIS	Environmental Impact Statement
EOY	end of year
FA	fire assay
g	gram
G&A	General and Administration
g/t	grams per tonne

GAAP	Generally Accepted Accounting Principles
GET	ground engaging tools
GMP	Geotechnical Management Plan
GPS	Global Positioning System
ha	hectare
Hg	mercury (element)
hp	horsepower
ID3	inverse distance cubed
IFRS	International Financial Reporting Standards
IRA	inter-ramp angle
IRR	internal rate of return
ISO	International Organisation for Standardisation
J	joules
kg	kilogram
km	kilometre
km^2	square kilometre
kV	kilovolt
kW	kilowatt
L/s	litres per second
LDL	lower detection limit
LOM	life-of-mine
M	million
m	metre
m^2	square metre
m^3	cubic metre
Ma	million years
MCC	motor control centre
min	minute
mL	millilitre
mm	millimetre
MMC	Marigold Mining Company
Moz	million ounces
Mt	million tonnes (metric)
MW	megawatt
tpd	tonnes per day

mV/V	millivolts per volt
Mya	million years ago
N	north
NaCN	sodium cyanide
NDEP	Nevada Division of Environmental Protection
NEPA	National Environmental Policy Act
NN	nearest neighbour
NPV	net present value
NSR	net smelter return
oz	Troy ounce
Pb	lead (element)
pH	acidity
PM	Preventative Maintenance
PoO	plan of operations
ppm	parts per million
QA/QC	quality assurance/quality control
QP	qualified person
RC	reverse circulation
ROM	run-of-mine
RTK	Real-Time Kinematic
S	south
Sb	antimony (element)
SG	specific gravity
SI	International System of Units
SLERA	screen-level ecological risk assessment
SRTM	shuttle radar topography mission
SSR	SSR Mining Inc.
st	short ton (imperial)
t	tonne (metric)
t/m^3	tonnes per cubic metre
TSF	tailings storage facility
TSX	Toronto Stock Exchange
TZN	Terry Zone North
US SEC	U.S. Securities and Exchange Commission
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VLF-EM	very-low-frequency electromagnetic
W	west
wk	week
yr.	year
Zn	zinc (element)

Table 2.2 Units of Measurement

Type	Unit	Unit Abbreviation	Si Conversion
area	hectare	ha	10,000 m^2
area	square kilometre	km^2	100 ha
concentration	grams per tonne	g/t	1 part per million
length	foot	ft	0.3048 m
length	mile	mi	1,609.34 km
mass	pound	lb	0.453592 kg
mass	troy ounce	oz	31.103481 g
mass	metric tonne	t or tonne	1,000 kg
mass	short ton	st or ton	2,000 lbs
temperature	degrees Celsius	°C	°C=(°F - 32) x 5/9

3 PROPERTY DESCRIPTION

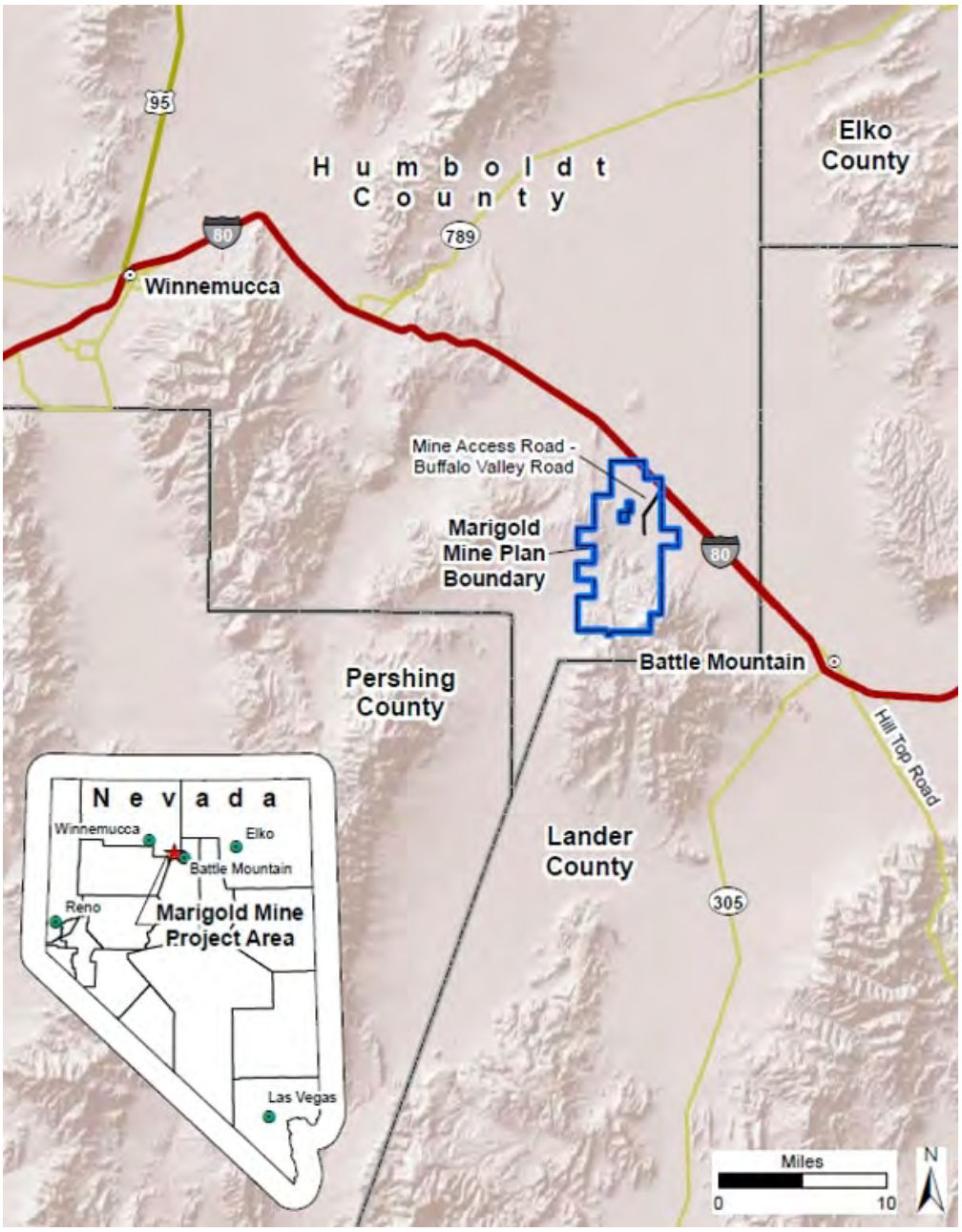
3.1 Property Location

Marigold is located in south-eastern Humboldt County along the Interstate Highway 80 corridor in the northern foothills of the Battle Mountain Range, Nevada, U.S. Activities at the Property are centred at approximately 40°45′ north latitude and 117°8′ west longitude.

The Property is situated approximately 5 km south–south-west of the town of Valmy, Nevada at Exit 216 off Interstate Highway 80. Other nearby municipalities include Winnemucca and Battle Mountain, Nevada, which lie approximately 58 km to the north-west and 24 km to the south-east of the Property, respectively.

Figure 3.1 shows the Property outline relative to these towns and Interstate Highway 80.

Figure 3.1 Marigold Mine Location

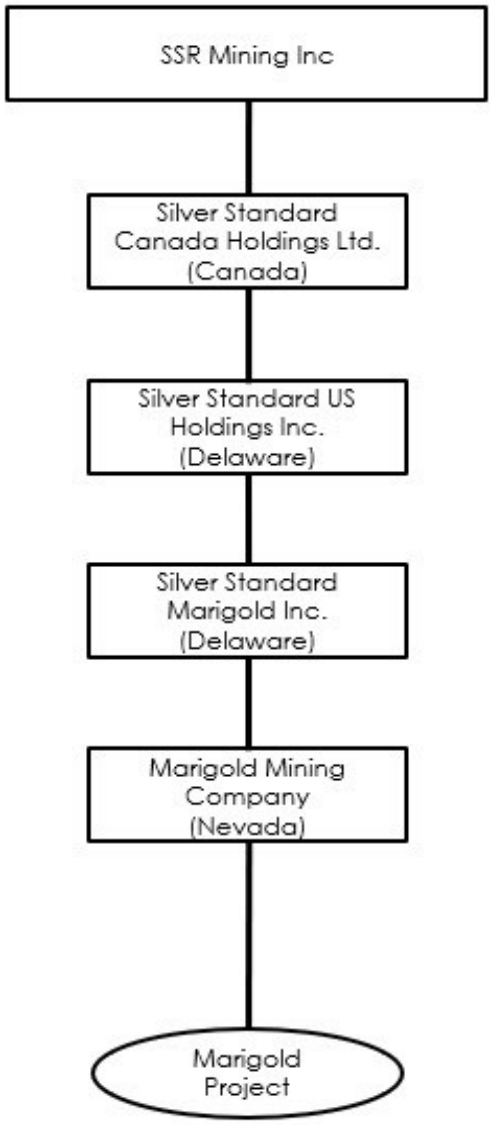


SSR, 2021

3.2 Corporate Structure

Marigold is 100% owned by SSR. The corporate structure of the subsidiary companies owned by SSR is shown in Figure 3.2.

Figure 3.2 Marigold Corporate Structure



SSR, 2021

3.3 Land Tenure and Ownership

The authorized plan of operations (PoO) area for Marigold currently encompasses approximately 10,703 ha with approximately 3.296 ha within the PoO permitted for mining-related disturbance. Land and mineral ownership within the PoO are within the corridor initially governed by the Railroad Act, and, as such, these areas generally have a "checkerboard" ownership pattern. Mineral claims in Nevada are managed federally by the Bureau of Land Management (BLM).

SSR Mining Inc. (SSR Mining) holds 100% interest in the Property through its wholly owned subsidiary, Marigold Mining Company (MMC). Surface and mineral rights at the Property comprise real property owned by MMC; unpatented mining claims owned by MMC; and leasehold rights held by MMC with respect to unpatented mining claims and mill site claims and surface lands.

3.3.1 Owned Real Property

MMC owns the following surface lands at Marigold shown in Table 3.1.

Table 3.1 Marigold Surface Lands

Parcel Number	Hectares	Location
007-0401-25	65.28	SE1/4 Section 22, T.34N, R.43E
007-0461-09	259.00	Section 9, T.33N, R.43E
007-0461-14	259.00	Section 17, T.33N, R.43E
007-0404-10, 007-0404-11, 007-0404-12, 007-0404-13 (Lot 8, Parcel 1-4), 007-0404-05 (Lot 11), 007-0404-06 (Lot 12), 007-0404-09 (Lot 15), 007-0403-03 (Lot 3)	84.40	Section 33, T.34N, R.43E
007-0461-42 (Parcel A) and 007-0461-43 (Parcel B)	259.00	Section 21, T.33N, R.43E
007-0461-44 (Parcel C) and 007-0461-45 (Parcel D)	259.00	Section 29, T.33N, R.43E
007-0481-06	254.40	Section 1, T.32N, R.42E
007-0491-03	277.90	Section 5, T.32N, R.43E
07-0461-39	16.19	Section 16, T.33N, R.43E
07-0461-41	32.37	Section 30, T.33N, R.43E
07-0491-02	64.75	Section 6, T.32N, R.43E
07-0481-13	16.19	Section 12, T.32N, R.42E

3.3.2 Owned Unpatented Mining Claims

MMC owns a total of 323 unpatented mining claims at Marigold, as shown in Table 3.2.

Table 3.2 MMC-Owned Unpatented Mining Claims

BLM Serial Numbers	Claims	Total Number of Claims
NMC371561 to NMC371573	APRI # 1 to APRI # 13	13
NMC519580	APRI # 14	1
NMC552229	APRI # 15	1
NMC361136 to NMC361161	VAL #237 to VAL #262	26
NMC600391 to NMC600402	VAL #1013 to VAL #1024	12
NMC371574 to NMC371609	TYLER # 1 to TYLER # 36	36
NMC454876 to NMC454911	REMARY #237 to REMARY #272	36
NMC552228	REMARY FRACTION	1
NMC359040 to NMC359057	MARY # 73 to MARY # 90	18
NMC400277 to NMC400288	HS #123 to HS #134	12
NMC400289	HS #134A	1
NMC358968 to NMC359003	MARY# 1 to MARY # 36	36
NMC371610	BONZ # 1	1
NMC371612	BONZ # 3	1
NMC371614	BONZ # 5	1
NMC371616	BONZ # 7	1
NMC371618 to NMC371627	BONZ # 9 to BONZ # 18	10
NMC371630 to NMC371639	BONZ # 21 to BONZ # 30	10
NMC451485 to NMC451488	BONZ # 33 to BONZ # 36	4
NMC487422	REBONZ # 2	1
NMC487423	REBONZ # 4	1
NMC487424	REBONZ # 6	1
NMC487425	REBONZ # 8	1
NMC487426 to NMC487427	REBONZ # 19 to REBONZ # 20	2
NMC487428	REBONZ # 31	1
NMC524363	REBONZ # 32	1
NMC1112641 to NMC1112686	GINGER #1 to GINGER #46	46
NMC362237 to NMC362272	LCL #1 to LCL #36	36
NMC684371 to NMC674382	EJM #1 to EJM #12	12
Total Number of Claims		323

BLM Serial number reflect the old BLM-LR2000 system. Claims require annual maintenance fee / renewal notification by 1 September each year. All claims expire on 1 September 2022 at 11:59:59 A.M.

3.3.3 Leasehold Rights

MMC holds leasehold rights in each of the following leases:

- Mineral Lease Agreement made and entered into as of 20 June 1986, by and between Donald J. Decker and Suzanne R. Decker, as lessors, Nevada North Resources (USA) Inc., as lessee, and Nevada North Resources Inc. (as amended, the Decker Lease).
- Lease Agreement made and entered into as of 15 September 1985, by and between Vek Associates, as lessor, and Rayrock Mines, doing business as Cordex, as lessee (as amended, the Vek & Andrus Lease).
- Lease Agreement made and entered into as of 1 August 1988, by and between Euro-Nevada Mining Corp., Inc., as lessor, and Rayrock Mines, doing business as Cordex, as lessee (as amended, the Euro-Nevada Lease).
- Lease Agreement made and entered into as of 1 August 1988, by and between the Board of Regents of the University of Nevada System, as lessor, and Donald J. Decker, Suzanne Decker, Nevada North Resources (USA) Inc., and Rayrock Mines, doing business as Cordex, as lessee (the University of Nevada Lease).
- Minerals Lease dated and effective 17 June 1988, by and between SFP Minerals Corporation, as lessor, and Santa Fe Pacific Mining, Inc., as lessee (the SFP Lease).
- Minerals Lease dated and effective as of 19 February 1986, by and between Southern Pacific Land Company, as lessor, and SFP Minerals Corporation, as lessee (the Southern Pacific Land Company Lease).
- Minerals Sublease dated and effective 30 April 1986, by and between SFP Minerals Corporation, as sublessor, and Santa Fe Pacific Mining, Inc., as sublessee (as amended, the Southern Pacific Land Company Sublease and, together with the Decker Lease, the Vek & Andrus Lease, the Euro-Nevada Lease, the University of Nevada Lease, the SFP Lease and the Southern Pacific Land Company Lease, collectively, the Leases).
- Minerals Lease Agreement made and entered into as of 5 June 1987, by and between Donald J. Decker and Suzanne R. Decker, as lessors, Nevada North Resources (USA) Inc. and Welcome North Mines (U.S.) Inc., as lessees (the Franco-Nevada Lease).
- Minerals Lease Agreement made and entered into as of 20 December 1994, by and between Nevada North Resources (USA), Inc. by and between Nevada North Resources (USA), Inc., as lessors, and Santa Fe Pacific Gold Corporation, as lessee (the Nevada North Lease).
- Minerals Lease Agreement made and entered into as of 16 October 2012, by and between New Nevada Resources, LLC and Lease Agreement made and entered into as of 16 October 2012 by and between New Nevada Resources, LLC and New Nevada Lands, LLC, as lessors, and Newmont Mining Company, as lessee (the New Nevada 2012 Lease).
- Minerals Lease Agreement made and entered into as of December 3, 2014, by and between New Nevada Resources, LLC and Lease Agreement made and entered into as of 3 December 2014 by and between New Nevada Resources, LLC and New Nevada Lands, LLC, as lessors, and Newmont Mining Company, as lessee (the New Nevada 2014 Lease).

Decker Lease Claims

Pursuant to the Decker Lease, MMC has leasehold rights to 170 unpatented mining claims, as shown Table 3.3 The initial term for the Decker Lease was through 25 May 1991 and, thereafter, as long as operations continue.

Table 3.3 Decker Lease Unpatented Mining Claims

BLM Serial Numbers	Claims	Total Number of Claims
NMC48409 to NMC48412	RED # 21 to RED #24	4
NMC48415 to NMC48426	RED # 27 to RED # 38	12
NMC56187 to NMC56198	RED # 39 to RED # 50	12
NMC56199 to NMC56216	RED # 52 to RED # 69	18
NMC271665 to NMC271688	RED #201 to RED #224	24
NMC271689 to NMC271716	RED #601 to RED #628	28
NMC365642 to NMC365677	KIT # 1 to KIT # 36	36
NMC678030 to NMC678047	RED 1801A to RED 1818A	18
NMC678055 to NMC678063	RED 1826A to RED 1834A	9
NMC552226 to NMC552227	RED # 23A to RED # 24A	2
NMC871541 to NMC871547	NURED 1819 to NURED 1825	7
Total Number of Claims		170

BLM Serial numbers reflect the legacy serial numbers from the BLM-LR2000 system. The new serial numbers are non-sequential and can be found in the BLM-MLRS system. Claims require annual maintenance fee / renewal notification by 1 September each year

Vek & Andrus Lease Claims

Pursuant to the Vek & Andrus Lease, MMC has leasehold rights to 205 unpatented mining and millsite claims, as shown in Table 3.4. The initial term of the Vek & Andrus Lease was through 15 September 1995 and runs for terms of ten years and, at the lessee's sole option, may be renewed for up to eight successive ten-year periods, upon prior written notice.

Table 3.4 Vek & Andrus Lease Unpatented Mining and Millsite Claims

BLM Serial Numbers	Claims	Total Number of Claims
NMC271972 to NMC272007	COT # 1 to COT # 36	36
NMC275733	COT # 38	1
NMC275750 to NMC275753	COT # 55 to COT # 58	4
NMC275755	COT # 60	1
NMC275757	COT # 62	1
NMC275759 to NMC275767	COT # 64 to COT # 72	9
NMC342068 to NMC342071	COT # 73 to COT # 76	4
NMC297554 to NMC297571	VAL # 1 to VAL # 18	18
NMC347463 to NMC347475	VAL # 19 to VAL # 31	13
NMC297572 to NMC297607	VAL # 37 to VAL # 72	36
NMC361164 to NMC361172	COT FRAC # 1 to COT FRAC # 9	9
NMC371559 to NMC371560	COT # 75A to COT # 76A	2
NMC822614	RECOT 37	1
NMC822615 to NMC822619	RECOT 39 to RECOT 43	5
NMC822620	RECOT 45	1
NMC822621	RECOT 47	1
NMC822622 to NMC822626	RECOT 50 to RECOT 54	5
NMC822627	RECOT 59	1
NMC822628	RECOT 61	1
NMC822629	RECOT 63	1
NMC822630	RECOT 63B	1
NMC822560 to NMC822613	GMMCMS 1 to GMMCMS 54	54
Total Number of Claims		205

BLM Serial numbers reflect the legacy serial numbers from the BLM-LR2000 system. The new serial numbers are non-sequential and can be found in the BLM-MLRS system.

NMC822560 to NMC822613 are Mill Site Claims and require annual maintenance fee / renewal notification by 1 September each year.

Euro-Nevada Lease Claims

Pursuant to the Euro-Nevada Lease, MMC has leasehold rights to 36 unpatented mining claims, as shown in Table 3.5. The original term for the Euro-Nevada Lease was five years, and, at the lessee's option, the Euro-Nevada Lease may be renewed for up to ten additional and successive five-year periods, upon giving the lessor prior written notice. The last Euro-Nevada five year renewal notification was provided 25 May 2018.

Table 3.5 Euro-Nevada Lease Unpatented Mining Claims

BLM Serial Numbers	Claims	Total Number
NMC373649 to NMC373684	SAR# 37 to SAR# 72	36
	Total Number of Claims	**36**

BLM Serial numbers reflect the legacy serial numbers from the BLM-LR2000 system. The new serial numbers are non-sequential and can be found in the BLM-MLRS system.

Claims require annual maintenance fee/renewal notification by 1 September each year BLM Serial number reflect the old BLM-LR2000 system

University of Nevada Lease Claims

Pursuant to the University of Nevada Lease, MMC has leasehold rights to property in Section 19, T.33N., R.43E., Humboldt County, Nevada, identified as Humboldt County Assessor's parcel number 007 461 19. The initial term of the University of Nevada Lease was ten years, and the lessee may renew the lease for successive ten-year periods upon providing the lessor with prior written notice. A new agreement was executed on 1 August 2018 and extends through 31 July 2038.

SFP Lease Claims

Pursuant to the SFP Lease, MMC has leasehold rights to property in Sections 5, 9, 17, and 31, T.33N., R.43E., Humboldt County, Nevada. The initial term of the SFP Lease was for 20 years or for so long, thereafter, as mining is conducted on a continuous basis.

Southern Pacific Land Company Lease Claims

Pursuant to the Southern Pacific Land Company Lease, MMC has leasehold rights to property in Sections 13 and 25, T.34N., R.42E.; Sections 19, 29, 31, and 33, T.34N., R.43E.; and Section 7, T.33N., R.43E., Humboldt County, Nevada. The initial term of the Southern Pacific Land Company Lease was for 25 years and for so long, thereafter, as the lessee continues to exercise its rights on any portion of the property.

Southern Pacific Land Company Sublease Claims

Pursuant to the Southern Pacific Land Company Sublease, MMC has leasehold rights to certain property in Sections 19, 29, 31, and 33, T.34N., R.43E.; Section 7, T.33N., R.43E.; and Sections 1, 13, and 25, T.33N., R.42E., Humboldt County, Nevada. The initial term of the Southern Pacific Land Company Sublease was for 25 years and for so long, thereafter, as the lessee exercises any rights granted by such sublease.

Franco-Nevada Lease Claims

Pursuant to the Franco-Nevada Lease, MMC has leasehold rights to 82 unpatented mining claims, as set out in Table 3.6. The initial term for the Franco-Nevada Lease was from 5 June 1987 for a period of 50 years and for so long, thereafter, as the lessee exercises any rights granted by such lease.

Table 3.6 Franco-Nevada Lease Unpatented Mining Claims

BLM Serial Numbers	Claims	Total Number of Claims
NMC379514 to NMC379585	N-1 to N-72	72
NMC623992 to NMC623995	N-109 to N-112	4
NMC676435	N-20A	1
NMC676436	N-22A	1
NMC676437 to NMC676440	N-28A to N-31A	4
Total Number of Claims		82

Claims require annual maintenance fee/renewal notification by 1 September each year

Nevada North Lease

Pursuant to the Nevada North Lease, MMC has leasehold rights to 12 unpatented mining claims, as set out in Table 3.7. The initial term for the Nevada North Lease was from 20 December 1994 for a period of 10 years and for so long, thereafter, as the lessee exercises any rights granted by such lease.

Table 3.7 Nevada North Lease Unpatented Mining Claims

BLM Serial Numbers	Claims	Total Number of Claims
NMC409224 to NMC409235	BC-1 to BC-12	12
Total Number of Claims		12

Claims require annual maintenance fee/renewal notification by 1 September each year

New Nevada 2012 Lease

Pursuant to the New Nevada 2012 Lease, MMC has leasehold rights to property in Section 33, T.33N., R.43E., Humboldt County, Nevada. The initial term for the New Nevada 2012 Lease was from 16 October 2012 for a period of 20 years and for so long, thereafter, as the lessee exercises any rights granted by such lease.

New Nevada 2014 Lease

Pursuant to the New Nevada 2014 Lease, MMC has leasehold rights to property in Sections 11, T.33N, R.44E; Section 23, T.33N, R.42E; and Section 35, T.33N, R.42E, Humboldt County, Nevada. The initial term for the New Nevada 2014 Lease was from 3 December 2014 for a period of 20 years and for so long, thereafter, as long as the lessee exercises any rights granted by such lease.

3.4 Royalties and Encumbrances

Each Lease requires MMC to make certain net smelter return (NSR) royalty payments to the lessors and comply with certain other obligations, including completing certain work commitments or paying taxes levied on the underlying properties. These NSR royalty payments are based on the specific gold-extraction areas and are payable when the corresponding gold ounces are extracted, produced and sold. The NSR royalty payments vary between 0% and 10.0% of the value of gold production net of off-site refining costs, which equates to an annual average ranging from 3.7% to 10.0% and a weighted average of 7.8% over the life-of-mine (LOM).

3.5 Environmental Liabilities

At present, there are no known environmental liabilities to which the Property is subject. Further discussion on environmental matters with respect to the Property is provided in Section 17.

3.6 Operating Permits

Marigold holds active, valid permits for all facets of the current mining operation as required by county, state, and federal regulations. MMC performs duties on leased lands pursuant to all federal and state requirements, and all the Leases are maintained in good standing. MMC engages in concurrent reclamation practices and is bonded for all permitted features, as part of the Nevada permitting process.

Further discussion on permitting requirements with respect to the Property is provided in Section 17.

3.7 Permits, Mineral, and Surface Rights

Mining activities at Marigold are authorised by and conducted under both federal and state regulatory requirements, notably the General Mining Law of 1872, the National Environmental Policy Act of 1970, and the Federal Land Policy and Management Act of 1976. All requirements are administered by the BLM, along with applicable statutes and regulations within the Nevada Revised Statutes and Nevada Administrative Code, administered by the Nevada Division of Environmental Protection.

Further discussion regarding Marigold's mineral and surface rights, including leasehold rights under the Leases, is provided in Section 3. Further discussion regarding permitting requirements with respect to the Property is provided in Section 17.

3.8 Other Significant Factors and Risks

SSR have advised that there are no other known significant risks that may affect access, title or the right or ability to perform mining-related work on the Property.

4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Access

Access to the Property is via a 5 km public road (hard-packed clay and gravel) off the Valmy exit (Exit 216) on Interstate Highway 80.

4.2 Climate and Physiography

Elevations at Marigold range from approximately 1,372–1,890 mamsl. The climate is typical of the Great Basin region of the western U.S., with temperatures ranging from highs of 40°C in summer to lows of –7°C in winter. Annual precipitation is relatively low, ranging from 15–20 cm per year, with approximately 50% of precipitation occurring as snowfall during the months of December through March.

The climate presents no restrictions on the operating season, and Marigold operates year-round. Terrain varies from a relatively flat alluvial plain to sloped foothills at the base of the Battle Mountain Range. Vegetation mainly comprises sagebrush, rabbit brush, and a variety of grasses and forbs. Fauna is not abundant on the Property primarily due to the lack of surface water and limited forage. No threatened or endangered plant or animal species have been noted within the Property's operating area.

4.3 Infrastructure

Marigold has been in continuous operation since 1989. There is significant infrastructure existing on site for delivering power and water to the various mine shops, leach pad, and process and ancillary facilities. The Property is located in a favourable area for natural resource development with significant resources in place to support the mining industry. The nearby towns of Winnemucca and Battle Mountain host the majority of the local workforce. Contractor support, transportation, and general suppliers are all readily available in these communities as well as in Elko, which is located approximately 142 km east of Marigold and serves as a major hub for mining operations in northern Nevada. Employees are transported to the Property primarily by contract buses and light-duty vehicles owned by MMC.

Water for Marigold is supplied from three existing groundwater wells located near the access road to the Property. Marigold owns groundwater rights and collectively allows up to 3.134 Mm^3 of water consumption annually, the majority of which is used as makeup water for process operations. On average, total freshwater makeup is 2.4 m^3/min.

Approximately 5.3 m^3/min of fresh water is required during peak periods in the summer months. The water is primarily consumed by retention in the heap leach pad, evaporation, processing operations and dust suppression. Marigold also owns 0.893 Mm^3 annually of surface water storage rights associated with the Trout Creek Dam (J-666). In addition, in September 2019, Marigold was issued water rights permits associated with the activities described in the Plan of Operations – Mackay Optimization Project Amendment, including permits for the dewatering during mine operations and evaporative losses from a future pit lake that will develop in closure.

The power supply for Marigold is provided by NV Energy Inc. via a 120 kV transmission line to site. Site power draw is 5 MW. After exiting the main substation, power is distributed through a 25 kV distribution grid.

The tailings storage facility (TSF) has been decommissioned and reclaimed. The only remaining activity concerning the TSF is ongoing monitoring.

Details regarding completed, in progress, and future waste dumps at Marigold can be found in Section 13. The leach pad is discussed in detail in Section 14. Further discussion on the Property's infrastructure is provided in Section 15.

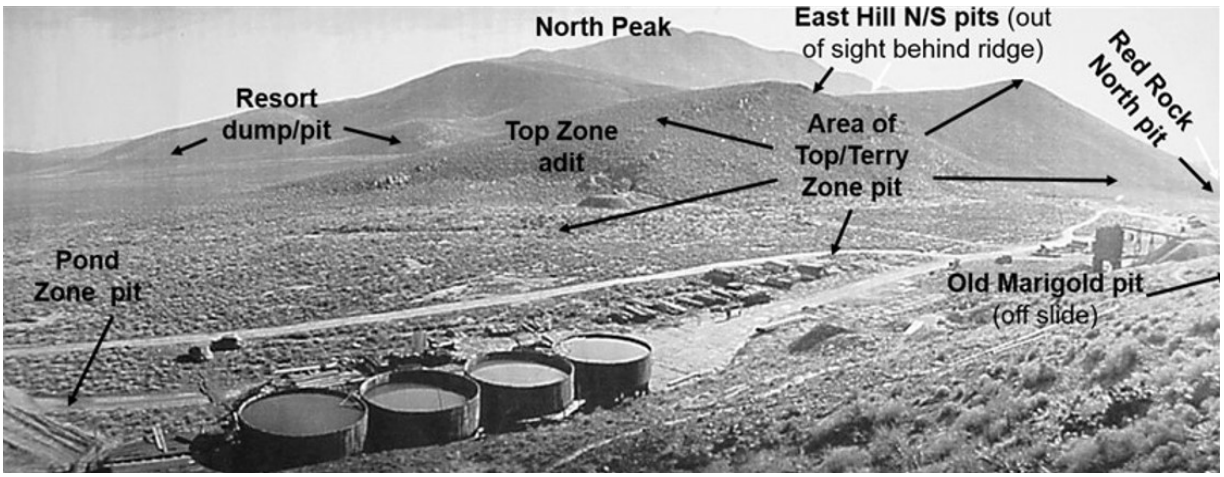
5 HISTORY

5.1 Historical Exploration Work

The first recorded gold production from the Property near Valmy, Nevada occurred in 1938 when the Marigold Mining Company, owned by Frank Horton, developed and operated an underground mine which came to be known as Marigold. Figure 5.1 shows the Marigold mine prior to World War II.

The Horton family processed approximately 9,000 t of ore averaging about 6.85 g/t Au before World War II halted production. In 1943, Mr. Horton's estate sold its interest in the Property and claims. Several unsuccessful attempts were made to open and operate the mine before exploration activities began again in 1968.

Figure 5.1 View to the East–South-East over the Cyanide Leach Tanks from the Marigold Mine prior to World War II



SSR, 2017

From 1968 through 1985, several companies conducted exploration programmes in the Marigold area and completed a total of 126 exploratory drillholes. Records document the activities of Homestake (1968), St. Joe (1979), Decker Exploration (1979), Placer Amex (1979–1980), True North, Marigold Development Company (MDC) (1981–1983), Welcome North (1984), and Nevada North Resources (USA) Inc. (1985–1986). Other groups that conducted work in the area include Newmont, Kerr-McGee, SFP Minerals Corporation, Cordex/Rayrock Mines, and Vek/Andrus Associates (partnership between Vic Kral, Ralph Roberts, Bob Reeve, and Bill Andrus composed of Vek Associates and Andrus Resources Corporation).

From 1983 through 1984, MDC excavated a small open pit over the historical Marigold underground workings, producing 2,812 t containing 271 oz gold (McGibbon, 2004).

In 1985, Vek/Andrus Associates drilled three holes under the supervision of Ralph Roberts in the Section 8 area of the Property, just north-east of the old underground mine. Roberts invited Andy Wallace of Cordex to view the drilling results, and Wallace was encouraged by the deep level of oxidation, presence of favourable rock units, anomalous indicator elements, and anomalous gold values. The operating partner Cordex, an exploration syndicate composed of Dome Exploration (U.S.) Ltd., Lacana Gold Inc. (Lacana) and Rayrock Mines, leased the Vek/Andrus Associates claim block in September 1985 and began a drilling programme in November 1985. Drillholes NM-3 and NM-4 intersected 21.3 m of 2.40 g/t Au and 25.9 m of 7.54 g/t Au, respectively. These were the discovery holes for the 8 South (8S) ore body (Roberts, 2002).

The Property is within the "checkerboard" railway lands, where the U.S. Government originally awarded the surface, water, and mineral rights for alternate sections (2.5 km^2 of land) to the Santa Fe Pacific Railroad as an incentive to develop the transcontinental railway project in the 1860s. Santa Fe Pacific Railroad eventually became the parent company of SFP Minerals. Following further drilling in the 8S deposit in the spring of 1986, a joint venture was formed between SFP Minerals and the Cordex group, which consolidated some of the land holdings over the Marigold area.

In late-1986, the Cordex group leased other claims, including the historical Marigold mine, Top Zone, East Hill, and Red Rock area from various claim holders (Figure 5.2).

In March 1988, Rayrock Mines (operating company for Cordex) made a production decision on the 8S deposit, and, by September 1988, it began stripping on the 8S pit (McGibbon, 2004).

In August 1989, the first gold doré bar was poured at the Marigold mill.

In March 1992, Rayrock Mines purchased a two thirds ownership interest in the Property, and Homestake Mining Company (Homestake), which had taken Lacana's interest through previous corporate mergers, held the remaining one third ownership interest in the Property.

In 1994, mining of the 8S deposit was completed, and the Marigold mill was no longer used to process ore. At this point, Marigold became a run-of-mine (ROM) heap leach operation.

In March 1999, Glamis Gold Ltd. (Glamis Gold) purchased all the assets of Rayrock Mines, resulting in Glamis Gold holding a two thirds ownership interest in Marigold, and Homestake continuing to hold a one third ownership interest. In the same year, the Basalt, Antler and Target II deposits were discovered at the south end of the Property in Section 31. These deposits were mined and partially backfilled with the unmined East Basalt deposit which is currently under development as an easterly extension of the original Basalt pit.

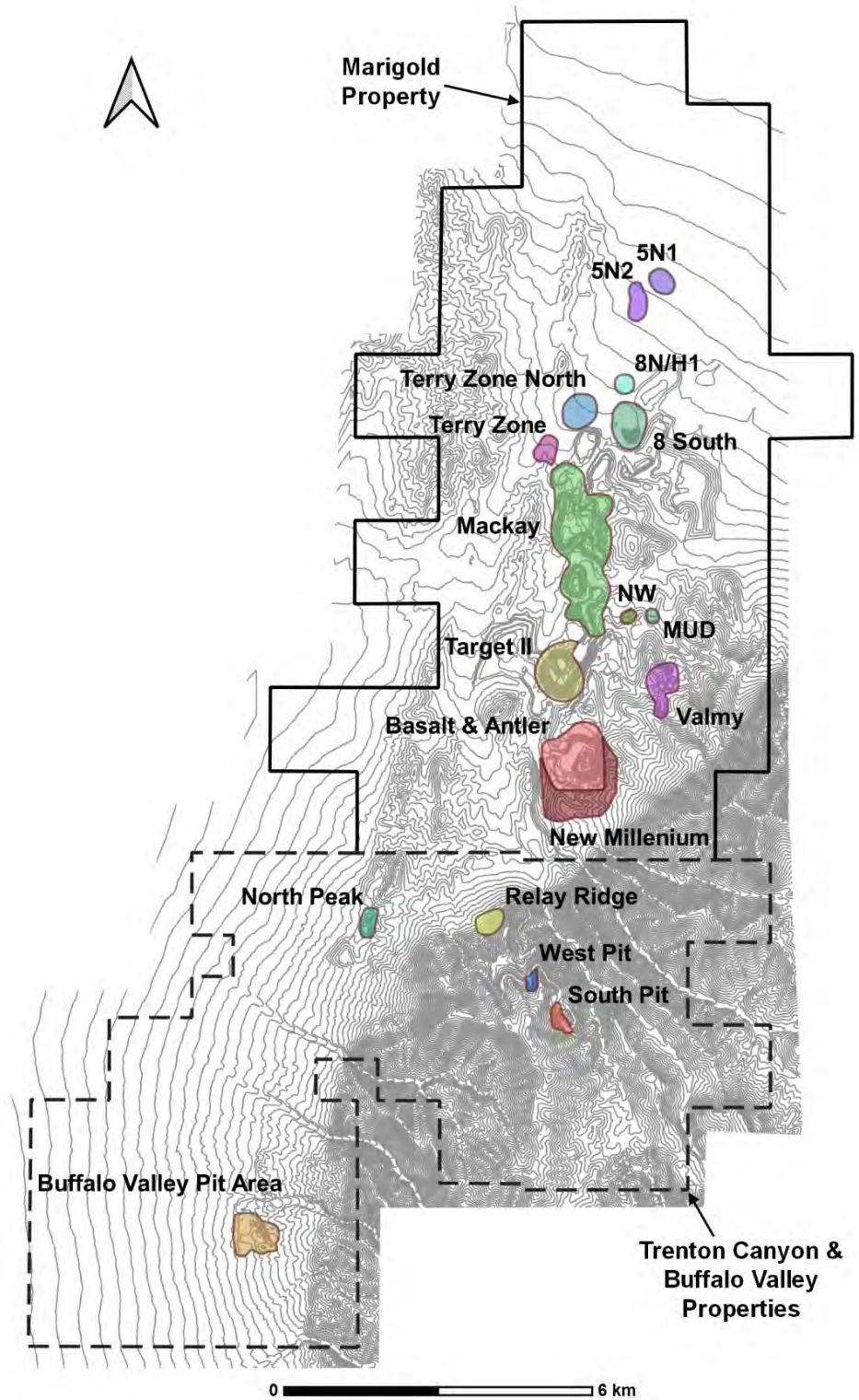
By January 2001, a total of one million ounces of gold had been recovered from the Property. In July 2001, Glamis Gold released a revised NI 43-101 Technical Report (Glamis Gold, 2001) to report the Mineral Resources and Mineral Reserves for Section 31 of the Property.

In 2006, Glamis Gold merged with Goldcorp Inc. (Goldcorp), resulting in a Goldcorp subsidiary holding a two thirds ownership interest in Marigold, as operator, and Homestake, which had been acquired by Barrick Gold Corporation (Barrick) in 2001, continued to hold the remaining one third ownership interest.

In 2007, discovery holes were drilled in the Red Dot deposit.

By mid-2009, two million ounces of gold had been recovered from Marigold.

Figure 5.2 Location of Marigold Areas



SSR, 2021

On 4 April 2014, SSR (formerly Silver Standard Resources Inc.) completed the acquisition of Marigold from subsidiaries of Goldcorp and Barrick. Subsequently, SSR filed an updated NI 43-101 Technical Report in November 2014 to support the October 2014 press release that announced the estimates of Mineral Resources and Mineral Reserves, and the LOM at Marigold.

In August 2015, Marigold mine acquired 2,844 ha of adjacent land from Newmont. This land included previously mined areas known as the Mud pit, NW pit, and the Valmy pits. Exploration drilling in the area had been completed by a combination of companies including Hecla Mining Company (Hecla), SFP Minerals, and Newmont.

In October 2015, the three millionth ounce was poured at Marigold. Marigold has now been in continuous operation for more than 30 years and poured the four millionth ounce of gold in 2020.

On 31 July 2018, SSR filed an updated NI 43-101 Technical Report (SSRTR18) to support press release 18-09 (18 June 2018) updating the life-of-mine plan and confirming near-term production growth and robust economics. In that report it was stated that, as at 31 December 2017, a total of 8,440 drillholes for 1,645,048 m of drilling had been completed on the Property.

From 2018 through to the end of November 2021, a further 975 holes have been drilled, including 932 RC holes and 43 diamond core holes (24 with RC pre-collars). This adds a further 337,910 m of drilling, bringing the total to 9,323 drillholes for 1,940,438 m.

A summary of the exploration work carried out on the Property is shown in Table 5.3.

Further discussion on historical drilling programmes with respect to the Property is provided in Section 7.

5.2 Historical Production Work

Historically, gold recovery at Marigold was initially a milling circuit with a carbon-in-leach (CIL) process and then a ROM heap leach process where the ore is dumped on a lined leach pad and irrigated with a dilute cyanide solution. The tonnes, grade, and contained and recovered ounces from the start of commercial production in August 1989 to 31 December 2021 is provided in Table 5.1.

An overall average recovery for the milling circuit was 92%, and it is calculated to be at 73% with the ROM heap leach process until October of 2010 when the recovery equation was updated.

Table 5.1 Marigold Historical Production: Tonnes, Grade, Contained, and Recovered Gold Ounces as of 31 December 2021

Process Type	Tonnes (Mt)	Au Grade (g/t)	Contained Gold (koz)	Recovered Gold (koz)
Leach Pad	323.9	0.527	5,489	3,904
Milled	4.6	3.13	483	458
Total	328.5	0.56	5,973	4,362

The Marigold mine production for April 2014 to 2021 is shown in Table 5.2.

Table 5.2 Marigold Mine Production April 2014 to 31 December 2021

Mine Production	Tonnes (Mt)	Au (g/t)	Contained Ounces (koz)
April 2014—31 December 2021	177.7	0.41	2,350

Table 5.3 Summary of Exploration Work Carried out to End of November 2021

Year	Company	Exploration Type	Details
1968–1985	Various exploration and mining groups	Drilling	7,037.2 m in 126 drillholes.
1985–1999	Cordex and Rayrock Mines	Drilling	335,500.7 m in 2,358 drillholes.
		Geophysics	1989 – CSAMT survey conducted by Quantec Geoscience using Zonge CSAMT System covering 33 EW and NW-SE lines, spaced 300.3 m and 499.9 m. A total of 59.2 km covered.
			1997/1999 – CSAMT survey conducted by Zonge Geoscience using Zonge CSAMT System covering 33 EW and NW–SE lines, spaced 300.3 m and 499.9 m. A total of 51.8 km covered.
			1998 – Gravity survey conducted by Zonge Geoscience using Scintrex Gravity Meter, Trimble GPS System survey conducted on 150 m square grid and data collected from a total of 1,252 stations.
			1999 – Induced Polarisation conducted by Zonge Geoscience using Zonge IP system, Dipole-Dipole Array, A = 182.9 m, 1 line N20W. A total of 3.0 km covered.
1999–2006	Glamis Gold	Drilling	486,648.9 m in 2,506 drillholes.
		Geophysics	2004 – Airborne Magnetic conducted by Pearson, deRidder & Johnson, Inc. using Ultra Light System / 75.0 m EW flight lines, 300.3 m NS tie lines. A total of 323.5 km covered.
2006–2013	Goldcorp	Drilling	528,225.7 m in 1,870 drillholes.
		Geophysics	2009 – Magneto-telluric/Induced Polarisation survey conducted by Quantec Geoscience, using Quantec Titan System. 11 lines in various orientations. A total of 46.4 km covered.
			2010 – Induced Polarisation conducted by Zonge Geoscience using Zonge IP system, Dipole-Dipole Array, A= 150.0 m and 200.0 m, 27 lines EW, spaced 300.3 m –1,499.9 m. A total of 117.5 km covered.
			2009–2010 – Review of all geophysical survey data and compilation of Marigold geophysical data by J L Wright Geophysics.
2006–2013 cont.d	Goldcorp	MMI Survey	2007–2009 – Initial survey in 2007 covered Red Dot area, and, in 2008–2009, most of undisturbed land within Marigold was covered. A total of 11,493 samples were taken. Samples collected every 15.2 m along 117 EW lines separated by 30.5 m. In 2007, samples were analysed for Ag, As, Au, Ba, Cd, Co, Cu, Pb, Pd, Sm, Y, Zn, and Zr. In 2008, Pd was dropped. In 2009, Co, Sm, Y, and Zr were dropped and replaced with Mg, Sr, and Sb.
1985–2006	Newmont (including Hecla and SFP Minerals)	Drilling	109,363 m in 867 drillholes. Data was acquired from Newmont with the acquisition of the 2,844 ha Valmy property in 2015.

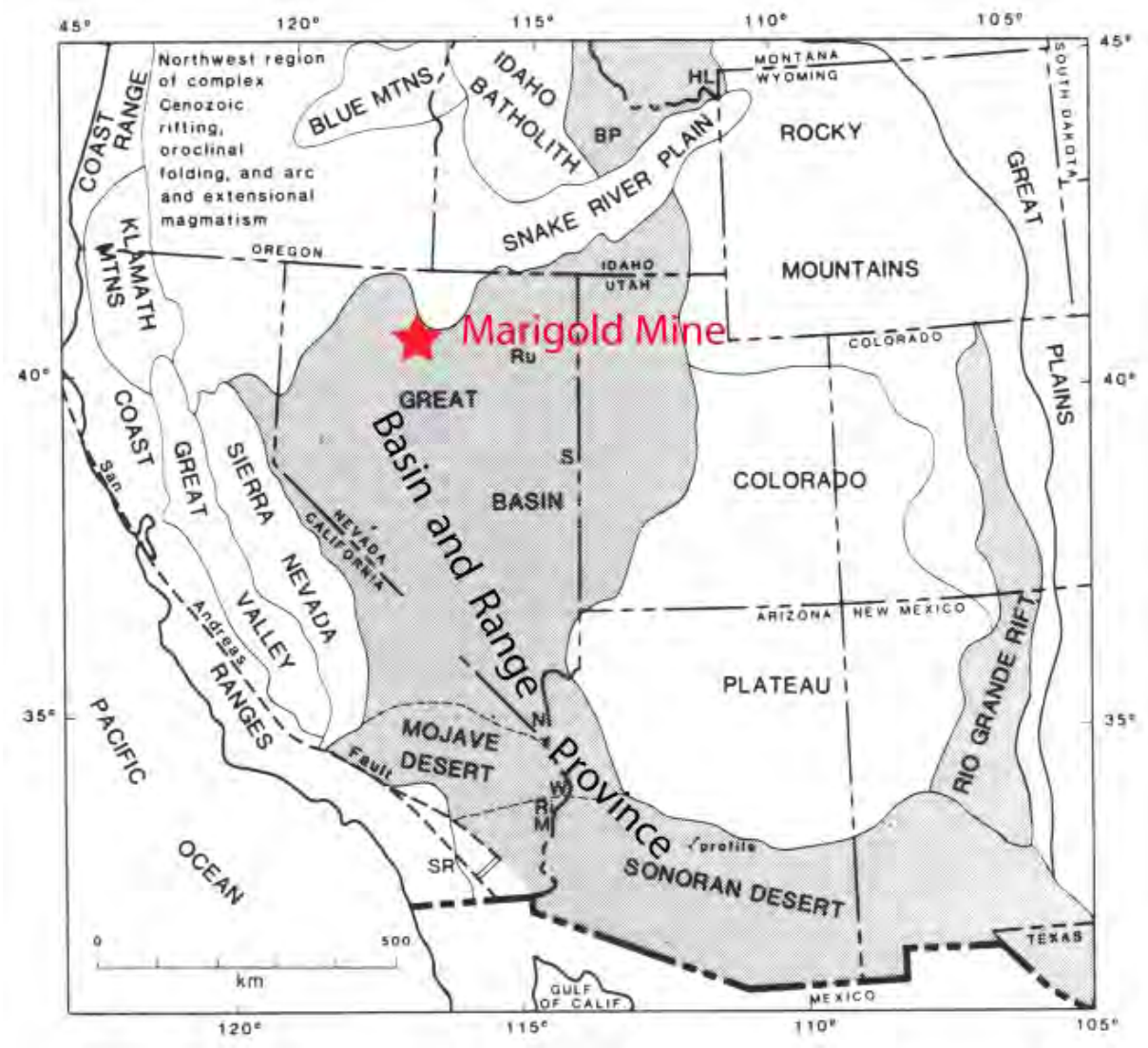
2014	SSR	Geophysics	J L Wright Geophysics conducted a gravity survey. Magee Geophysical Services LLC conducted the field data collection. The gravity measurements were collected from 1,358 stations using two LaCoste and Romberg Model-G gravity meters at a grid spacing of 150 m x 150 m. (Magee, 2014)
2014–2017	SSR	Drilling	178,272 m in 713 drillholes.
2016	SSR	Geophysics	Gravity survey conducted by Magee Geophysical Services LLC. A total of 1,806 stations were acquired on a 150 m square grid and 150 m x 300 m staggered grid. Relative gravity measurements were made with LaCoste and Romberg Model-G gravity meters. Topographic surveys were performed with Trimble Real-Time Kinematic (RTK) and Fast-Static GPS. (Magee, 2016)
2018–Nov.2021	SSR	Drilling	343,233 m in 995 drillholes (259,339 m in 732 drillholes in Marigold; 83,894 m in 263 holes in Trenton Canyon and Buffalo Valley)
2020	SSR	Geophysics	Two reflection seismic lines covering 16.9 km. The lines were surveyed by Riolada Surveying LLC and Xtreme Drilling completed the shot holes. Bird Seismic acquired the data, and processing was completed by SubTerraSies and Wright Geophysics.
2021	SSR	Geophysics / Soil Samples	In 2021 a proprietary airborne hyperspectral dataset was acquired with district-scale coverage. This dataset includes mineral maps generated from short and long wave infrared sources. a soil sampling program was completed by North American Exploration on behalf of SSR Mining consisting of 3,284 soil samples covering 14.5 km^2 of mountainous terrain predominantly east the previously mined pits at Trenton Canyon.

6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT

6.1 Regional Geological Setting

Marigold is located in north-central Nevada within the Basin and Range physiographic province bounded by Sierra Nevada to the west and the Colorado Plateau to the east (Figure 6.1).

Figure 6.1 Location of the Marigold Mine in North-Central Nevada within the Basin and Range Physiographic Province

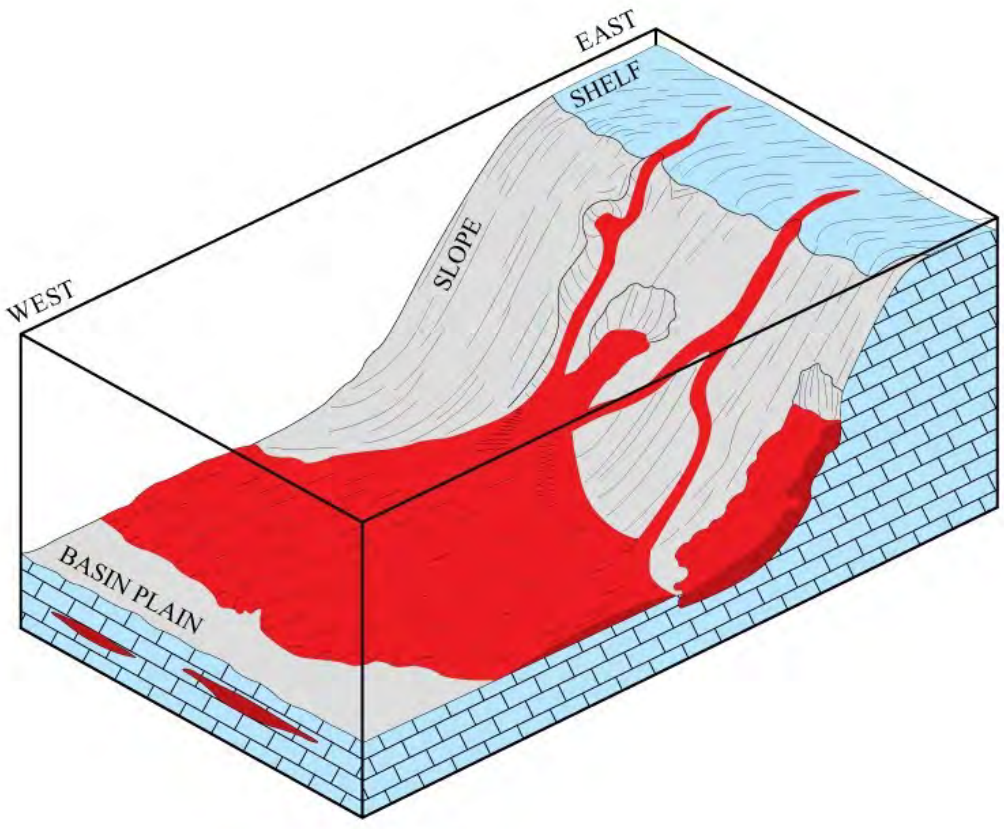


Modified after Hamilton, 1987

Paleozoic basement rocks of north-central to north-eastern Nevada generally comprise four distinct tectonostratigraphic assemblages: the eastern carbonate assemblage; the slope or transitional assemblage; the western siliceous and volcanic assemblage; and the overlap assemblage (Roberts, 1964). These rocks record a complex history of compressional and extensional tectonics affecting the western margin of North America from the early Paleozoic through present.

Late Proterozoic rifting associated with the breakup of Rodinia resulted in passive margin sedimentation on the miogeocline of the proto-Pacific margin of western North America (Cook and Taylor, 1977; Wallace et al., 2004; Cook, 2015). Subsidence and sedimentation continued along the passive margin from the late Proterozoic through Devonian, a period of approximately 240 million years (Cook and Taylor, 1977; Cook, 2015). Carbonate platform rocks (eastern assemblage) 4,800 to 7,000 m thick developed on the eastern margin of the miogeocline. Debris flow, turbidite, and lime mudstone of the transitional assemblage accumulated on the slope further west, and siliceous and volcanic rocks belonging to the western assemblage were deposited in the basin plain (Figure 6.2) (Roberts, 1964; Cook and Corboy, 2004; Cook, 2015).

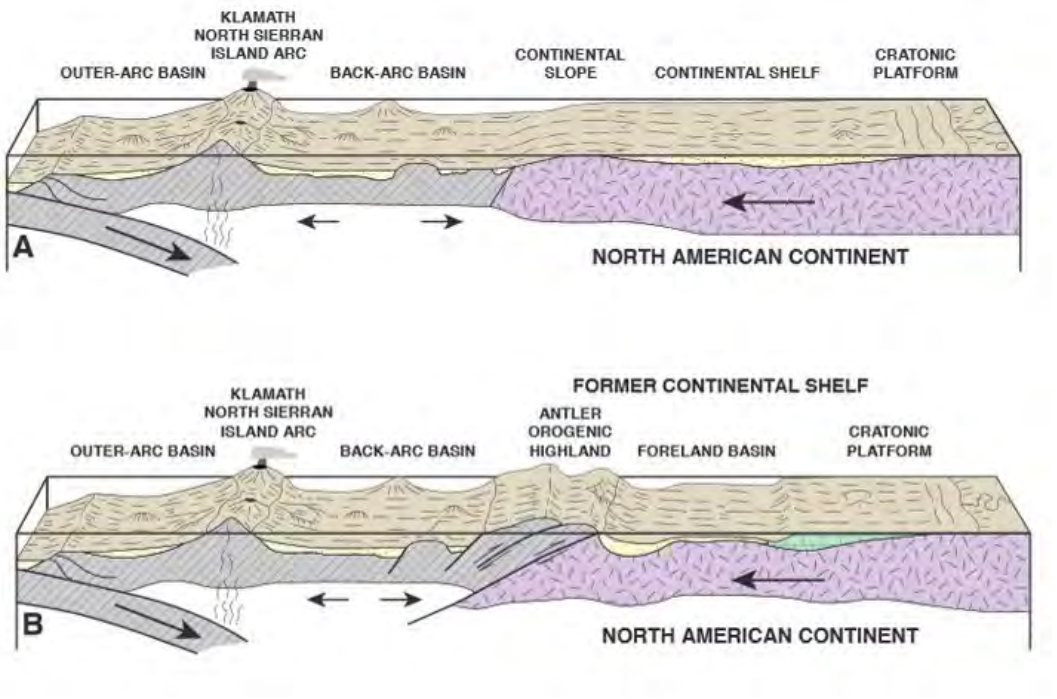
Figure 6.2 Model of Shelf-Slope to Basin in late Cambrian-early Ordovician of Nevada, with Carbonate Rocks to East and Siliciclastic and Volcanic Rocks to West



Cook and Corboy, 2004

Evidence for an enigmatic late Devonian to early Mississippian tectonic event, known as the Antler orogeny, is recorded by folding and thrusting of Ordovician western assemblage rocks and formation of the Antler highland (Roberts, 1964). In north-central Nevada, western assemblage rocks are tectonically emplaced over eastern assemblage rocks along the Roberts Mountain thrust, although the legitimacy of the thrust is disputed (Ketner, 2013). Uplift and erosion of the Antler highland in the Pennsylvanian shed clasts of western assemblage rocks into a foreland basin, forming basal units of the Pennsylvanian-Permian overlap assemblage (Figure 6.3).

Figure 6.3 Schematic Model of Devonian - Mississippian Compression on the Western Margin of North America



Cook and Corboy, 2004

Marine sedimentary rocks and submarine volcanic rocks accumulated in a basin west of the Antler orogenic belt from the Mississippian to the Permian. These rocks were transported eastward and structurally emplaced on top of western assemblage and overlap assemblage rocks along the Golconda thrust during the Permo-Triassic Sonoma orogeny (Roberts, 1964). The mechanism for compression resulting in the Sonoma orogeny is controversial, and modern work by Ketner (2008) has called into question the relationship between the Sonoma orogeny and the Golconda thrust.

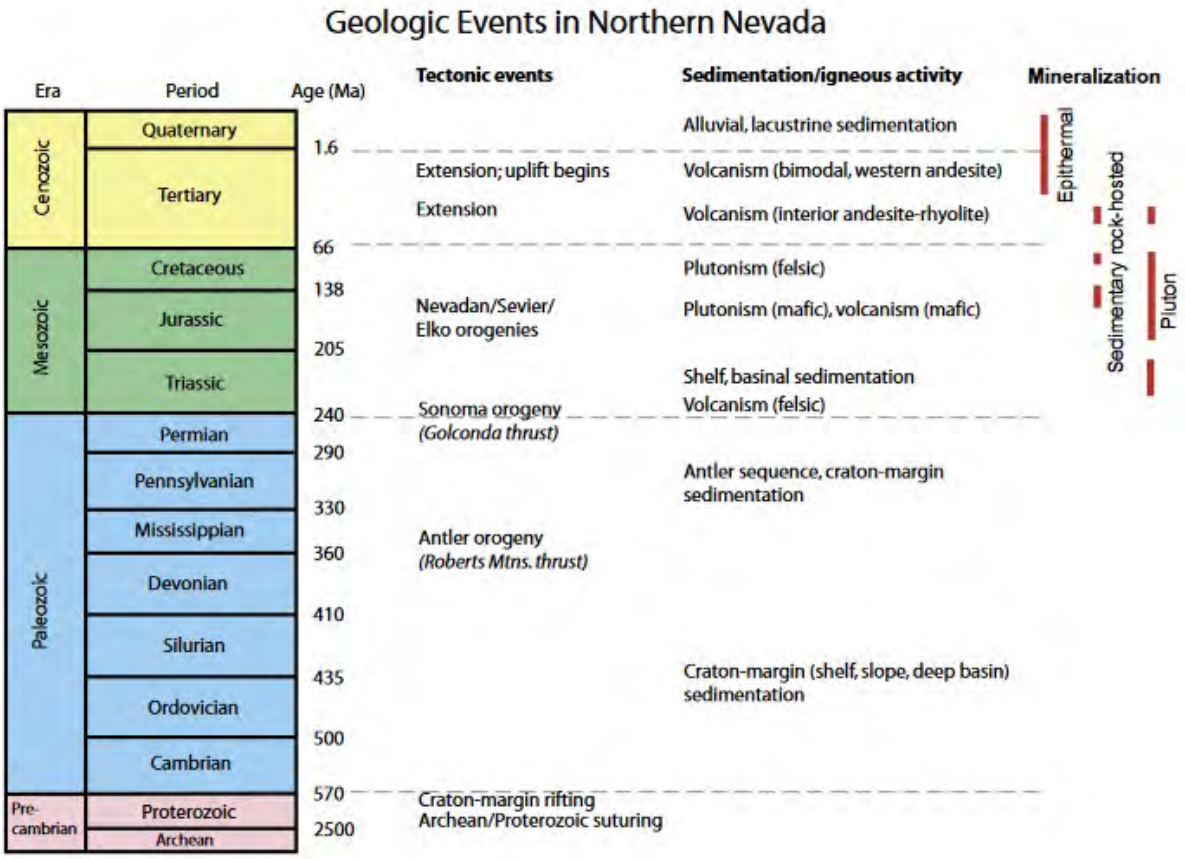
Compression during the Jurassic and early Cretaceous resulted in subduction of oceanic plate material beneath continental crust of western North America, generating large volumes of intermediate to felsic melts along a magmatic arc and emplacement of plutons into the Sierra Nevada batholith. Continued compression resulted in accretion of oceanic arc terrane onto the continental margin, forming thrust belts and ophiolite sequences. Collectively, these Andean and Cordilleran style compression events are known as the Nevadan orogeny. The Nevadan orogeny resulted in substantial back-arc shortening and formation of the Luning-Fencemaker fold-thrust belt in Nevada (Wyld et al., 2003). A major mode of felsic plutonism also occurred in Nevada during the late Jurassic (~155–160 Ma) (du Bray, 2007).

Late Jurassic and Cretaceous compression formed an extensive fold and thrust belt further east in Utah and Wyoming during the Sevier orogeny. Flat-slab subduction of the Farallon plate underneath North America from the late Cretaceous to Eocene resulted in thick-skinned deformation and uplift of the Rocky Mountains from New Mexico to British Columbia during the Laramide orogeny. The second major mode of felsic plutonism occurred in Nevada during this time (~90–95 Ma) (du Bray, 2007), associated with porphyry-style base metal mineralisation events.

As the Laramide orogeny waned into the Eocene, there was a major transition from compressional to extensional tectonic regimes in Nevada. Extensional tectonic stresses, evidenced by block faulting and titling, have dominated Nevada from the late Eocene to the present. Three temporally distinct orientations of post-Cretaceous crustal extension have been identified: north-west–south-east in the late Eocene to middle Miocene; west–south-west–east–north-east in the middle Miocene; and north-west–south-east in the late Miocene to present (Zoback et al., 1994). These extension events resulted in the development of basin and range physiography seen throughout central Nevada. The landform is characterised by a series of horsts and grabens that created narrow north–north-east oriented ranges separated by flat bottomed valleys. Extension and resultant crustal thinning are associated with the third major magmatic pulse in Nevada, during which time several porphyry copper–gold systems developed. In addition, the famous Carlin-type gold deposits (CTGD) of northern Nevada are thought to have formed during this time (~36–42 Ma) (Cline et al., 2005).

Magmatism of andesitic to rhyolitic affinity dominated from the late Eocene to early Miocene with the production of voluminous ash flowsheets, plutons, hypabyssal intrusives and calderas. Volcanic arc-related andesitic igneous activity continued in western Nevada from early to late Miocene. Further east in central and eastern Nevada, rift related bi-modal rhyolite and tholeiitic basalt were emplaced in the mid Miocene and are related to epithermal silver–gold deposits in the region. A summary of significant geologic events of northern Nevada is presented in Figure 6.4.

Figure 6.4 Major Igneous, Tectonic, and Mineralising Events in Northern Nevada

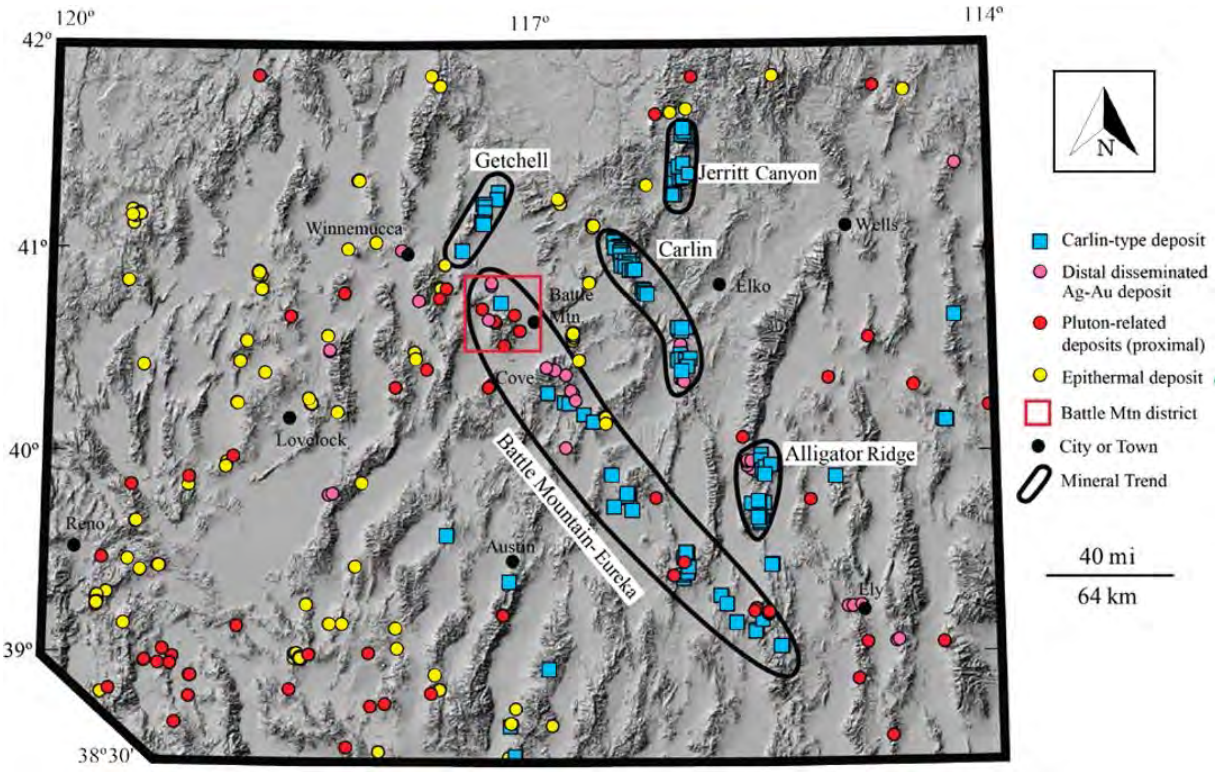


Wallace et al., 2004

6.2 Local Geology

The Property is in the Battle Mountain mining district on the northern end of the Battle Mountain-Eureka trend, a conspicuous lineament of sedimentary-hosted gold deposits (Figure 6.5). The Battle Mountain district hosts numerous mineral occurrences, including porphyry copper–gold, porphyry copper–molybdenum, skarn, placer gold, distal disseminated silver-gold, and Carlin-type gold systems.

Figure 6.5 Location of Marigold and the Battle Mountain Mining District on the Battle Mountain-Eureka Mineral Trend



Modified after Wallace et al., 2004

6.2.1 Stratigraphy

The Battle Mountain mining district is underlain by Paleozoic metasedimentary and metavolcanic rocks that are cut by Jurassic, Cretaceous, and Eocene intrusions. Post-mineralization tuff, volcanic rock, and detritus were deposited and preserved in structural and paleotopographic lows. The oldest rocks in the Battle Mountain mining district are para-autochthonous Cambro-Ordovician carbonate, clastic, and volcanic rocks in the footwall of the Roberts Mountain allochthon; assigned to the Comus-Preble Formation, (Cook, 2015). The Comus-Preble Formation comprises fine-grained siliciclastic turbidite sequences, mudstone, siltstone, limey mudstone, limestone, debris flows, and mafic volcanic flows.

Rocks of the Roberts Mountain allochthon were thrust eastward during the Devonian-Mississippian Antler orogeny. This event resulted in intense deformation, including folding and intra-formational thrusting of the metasedimentary units that comprise the Roberts Mountain allochthon. Rocks of the allochthonous clastic assemblage in the Battle Mountain district were previously separated into the Cambrian Scott Canyon Formation, Cambrian Harmony Formation, and the Ordovician Valmy Formation, complicating the understanding of Paleozoic tectonic processes affecting the district. Recent work by Ketner (2008; 2013) proposed the abandonment of the Scott Canyon Formation and reassignment of these rocks to the Valmy and Harmony Formations. Ketner (2008) demonstrated the Harmony Formation conformably overlies the Valmy Formation, eliminating the necessity for the Dewitt thrust mapped by Roberts (1964) and Theodore (1991).

Unconformably overlying rocks of the clastic assemblage is the autochthonous Antler overlap sequence; a Pennsylvanian-Permian package of conglomerate, limestone, siltstone, and debris flow. Basal Antler sequence rocks were deposited as material eroded off the Antler highland into a foreland basin during the Antler orogeny. The base of the Antler sequence, the Battle Formation, is a coarse conglomerate up to approximately 220 m thick (Roberts, 1964) that contains clasts derived from the Roberts Mountain allochthon and underlying para-autochthonous rocks. The Battle Formation was deposited in a fluvial-to-shallow marine environment, with coarse, locally derived boulders at the base and interbedded limestone and siltstone units toward the top.

Disconformably overlying the Battle Formation is the Antler Peak Limestone Formation, a package of shallow marine carbonate rocks over 180 m thick at its type locality (Roberts, 1964). The Antler Peak Limestone Formation contains abundant brachiopod, coral, and crinoid fossils. The type of section for the Antler Peak Limestone Formation is in the Battle Mountain Range at Antler Peak.

The Permian Edna Mountain Formation disconformably overlies the Antler Peak Formation and consists of locally present basal debris flow and brown weathering phosphatic siltstone (McGibbon, 2005) at least 120 m thick. Unoxidized Edna Mountain Formation is black in colour and difficult to differentiate from unoxidized siltstone of the Havallah sequence in drill cuttings and in the field.

Allochthonous rocks of the Mississippian-Permian Havallah sequence were tectonically emplaced over rocks of the Antler sequence, Valmy Formation, and Preble-Comus Formation during the Permo-Triassic Sonoma orogeny (Theodore, 2000; McGibbon, 2005). The Havallah sequence includes chert, siltstone, limestone, conglomerate, sandstone, and submarine volcanic rocks. The total thickness of the sequence is thought to exceed 2.8 km (Roberts, 1964).

6.2.2 Igneous Rocks

The oldest igneous rocks in the district are submarine pillow basalts within the Cambro-Ordovician Preble-Comus and Ordovician Valmy Formations.

Volcanic rocks within the Preble-Comus are only known from drill core and consist of submarine pillow basalt and volcaniclastic units derived from a continental source. These rocks are typically highly altered due to their age, submarine emplacement, present surface to near-surface position, and exposure to hydrothermal systems.

Metabasalt belonging to the Valmy Formation outcrops in the vicinity of Trout Creek south of the Oyarbide fault. On the east side of the district at Elder Creek, diorite dikes of Devonian age are inferred based on cross-cutting relationships. Mesozoic igneous rocks include a relatively unaltered Jurassic lamprophyric dike (Fithian, 2015) and an abundance of north-west striking Cretaceous granodiorite and quartz monzonite porphyry dikes and stocks.

Late Cretaceous granodiorite and quartz monzonite porphyry rocks are associated with molybdenum mineralizing systems at Buckingham, Trenton Canyon, and Buffalo Valley (Doebrich and Theodore, 1996).

Cenozoic igneous activity coincided with the onset of extensional tectonism throughout the Basin and Range province and normal reactivation of north and north-west striking faults in the Battle Mountain district (Doebrich and Theodore, 1996).

Late Eocene to early Oligocene granodiorite to monzogranite intrusive stocks and dikes are associated with copper-gold mineralizing systems in the district, such as those at Converse and Copper Canyon. Intrusive dikes and sills are typically low relief slope forming units with very little outcrop in part due to argillic alteration where it has been exposed to hydrothermal fluids.

Tertiary volcanic rocks in the district are post-mineralization. Oligocene to Miocene rhyolitic tuff and basaltic andesite flows are intercalated with Tertiary gravels and are locally ridge-forming units. The youngest volcanic rock, Pliocene (2.8–3.3 Ma) basalt, is present south-east of Copper Canyon (Doebrich and Theodore, 1996).

6.2.3 Regional Structure

Geophysical and isotopic evidence indicate that broad structural zones within the Battle Mountain-Eureka trend may be related to large-scale tectonic processes affecting the western margin of North America from the late Proterozoic through Mesozoic (Grauch et al., 2003). These features may be associated with deep crustal faults that originated as rift or transform faults during Proterozoic breakup of Rodinia, or as faults accommodating late Paleozoic compressional tectonic events (Grauch et al., 2003). Within the Battle Mountain-Eureka trend, deep crustal normal faults with a north-west, north, and north-east strike have influenced sedimentation, deformation, magmatism, extension, and mineralization (Grauch et al., 2003).

In the Battle Mountain mining district, the most prominent surface fault expressions are thrust faults related to Paleozoic-Mesozoic compressional tectonism, and normal faults related to Cenozoic extensional tectonic regimes. There is evidence of a more cryptic late Paleozoic transtensional fault system throughout the district, which is potentially late to post-Antler orogeny. These structures do not display significant slip in post-Permian aged rocks, and as a result are commonly concealed. Structures related to the transtensional fault system are responsible for preservation of thick wedges of Antler sequence rocks.

The Permo-Triassic Golconda thrust fault is traceable throughout the entire Battle Mountain range. Onset of the latest crustal extension began in the late Eocene and has continued sporadically to present. The most prominent extensional faults in the district are the range-bounding normal faults that define the Battle Mountain range, including the post-mineralization, south-west striking Oyarbide fault (Doebrich and Theodore, 1996).

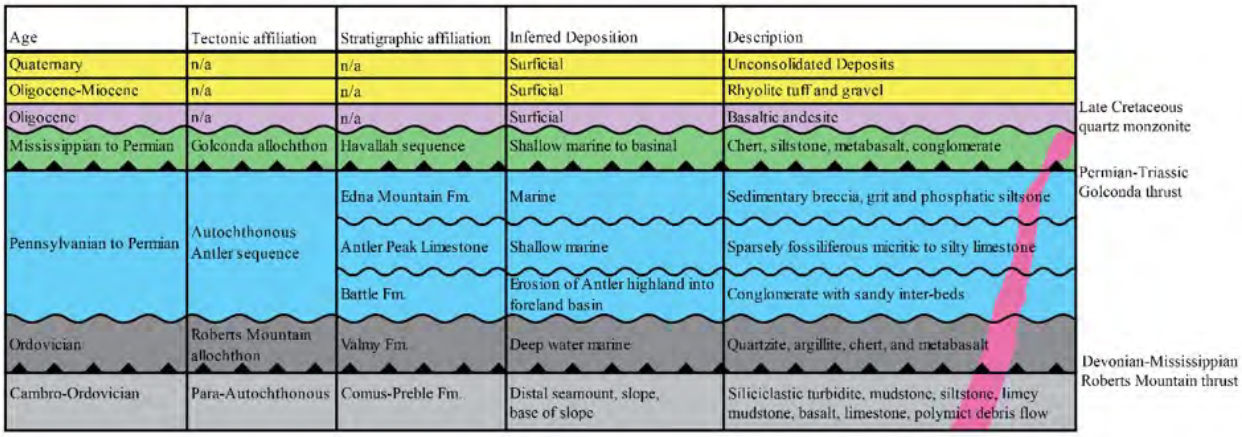
At least four generations of folding are recorded in Ordovician rocks of the Roberts Mountain allochthon, including tight-to-isoclinal overturned F1 folds with north-west–south-east fold axes, open and upright F2 folds with west–north-west fold axes, large-scale open and upright F4 folds with north–north-east fold axes, and roll-over anticline style F5 folds that affect the entire rock package. Fold events F1 and F2 pre-date deposition of Antler sequence rocks. The F3 fold event is restricted to the Havallah sequence. F4 folds are thought to be related to Mesozoic tectonics and affect Comus-Preble Formation, Valmy Formation, Antler sequence, and Havallah sequence rocks while F5 folds appear to affect the entire rock package including Tertiary rocks.

6.3 Property Geology

6.3.1 Property Stratigraphy

The Property stratigraphy is summarised in Figure 6.6.

Figure 6.6 Schematic Tectono-stratigraphic Section of the Rock Units at Marigold



SSR, 2021

Sedimentary Rocks

Four packages of Paleozoic sedimentary and metasedimentary rocks are present at Marigold. In ascending tectono-stratigraphic order, they include: the Cambro-Ordovician Preble-Comus Formation; the Ordovician Valmy Formation of the Roberts Mountain allochthon; the Pennsylvanian-Permian Antler overlap sequence; and the Mississippian-Permian Havallah sequence of the Golconda allochthon. The distribution of these Paleozoic units is shown in plan view in Figure 6.7.

There are no Mesozoic sedimentary rocks in the Marigold mine area; however, approximately two thirds of the Property is covered by Tertiary to Quaternary intercalated gravel and volcanic material.

Comus-Preble Formation

The assignment of rocks to the Comus-Preble Formation at Marigold is the result of an extensive effort to explore the depths of the Marigold system. On the basis of lithology and deformation style, rocks believed to be positioned below the Roberts Mountain Thrust were assigned to the Comus-Preble Formation.

The Comus-Preble Formation consists of fine-grained siliciclastic turbidite sequences, mudstone, siltstone, limey mudstone, limestone, debris flows, and mafic volcanic flows. Based on data compiled from downhole televiewer logs, abrupt lithologic change from overlying rocks correlates with a transition from tight, east-vergent, overturned folds to open folds.

Valmy Formation

The Valmy Formation consists of quartzite, argillite, and lesser chert and metabasalt, all of which are complexly folded and faulted in the Marigold mine area. The total thickness of the Valmy Formation is approximately 450 m at Marigold, although true thickness of the section is likely less than 200 m.

Fold deformation in the Valmy Formation is characterized by tight, east-vergent, and overturned folds. This fold deformation has resulted in shattering of quartzite beds and ductile deformation of argillite. Where the contact is not eroded or structurally displaced, the top of the Valmy Formation is unconformably overlain by rocks of Pennsylvanian age. Silurian and Devonian rocks are not present either due to nondeposition or erosion.

Antler Sequence

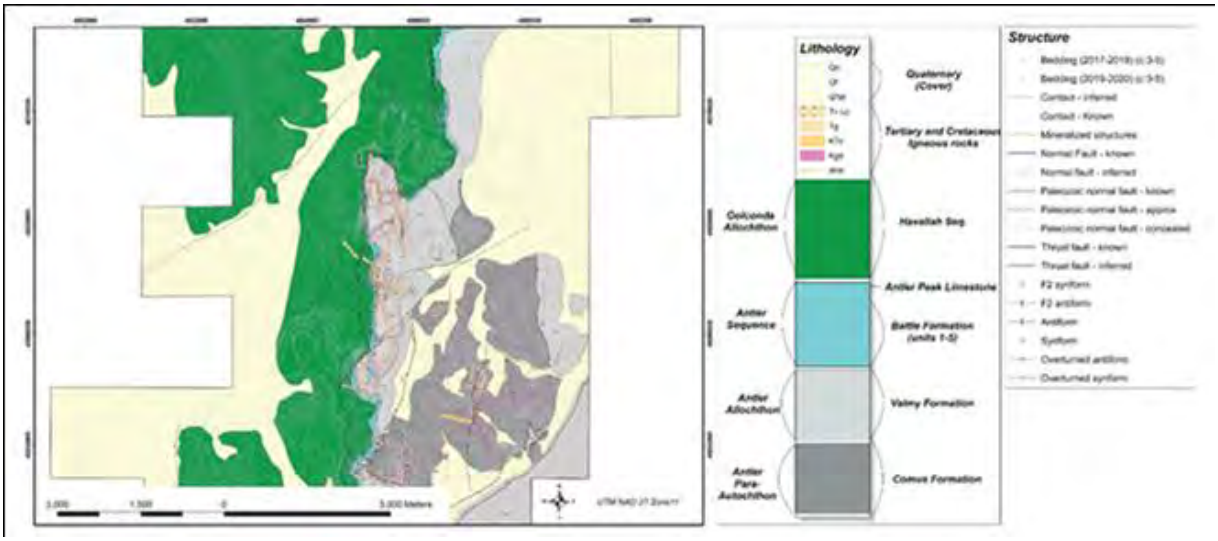
The Antler overlap sequence is composed of Pennsylvanian to Permian-aged rocks assigned to three formations: the basal Battle Formation; the Antler Peak Limestone Formation; and the Edna Mountain Formation. These Formations represent a transgressive sequence of fluvial-to-shallow marine rocks that include conglomerate, sandstone, limestone, siltstone, and debris flows. There is evidence the Antler sequence was locally deposited into sub-basins developed by normal offset on growth faults of likely late Pennsylvanian to early Permian age.

Antler sequence rocks are relatively undeformed, except for offset and rotation along Basin and Range normal faults and potentially low-amplitude, long-wavelength (kilometres to tens of kilometres) F4 folding likely related to Mesozoic deformation. The Antler sequence is in thrust contact with the overlying and partially contemporaneous Havallah sequence.

Havallah Sequence

The uppermost package of Paleozoic rocks exposed at Marigold is the Mississippian-Permian Havallah sequence. The Havallah sequence is an assemblage dominated by siltstone, metabasalt, chert, sandstone, conglomerate, and carbonate rocks. These marine sedimentary rocks were deposited in a fault-bounded deep-water trough (Ketner, 2008) and subsequently obducted over the Antler sequence along the Golconda thrust (Roberts, 1964). Fold deformation in the Havallah sequence is highly variable, ranging from relatively undeformed to tight to isoclinal, overturned and recumbent F3 folds.

Figure 6.7 Plan View Map Showing Distribution of Paleozoic Units at Marigold.



SSR, 2018

Igneous Rocks

A 2 m interval of an extremely biotite-rich intrusive rock, interpreted to be lamprophyre, was intersected in a single drillhole approximately 1,100 m below the pre-mining topography. Even though the rock is relatively unaltered, the lamprophyre is Jurassic in age (160.7 ± 0.1 Ma Ar-Ar of biotite) (Fithian, 2018) and is age-equivalent to lamprophyre intrusions in northern Nevada.

A series of late Cretaceous (~92.22 ± 0.05 Ma to 97.63 ± 0.05 Ma, CA-TIMS of zircon) (Fithian, 2015) porphyritic quartz-monzonite dikes crosscut the Paleozoic rock package at Marigold. The intrusions are up to tens of metres wide, and several can be traced along strike for

hundreds of metres. The dikes strike south-east to north–south and are typically steeply dipping. No alteration aureole related to these intrusive rocks has been identified at Marigold (Fithian, 2015). The dikes contain phenocrysts of plagioclase feldspar, biotite, hornblende, and quartz. The mafic phenocrysts have all been altered to secondary mineral assemblages to varying degrees.

Oligocene (~31.8 ± 0.8, 31.4 ± 1.0 Ma) (Theodore, 2000) basaltic andesite is present on the Property, and forms a small, mesa-like landform between Trout and Cottonwood Creeks. The basaltic andesite is crudely columnar in this location.

Late Oligocene to early Miocene (22.9 ± 0.7 Ma) (McKee, 2000) post-mineralization rhyolite tuff is intercalated with gravel throughout the Property. The tuff contains phenocrysts of biotite and is typically altered to white clay. The tuff provides a minimum age of mineralization at Marigold, as it is unmineralized and immediately overlies the orebody at the 8S deposit (Theodore, 2000; McGibbon and Wallace, 2000).

6.3.2 Property Structure

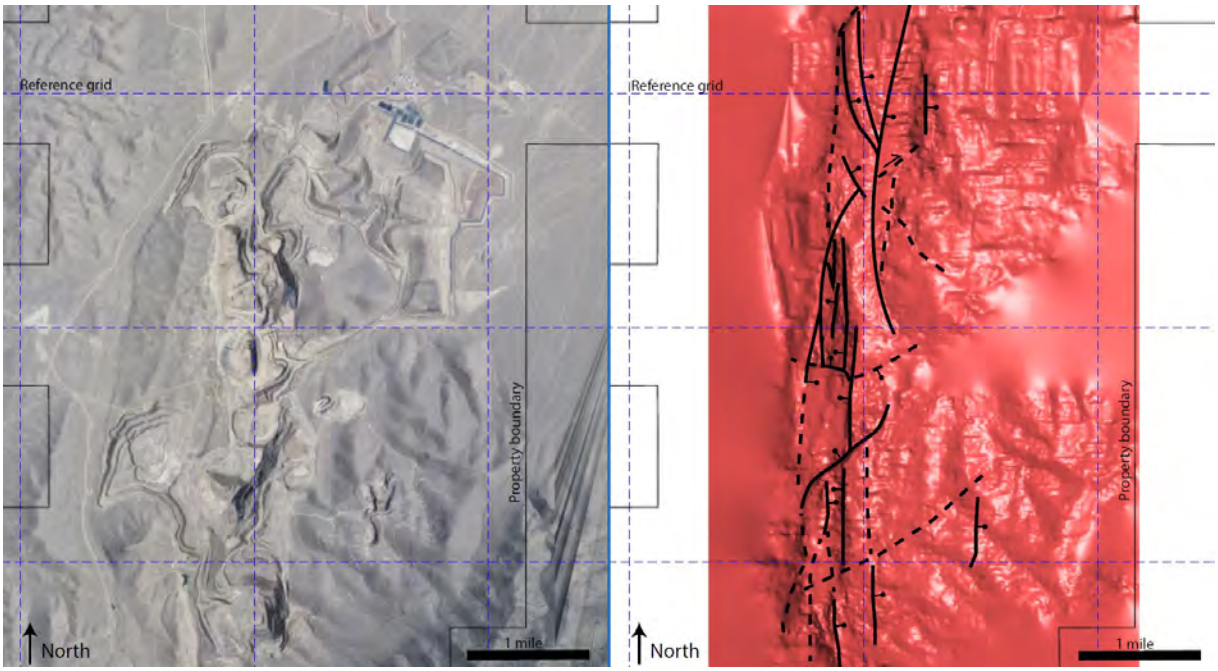
The main structural corridor and apparent primary controlling feature for the localization of the deposits at Marigold is a 1.5 km wide by >10 km long half graben rotated no more than 045° to the west and bound by east dipping early Permian growth faults and younger (post-Triassic) east dipping faults. This half graben structure is cut by north-west to north-east striking pre-mineralization structures with relatively minor offset and a series of south-west striking post-mineralization extensional normal faults parallel to the Oyarbide fault (Figure 6.8).

Valmy Formation rocks are highly deformed, with interpreted imbricate low-angle intra-plate thrust faults and at least two generations of pre-Pennsylvanian folding. The first generation of deformation related to folding of the Valmy Formation, D1, is characterized by tight, east verging folds with approximately north-west–south-east to north–south striking fold axes. The second deformation event, D2, is defined by open folds with approximately east–west striking fold axes. Folds of this orientation are best defined on the southernmost part of the property, including the Basalt pit area.

Although D1 and D2 folds are described individually because of their unique character, it is possible that these fold sets are the product of the same deformation event. The areas of confluence of D1 and D2 folds are thought to have played a role in the localization of mineralizing fluids.

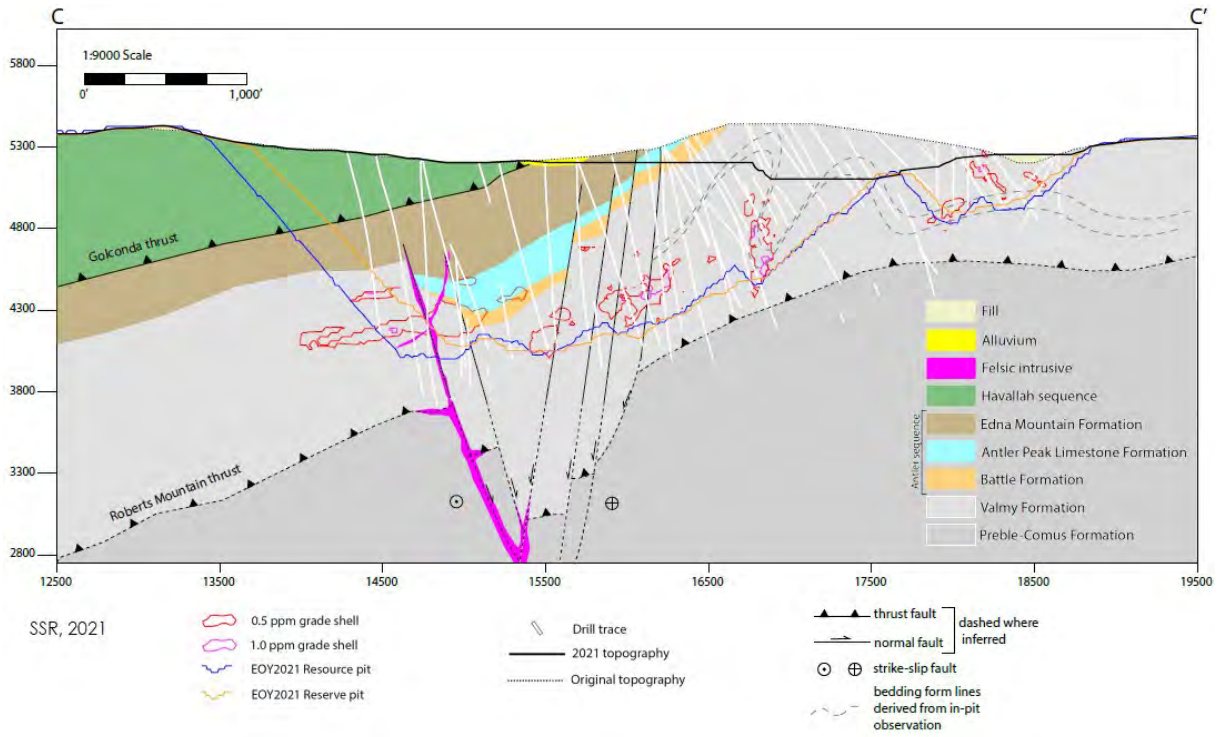
Argillite beds within the Valmy Formation deformed plastically while brittle quartzite beds shattered, creating open fracture space amenable for precipitation of auriferous iron sulfides. Antler sequence rocks are cut by, and rotated along, early Permian and Cenozoic normal faults. The timing of the proposed early Permian growth faults is based on preservation of Battle Formation, Antler Limestone Formation, and a thicker wedge of Edna Mountain Formation in the hangingwall of east dipping normal faults, with little-to-no appreciable offset of the overlying Havallah sequence (Figure 6.16).

Figure 6.8 The Top Surface of the Valmy Formation with the Current Property Boundary



SSR, 2021. Black lines indicate the position of major structures in the Valmy Formation (dashed where projected)

Figure 6.9 Cross Section 11,200N Highlighting Inferred Permian Growth Fault and Associated Antithetic Normal Faults with a Steep West Dip

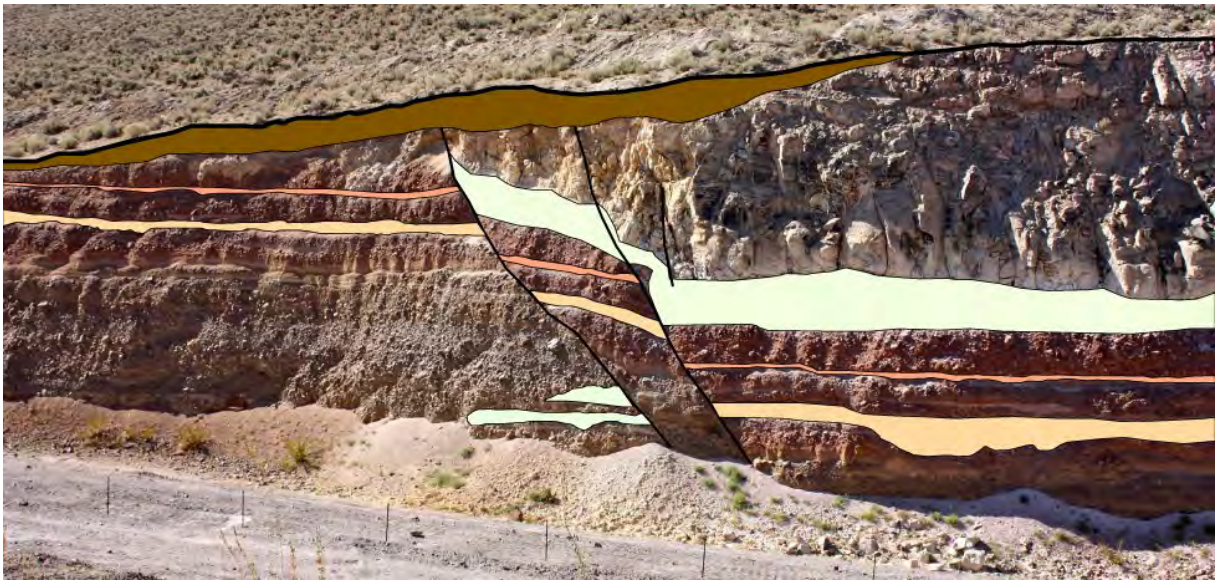


Rocks of the Antler sequence are deformed by F4 and F5 folds, which are not easily recognized in the field. Despite the position between two inferred major allochthonous packages, the Antler sequence does not display more-intense fold deformation akin to F1 and F2 folds.

Havallah sequence rocks were deformed by thrusting and folding related to compression during the Permo-Triassic Sonoma orogeny. An extensive series of thrust faults and folds are documented by Theodore (1991) in the Valmy and North Peak quadrangles west of the Marigold mine area.

Deformation of the Havallah sequence is apparently unrelated to gold mineralization at Marigold. Development of basin and range normal faults and reactivation of Paleozoic faults during the Cenozoic affected the entire stratigraphic section at Marigold, including displacement of post-mineralization Oligocene tuff and Quaternary gravel (Figure 6.10).

Figure 6.10 Normal Displacement of Alluvium and Tuff Immediately South of the Basalt Pit



View is towards the south
Fithian, 2015

6.3.3 Mineralisation

The gold deposits at Marigold cumulatively define a north-trending alignment of gold mineralized rock more than 8 km long (Figure 6.11).

Gold mineralizing fluids were primarily controlled by fault structure and lithology, with tertiary influence by fold geometry. Within the Valmy Formation, higher gold grades are observed in the hinge zones of open folds that trend west–north-west and plunge gently. When viewed down plunge, the undulation of these folds is mimicked by gold mineralized horizons. The deposition of gold was restricted to fault zones and quartzite dominant horizons within the Valmy Formation and high permeability units within the Antler sequence.

In unoxidized rocks, gold occurs in arsenic-enriched overgrowths on pre-ore pyrite (Figure 6.12). Arsenopyrite is also present on pre-ore pyrite grains but is not auriferous. Geochemically, the gold mineralization event is characterized by elevated arsenic, barium, antimony, and mercury, among others. Gangue minerals include quartz, arsenopyrite, stibnite, calcite, clay, and barite. Hypogene sulfide minerals do not occur in ore as these gold-bearing phases are not amenable to heap leaching.

In oxidized rocks, gold occurs natively in fractures associated with iron oxide (Figure 6.13). Rocks within the Marigold mine area are oxidised to a maximum depth of approximately 450 m. The redox boundary is not consistent throughout the property and is substantially influenced by lithology. Shale, argillite, and siltstone units are frequently unoxidised adjacent to pervasively oxidised quartzite horizons.

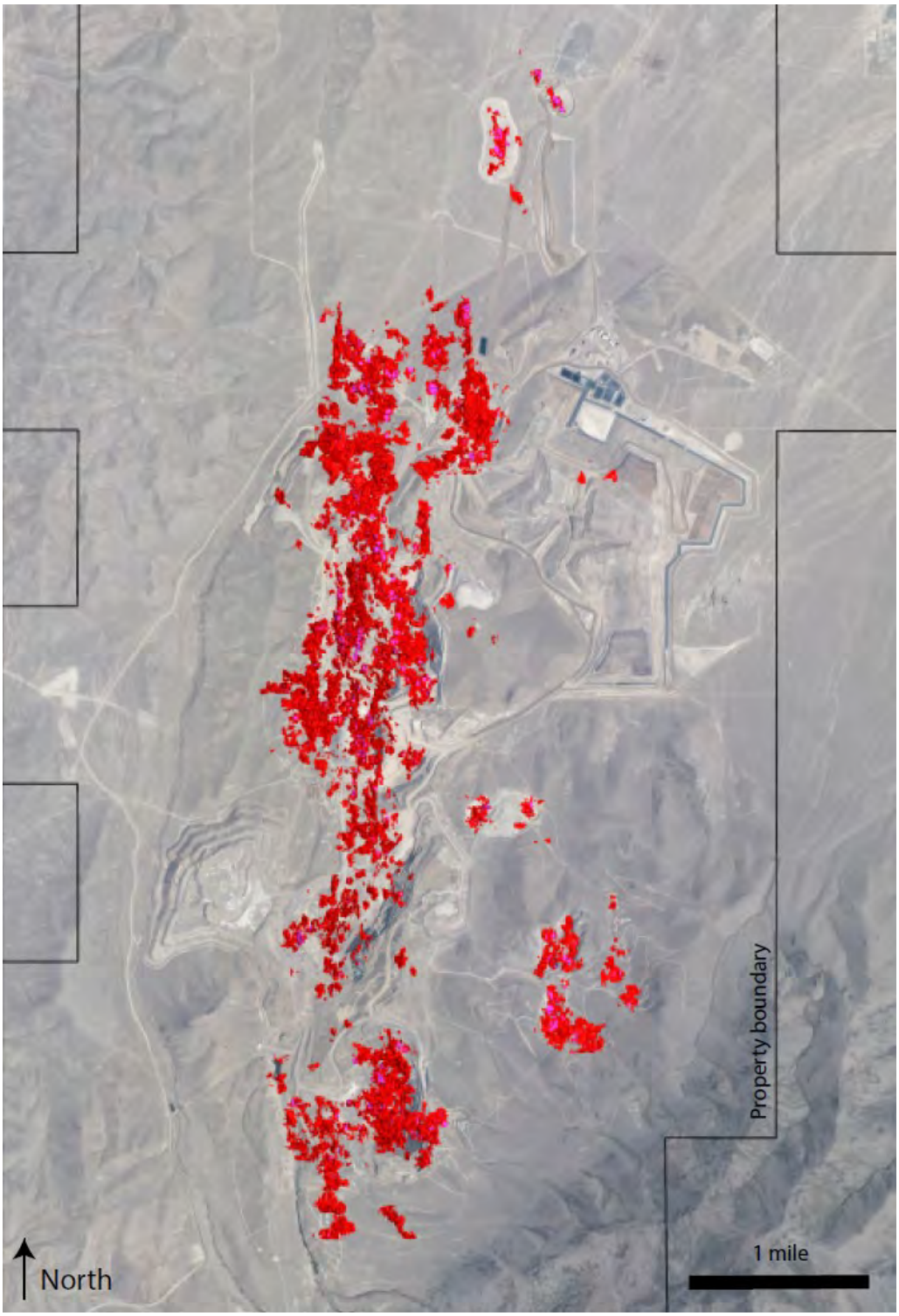
A silver and base metal mineralizing event at Marigold includes a mineral association of chalcopyrite, argentiferous tennantite, galena, and sphalerite. The absolute age of this event is unclear, although it may be related to late Cretaceous magmatism in the district.

6.3.4 Alteration

Alteration of rocks includes silicification along mineralizing structures and decalcification of carbonate horizons (primarily in the Antler sequence). Argillic alteration of quartz monzonite intrusive bodies occurs in fault zones and areas of high hydrothermal fluid flow (Fithian, 2015). The intensity of alteration decreases towards the core of the intrusions.

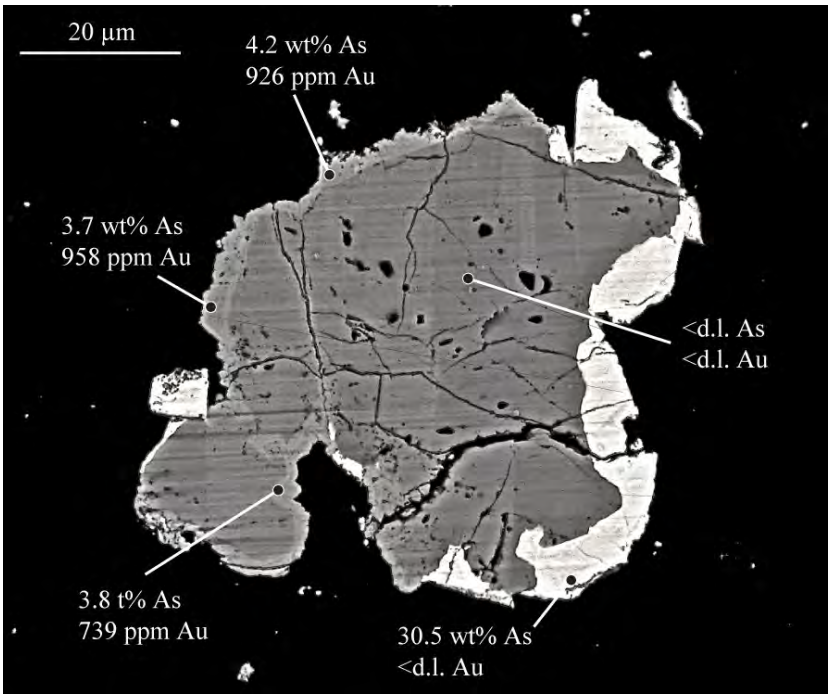
Studies have demonstrated a spatial correlation between gold mineralized rock and increased white mica crystallinity index (Kester, 2015). There is evidence for large volumes of quartz precipitation within and outboard of gold mineralized zones, including jasperoid bodies, cryptic silicification, and quartz vein breccias.

Figure 6.11 Plan View of the Marigold Mine Area showing the Spatial Distribution of 1.0 g/t Au Grade Shells Over an 8 km Northerly Trend



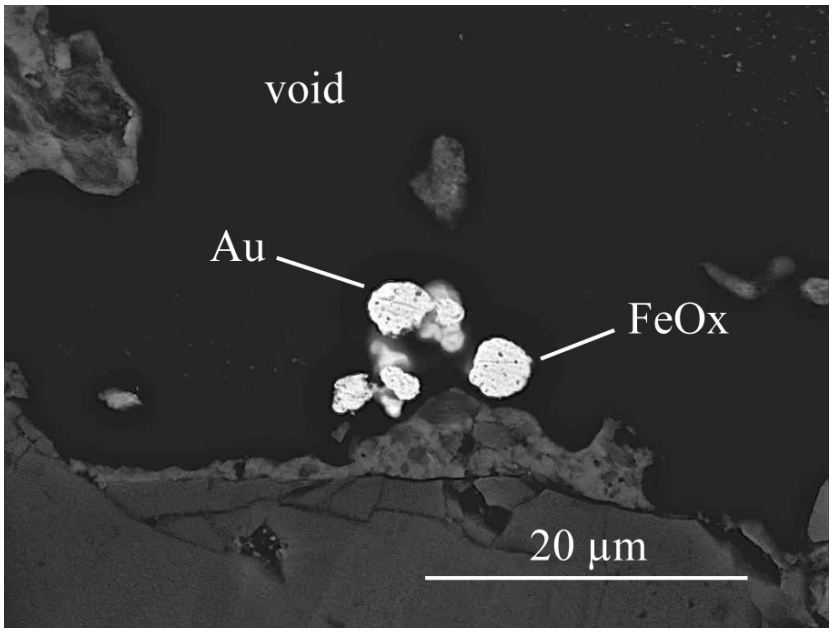
SSR, 2018

Figure 6.12 Gold in Arsenian Pyrite Overgrowths on Pyrite Grains in Unoxidised Rock



Arsenopyrite (white) does not contain gold
Modified from Fithian, 2015

Figure 6.13 Native Gold Occurs with Iron Oxide in Weathered Rocks



Modified from Fithian, 2015

6.4 Deposit Geology

Gold at Marigold is currently mined from multiple deposits located on a 10 km by 1.5 km area.

From north to south, historical and future mineral deposits at Marigold include 32 North (32N), 5 Northeast (5NE), 5 North (5N), 8 North(8N), 8 Deep (8D), Terry Zone North (TZN), 8 South (8S), 8 South Extension (8Sx), Terry Zone (Old Marigold), Top Zone, HideOut, Terry Complex (Battle, Red Rock, East Hill), Red Dot, Mackay, Mud, Target, Valmy, Basalt-Antler, East Basalt, and Battle Cry. The majority of these individual mineralization zones have coalesced into the Mackay pit.

6.4.1 Mackay Pit

The Mackay pit contains most of Marigold's current Mineral Resources. Gold is predominantly associated with iron oxide minerals on fracture surfaces of Valmy Formation quartzite, with lesser amounts of gold in Antler sequence rocks (Figure 6.14). Gold is concentrated within narrow structures with a steep west dip, and the intersection of these structures with favourable quartzite horizons within the Valmy Formation.

On the northern end of the planned Mackay pit, a greater percentage of the ore is hosted in Antler sequence rocks, including the deposits at HideOut (Figure 6.15), 8Sx, and 8N.

Where mineralized, Antler sequence rocks tend to host higher concentrations of gold, likely due to increased chemical reactivity with mineralizing fluids.

Figure 6.14 Cross Section 13,200N Highlighting Distribution of Gold in Antler Sequence and Valmy Formation Rocks

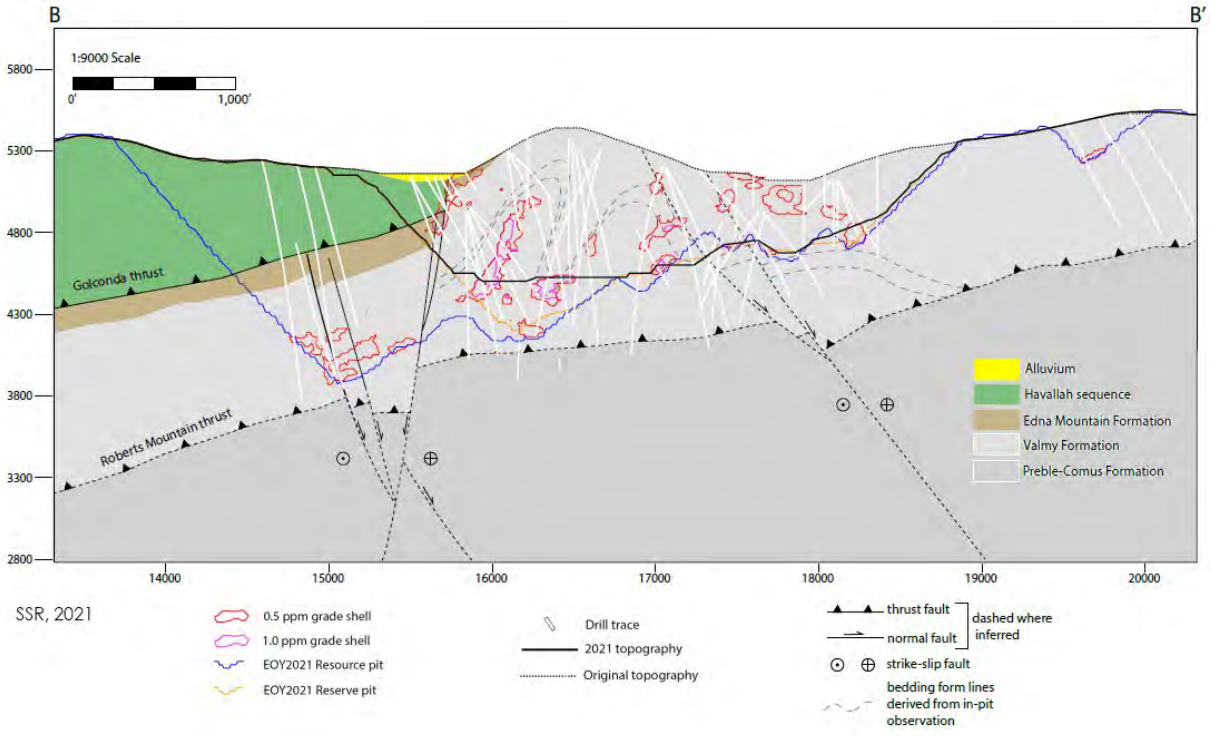


Figure 6.15 Cross Section 16,000N Highlighting the HideOut Deposit Hosted by Antler Sequence Rocks

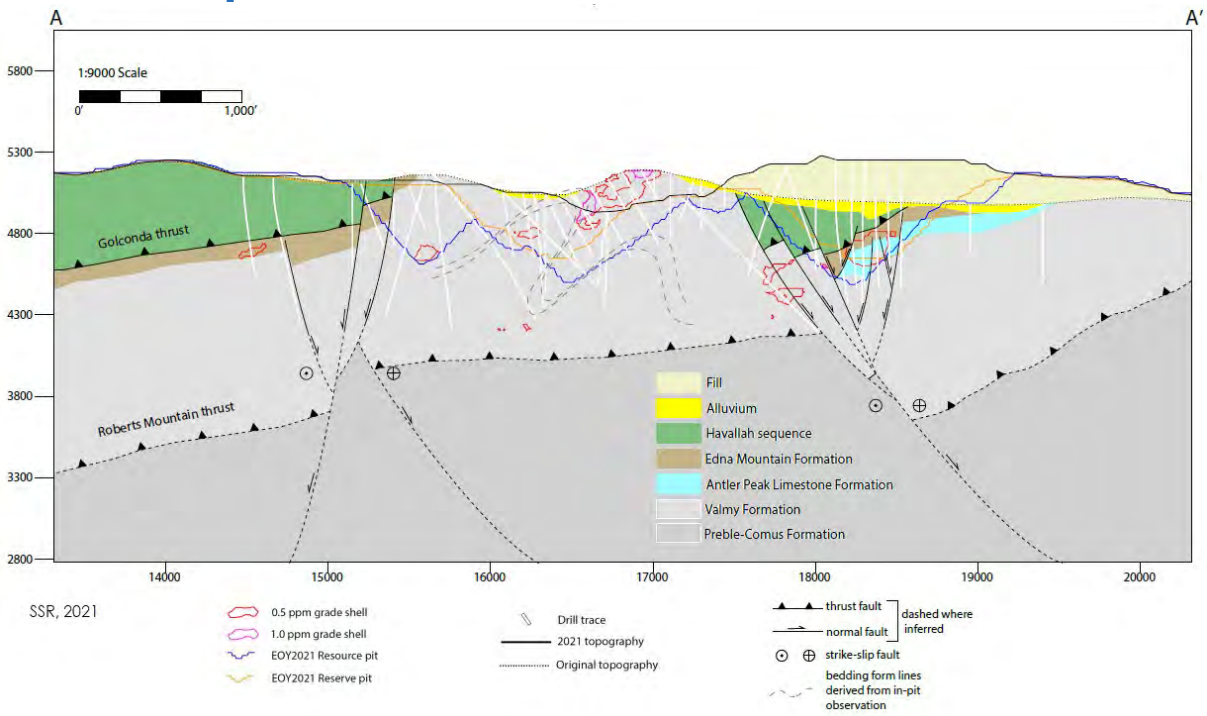
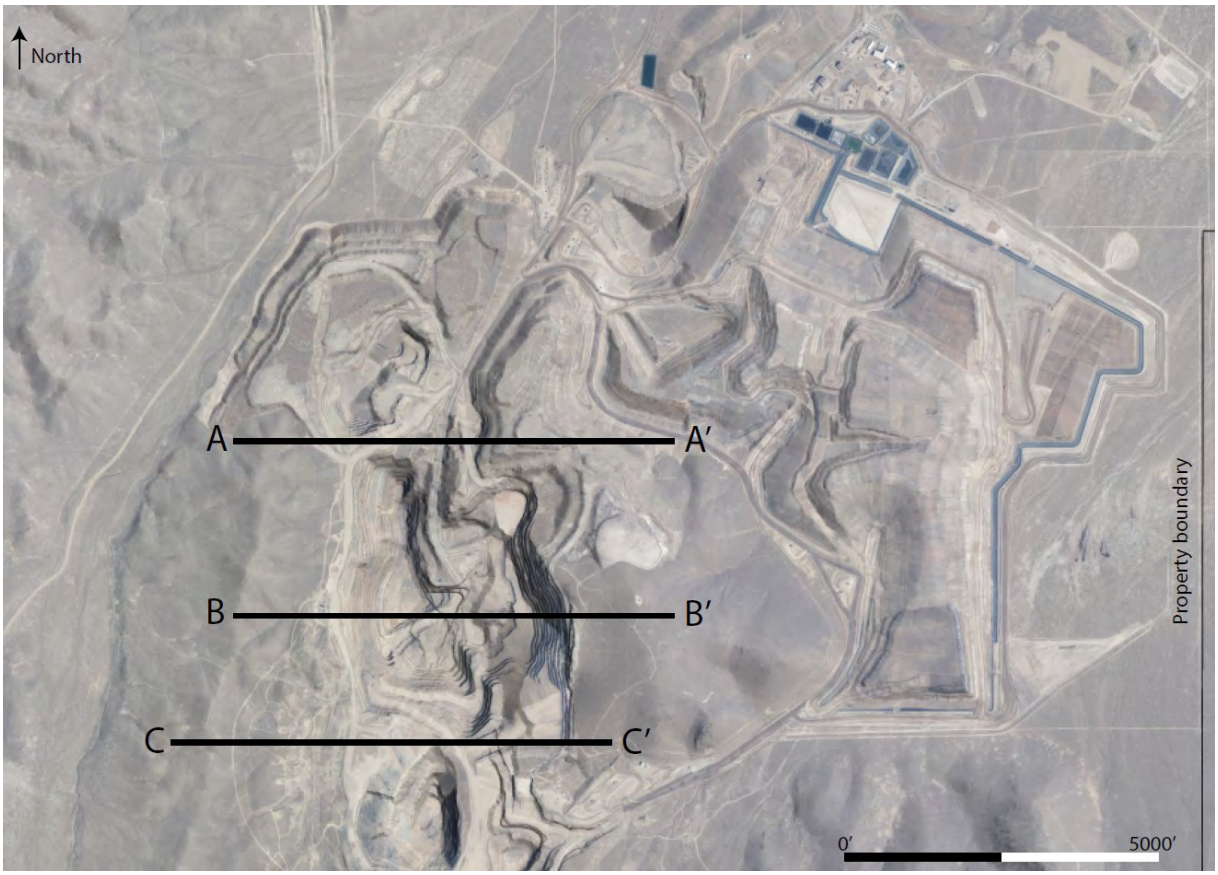


Figure 6.16 Plan Reference of Cross Sections in Figure 6.9, Figure 6.14, and Figure 6.15



SSR, 2021

6.5 Deposit Type

Doebrich and Theodore (1996), Theodore (1998), and Theodore (2000) described the deposits at Marigold as distal disseminated silver–gold deposits. These deposits are disseminated equivalents of polymetallic vein deposits, characterized by a geochemical signature that includes silver, gold, lead, manganese, zinc, copper, antimony, arsenic, mercury, and tellurium (Cox and Singer, 1990). Typically, they contain substantially more silver relative to gold than other types of disseminated gold deposits and may feature supergene enrichment of silver if significantly oxidized.

In Nevada, distal disseminated silver–gold deposits are proximal to Jurassic, Cretaceous, and mid-Tertiary granitoid intrusions (Hofstra and Cline, 2000). A fundamental requirement of the distal disseminated silver–gold model necessitates a genetic link between silver–gold mineralization and causative intrusions (Figure 6.1) (Hofstra and Cline, 2000); however, no such relationship has been conclusively demonstrated at Marigold (Fithian, 2015).

A Carlin-type gold deposit (CTGD) is a unique type of disseminated, sedimentary rock-hosted gold deposit. The genesis of CTGDs is currently not well understood. In Nevada, CTGDs occur along several main mineralization trends, including the Carlin trend and Battle Mountain-Eureka trend, and are primarily hosted by silty carbonate rocks.

Gold in a CTGD occurs in arsenian pyrite rims on pyrite grains and is associated with arsenic, sulfur, antimony, mercury, and thallium (Cline et al., 2005). There is considerable debate regarding the source of gold in CTGDs. Leading theories include a magmatic-hydrothermal origin (e.g., Sillitoe and Bonham, 1990; Johnston and Ressel, 2004; Ressel and Henry, 2006; Muntean et al., 2011) and gold sourced from the sedimentary host package (e.g., Ilchik and Barton, 1997; Emsbo et al., 2003; Large et al., 2011). Even though the genesis of CTGDs remains enigmatic, there is consensus that all CTGDs in Nevada formed during the Eocene period (42 to 36 Ma) (Cline et al., 2005).

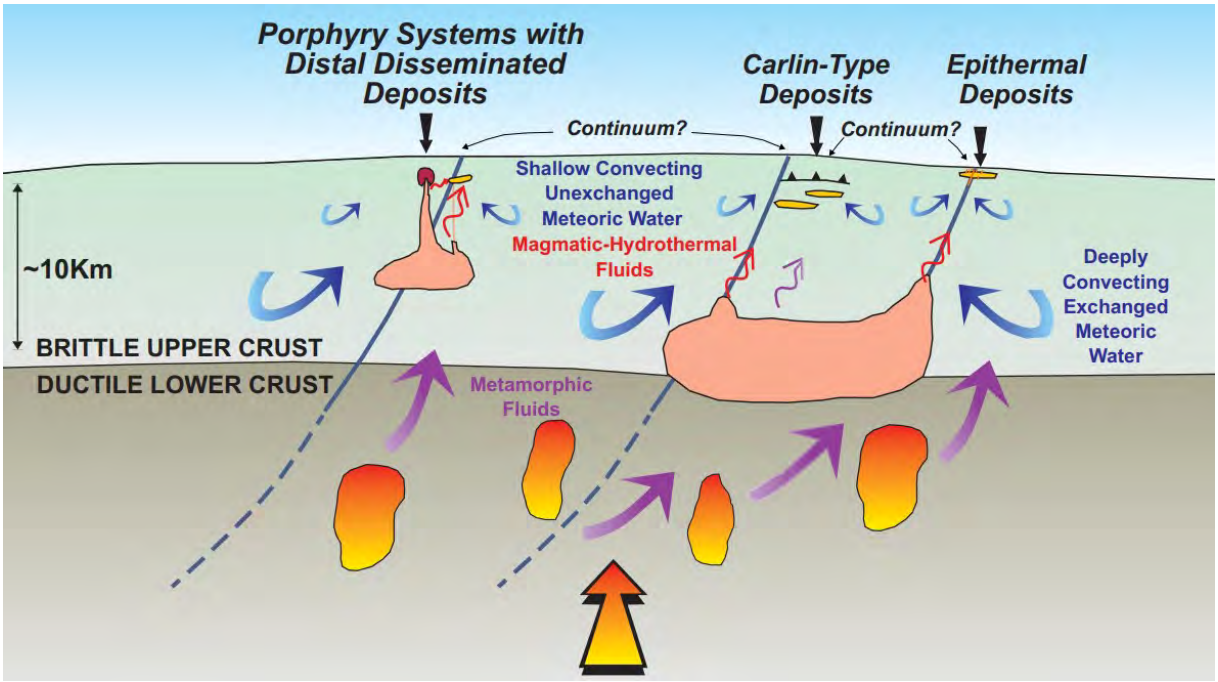
Distal disseminated silver–gold deposits may share similarities with CTGDs, including orebody morphology, structural setting, and alteration styles, but drastically differ with respect to alteration zonation, geochemical signature, hypogene mineralogy, and endowment. Distal disseminated silver–gold deposits show a more definitive magmatic signature than CTGDs that includes zoning of alteration relative to felsic hypabyssal intrusions, base metal enrichment, significantly higher Ag:Au ratios, and distinctive hypogene ore mineralogy (e.g., base metal sulfides, native gold and silver, electrum, silver sulfides and silver sulfosalts) (Cox and Singer, 1990; Cox, 1992; Hofstra and Cline, 2000), and are typically much smaller in terms of gold endowment.

There is increasing support for a model that proposes a continuum between CTGDs, distal disseminated silver–gold deposits, and epithermal deposits. This model implies a magmatic source for heat and metal. Those most familiar with the Marigold system support a model invoking an intrusive metal and heat source, despite a lack of definitively magmatic features. The expanded Marigold property boundary enables study of the Marigold system on a considerably broader scale and may enable recognition of large-scale alteration zonation.

Recent work by Fithian (2015) suggests that the gold deposits at Marigold are best classified as CTGDs, based on many similarities with the CTGD model and a lack of evidence for causative hypabyssal intrusions.

Figure 6.17 is a diagrammatic representation of the deposit model.

Figure 6.17 Model Illustrating Inferred Processes Related to Formation of Carlin-Type Gold Deposits (CTGD) and Distal Disseminated Silver–Gold Deposits



SSR, 2021

7 EXPLORATION

For a discussion regarding historical exploration programmes completed following SSR's acquisition of the Property in April 2014, refer to Section 5.

7.1 Gravity Surveys

7.1.1 Gravity Survey Pre-2015

After the purchase of Marigold was completed in 2014, SSR completed a gravity survey at a grid spacing of 150 m x 150 m in areas that had not been previously covered. The main objective of this work was to delineate possible fluid conduits or feeder structures for the Marigold mineralisation.

The gravity survey was planned and designed by James L. Wright of J L Wright Geophysics, Spring Creek, Nevada. The gravity survey and field data collection were conducted by Magee Geophysical Services LLC of Reno, Nevada.

The gravity measurements were collected from 1,358 stations using two LaCoste & Romberg Model-G gravity meters. Forty planned stations were skipped due to active mining and/or unsafe ground conditions. Figure 7.1 shows the actual station locations from the gravity survey. Topographic measurements were also collected at each station using the RTK GPS method. Where it was not possible to receive GPS-based information via a radio modem, the Fast-Static (post-processing) GPS method was used.

7.1.2 Gravity Survey Post-2015

After finalising the purchase of Valmy in 2015 (additional Newmont owned land to the east and west of the previous land boundary), SSR expanded the geophysical gravity survey to include this new ground.

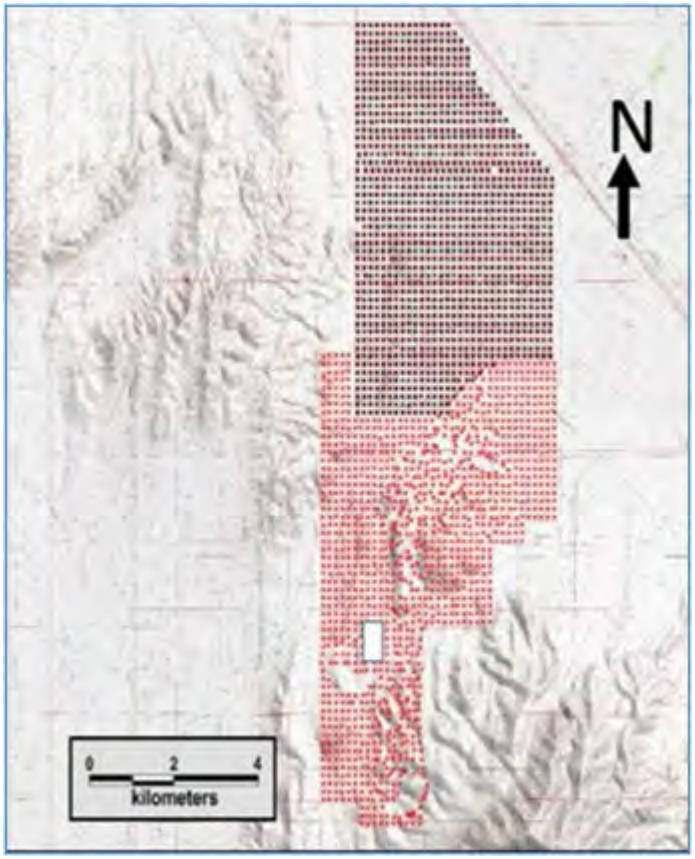
The gravity survey was conducted by Magee Geophysical Services in August and September of 2016. The main objective of this work was to extend the detailed coverage of three previous gravity surveys in the vicinity of the Marigold mine.

Relative gravity measurements were made with LaCoste & Romberg Model-G gravity meters. Topographic surveying was performed with Trimble RTK and Fast-Static GPS methods. Gravity measurements were processed to complete Bouguer gravity, merged with existing data, and forwarded to J L Wright Geophysics for further processing and interpretation.

7.1.3 Gravity Stations

In 2016, a total of 1,806 new gravity stations were acquired by Magee Geophysical Services at variable station spacing on a 150 m square grid and a 150 m x 300 m staggered grid. Existing gravity data included 1,358 stations collected in 2014 by Magee Geophysical Services, 1,250 stations collected in 1998 by Zonge International Inc. (Zonge), and 122 stations collected on various dates by Newmont. Additional stations, including repeats, totalled 4,853 stations. Figure 7.2 shows a complete station posting, colour-coded by survey date.

Figure 7.1 Marigold Mine Gravity Survey Stations in 2014



Marigold mine gravity survey stations in 2014 are shown in red over as-mined topography
Magee Geophysical Services, 2014

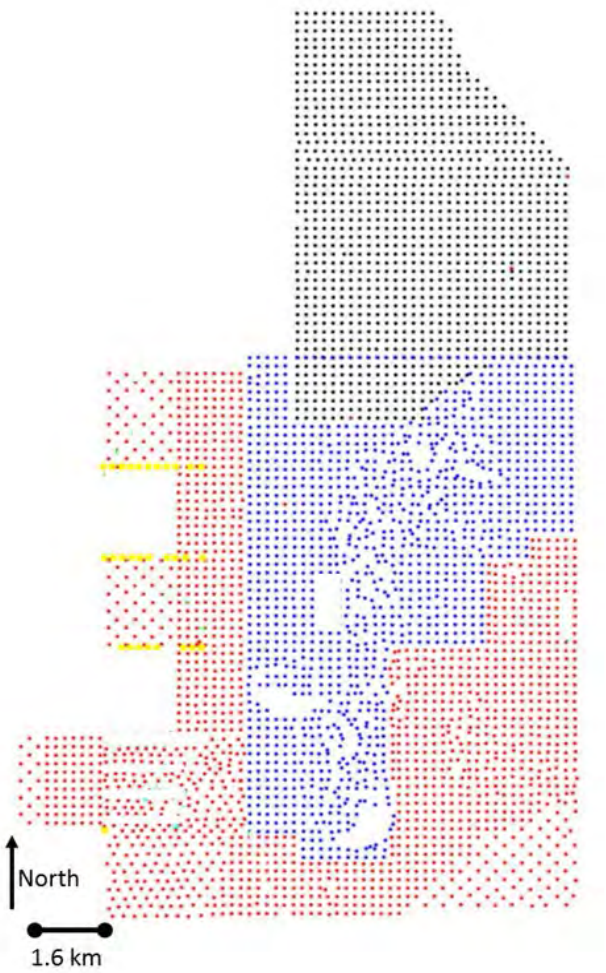
7.1.4 Terrain Corrections

Terrain corrections were calculated to a distance of 167 km for each gravity station. The terrain correction for the distance of 0–5 m around each station used a sloped triangle method with the average slopes measured in the field. The terrain correction for the distance of 5–2,000 m around each station used a prism method and a sectional ring method with digital terrain from a 5 m digital elevation model (DEM). The 5 m DEM was prepared by merging a 2016 proprietary Marigold DEM with surrounding United States Geological Survey (USGS) 10 m DEMs. The Marigold proprietary elevation data were assumed to be in NGVD 29; some minor edits were made to remove artificial terrain prior to merging with USGS data.

The terrain correction for the distance of 2–167 km around each station used the sectional ring method with digital terrain from shuttle radar topography mission (SRTM) DEM and/or a 90 m DEM.

Terrain corrections for existing data were performed using the same procedures, but with local terrain derived from a 2014 proprietary 5 m Marigold DEM.

Figure 7.2 Gravity Stations

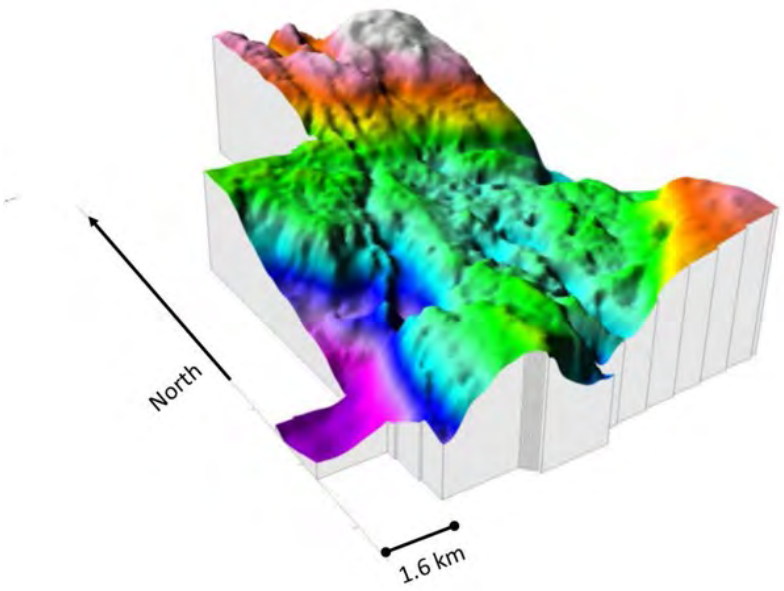


Stations: Zonge 1998 (●), Magee 2014 (●), Magee 2016 (●), and USGS (●)
James L. Wright, 2016

7.1.5 Interpretation

The complete Bouguer anomaly at 2.55 grams per cubic centimetre (g/cm^3) shows a clear north-east–south-west trending feature that corresponds to the Oyarbide fault cutting the survey's south-east corner. Dense rocks lie to the south-east of the fault relative to those in the north-west. However, both rock units are mapped as Valmy Formation. A gravity high to the north-east is attributed to carbonate rocks beneath the valley fill. North–south structures extend directly along the middle of the gravity coverage, and gravity lows along the south-west edge are produced by basin fill in the head of Buffalo Valley (Figure 7.3).

Figure 7.3 Marigold Mine Gravity Survey Compilation, Complete Bouguer Anomaly Oblique Image



James L. Wright, 2016

7.2 Exploration Drilling

OreWin is of the opinion that the drilling and sampling procedures adopted at Marigold are consistent with generally recognised industry best practices. The resultant drilling pattern is sufficiently dense to interpret the geometry and the boundaries of gold mineralisation with confidence. The reverse circulation (RC) samples were collected by competent personnel using procedures meeting generally accepted industry best practices. The process was conducted or supervised by suitably qualified geologists. The QPs are of the opinion that the samples are representative of the source materials, and there is no evidence that the sampling process introduced a bias. Accordingly, there are no known sampling or recovery factors that could materially impact the accuracy and reliability of drilling results.

As at the end of November 2021, 9,323 drillholes for 1,940,438 m of drilling comprise the current resource database for the Property.

Table 7.1 summarises all of the drilling on the Property from 1968 through 2021.

7.2.1 Exploration Drilling at Marigold (Pre-2014)

For details on drilling activities conducted at Marigold prior to 2014, refer to SSR's NI 43-101 Technical Report on the Marigold Mine (19 November 2014).

7.2.2 Exploration Drilling at Marigold (2014–2017)

Shortly after SSR's acquisition of the Project was complete, an exploration programme was initiated with a view to delineating additional Mineral Resources. The programme commenced in June 2014 and targeted the discovery of near surface gold mineralisation proximal to Marigold's open pits and had the result of upgrading the Inferred Mineral Resources to Indicated Mineral Resources.

The 2014 to 2017 drilling included:

- 706 reverse circulation (RC) drillholes for 170,684 m;
- 37 sonic drillholes in rock stockpiles (included in RC totals); and
- 7 HQ diamond core holes for 7,588 m.

SSR drilled a total of 713 drillholes for 178,272 m from 2014 to 2017.

7.2.3 Exploration Drilling at Marigold (2018–2021)

From 2018 through to the end of December 2021, a further 995 holes have been drilled. This era of drilling included:

- 950 RC holes, and
- 45 diamond core holes.

The 2018–2021 drilling adds a further 343,233 m of drilling to the database.

This brings the total drilling in the history of the Marigold project to 9,435 drillholes for 1,988,280 m.

SSR's drilling has been directed at various targets and resource areas including East Basalt, Battle Cry, Showdown, Valmy SE, Mud & NW, Crossfire, HideOut, 8Sx, TZN, 8D, 5N, Red Dot, North Red Dot, Mackay pit extensions, and the Mackay Herco Keel structure. These areas are shown in Figure 5.2.

Since 2018, the focus of exploration at Marigold has been:

- Exploration drilling to expand Mineral Resources and Mineral Reserves through systematic step out drilling.
- Drilling of 21 core holes to confirm the grades below water table that were originally obtained from RC drilling in the Red Dot area
- Infill drilling to increase the confidence of Mineral Resource estimates specifically targeting areas widely spaced drilling ~35–50m and around drillholes drilled prior to 2006 with missing assays.
- Drilling to confirm the final position of the pit highwall.
- Advancing drilling to define orebody at Trenton Canyon.

7.2.4 Marigold Sulfide Drilling Programme

SSR has undertaken a drilling programme to test sulfide mineralisation at Marigold. To date, nine diamond drillholes have been drilled to test for sulfide mineralisation.

This drilling has been completed across the Property to help understand the overall geology of the Property and to target higher gold grades beyond the oxidation boundary that is currently mined at Marigold.

7.2.5 Exploration Drilling at Valmy (1968–2006)

In 2015, SSR purchased the Valmy property from Newmont, and all previous drilling information for Valmy was incorporated into the Marigold drilling database.

Numerous companies explored the Valmy property from 1968 until Newmont put the Valmy and Mud pits into operation in 2002. These companies included Hecla, Santa Fe Pacific Minerals Limited, and Newmont. As mentioned, this drilling data has been reviewed closely by SSR.

7.2.6 Exploration – Trenton Canyon and Buffalo Valley

The Trenton Canyon project is located approximately 4 km south of New Millennium at Marigold and is one of three historically producing mines on a 100%-owned 8,900 ha parcel acquired from Newmont in 2019. The Buffalo Valley project is located approximately 10 km south-west of New Millennium.

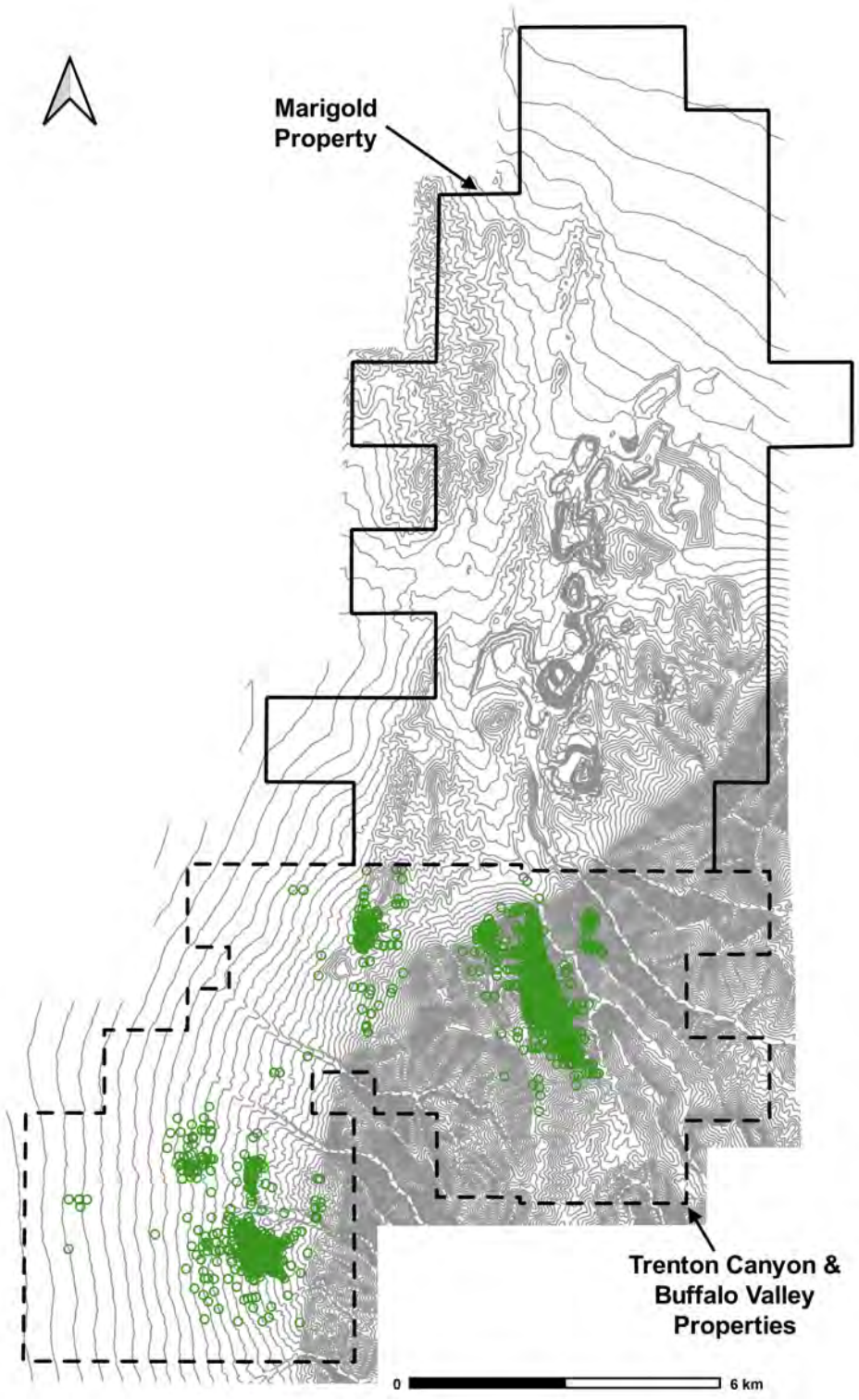
Exploration work on the Trenton Canyon and Buffalo Valley properties consists of drilling, geophysical surveying, remote sensing, geochemical surveying, and mapping.

Gold mineralization at Trenton Canyon is structurally controlled with significantly less dissemination than at Marigold. The net result of this change in mineralization style is higher gold grades in a smaller volume of mineralized rock at Trenton Canyon.

SSR has completed 13 exploration diamond core holes on Trenton Canyon totalling 10,131 m, and 249 RC drillholes for 73,165 m. As of December 2021, one diamond core hole has been completed at Buffalo Valley to a depth of 597.5 m.

Figure 7.4 shows a plan view of the area and extent of the work completed on Trenton Canyon and Buffalo Valley.

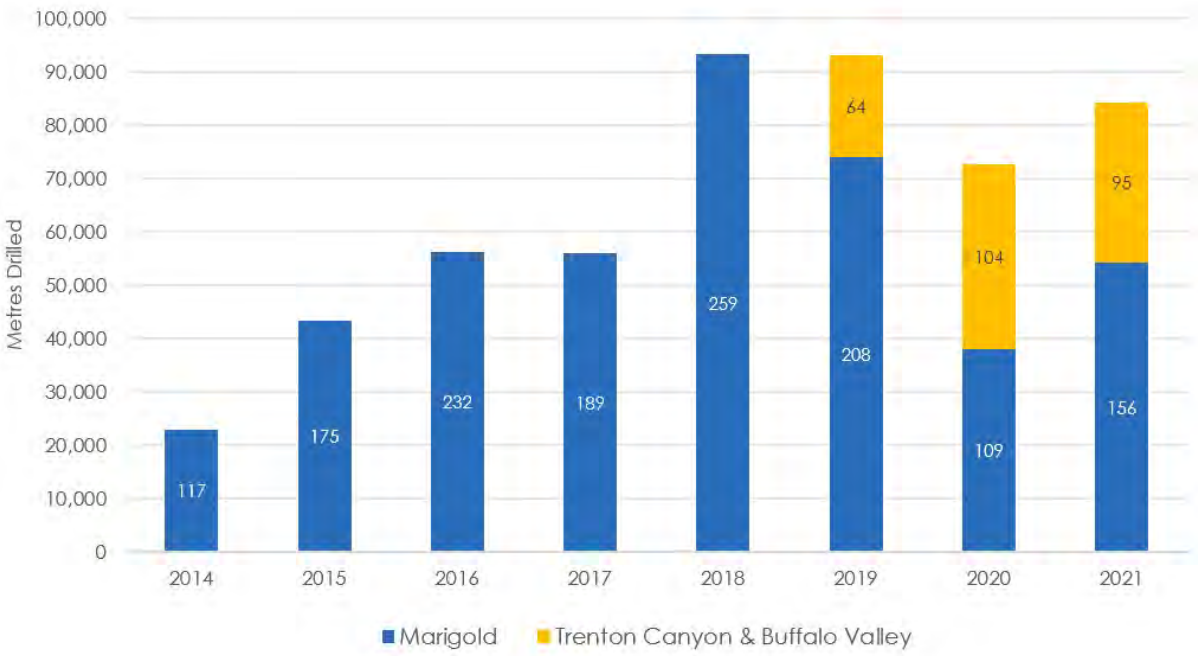
Figure 7.4 Plan View of Drilling Carried out on Trenton Canyon and Buffalo Valley



SSR, 2021

The drilling completed since SSR's acquisition of the Project in 2014 is summarised in Figure 7.5 and shown in plan view in Figure 7.6.

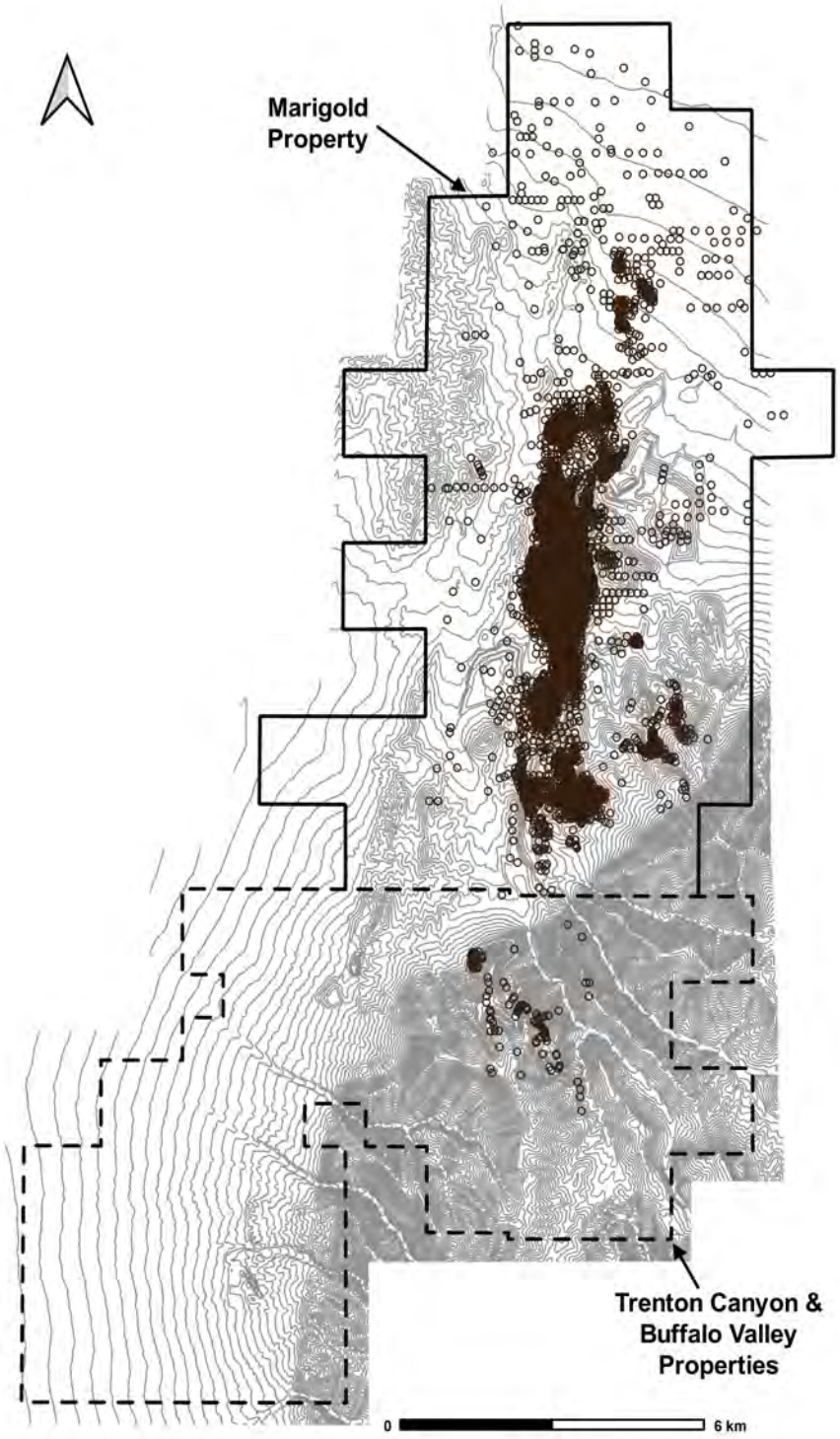
Figure 7.5 Chart of Drilling Completed by SSR since 2014



SSR, 2021

Table 7.1 summarises all of the drilling on the Entire Marigold Property from 1968 through 2021. Figure 7.7 shows the same in plan view.

Figure 7.6 Plan View of Drilling Carried out by SSR Since 2014



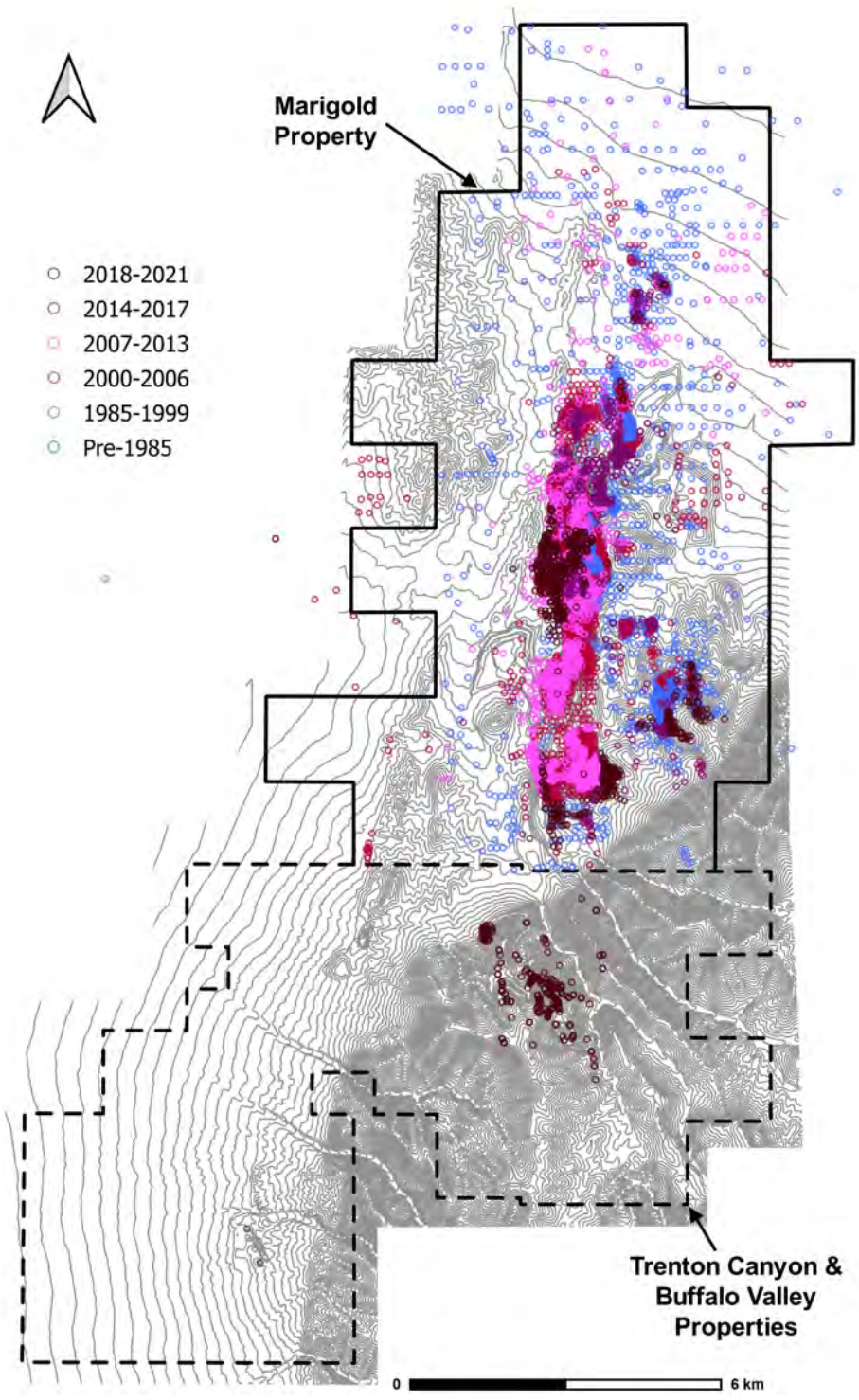
SSR, 2017

Table 7.1 Summary of Drilling History

Drilling Programme	Company	No. of RC Holes	RC Drilling (m)[1]	No. of Diamond Holes	Diamond Drilling (m)[1]	Total Holes	Total Drilling (m)[1]
1968–1985	Various exploration and mining groups	126[2]	7,037[2]	[2]	[2]	126	7,037
1985–1999	Cordex and Rayrock Mines	2,350	333,325	8	2,176	2,358	335,501
1999–2006	Glamis Gold	2,498	484,619	8	2,030	2,506	486,649
2006–2013	Goldcorp	1,856	520,163	14	8,063	1,870	528,226
1968–2006	Newmont and other mining groups (Valmy property)	852	108,326	15	1,037	867	109,363
2014	SSR	116	21,653	1[3]	1,235[3]	117	22,888
2015	SSR	171[5]	39,070	4	4,270[4]	175[5]	43,340[5]
2016	SSR	231	55,147	1	955	232	56,102
2017	SSR	188	54,814	1	1,128	189	55,942
2018	SSR (Marigold)	259	93,276	0	0	259	93,276
2019	SSR (Marigold)	183	63,629	25	10,265	208	73,893
2020	SSR (Marigold)	109	37,955	0	0	109	37,955
2021[6]	SSR (Marigold)	150	52,579	6	1,636	156	52,214
2019	SSR (TCBV)	64	19,112	0	0	64	19,112
2020	SSR (TCBV)	98	28,840	7	5,901	104	34,742
2021[6]	SSR (TCBV)	88	25,213	7	4,827	95	30,040
Total Drilling		9,338	1,944,758	97	43,523	9,435	1,988,280

1. Drill lengths converted from feet to metres.
2. Figures have been rounded and may not match totals.
3. No documentation of drilling method at Marigold is available for these drillholes. However, before RC drilling became widely adopted in the mid-1980s, conventional single-tube drilling was often relied on as the exploration drilling technique. It is suspected that single tube drilling was used during this time period; only occasional diamond drillholes were used. These drillholes are located in areas that have been mined or are outside of the current Mineral Resource area of Marigold.
4. Historical drillholes completed by Newmont at the Trenton Canyon and Buffalo Valley properties are not included in this table as they are currently being validated
5. Drilling to end of December 2021.

Figure 7.7 Plan View of All Drilling to End of November 2021



SSR, 2021

8 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Exploration activities conducted by three companies between 1985 and 2013 have contributed to most of the assays in the Marigold database. Sampling and analytical procedures for this period are known and documented, and it can be assumed that analytical information acquired prior to 1985 will not impact the current Mineral Resources because sampled volumes collected prior to 1985 have been mined out.

Most of the samples that inform the resource database were generated from RC drill cuttings. In general, the process for collecting RC samples has changed very little since 1985; however, over time, there have been numerous improvements in sample preparation, security and analysis. As an operating mine, Marigold generally followed and continues to follow industry best practice standards.

At the Property, there is an extensive sample storage facility that preserves the raw sample material that supports the resource database. Most of the laboratory pulp reject (since 1987), coarse reject (since 2006), and split diamond drill core are catalogued and stored securely in shipping containers on the Property.

A detailed account of the pre-2014 sampling and analytical protocols is described in the NI 43-101 Technical Report on the Marigold Mine (19 November 2014). This section briefly describes historical procedures and reviews the current procedures and results that support the QC of data collected since such last technical report.

8.1 Sample Preparation and Analysis

A summary of historical analytical methods and assay results that comprise the Marigold and Valmy database is presented in Table 8.1. Except for the Marigold, Pinson and Dee Mine site laboratories, all laboratories listed in Table 8.1 are commercial laboratories that were independent from SSR.

Until the end of 1999, fire assay (FA) with gravimetric finish was the preferred analytical method for determining gold in samples. Since then, all samples have been subjected to first-pass gold cyanide solution assay, and, if results were greater than 0.17 g/t Au, samples were also subjected to FA determination with gravimetric finish at the on-site Marigold mine laboratory or FA with atomic absorption (AA) finish and FA with gravimetric finish for over limits at commercial laboratories.

All the Newmont-provided samples that inform the resource database for the Valmy area were assayed at various commercial laboratories. The preferred assay method was FA with AA spectroscopy finish, followed by gold cyanide solution assay on select samples within the mineralised zone.

Since 2014, all exploration samples from Marigold and the Valmy property are analysed at American Assay Laboratories (AAL), an ISO 17025 certified facility in Sparks, Nevada. AAL is independent from SSR. All samples are subjected to first pass FA determination with an AA finish and FA with gravimetric finish for over-limits. This is followed by a gold cyanide solution assay with an AA finish on samples that have FA values greater than or equal to 0.03 g/t Au. In 2019 and 2020 samples were also analysed at Paragon laboratories, a privately held corporation located in Sparks, NV. Paragon is independent of SSR. Analytical protocols similar to AAL were utilised.

Table 8.1 Analytical Methods for Gold for the Marigold Assay Resource Database

Period	Laboratory	Preparation	Analytical Method	Reported DL (Au g/t)
1985–1989	Pinson or Dee Mine site labs	Undocumented	30 g FA, gravimetric finish	0.17
1990–1999	Pinson or Dee Mine site labs or Inspectorate Labs	Undocumented	30 g FA, gravimetric finish	0.17
1987–1998 (Newmont property)	Barringer Laboratories	Undocumented	30 g FA, AA finish 15 g cyanide gold (CN) assay on select samples	FA: 0.17 CN assay: 0.17
	X-Ray Assay Laboratories	Undocumented	30 g FA, gravimetric finish 15 g CN assay on select samples	FA: 0.03 CN assay: 0.03
	Rocky Mountain Geochemical Nevada	Undocumented	30 g FA, gravimetric finish 15 g CN assay on select samples	FA (AA): 0.03–0.003 CN assay: 0.03
	Chemex Labs Ltd.	Undocumented	15 g FA, AA finish 30 g FA, gravimetric finish 15 g CN assay on select samples	FA (AA): 0.06–0.003 CN assay: 0.03
2000–2004 (Newmont property)	Chemex Labs Ltd.	Dry, crush and riffle split for pulverising; pulverise to 100µ	All samples 30 g FA, AA finish 15 g CN assay on select samples	FA (AA): 0.01 CN assay: 0.03
2000–2006	Marigold Mine laboratory	Dry 6–12 hrs @ 310° F; crush >95% –2 mm; riffle split to collect 250–400 g for pulverising; pulverise to >90% –75µ	All samples 10 g CN assay, AA finish If CN assay >0.17 g/t, the 2nd pulp split @ 30 g FA, gravimetric finish	0.03
	American Assay or Inspectorate Labs	Dry 6–12 hrs @ 310° F; crush (using jaw and roll) >90% –2 mm; riffle split to collect 500–1,000 g for pulverising; pulverise to >90% –100µ	All samples 15 g CN assay, AA finish If CN assay >0.17 g/t, the 2nd pulp split @ 30 g FA, AA finish over-limits by 30 g FA, gravimetric finish	0.03
2006–2013	Marigold Mine laboratory	Dry 6–12 hrs @ 310° F; crush >95% –2 mm; riffle split to collect 250–400 g for pulverising; pulverise to >90% –75µ	All samples 10 g CN assay, AA finish If CN assay >0.17 g/t, the 2nd pulp split @ 30 g FA, gravimetric finish	0.03
	American Assay or Inspectorate Labs	Dry 6–12 hrs @ 310° F; crush (using jaw and roll) >90% –2 mm; riffle split to collect 500–1,000 g for pulverising; pulverise to >90% –100µ	All samples 15 g CN assay, AA finish If CN assay >0.17 g/t the 2nd pulp split @ 30 g FA, AA finish over-limits by 30 g FA, gravimetric finish	0.03

2014–2021	American Assay Laboratories	Dry 6–12 hrs @ 310° F; crush (using jaw and roll) >90% –2 mm; riffle split to collect 500–1,000 g for pulverising; pulverise to >90% –100µ	All samples 30 g FA, AA finish over-limits by 30 g FA, gravimetric finish If FA >0.03 g/t, the 2nd pulp split @ 15 g CN assay, AA finish	FA: 0.003 CN assay: 0.03
2019-2020	Paragon Laboratories	Dry – 6 to 12 hrs @ 310° F; crush (using jaw and roll) >90% minus 2 mm; riffle split to collect 500 to 1,000 g for pulverising; pulverise to >85% minus 75µ	All samples 30 g FA, AA finish Over-limits by 30 g FA, gravimetric finish If FA >0.03 g/t, the 2nd pulp split @ 15 g CN assay, AA finish	FA, 0.003 CN assay, 0.03

8.1 Sample Security

8.2.1 Sample Security until 2013

The bulk of the data in the Marigold resource assay database was for samples analysed at the secure on-site Marigold mine laboratory. Samples shipped off site were either delivered to the commercial lab by an MMC Exploration Department geologist or technician, or samples were collected from the mine by a laboratory employee. All samples were sent with a manifest listing the number of samples included in the shipment. Exploration personnel were unaware of any instances of tampering with samples either on site or in transit to a laboratory.

8.2.2 Sample Security Valmy Property

Newmont provided scanned copies of driller's logs, sample manifest sheets, and signed assay sheets from commercial laboratories and geologist logging sheets for all the drillholes that inform the resource database for the Valmy property. Based on the documented evidence, the chances of tampering with the samples either on site or in transit were negligible.

8.2.3 Sample Security 2014–2021

All exploration samples were collected from the mine site by an employee of AAL. All sample dispatches included a manifest listing the sample identifiers and number of samples included in the shipment. AAL/Paragon Laboratories electronically acknowledged the receipt of the samples within 24 hours after physically reconciling the samples with the manifest. SSR exploration personnel were unaware of any instances of tampering with samples either on site or in transit to a laboratory.

8.3 Quality Assurance/Quality Control (QA/QC) Procedures

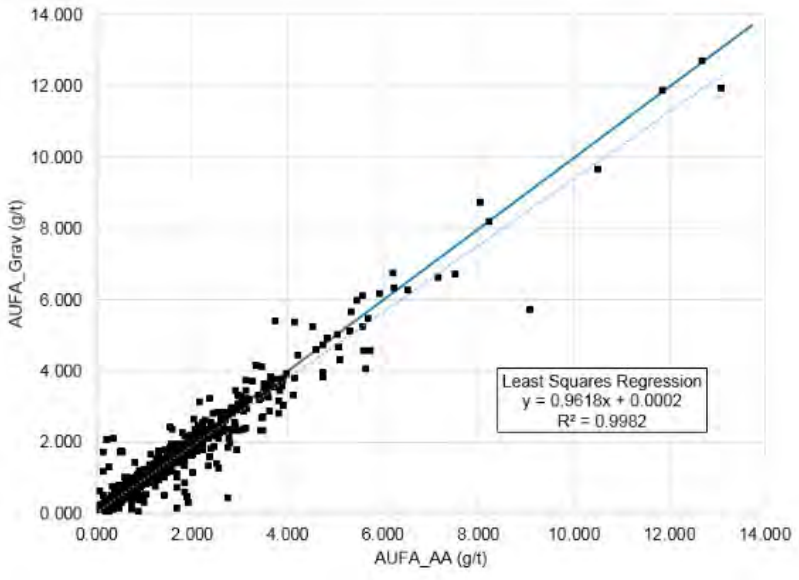
8.3.1 QA/QC Procedures Pre-2014

The oldest hole in the Marigold exploration database is from 1968. Over time, QA procedures for the exploration drillhole database have been varied and inconsistent with current industry best practices.

Because the historical QA/QC procedures at Marigold did not meet current-day best practices, SSR selected a spatial and temporal representation of samples from the well-preserved drillhole sample pulps (from the years 1987 to 2013) stored at Marigold. SSR sent these to a commercial laboratory for analyses. The results of this re-assay programme were discussed in the 2014 NI 43-101 Technical Report on the Marigold Mine (19 November 2014), and it was concluded that there was no systematic error or bias in the accuracy and precision of analytical assays from the period between 1987 and 2013.

As a part of the QA/QC programme, a total of 1,974 samples were assayed for FA with AA finish and gravimetric finish between 1987 and 2003. Of these assay pairs, 1,029 samples were below the as-mined topography and within the mineralised envelopes. This represents 12% of samples that are within the mineralised envelope and below the mined-out topography. The assay results for both the finishes were compared, and results are presented in Figure 8.1 and Figure 8.2.

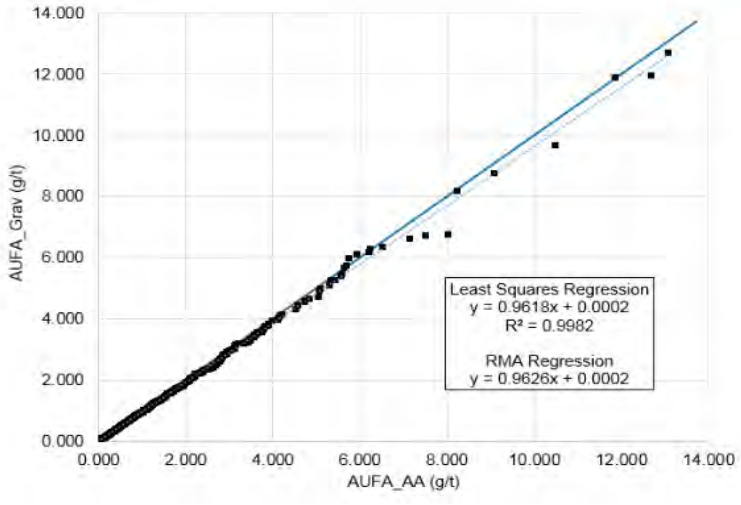
Figure 8.1 Scatter Plot Between FA Gold Values with AA Finish and Gravimetric Finish



SSR, 2018

The scatter shown in the data presented in Figure 8.1 and Figure 8.2 is acceptable (R2 = 0.9982), and the reduced major axis (RMA) regression indicates a bias of 3.7% for all the assay pairs that are below the mined-out topography. These indicate that the assays form similar distributions and can be interchanged, but they do not validate the accuracy or precision of the assay value.

Figure 8.2 Q-Q Plot between FA Gold Values with AA Finish and Gravimetric Finish



1 SSR, 2018

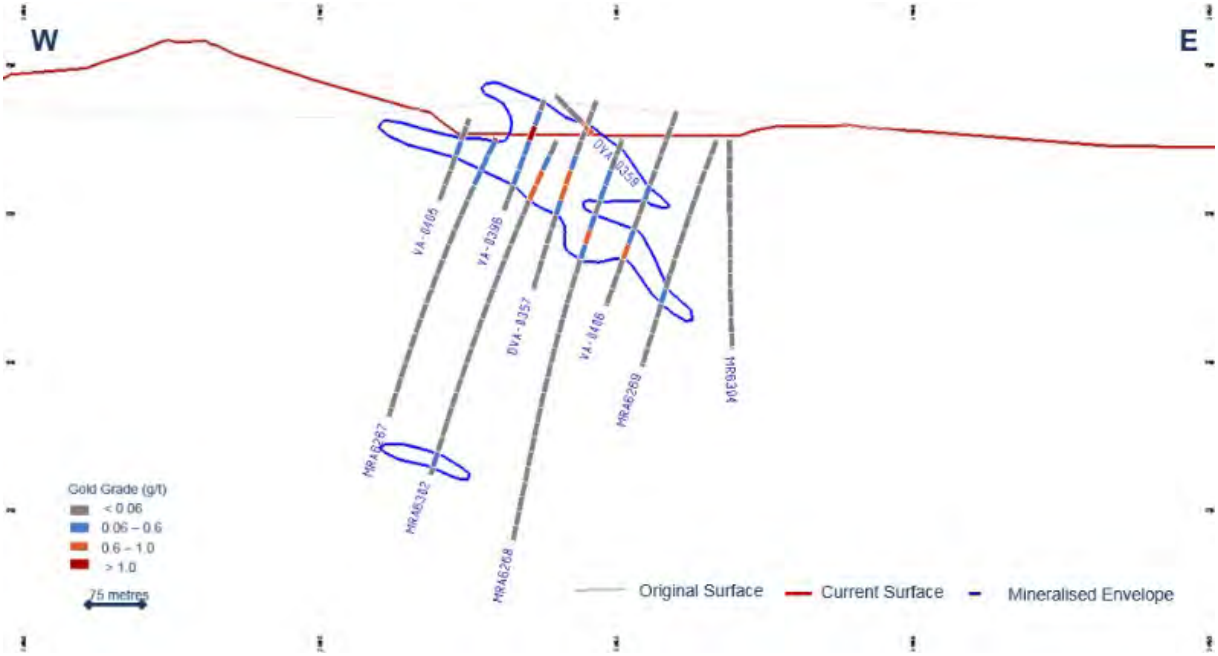
8.3.2 QA/QC Procedures Valmy Property

As at Marigold, the QA/QC procedures followed between 1987 and 1998 did not meet the current day industry standards. Newmont began inserting certified standards in the sample stream in 2000. A total of three QC samples were used, but SSR was unable to evaluate the assay accuracy without the expected gold values for these samples.

Because the historical QA/QC procedures for the Valmy property did not meet current day industry standards, SSR drilled eight drillholes within a resource block of 200 m x 150 m. A total of eleven historical drillholes were within the same block. The cross section comparing the SSR drilling to the historical drilling is presented in Figure 8.3.

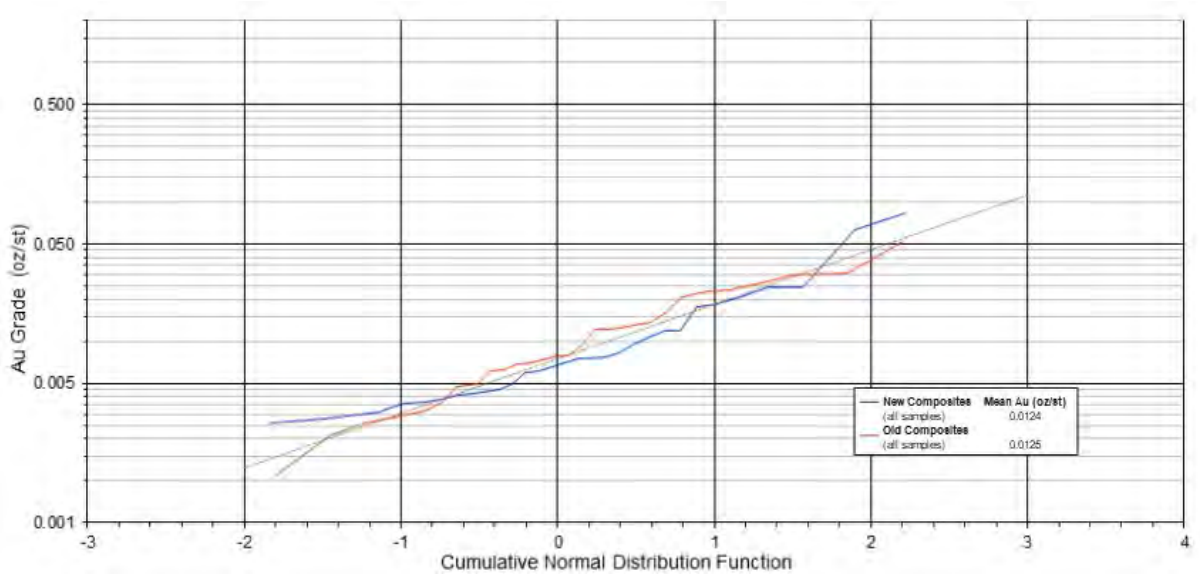
The cumulative normal distribution comparing the SSR drill composites to the composite from the historical drillholes is provided in Figure 8.4.

Figure 8.3 Cross Section with SSR Drillholes (drillhole number prefix MRA) and Historical Drillholes Along Section 8000N



SSR, 2018

Figure 8.4 Cumulative Normal Distribution Comparing Composites from SSR Drilling and Historical Drilling



SSR, 2018

The nearest neighbour (NN) gold grade model estimates were also compared to the assay results from historical drilling and the new drilling. To compare historical Newmont data to SSR data, two NN models were developed: one estimate used only assay results from the historical database; and a second estimate used only the assay results from the SSR drillholes within the same mineralised envelope. The percentage difference between historical and SSR results was –4%. The results of the NN estimates are presented in Table 8.2.

Table 8.2 Comparison of the NN Mean Gold Grades

Nearest Neighbour Estimate	Mean Gold Grade (g/t)
Nearest Neighbour with Historical Composites	0.624
Nearest Neighbour with SSR Composites	0.600

% Difference (SSR-Historical) is –4%.

The infill drill comparison indicates that there is no systematic error in the historical sampling and assaying methodology when compared to current practices, and, therefore, the historical data can be used to develop the Mineral Resources for the Valmy property.

8.3.3 QA/QC Procedures 2014–2017

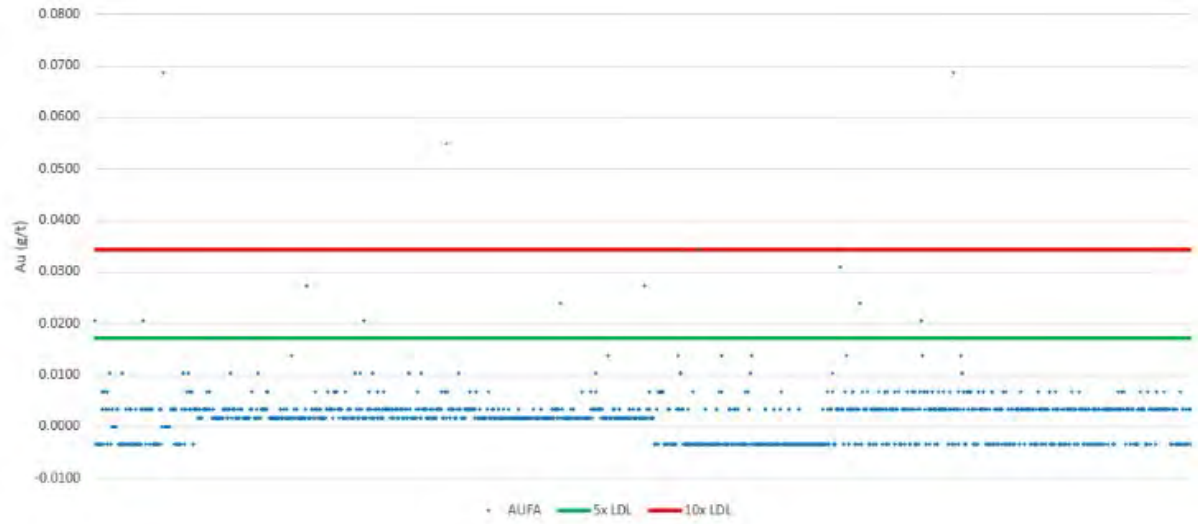
SSR's QA/QC protocol involves the insertion of a certified standards every 20th sample and the insertion of a blank sample every 50th sample. Eleven different certified standards purchased from ROCKLABS and Geo Chem Laboratories were used. In addition to the certified standards and blank material, every 50th sample is sampled in duplicate at the drill site and analysed as a field duplicate.

8.3.3.1 Blanks

Coarse blanks are samples of barren material that are used to detect possible contamination, which is most common during the sample preparation stage. The size of the blanks was similar to the size of the RC samples, and they were processed through the same crushing and pulverising stages as the drill samples. The blank samples were placed one in every 50 samples. Blank results that were greater than 10 times the lower detection limit (LDL) were typically considered failures that required further investigation and possible re-assaying of associated drill samples. The lower detection limit of AAL analyses is 0.003 g/t, so blank samples assaying in excess of 0.03 g/t were considered to be failures.

Between 2014 and 2017, a total of 1,107 blanks were inserted into the sample stream. The results are shown in the Figure 8.5. An assay value greater than five times the LDL is recorded as a warning, and ten times the LDL is deemed a failure limit. Four samples failed (0.36%), but only two samples were significant enough with assay values of 0.068 g/t.

Figure 8.5 Blank Results



SSR, 2018

Certified Standards

Certified reference material (CRM) standards were used to evaluate the analytical accuracy and precision of AAL. CRMs were inserted every 20th sample, which represents 5% of the total samples submitted. Three different CRMs were used in any one submission. The CRMs were selected based on the cut-off grade and gold distribution at Marigold mine, being:

- cut-off grade (0.1 g/t)
- mean grade (0.45 g/t)
- 90th percentile (2.3 g/t)

Most of the CRMs used were purchased from ROCKLABS, and Ore Research & Exploration Pty Ltd. CRMs were only used in 2014 for a short period of time. The CRMs were assigned sample numbers in sequence with their accompanying drill samples and inserted into the drill-sample stream. The list of CRMs used between 2014 and 2017 is shown in Table 8.3.

Exploration personnel monitor the assay results on a real-time basis and import the data into the Geology database. Internal validation checks in the database highlight any certified standard assay failures. In the case of normally distributed data, 95% of the standard assay results are expected to lie within two standard-deviation limits of the certified value. All samples outside the three standard-deviation limits were considered to be failures. Failures trigger a re-run of five samples above and five samples below the failed standards, including the failed standard.

Table 8.3 List of Certified Standards Used Between 2014 and 2017

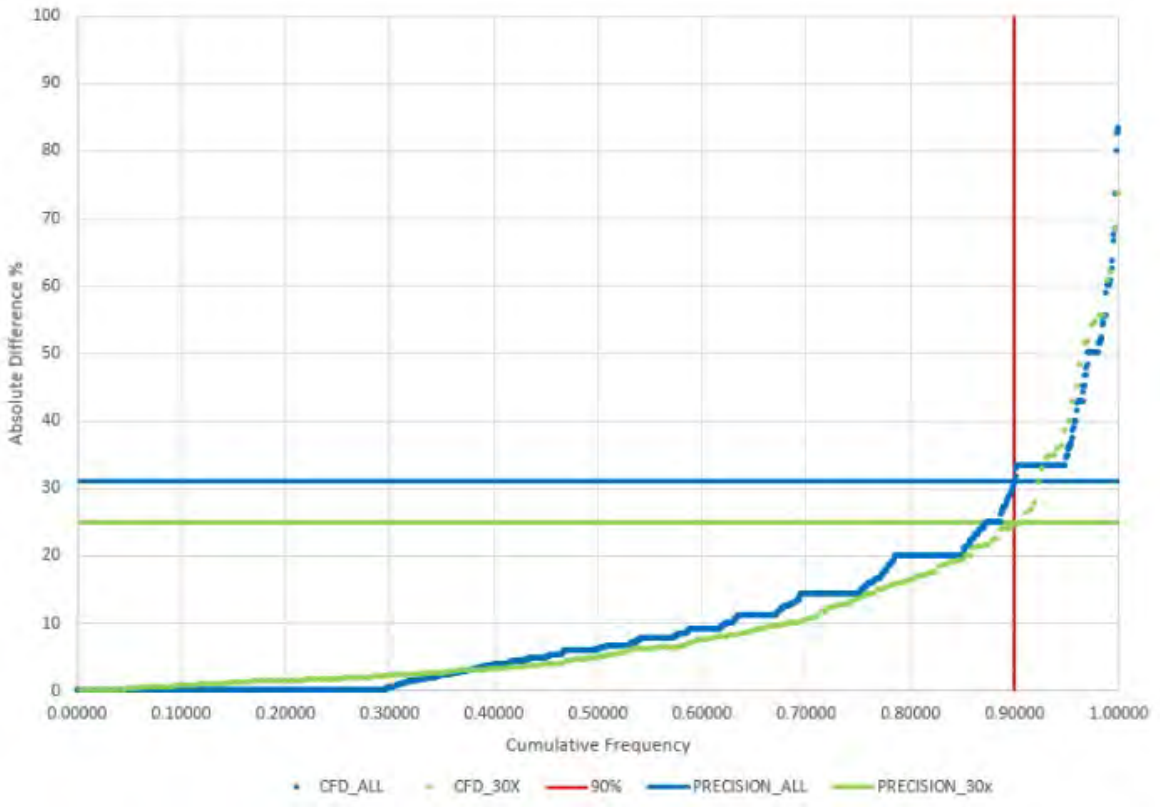
Certified Standard	Expected Gold Value (g/t)	Standard Deviation (g/t)	No. of Samples Assayed
OxD108	0.414	0.012	480
OxJ95	2.337	0.057	361
OxB130	0.125	0.006	1137
OxJ111	2.166	0.058	131
OxJ120	2.365	0.063	627
OxD128	0.424	0.011	758
OREAS 50P	0.727	0.041	37
OREAS 50Pb	0.841	0.031	89
OREAS 6Pb	1.425	0.077	66
OREAS 7Pb	2.770	0.055	13
G312-7	0.220	0.010	111

Field Duplicates

Field duplicate samples were collected every 50th sample, and two sample bags marked "A" or "B" were provided to collect an original and a duplicate sample. The secondary sample was obtained from the secondary opening in the rotary sampler. The duplicate sample inserted into the sample stream monitors the precision of the sample collection, crushing, and pulverising stages of sample preparation as well as the analytical stage.

Between 2014 and 2017, 1,650 duplicate samples were collected. Absolute relative difference (ARD) was used to estimate precision, as shown in Figure 8.6. Precision was estimated for all the samples to be at ±31%. Because most samples were below the 0.1 g/t grade used to construct mineralised envelopes, precision was also estimated for samples greater than 30 times the LDL. It was 25%. The estimated precision is considered to be reasonable for coarse field duplicates in gold deposits.

Figure 8.6 Cumulative Frequency Distribution Comparing Original and Duplicate (field) Assay Results



SSR, 2018

8.1.4 QA/QC Procedures 2018–2021

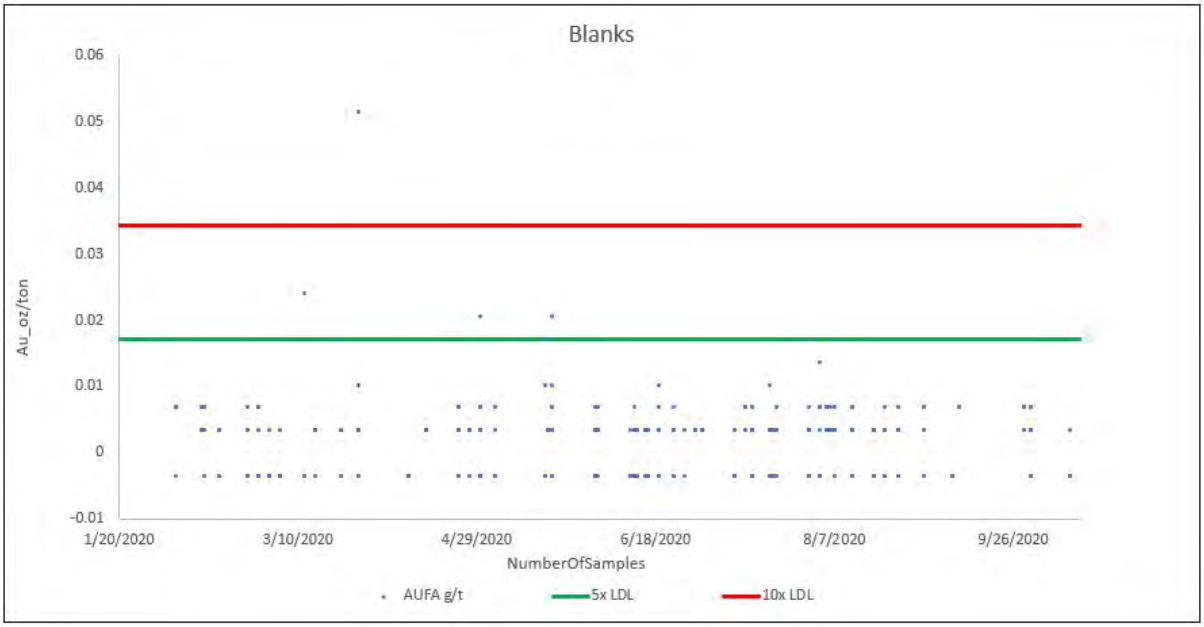
SSR's QA/QC protocol involves the insertion of a certified reference material standards (CRM) every 20th sample and the insertion of a blank sample every 50th sample. Eleven different CRMs, purchased from ROCKLABS and Geo Chem Laboratories, were used. In addition to the CRMs and blank material, a field duplicate is taken at the drill site for every 50th sample.

8.1.4.1 Blanks

Coarse blanks are samples of barren material that are used to detect possible contamination, which is most common during the sample preparation stage. The size of the blanks was similar to the size of the RC samples, and they were processed through the same crushing and pulverising stages as the drill samples. The blank samples were placed one in every 50 samples. Blank results that were greater than 10 times the lower detection limit (LDL) were typically considered failures that required further investigation and possible re-assaying of associated drill samples. The lower detection limit of AAL analyses is 0.003 g/t, therefore blank samples assaying in excess of 0.03 g/t were considered to be failures.

Between 2018 and 2021, a total of 1,609 blanks were inserted into the sample stream. The results are shown in the Figure 8.5. An assay value greater than five times the LDL is recorded as a warning, and ten times the LDL is deemed a failure limit.

Figure 8.7 Blank Results



SSR, 2021

Certified Standards

Certified reference material standards (CRM) were used to evaluate the analytical accuracy and precision of AAL. CRMs were inserted every 20th sample, which represents 5% of the total samples submitted. Three different CRMs were used in any one submission. The CRMs were selected based on the cut-off grade and gold distribution at Marigold mine:

- around the cut-off grade (0.1 g/t)
- the mean grade (0.45 g/t)
- around 90th percentile (2.3 g/t) or greater

Most of the CRMs used were purchased from ROCKLABS. Ore Research & Exploration Pty Ltd. CRMs were only used in 2014 for a short period of time. The CRMs were assigned sample numbers in sequence with their accompanying drill samples and inserted into the sample stream. The list of CRMs used between 2014 and 2017 is shown in Table 8.3.

Exploration personnel monitor the assay results on a real-time basis and import the data into the geology database. Internal validation checks in the database highlight any CRM assay failures. In the case of normally distributed data, 95% of the CRM assay results are expected to lie within two standard-deviation limits of the certified value. All samples outside the three standard-deviation limits were considered to be failures. Failures trigger a re-run of five samples above and five samples below the failed CRM, including the failed standard.

Table 8.4 List of CRMs used between 2018 and 2021

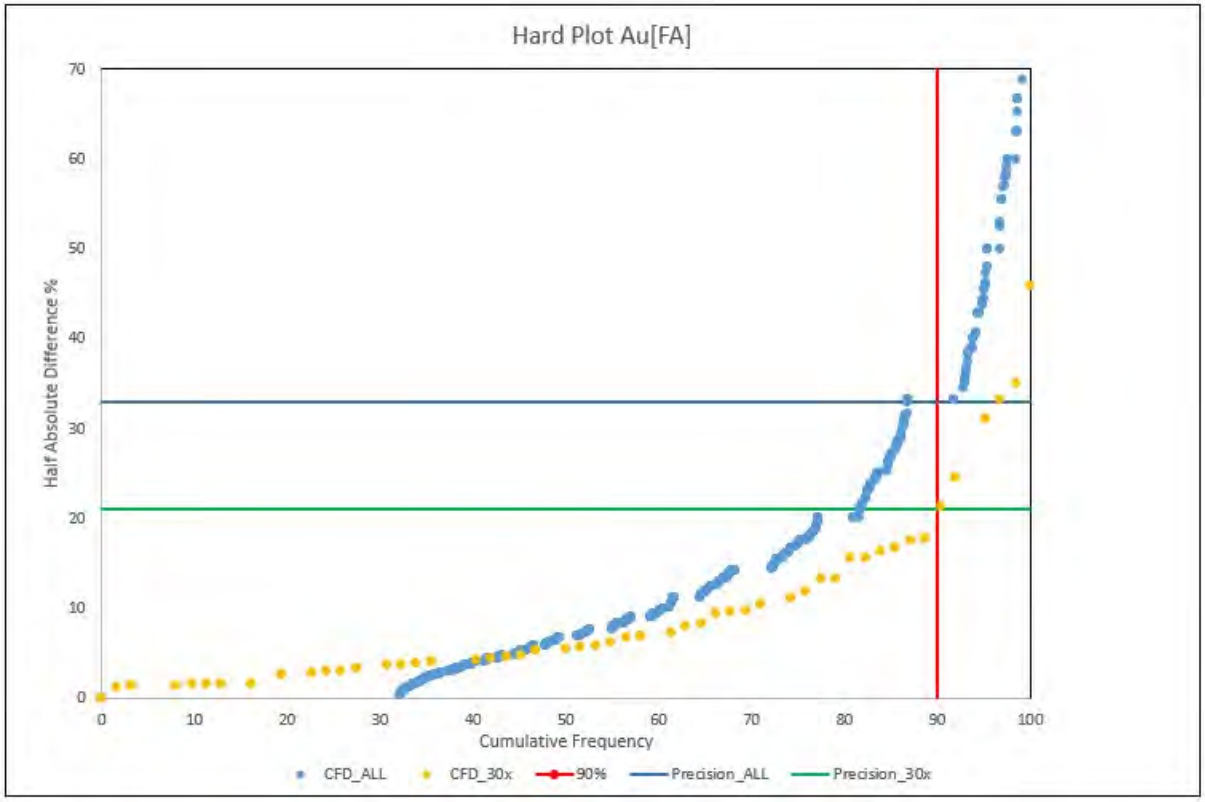
Certified Standard	Expected Au Value (g/t)	Standard Deviation (Au g/t)	No. of Samples Assayed
HiSilK2	3.474	0.087	241
OxJ120	2.365	0.063	648
OxB130	0.0125	0.006	1602
OxJ137	2.416	0.069	457
OxD151	0.430	0.009	894
SG84	1.026	0.025	72
OxD144	0.414	0.11	530

Field Duplicates

Field duplicate samples were collected every 50th sample, and two sample bags marked "A" or "B" were provided to collect an original and a duplicate sample. The secondary sample was obtained from the secondary opening in the rotary sampler. The duplicate sample inserted into the sample stream monitors the precision of the sample collection, crushing, and pulverising stages of sample preparation as well as the analytical stage.

Between 2014 and 2017, 1,650 duplicate samples were collected. Absolute relative difference (ARD) was used to estimate precision, as shown in Figure 8.6. Precision was estimated for all the samples to be at ±31%. Because most samples were below the 0.1 g/t grade used to construct mineralised envelopes, precision was also estimated for samples greater than 30 times the LDL. It was 25%. The estimated precision is considered to be reasonable for coarse field duplicates in gold deposits.

Figure 8.8 Cumulative Frequency Distribution Comparing Original and Duplicate (Field) Assay Results



SSR, 2021

8.4 Opinion on Adequacy of Sample Preparation, Security, and Analytical Procedures

OreWin has reviewed the sample preparation, analytical and security procedures for the various drilling programmes conducted on the Marigold deposit and have determined that they were carried out in accordance with accepted industry standards.

The processes, discussed in the Marigold21TRS, are considered adequate for the generation of a quality dataset suitable for the estimation of Mineral Resources and Mineral Reserves.

9 DATA VERIFICATION

The verification for the exploration data collected before SSR acquired Marigold is described in the 2014 NI 43-101 Technical Report on the Marigold Mine (19 November 2014). It includes the results of AMEC Americas Ltd.'s external review and data verification to identify any material issues with the database used to generate the mineral resources.

SSR subsequently acquired the adjacent Valmy property, and the associated data was appended to the Marigold drillhole database.

The appended data for Valmy comprises collar, downhole survey, lithology, and assay information (provided in comma delimited digital files) for 867 drillholes drilled by Newmont, Hecla and Santa Fe Pacific Corp. Newmont provided this information in hardcopy or scanned versions of the originals which were used to verify the database.

MMC's exploration personnel manually checked the entire drillhole database against the original documents for data entry errors. Less than 1% of the drillholes had any issues, and these were subsequently corrected.

As an additional check, SSR acquired the chip trays for 687 drillholes, pulps from 57 drillholes, and sample rejects from 66 drillholes, of which 5% were reviewed for lithology and alteration. The original logging was deemed accurate and was used to construct the lithological models.

The collar positions of 43 Valmy drillholes were verified using differentially corrected GPS methods. The results showed a maximum variance of 4 m in the X/Y planes (easting and northing) and < 1 m in the Z dimension (elevation). This error-shift is less than half the size of a resource model cell and is not material to any resulting estimate. The Valmy data, as appended, was deemed accurate and precise, and appropriate for resource estimation purposes.

For data collected after April 2014, the following verification steps were completed as part of the generation of the Mineral Resources estimate presented in the Marigold21TRS:

- The location of planned drillholes was compared to the location of as-built drillholes in real time. Regular field checks were completed on drill and sampling systems.
- Downhole survey intervals that encountered major deviations were reviewed and validated (AMEC, 2014).
- Precision and accuracy of laboratory assay results were verified using a QA/QC programme that followed an industry standard protocol using the blind insertion of blanks and certified standards.
- The elevation of all surveyed drillhole collar coordinates was checked against the original/current/depleted topographic surface to identify any variations of more than one metre. No discrepancies were found.
- Profiles of all mined-out pits, backfilled pits and dumps were cross checked, updated annually, and incorporated into the current topography.
- All data, including collars, downhole survey, assays, and lithology, were imported directly into the geological database without any keyboard input. Data validation was conducted before the records were uploaded to the main database.

Three technical issues were identified in the Marigold Mineral Resources database (these issues have since been resolved):

- Drillholes were missing downhole surveys.
- Some samples were only assayed by cyanide soluble analysis and not by FA.

- Assay results for a high percentage of lower grade samples were recorded as 0.0 oz/st gold.

The first two items were described and resolved in the 2014 NI 43-101 Technical Report on the Marigold Mine (19 November 2014).

The third item is described and resolved in Section 9.1.

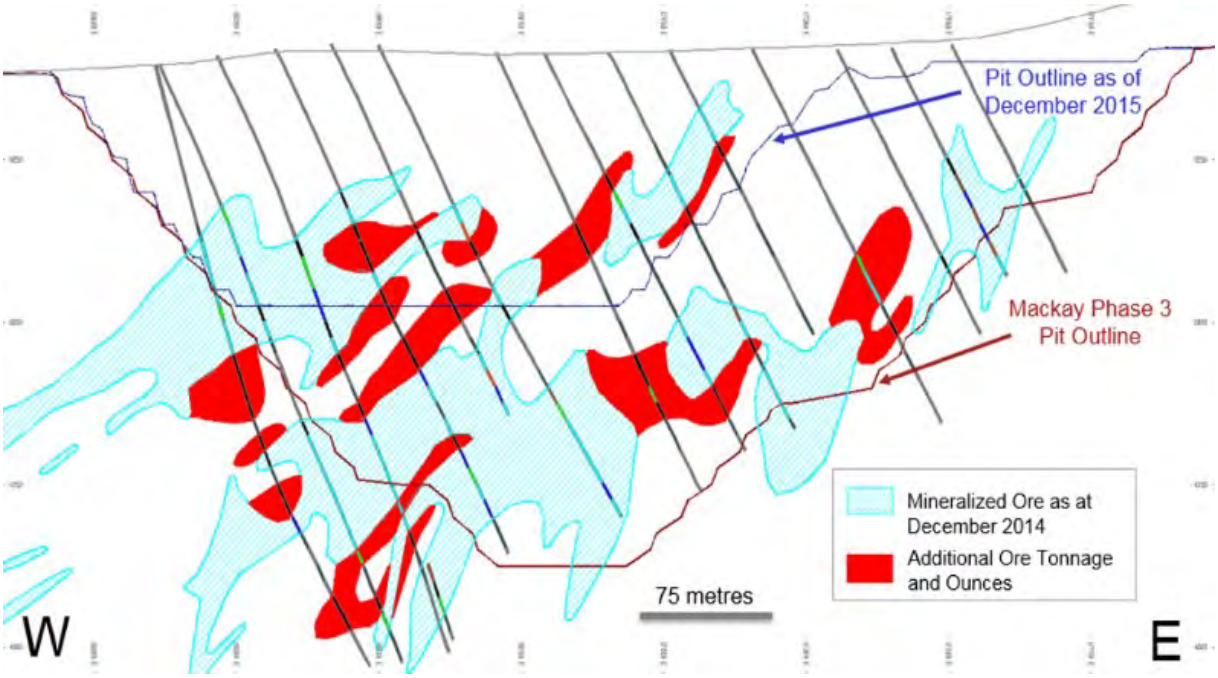
9.1 Marigold Assay Database

As described in the 2014 NI 43-101 Technical Report on the Marigold Mine (19 November 2014), there have been changes in the lower detection limit for cyanide soluble gold assays over time as the ROM cut-off grade has been reduced. Prior to 2009, assay values below detection were entered into the database as 0.0 oz/t. This data artefact was under-representing the mineralised volume of the Mineral Resources estimate at the low-grade range of the analytical distribution and contributing to the positive reconciliation experienced at Marigold.

The issue of below-detection-limit analyses in the database was addressed through a systematic assay programme implemented in 2015 and 2016 (the Assay Programme). A total of 153,023 pulp samples from pre-2009 drillholes reporting a 0.0 oz/st gold cyanide soluble result and located within the reserve pits were recovered from storage and analysed for gold at AAL. Certified standards and blanks were inserted into the pulp sample list at a rate of one standard in 20 samples and one blank in 50 samples. The samples were analysed using a 1 assay ton (30 g) FA with an AA finish, followed by a gold cyanide solution assay with an AA finish for those samples that returned FA results of 0.03 g/t or greater.

The assay programme identified additional mineralised areas, and the incorporation of this lower grade material that had been previously estimated as 0.0 oz/st or deemed as waste, increased the ore tonnage as shown in Figure 9.1.

Figure 9.1 Cross Section Showing the Increase in Tonnage Estimated as Mineralised



SSR, 2018

10 MINERAL PROCESSING AND METALLURGICAL TESTING

Production began at Marigold in 1989, ore was processed primarily with a rod-and-ball-mill grinding circuit with gold recovery by CIL and carbon-in-column circuits.

In March 1990, heap leaching commenced at Marigold. Since April 1999, all Marigold ore deposits have been processed via truck dump ROM heap leaching.

Cumulative gold production from the Marigold leach pad (through December 2021) is equivalent to 71.1% recovery, and total gold recovery, including recoverable gold inventory in the pad, is estimated at 74.2%.

Gold production data from the leach pad provide the best possible indicator for future processing recoveries because all future-placed ore is similar to ore that has been processed since 1999. Gold recovery from future ore is estimated to be 74.7% based on a review of historical assay and recovery data as well as metallurgical testwork on future ore.

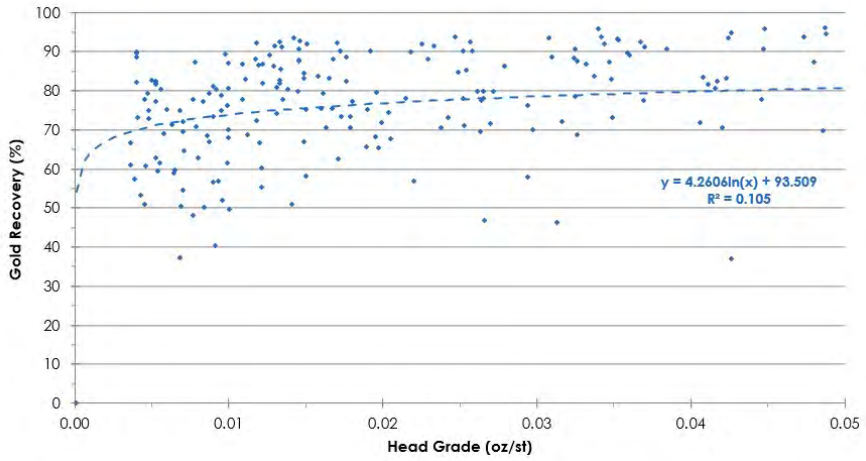
10.1 Metallurgical Testwork

Metallurgical testwork activities include testing methods to improve gold recovery by testing ore samples to guide short and long-range production planning and optimising reagent addition to minimise processing costs.

Metallurgical studies continue to be undertaken on Marigold ore types with respect to heap leach recovery. These studies have been based primarily on both small column (25.4 cm diameter by 1.2 m high, with minus 51 mm ore) and standard bottle roll leach testwork. Testwork has been conducted on a variety of Marigold ores, including representative pit samples taken by ore-control geologists, leach pad grab samples from mine production, and various pit blasthole drill cuttings. Bottle roll testwork has also been conducted on exploration RC drill samples to determine expected gold recovery from deposits that will be mined in the future.

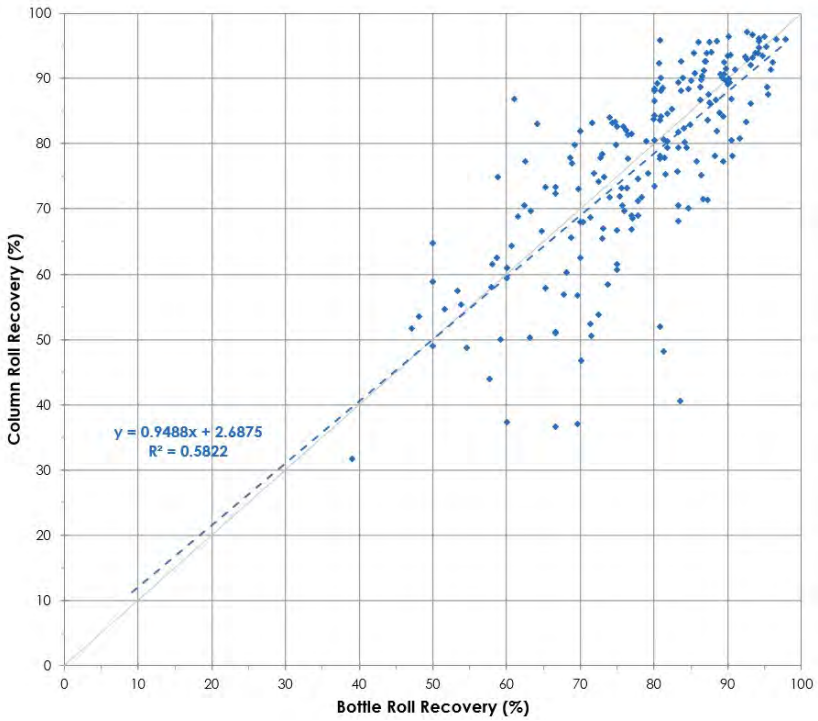
Results of gold recovery versus gold grade for all laboratory column tests are shown in Figure 10.1. In addition to undertaking columns bottle roll tests were also completed on the same samples to develop a trend. The correlation between column and bottle roll tests is good, the relationship is shown in Figure 10.2. The adoption of the bottle roll test enables more metallurgical tests to be undertaken in a shorter time frame, months for columns to days for bottle rolls.

Figure 10.1 Column Test Results – All Marigold Areas



SSR, 2021

Figure 10.2 Bottle Roll vs. Column Recovery – All Marigold Areas



SSR, 2021

10.2 Process Optimisation Metallurgical Testwork

Additional testwork has been carried out as required to optimise the processing variables that are controllable on a large heap leach pad and plant.

These variables include permeability testing undertaken on a number of ore samples with varying clay content. The testing was undertaken on multiple stages to 122 m of compaction. Overall, the blends tested demonstrated relatively consistent permeability on increasing loads. Flow rates for the blends ranged from 178.8–284.2 L/hr/m^2 under no load. Under 122 m effective height loading, flow rates ranged from 34.4 L/hr/m^2 up to 1880.082 L/hr/m^2. All tests resulted in low, but acceptable permeabilities.

10.3 Gold Recovery Modelling

Marigold uses two assay methods: fire assay that measures the total gold in a sample and a second method known as 'cyanide soluble gold'. This technique generates a value that represents the head grade of the ore in terms of the amount of gold in a finely ground sample that can be dissolved by a strong sodium cyanide solution, or the maximum cyanide soluble gold content.

All Marigold blasthole samples are assayed for cyanide soluble gold. Samples from each ore polygon delineated by ore control are selected for fire assay based on the grade distribution for the polygon tonnage and targeting one sample per every 2,000 short tons of ore. Therefore, some samples have two assay values: an AuCN (cyanide soluble) value; and an AuFA (fire assayed) value. The ratio of AuCN / AuFA provides the theoretical maximum gold recovery that can be achieved.

For example, if the AuFA ore grade is 0.10 g/t, and the AuCN ore grade is 0.08 g/t, the ratio is 0.008/0.010 = 0.80. This indicates that the maximum gold recovery from this ore sample is 80%. A ratio greater than 1.0 (100%) is impossible.

Testwork has demonstrated that, generally, all ore at Marigold behaves similarly. The ratio of AuCN / AuFA is an important characteristic of each ore block.

The most recent assessment of the predicted recovery for Marigold ore was conducted in 2017. The 2017 exploration database contains approximately 155,000 pairs of fire assays (field AUFA in the database) and cyanide soluble assays (field AUAA in the database). These assay pairs represent all the mine ore types. On an individual ore block basis, the ratio AuCN / AuFA includes all the local geological variables for that ore block (rock type, degree of oxidation, head grade, etc.). The result is the best estimate of maximum recovery. Figure 10.3 shows AuFA plotted against AuCN for all data pairs.

A best-fit linear regression shows the AuCN / AuFA ratio is 0.8037:1 (~80% recovery).

The LOM actual leach pad recovery is 74% (including in-process gold inventory through December 2021).

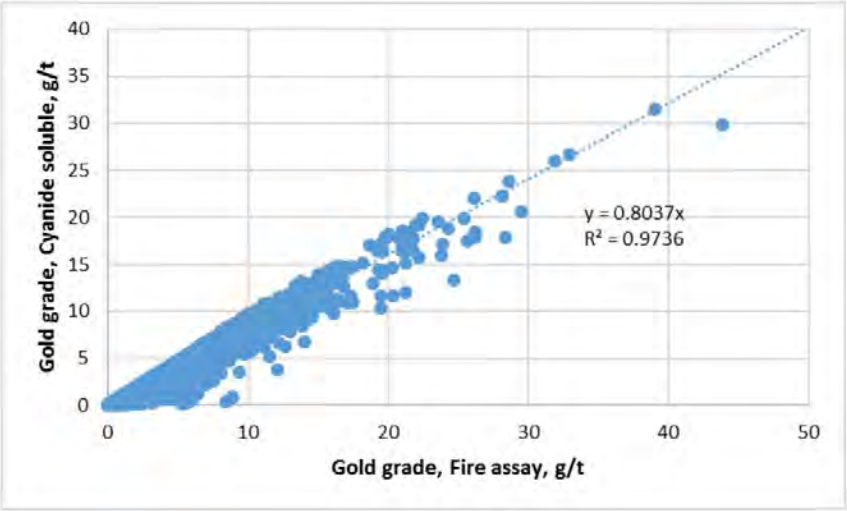
An adjustment factor can be calculated using the chemical maximum AuCN / AuFA recovery and the actual pad recovery:

Actual: 74% / Chemical: 80% = 0.92

Therefore, the estimated recovery from the ROM heap leach can be expressed as:

Heap Leach Recovery = AuCN / AuFA x 0.92

Figure 10.3 Exploration Database (2017) AuCN vs. AuFA – All Data



SSR, 2018

10.4 Summary and Recommendations

Marigold ore types behave metallurgically very similarly based on testwork and operating performance. To predict future gold recovery it is recommended that the following studies and work be undertaken:

- Assessment of the AuCN : AuFA ratio be undertaken regularly using updated exploration and blast hole data.
- Ongoing column and bottle roll metallurgical test on heap leach feed composites to determine maximum possible gold recovery
- Metallurgical testwork on any future ore sources to develop geometallurgical properties and parameters.
- Further studies and assessment of heap leach recoverable Au inventory.

11 MINERAL RESOURCE ESTIMATES

11.1 Introduction

SSR has prepared the Mineral Resources estimate for Marigold effective as at 31 December 2021. The Mineral Resources estimate is based on all available data for Marigold as of 31 December 2021.

Mineral Resources are reported exclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.

11.2 Drillhole Database

The digital drillhole database used for this estimate contains a total of 9,066 drillholes with a total length of 1,865,818 m. (SSR uses geoXpedite, a commercially available geology database management system.)

The drillhole database includes collar coordinates, downhole surveys, assays, rock types and oxidation details in separate tables. The database included all the gold assays from the Assay Programme and all the data from the Valmy property purchased from Newmont. All relevant validation checks were conducted while importing the data into the database. Fire-assay equivalent and cyanide-assay equivalent gold values were calculated, as discussed in Section 9.1, after importing the comma delimited format files into MineSight. Once imported, the database was checked for errors using the validation tools available in MineSight.

11.3 Domains

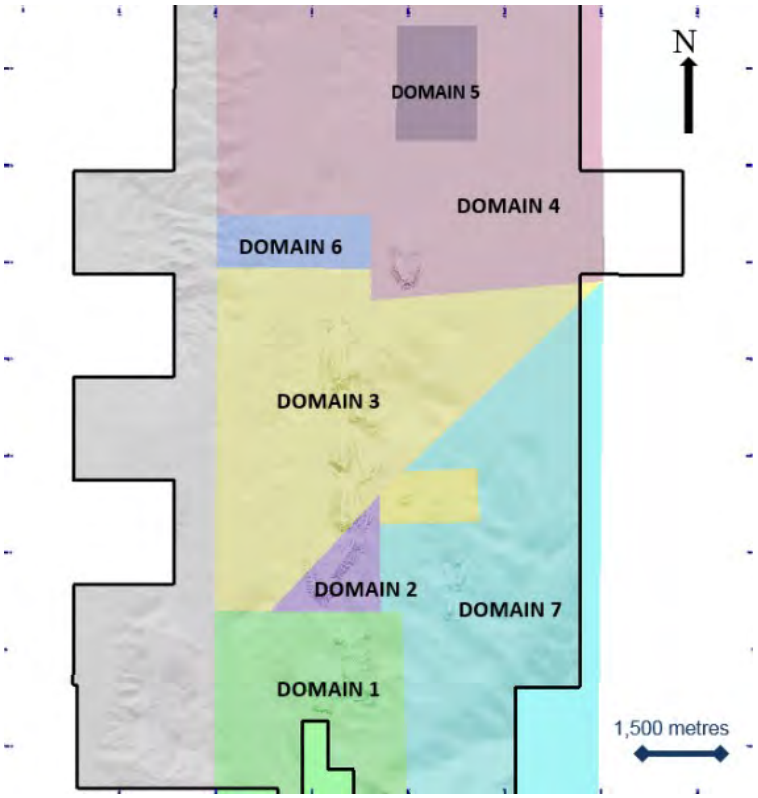
The gold mineralisation at Marigold is closely associated with the intersection of high-angle fault structures and favourable horizons that intersect these structures. Favourable host rocks in the Antler Sequence are the debris flow horizon in the Edna Mountain Formation, the interbedded limestone/sandstone/siltstone and conglomerate in the Antler Peak Formation, and the conglomerate in the Battle Formation. Favourable host rocks in the Valmy Formation are quartzite and interbedded quartzite-argillite.

The Marigold deposit is divided into seven broad domains based on: orientation of the mineralising structures; density of structures; orientation of the mineralised zones; and grade distribution.

Figure 11.1 shows the following seven broad domain areas, which include the following:

- DOMAIN 1 Basalt and Antler pit areas
- DOMAIN 2 Target
- DOMAIN 3 Mackay (HideOut, East Hill, Herco North)
- DOMAIN 4 Mackay North (8Sx, 8S, 8N)
- DOMAIN 5 5N/5NE
- DOMAIN 6 TZN
- DOMAIN 7 Valmy pit

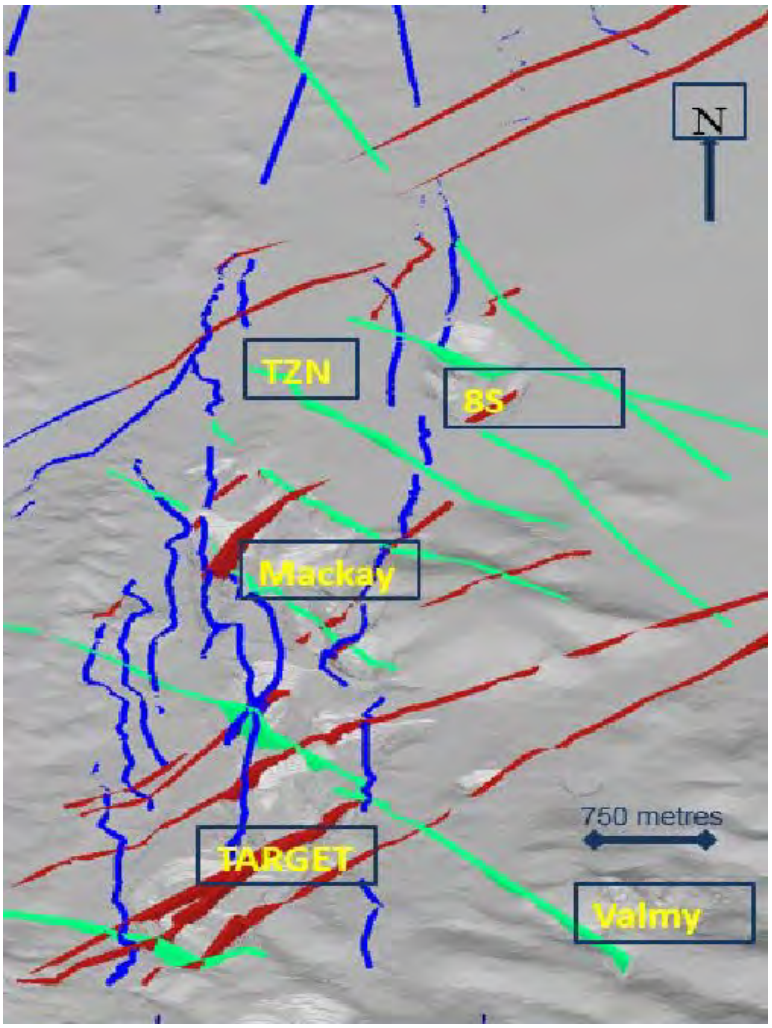
Figure 11.1 Location of the Seven Major Domains over Depleted Topography as at 31 December 2017



SSR, 2018

Geological mapping and drillhole data were used to identify the major structural orientations that control the distribution of mineralisation at Marigold. These structural orientations trend north–south, north-east and north-west and are shown on Figure 11.2.

Figure 11.2 Oblique Plan View Showing the Major Structures

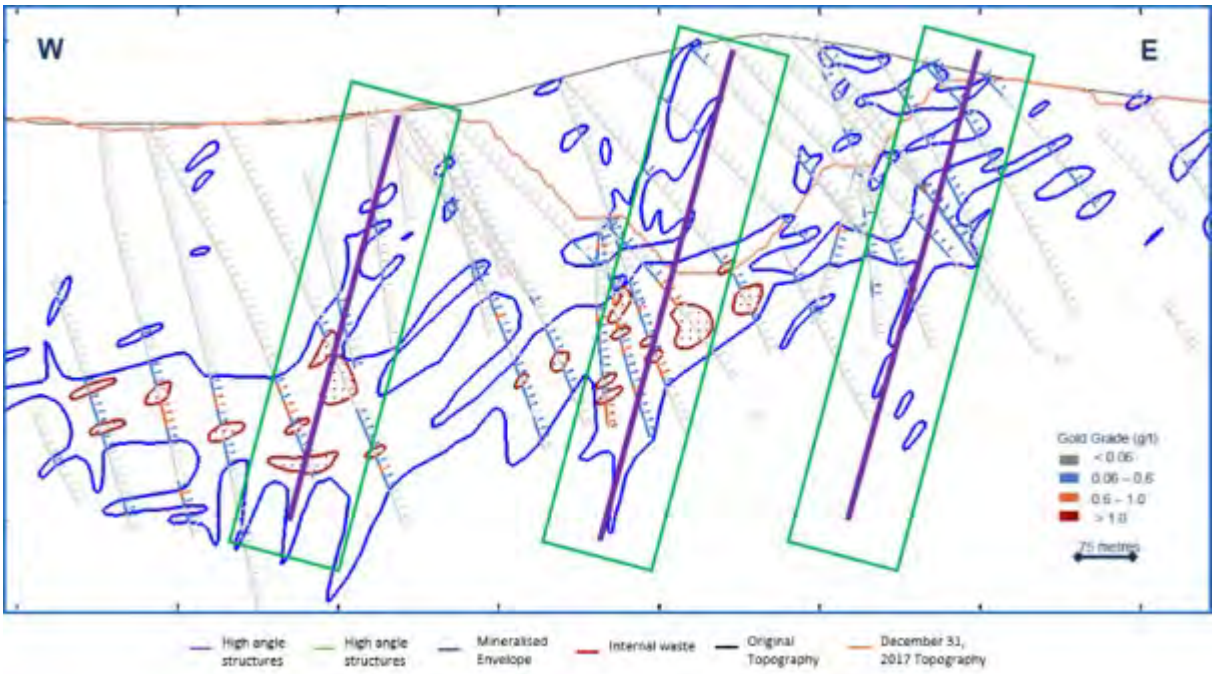


NS (blue), NE (green) and NW (red) with respect to pit locations
SSR, 2018

An envelope of 30 m around the high-angle structures was developed around the interpreted structures to represent the high-angle domains. Figure 11.3 shows a typical cross section with interpreted structures and high-angle domain envelopes.

The first drill intersection of the formational contact and the interpreted structural data were used to generate the bottom surface for Alluvium, the bottom of Havallah Formation, the top of Antler Sequence and the top of the Valmy Formation. The Antler and Valmy Formations are considered two different formational domains for the exploratory data analysis and grade estimation process.

Figure 11.3 Typical East–West Cross Section Along 10,300 N



SSR, 2018

The base of the oxidised and transition zones was interpreted with respect to geological logging and analytical data.

11.4 Geological Interpretation

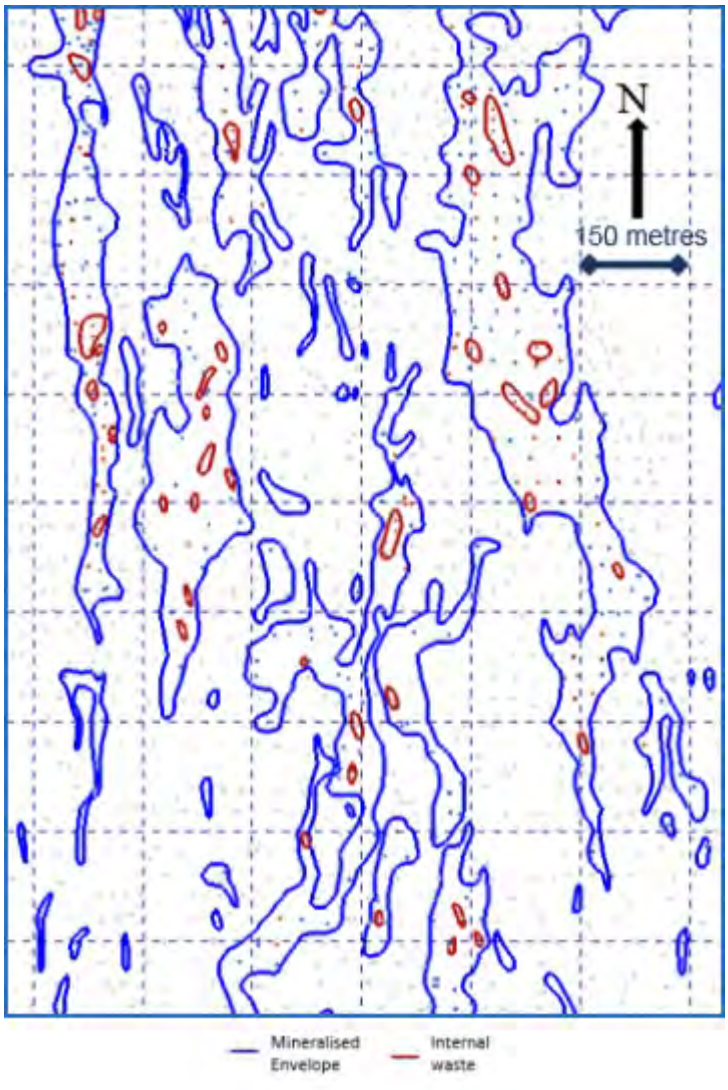
Geological interpretations of structures and rock types were initially conducted on east–west cross sections every 30 m, with select north–south long sections and oblique sections as part of the iterative process.

Mineralised envelopes were delineated using a breakeven cut-off greater than or equal to 0.1 g/t bench (7.6 m) composite gold values in cross sections (east–west) 30 m apart with a clipping of 15 m on either side. Bench composites were used to define the ore zones instead of mineralised drillhole widths because selective mining is not considered an option. The addition of the lower grade gold values from the assay programme expanded the mineralised envelopes. The mineralised envelopes define the ore zones within which the gold grades were estimated. All known and interpreted structures were considered when the mineralised envelopes were generated.

The internal waste was delineated within the mineralised envelopes wherever possible. In the previous estimates, the internal waste envelopes were defined by connecting these intervals between drillholes on sections and into the preceding and succeeding sections. Based on the large positive tonnage reconciliation and grade control information gathered over the previous 3–4 year period, no effort was made to connect these intervals unless there was a continuity on the preceding and succeeding cross sections. The internal waste was defined as small envelopes encompassing composites that were less than 0.1 g/t Au inside the mineralised envelope. A typical cross section is shown in Figure 11.3.

The complex nature of the mineralised envelopes made it impractical to create 3D wireframes. The mineralised and waste envelopes from the cross sections were sliced at 7.6 m bench plans and were used to define the mineralised envelopes on each bench. The mineralised envelopes from the bench plans were reviewed and verified on cross section in an iterative process and any volume discrepancies were corrected on plans and sections. A typical bench plan is shown in Figure 11.4.

Figure 11.4 Typical Bench Plan (level=5000)



SSR, 2018

11.5 Exploratory Data Analysis

Exploratory data analysis (EDA) was conducted to:

- Understand the gold distribution and recognise any systematic spatial variation of gold grade with respect to major structures and rock units;

- Identify distinctive geologic domains that should be evaluated independently in the resource estimation;
- Identify any data and analytical errors not identified in the data verification process; and
- Improve the quality of the estimation by understanding the classical statistics of the dataset.

The EDA process involved visual inspection of the raw assay data to establish structural and mineralisation trends. Bench composites (7.6 m) were created to match mining selectivity; these composites were reviewed, and those composites within the mineralised envelopes were flagged by domain using the following criteria:

- Location – Basalt and Antler Pits, Target II, Mackay, Mackay North 1, Mackay North 2, 5N/5NE and Valmy pits;
- Formation – Antler, Valmy; and
- Structural domain – high-angle or low-angle domain.

There are 31,971 bench composites flagged within the mineralised envelopes. Table 11.1 provides the basic statistics for gold grades by domain.

Table 11.1 Basic Au g/t Statistics of 7.6 m Bench Composites within the Mineralised Envelopes by Domain

Domain Location	Formation	Structural Domain	Statistic (Au g/t)					
			No. of Samples	Min.	Max.	Mean	Std Dev	CV
Basalt	Antler	Low Angle	1,398	0	5.64	0.4	0.44	1.1097
	Valmy		4,934	0	13.03	0.63	0.94	1.4921
Target II	Antler	Low Angle	550	0	3.22	0.27	0.31	1.1481
		High Angle	978	0	5.72	0.37	0.38	1.0401
	Valmy	Low Angle	1,047	0	3.97	0.29	0.33	1.1221
		High Angle	1,610	0	4.03	0.34	0.35	1.0294
Mackay	Antler	Low Angle	3,716	0	8.85	0.38	0.57	1.5173
		High Angle	1,089	0	9.04	0.48	0.69	1.3854
	Valmy	Low Angle	13,189	0	21.84	0.43	0.71	1.657
		High Angle	9,196	0	15.8	0.45	0.79	1.779
TZN	Antler	Low Angle	157	0.08	0.62	0.19	0.11	0.6079
	Valmy		1,222	0	9.74	0.56	0.85	1.528
Mackay North (8S, 8Sx, 8N)	Antler	Low Angle	2,116	0	86.62	1.04	2.53	2.4393
	Valmy		166	0	1.59	0.31	0.28	0.9284
5N/5NE	Antler	Low Angle	387	0	7.51	0.65	0.94	1.449
	Valmy		23	0.09	0.91	0.24	0.19	0.7753
Valmy	Valmy	Low Angle	2,936	0	7.65	0.45	0.62	1.3895

11.5.1 Outlier Restriction

Bench composites were examined for the presence of local high-grade outliers, which are closely associated with the high-angle structures and favourable rock types. The high-grade outliers were restricted to a certain grade and distance during the grade interpolation process instead of being capped to a specific grade value (see Table 11.2).

Table 11.2 Outlier Restriction Values and Distance for Various Domains

Domain Location	Formation	Structural Domain	Outlier Range (m)	Outlier Au (g/t)
Basalt	Antler	Low Angle	15.2	2.23
	Valmy		22.9	4.11
Target II	Antler	Low Angle	15.2	1.71
		High Angle	15.2	1.37
	Valmy	Low Angle	22.9	2.06
		High Angle	22.9	2.40
Mackay	Antler	Low Angle	15.2	2.75
		High Angle	15.2	2.05
	Valmy	Low Angle	22.9	5.14
		High Angle	22.9	6.20
Mackay North (8S, 8Sx, 8N)	Antler	Low Angle	15.2	8.57
	Valmy		15.2	2.06
5N/5NE	Antler	Low Angle	15.2	3.60
	Valmy		15.2	3.60
TZN	Antler	Low Angle	15.2	3.43
	Valmy		15.2	3.43
Valmy	Valmy	Low Angle	15.2	2.74

11.6 Material Density

There has been no change to the methodology used to assign density to different formations described in the 2014 NI 43-101 Technical Report.

The density used in the cell model at depth (from original topographic surface) for different material is summarised in Table 11.3.

Table 11.3 Summary of Density for Different Material

Material	Depth (m)	Density
Alluvium/Backfill	>0.00	2.10
Havallah	>0.00	2.48
Valmy/Antler	0.0–533	y=2.4076+(0.0001*DEPTH)
Valmy	>533	2.64

11.7 Variograms

Correlograms were used in this estimation of Mineral Resources as a tool to describe the pattern of spatial continuity or strength of the spatial similarity of a variable with separation distance and direction. A correlogram measures the correlation between data values as a function of their separation distance and direction. Correlograms were generated using the domain coded composite data using SAGE2001 software (Isaaks & Co.). Structural information from mapping and interpreted structures from the orientation of gold grades were used as a guide to select the along-strike, across-strike, and along-dip directions.

The correlogram was completed for different domains, and the parameters are shown in Table 11.4.

Table 11.4 Correlogram Parameters Used to Estimate Different Domains

Domain Location	Structural Domain	First Structure			Second Structure			Direction/Dip			Nugget		
		X	Y	Z	X	Y	Z	X	Y	Z	C0	C1	C2
Basalt	Low Angle	77	22	8	90	71	265	261/31	169/3	74/59	0.269	0.47	0.26
Mackay and Target II	High Angle	21	96	11	41	263	176	232/7	322/–2	275/20	0.315	0.44	0.25
	Low Angle	9	15	18	83	290	187	102/–77	348/–5	77/12	0.246	0.54	0.22
Mackay North (8S, 8Sx, 8N) and 5N/5NE	Low Angle	15	112	33	54	235	274	81/76	55/–13	327/6	0.181	0.573	0.246
TZN	Low Angle	47	24	11	93	235	56	292/71	92/18	4/–6	0.279	0.378	0.343
Valmy	Low Angle	27	26	7	169	312	30	70/20	355/15	285/15	0.15	0.55	0.3

11.8 Cell Model and Grade Estimation

The Mineral Resource cell model was created using MineSight v15.80-3. The model extents and the cell sizes are summarised in Table 11.5.

Table 11.5 Cell Model Limits

Item	Minimum*	Maximum*	Extent*	Cell Size* (ft)	Number of Cells
Eastings	–3000	29000	32000	20	1,600
Northings	–8000	34000	32000	25	1,680
Elevation	3000	8500	32000	25	220

* Expressed in Imperial units

The cell dimension was selected based on drillhole spacing; approximately one-third of the drill spacing and cell heights match the future mine bench heights. The model attributes are shown in Table 11.6.

Table 11.6 Model Attributes

Field	Description
TOPO	Percentage of cell below the 31 December 2021 topography
ORE	Ore or waste cells: Ore=1, Waste = 10
ORE%	Percentage of ore within the cell
AUNN	Gold value for NN model
AUKR	Gold value for kriged estimate
AUPAY	Gold value for payable gold grade
CAT	Resource category: Indicated=2, Inferred=3
SDOM1	Low/high-angle structural domain: low angle=2, high angle=5
SDOM2	Low/high-grade domain: low-grade block=2, high-grade block=1
SDOM3	Location: Basalt=1, Target=2, Mackay=3, Hercules=4, 5N/5NE=5
RCODE	Formation/rock unit: Alluvium=1, Havallah=2, Antler=3, Valmy=4, Backfill/dump=6
REDOX	Oxidation state: Oxides=1, Transitional=2, Sulfides=3
TCF	Tonnage conversion factor
ROYL	Royalty
REC	Recovery

The histograms of the composites within the mineralised envelopes for the various domains were generated. These histograms indicated a skewed distribution, with approximately 20% of the bench composites grades for all the domains with a gold grade below 0.1 g/t, indicating internal dilution. The limits of gold mineralisation within the mineralised envelopes are difficult to interpret manually with these lower grade ranges. A probabilistic approach is required to identify the higher grade and lower grade cells to avoid overestimation of tonnages and smearing of higher grades into lower grade cells. The chosen method used indicators that set a value of one to each bench composite that had a gold value greater than or equal to 0.14 g/t Au and a value of zero to composites less than 0.14 g/t Au. The values between zero and one were then estimated into the model cells using ordinary kriging.

The distribution of the indicator estimates (values between zero and one) was compared to the frequency distribution of the nearest neighbour grade model to determine the probability (percentage) that a cell has a grade of 0.14 g/t or higher (high-grade domain). The percentages are different in different domains and show a close continuity to the composites and NN model. The probability thresholds as percentages used in different domains are shown in Table 11.7.

Table 11.7 Probability Percentages for Cells Au>0.14 g/t

Domain	Probability (%)
Basalt	65
Target II	58
Mackay	38
Mackay North 2 (8S, 8Sx, 8N)	64
5N/5NE	60
Mackay North 1 (TZN)	48
Valmy	36

Before the cells were estimated, the cell model was tagged for the following:

- The depleted pre-mining topography as of 31 December 2017 was used to tag the percentage (TOPO) of in-situ material followed by 31 December 2017 surface topography to incorporate all the dumps and backfills;
- The ore and waste envelopes developed on bench plans were used to tag the ore material /internal waste (ORE) and percentage of ore material (ORE%) in each cell;
- The rock type/formation surfaces were used to tag the RCODE variable in the cell model;
- The surface developed for the top of the transitional zone and fresh material was used to tag the REDOX variable in the model;
- The structural domain (SDOM1) was tagged using the high-angle structural envelopes; and
- The grade domain (SDOM2) was tagged using probability percentages.

The composites were back-tagged using the cell model for the different domains and attributes described here.

The cells were then estimated for gold using ordinary kriging in 90 separate calculations.

HideOut and 8Sx mineral centres identified in 2014 and 2015 are located below the historical waste dumps. The material in these dumps was mined during the late 1990s and early 2000s when cut-off grades were higher than the current cut-off grades. While drilling these mineral centres, the samples from these waste dumps were also assayed for gold. A majority of these samples returned gold values higher than our current cut-off grade.

To confirm the grades, a total of 37 sonic drillholes were drilled in 2016. These drillholes confirmed the gold grades in the dumps or mineralised stockpiles. A total of 372 holes drilled between 2010 and 2017 in the waste dumps was considered for this estimation. This stockpile was demarcated using the original and current topography. The samples within these surfaces were selected and bench composited to 7.6 m. The cells were then estimated for gold using inverse distance cubed (ID3) in two separate calculations. The search parameters used to estimate the cells within the stockpile are shown in Table 11.8.

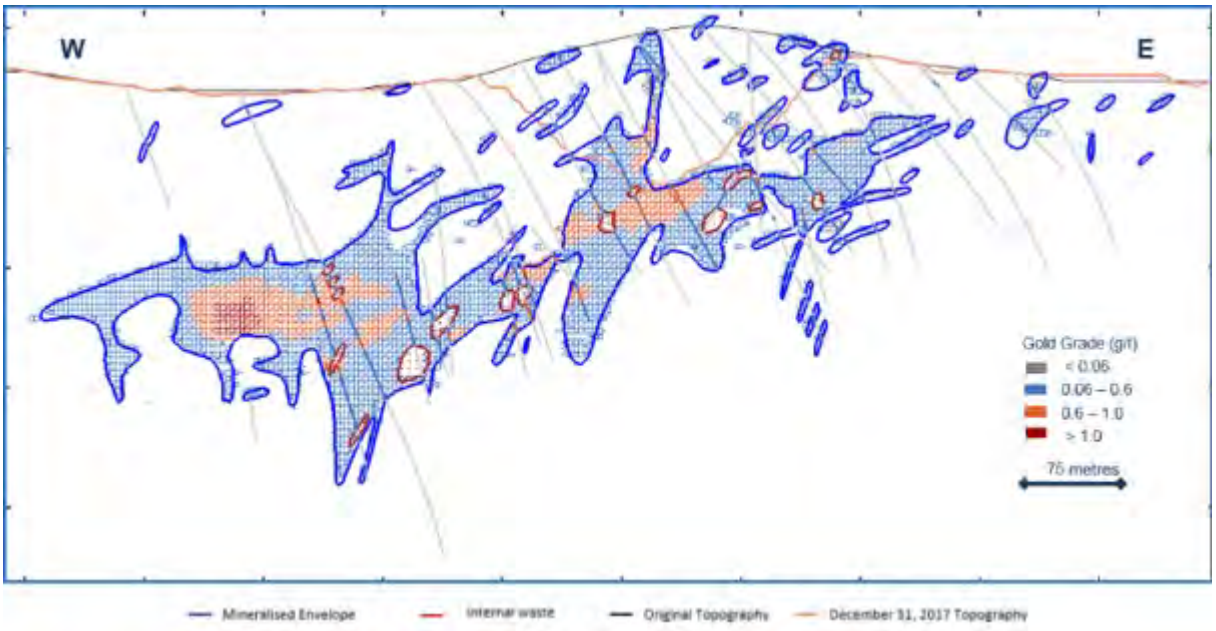
Table 11.8 Estimation Parameters for Mineralised Stockpiles

Domain	Min No. of Composites	Max No. of Composites	Outlier Range (m)	Outlier Au (g/t)	Search Ellipsoid Distance and Orientation						
					X Search (m)	Y Search (m)	Z Search (m)	Max Search (m)	Z Axis	X Axis	Y Axis
Mineralised Stockpile	1	8	12.2	0.342	150	150	15	150	0	0	0
	3	8	12.2	0.342	91	91	15	91	0	0	0

11.9 Model Validation

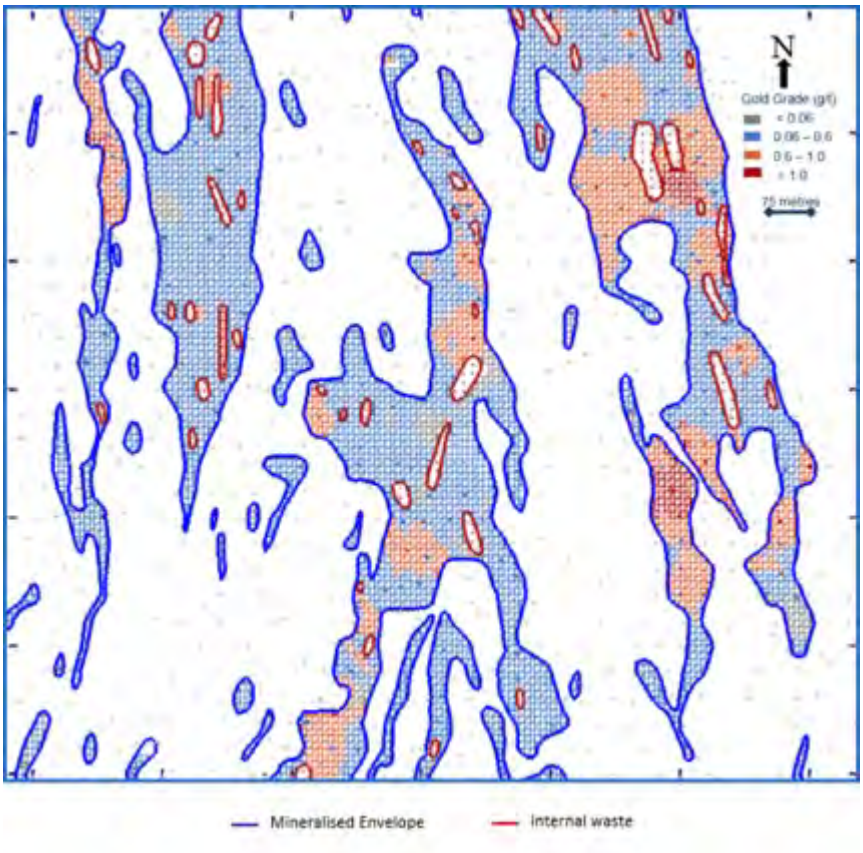
The cell model was validated both visually and statistically. Visual validation compares the composites and the estimated model grades in both plan and section. Plans and sections were also checked for smearing of grades across stacked ore/mineralised zones, and no smearing was identified. This validates the kriging parameters used to estimate the cells. A typical cross section and plan with estimated grades are shown in Figure 11.5 and Figure 11.6, respectively.

Figure 11.5 Typical East–West Cross Section Along 10,400N Looking North, with Estimated Cell Grades Au g/t



SSR, 2018

Figure 11.6 Typical Plan 4950 Elevation, with Estimated Whole Cell Grades Au g/t

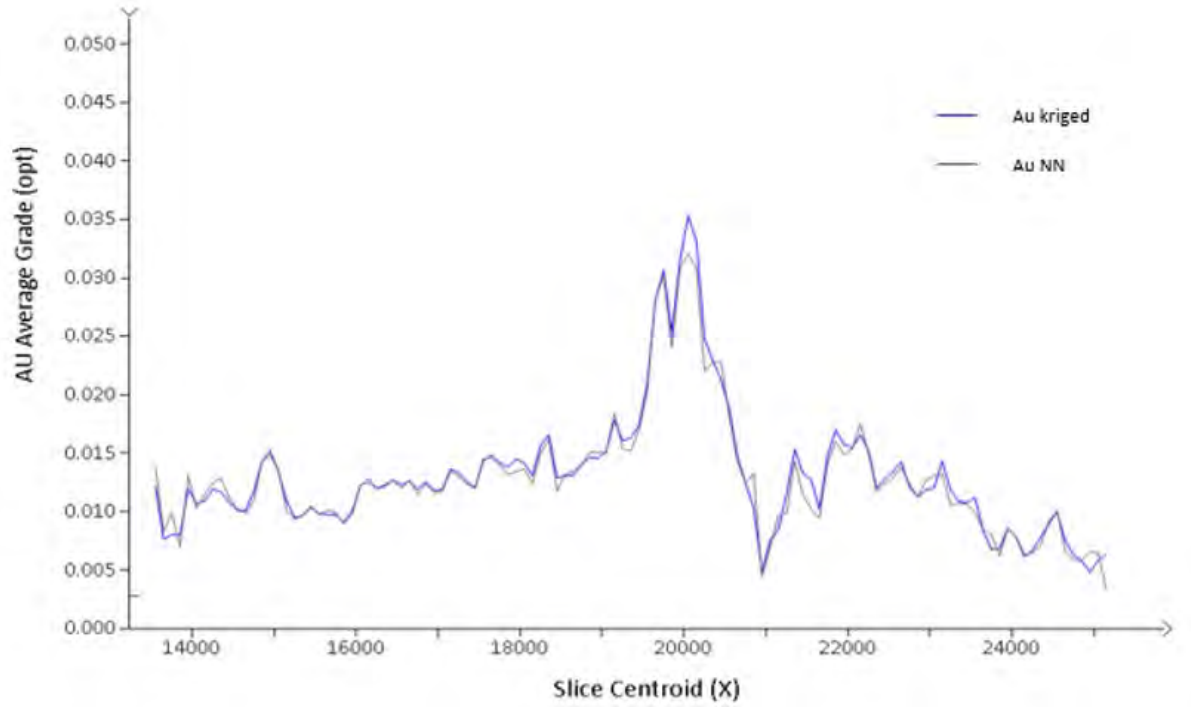


SSR, 2018

Checks for global bias were conducted on a domain basis, and the relative percent differences of the kriged mean gold grades were checked against the nearest neighbour estimates; the difference was less than ±5%.

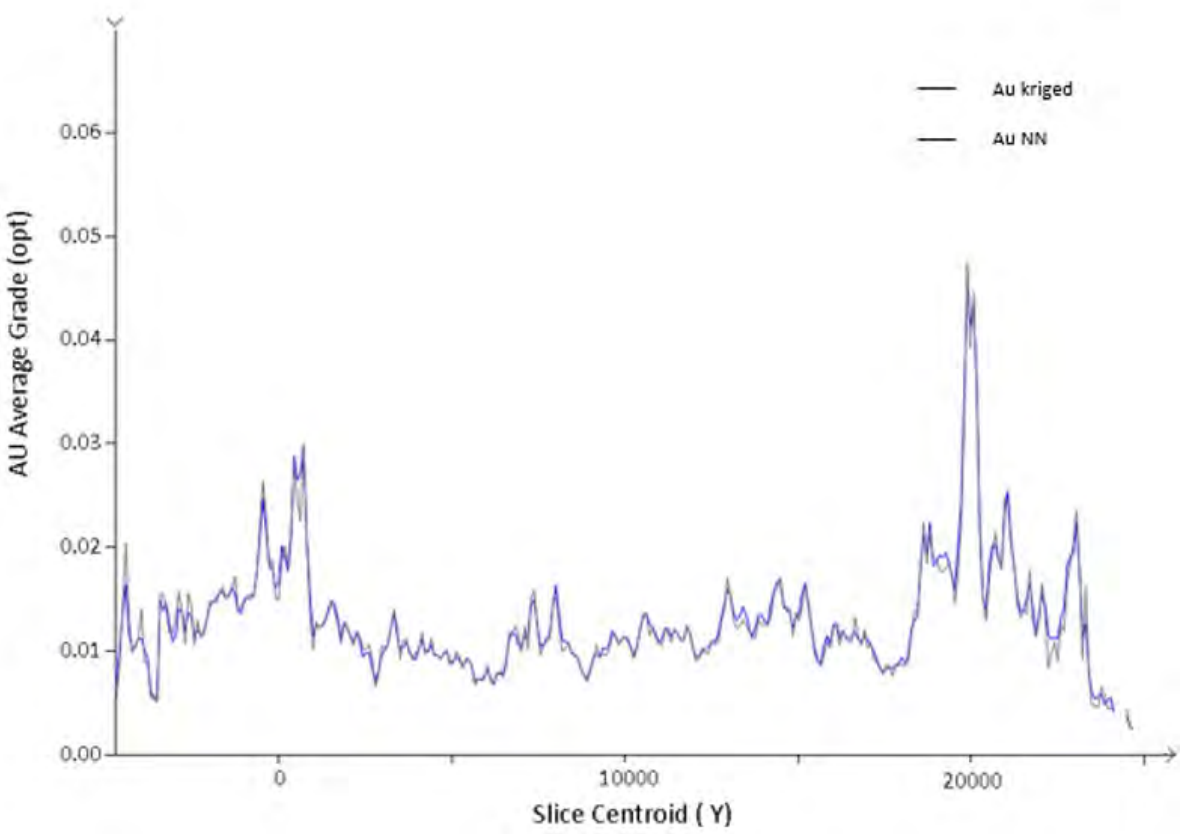
Swath plots were generated to compare the nearest neighbour gold grades and the kriged gold grades. These plots shown on Figure 11.7, Figure 11.8, and Figure 11.9 demonstrate good correlation.

Figure 11.7 Swath Plot Along Eastings



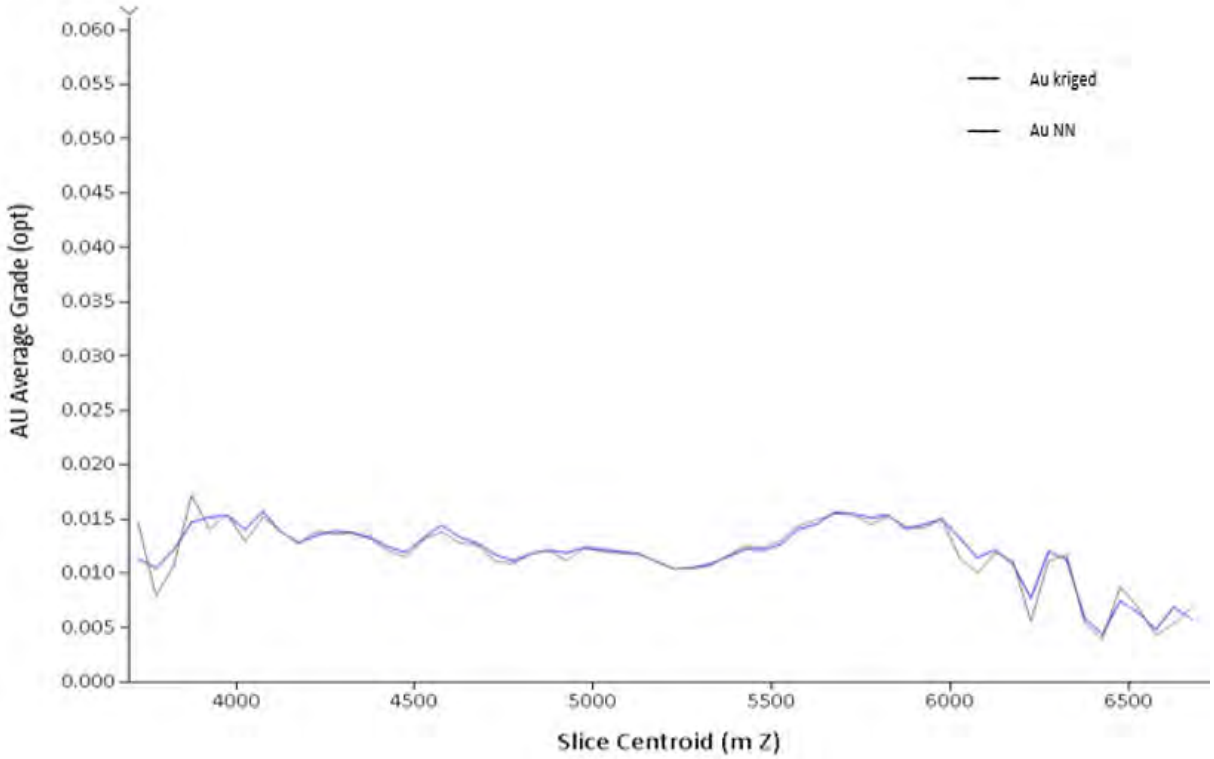
opt = ounces per short ton
Au NN is nearest neighbour estimates; Au Kriged is ordinary kriged estimates
SSR, 2021

Figure 11.8 Swath Plot Along Northings



opt = ounces per short ton
Au NN is nearest neighbour estimates; Au Kriged is ordinary kriged estimates
SSR, 2021

Figure 11.9 Swath Plot Along Elevation



opt = ounces per short ton
Au NN is nearest neighbour estimates; Au Kriged is ordinary kriged estimates
SSR, 2021

11.10 Resource Classification

There has been no change to the Mineral Resource classification methodology that was described in the most-recent NI 43-101 Technical Report on the Marigold Mine (SSRTR18).

The model cells were classified as Inferred or Indicated based on the parameters in Table 11.9. The sample spacing and the nature of the mineralisation do not warrant classification of any resources in the Measured category.

Table 11.9 Resource Classification Parameters

Category	Minimum Composites	Distance to First Composite (m)	Distance to Second Composite (m)
Indicated (CAT=2)	2	36	50
Inferred (CAT=3)	1	78	–

Two resource classification envelopes/polygons were used to classify the Mineral Resources within the mineralised stockpiles. One polygon was digitised based on a distance of 30 m from the exterior composite for Indicated resources and at a distance of 50 m for Inferred Mineral Resources.

11.10.1 Ore Reconciliation

Reconciliation between resource model estimates and mined production is the most effective means of validating a cell model estimate.

Production since the acquisition of Marigold by SSR has been mainly in Mackay Phase 1 and Mackay Phase 3. Mining is currently underway in Mackay Phase 2 and Mackay Phase 5. The reconciliation for these phases is presented in Table 11.10.

Table 11.10 Ore Reconciliation for the Period Between 2018 and 2021

Item	Tonnage (Mt)	Gold Grade (g/t)	Contained Gold (Moz)
Actual mined	97.4	0.39	1.22
Resource model	94.5	0.41	1.23
Difference	2.95	–0.02	0.01
% Difference	3%	–4%	–1%

Reconciliation between the Mineral Resources model and the grade control model is reasonable. This demonstrates that the Mineral Resources model is able to adequately predict the tonnages and grades for the previous four-year period and can be used to estimate Mineral Reserves.

11.11 Mineral Resources

Mineral Resources for Marigold were calculated based on an optimised pit at a payable gold grade of 0.065 g/t (Au assay factored for recovery, royalty and net proceeds per cell) using an assumed gold price of $1,750/oz.

By definition, the estimation of Mineral Resources has considered environmental, permitting, legal, title, taxation, mining, metallurgical, infrastructure, socio-economic, marketing and political factors and other constraints, as discussed in various sections of the Marigold21TRS.

SSR is unaware of any current environmental, permitting, legal, title, taxation, socio- economic, marketing, political, or other relevant factors that could materially affect the Mineral Resources estimate (exclusive of Mineral Reserves) as at 31 December 2021 presented in Table 11.11.

Table 11.11 Summary of Marigold Mineral Resources Estimate Exclusive of Mineral Reserves (as at 31 December 2021) Based on $1,750/oz Gold Price

	Mineral Resources							
	Measured		Indicated		Measured + Indicated		Inferred	
	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)
Marigold	–	–	115.3	0.43	115.3	0.43	21.8	0.36
Total	–	–	115.3	0.43	115.3	0.43	21.8	0.36

1. The Mineral Resource estimate was prepared in accordance with S-K 1300.
2. The Mineral Resource estimate is based on an optimised pit shell at a cut-off grade of 0.065 g/t payable gold (gold assay factored for recovery, royalty, and net proceeds), with a gold price assumption of $1,750/oz.
3. The Mineral Resources estimate is reported below the as-mined surface as at 31 December 2021 and is exclusive of Mineral Reserves.
4. The point of reference for Mineral Resources is the entry to the carbon columns in the processing facility.
5. Metallurgical recoveries used are, on average, 67% for gold.
6. Mineral Resources are reported exclusive of Mineral Reserves.

7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

Table 11.12 Details of Marigold Mineral Resources Estimate Exclusive of Mineral Reserves (as at 31 December 2021) Based on $1,750/oz Gold Price

Mineral Resources	Tonnage (Mt)	Au Grade (g/t)	Cut-off Grade (Au g/t)	Metallurgical Recovery (%)
Measured	–	–	–	–
Indicated	115.3	0.43	0.065	66%
Measured + Indicated	115.3	0.43	0.065	66%
Inferred	21.8	0.36	0.065	75%

1. The Mineral Resource estimate was prepared in accordance with S-K 1300.
2. The Mineral Resource estimate is based on an optimised pit shell at a cut-off grade of 0.065 g/t payable gold (gold assay factored for recovery, royalty, and net proceeds), with a gold price assumption of $1,750/oz.
3. The Mineral Resources estimate is reported below the as-mined surface as at 31 December 2021 and is exclusive of Mineral Reserves.
4. The point of reference for Mineral Resources is the entry to the carbon columns in the processing facility.
5. Metallurgical recoveries used are, on average, 67% for gold.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

11.12 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Resources reported in the Marigold21TRS are suitable for reporting as Mineral Resources using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

12 MINERAL RESERVE ESTIMATES

This section describes the methodology and parameters used to estimate the Mineral Reserves for Marigold. The Mineral Reserves estimate as of 31 December 2021 considers all information used in the Mineral Resources estimate as at 31 December 2021 presented in Section 11.

Lerchs-Grossman pit optimisations were run on the Mineral Resources cell model at a range of gold prices.

The ultimate pits and subsequent phase designs were developed from the $1,350/oz optimisation runs. Inter-ramp angles are 37° in mined fill and range between 47° and 49° in rock. The gold price assumption was based on an internal assessment of recent market prices, long-term forward curve prices, and consensus among analysts regarding price estimates.

Mining costs are based on historical values and budgeted costs that include an incremental haulage component using estimated haul cycle times and pit depths. Processing and general and administrative (G&A) costs were estimated based on historical values and budgeted costs. Estimated sustaining capital costs, royalties, severance taxes, and reclamation costs were also included in the optimisation costs.

The Mineral Reserves estimate for Marigold was calculated using the as-mined surface at 31 December 2021 with the following assumptions and parameters:

- The reserve classification converts Indicated Mineral Resources to Probable Mineral Reserves within the pit design. There is no Measured Resources category in the Mineral Resources model, and Inferred Mineral Resources are not considered ore when calculating the Mineral Reserves;
- The mining recovery is 100% within the pit design;
- The Mineral Resources were not diluted (see Section 11 for reconciliation data). Internal dilution included in the Mineral Resource estimate is considered adequate;
- The Mineral Reserves estimate assumes that mining operations will continue to use the current Marigold mining methods, as described in Section 13; and
- The estimated cut-off grade was 0.0019 oz/st payable Au or 0.065 g/t payable Au (Au assay factored for recovery, royalty and net proceeds).

SSR is unaware of any current environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Reserves estimate as at 31 December 2021 presented in Table 12.1.

12.1 Mineral Reserves Estimate

Mineral Reserves have been classified in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300). The Mineral Reserves estimate is summarised in Table 12.1 and Table 12.2.

Table 12.1 Summary of Marigold Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Marigold	Mineral Reserves						
	Proven		Probable		Total		
	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (koz)
In Situ	–	–	203.8	0.48	203.8	0.48	3,173
Leach Pad							237
Total	–	–	203.8	0.48	203.8	0.48	3,410

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,350 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 0.065 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. The point of reference for Mineral Reserves is the entry to the carbon columns in the processing facility.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 12.2 Details of Marigold Mineral Reserves Estimate (as at 31 December 2021) Based on $1,350/oz Gold Price

Mineral Reserves	Tonnage (Mt)	Au Grade (g/t)	Contained Gold (koz)	Cut-off Grade (Au g/t)	Metallurgical Recovery (%)
Proven	–	–	–	–	–
Probable	203.8	0.48	3,173	0.065	74.69
Leach Pad	–	–	237	–	–
Total	203.8	0.48	3,410	0.065	74.69

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,350 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 0.065 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. The point of reference for Mineral Reserves is the entry to the carbon columns in the processing facility.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

12.2 Cut-off Grade

The estimated cut-off grade for Mineral Reserves was based on a $1,350/oz gold price and current operating costs and metallurgical performance. Factors used to estimate the cut-off grade are outlined in Table 12.3, and include refining charges, royalties, and net proceeds tax.

An average recovery rate of 74.9% was used to estimate the cut-off grade based on the average of model recoveries from the 2019 Strategic Business Plan.

Table 12.3 Key Economic Parameters for Mineral Reserves Estimate

Material Type	Unit	Ore	Rock Waste	Dump
Gold Price (per ounce)	$/oz	1,350		
Oil Price (per barrel)	$/bbl	55		
Mining Cost (per tonne)	$/t	1.991	1.813	1.560
Processing Cost (per ore tonne)	$/t	1.669		
G&A (per ore tonne)	$/t	0.868		
Average Process Recovery (formula)	%	74.9%		
Refining Charge (per ounce)	$/oz	0.79		
Internal Cut-off	g/t	0.065		

12.3 Royalties, Net Proceeds and Excise Tax

NSR royalty payments vary between 0% and 10% of the value of production net of off-site refining costs, which is equal to an annual average range of 3.7% to 10%, as further described in Section 3.

The State of Nevada imposes a yearly tax on the net proceeds of all mining operations conducted within the state, plus a yearly property tax on all fixed and mobile equipment used by the mining operation. The net proceeds tax is based on the income from the sale of all products from the mine minus: the royalties; mine, plant, and administration expenses sourced in the State of Nevada; development expenses paid during the year; prescribed depreciation of tangible assets according to set, pre-defined classifications contained in state regulations; and reclamation expenditures incurred during the year of the tax. A net proceeds tax of 5% was applied to the Mineral Reserves estimation.

In 2021 the State of Nevada enacted Assembly Bill 495, effective 1 July 2021, which is an annual excise tax on gold and silver revenue. Under the bill, the tax rates vary based on the taxpayer's Nevada gross revenue. A 0.75 % rate is imposed on Nevada gross revenue of more than $20 million but not more than $150 million in a taxable year (defined as the calendar year). A rate of 1.10 % applies to Nevada gross revenue exceeding $150 million in any tax year. The LOM average rate is about 0.9%.

12.4 Dilution

No mining dilution was applied to the grade of the cells. Dilution intrinsic to the Mineral Resources model is considered sufficient to represent the stated mining selectivity.

12.5 Mining Recovery

Mining recovery was assumed to be 100% of the Indicated Mineral Resources. Inferred Mineral Resources were assigned as waste.

12.6 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Reserves reported in the Marigold21TRS are suitable for reporting as Mineral Reserves using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

13 MINING METHODS

Marigold uses standard open pit mining methods at a LOM sustained mining rate of approximately 250,000 tpd. The mine conducts conventional drilling and blasting activities with a free face trim row blast to ensure stable wall rock conditions. Electronic detonators are used to control the timing of the blasthole detonation.

Drilling and blasting occurs on 15.2 m benches. One grade control sample is taken from each blasthole with the sub-drilling excluded. Mining occurs on 15.2 m benches when prestripping waste or mining ore areas with the P&H electric shovel. 7.6 m benches are mined using the smaller hydraulic shovels to minimise the dilution that would otherwise occur from dozing a 15.2 m high face to these smaller shovels Blasting is done with an ammonium nitrate and fuel oil (ANFO) blend and a sensitised ANFO emulsion. The ore control mark-out procedure includes blast movement analysis for 90% of ore production blasts.

The Marigold geotechnical management plan (GMP) includes highwall monitoring using three radar systems which provide full coverage for the (largest) Mackay pit, or can be deployed in smaller pits, if required. Routine monitoring of waste dumps, leach pads and inactive pits using INSAR data is performed by a third party on a monthly basis.

Loading operations are currently performed using one electric shovel and three hydraulic shovels. Waste and ore haulage is performed with a fleet of 300 t primary haul trucks.

Equipment maintenance is performed on site for all equipment. There are no contract mining operations on site, other than for blasting as detailed in Section 13.7.

13.1 Geotechnical, Hydrological, Pit, and Other Design Parameters

Historically, Marigold pits have been designed with inter-ramp angles (IRAs) at 48° to 50°. The primary rock, a quartzite in the Valmy Formation, dips in a westerly direction at 40° to 70°. The east highwall, which has rock dipping out of the face, is designed at 48° to 50°. The west highwall, which has rock dipping favourably into the face, is designed at 50°. Achieved IRAs range between 48° and 50°. Because many of the interim and final pit walls are within the Valmy Formation, the steeper 50° angle is thought to be achievable for pit designs within the same rock unit (Knight Piésold, 2014). Call & Nicholas, Inc. (CNI) consultants perform an annual audit of activities and provide guidance if any issues arise with slope stability. A 2019 CNI Slope Stability Study of the Red Dot design based on the results of a 2018 geotechnical core drilling program recommended flattening the slope of the west wall of Red Dot to 47° to 49° and the east wall to 45°. The results of this study were used to inform the ultimate pit design for Mackay / Red Dot pit.

The Marigold geotechnical management plan (GMP) was implemented in 2011. The GMP is continually updated with information as mining progresses.

In 2012, a robotic highwall monitoring station was installed at a primary mining location to survey prisms placed strategically on highwall catch benches. The survey instrument was replaced with a highwall radar monitoring system in 2015, and a second system was added in 2017 and a third system in 2019. These allow for 360° monitoring of highwalls in the Mackay pit or multiple areas within other pits. These three radars provide coverage 24 hours per day. Threshold values with respect to movement are programmed into the system. If these values are exceeded, notifications are sent across the wireless network to the dispatch control centre and to the geotechnical team. If the movement is significant, the notifications are sent to senior management.

Mining below the regional water table commenced in 2020 using a combination of in-pit sumps and emulsion blasting, These short-term solutions were adopted, pending the completion of permitting and construction of primary dewatering facilities. The Mackay 2019 EIS approved dewatering to allow mining below the water table. The mine dewatering plan is discussed in Section 14.

Haul road and ramp widths are designed for two-way traffic that accommodates 300 t class haul trucks. The total road width, including berms and ditches, is 36.4 m. The roads follow topography external to the pit and do not exceed a 10% grade. Ramps inside the pits are also designed at a 10% maximum grade.

Waste dumps are placed in lifts of 15.2–45.5 m high, with benches left on the outside edges for a final 3:1 slope pushdown. There have been no waste dump stability issues on the Property.

The leach pad is similarly built with lifts of 6.1 m to 12.2 m high, with benches left on outside edges for a final 3:1 slope pushdown. The leach pad is permitted to a 121.2 m height above the plastic liner at the base. As each new leach pad cell is designed and permitted, a geotechnical analysis is completed. There have been no leach pad stability issues on the Property.

13.1.1 Open Pit Geotechnical Reports Review

A review of previous geotechnical studies was conducted in 2021 to confirm that studies completed to date are appropriate and to identify any gaps or areas of residual concern, (PSM, 2021).

The following reports for Marigold were provided and form the basis of the review:

- 2018 – NI 43-101 Technical Report on the Marigold Mine (31 July 2018) (SSRTR18)
- 2019 – CNI Slope Stability Study of the Red Dot design
- 2021 - CNI site visit recommendations
- 2021 - CNI analysis of soil slopes
- 2021 - Piteau Associates (Piteau) Mackay pit dewatering system design

The available reporting does not represent all the data that may be available, particularly in view that mining has been ongoing since 1988. Moreover, the 2018 NI 43-101 Technical Report on the Marigold Mine (SSRTR18) indicates Knight Piésold involvement in 2014 and with CNI involvement since 2015.

13.1.1.1 Overview of Geotechnical Report Review

Below is a summary of comments that represent perceived gaps in the geotechnical reporting for the Marigold open pit:

- The CNI stability analyses of the overall slopes are considered to have an element of conservatism owing to approach in assigning rock mass strengths and utilising a linear Mohr-Coulomb strength envelope. With use of Hoek & Brown strengths, higher FOS for overall slopes could be anticipated in some areas.
- Further consideration of the potential impact of faults on large scale pit wall stability is recommended. The stability assessments do not address the potential impact:
  - On western pit walls of thrust faults dipping moderately to the east.
  - Potential wedges between faults parallel to the primary bedding fabric.

  - Faults dipping steeply to the east which can form shallow wedges plunging to the south and which may impact the north wall once below the water table, where pore pressures may influence wedge stability.

- The CNI batter face angle and berm width designs, without appropriate consideration of blasting are not considered sound. Such designs, with proposed batter face angles nominally 10° steeper than typically achieved would potentially allow loose material to fall whilst faces are being dug and also result in berms being filled with rill. It may be more effective to dig batters to nominally 63° and have berm widths closer to design or presplitting to achieve BFA's above 70° where steeper inter-ramp slope angles can be considered (south and west walls) and which could also consider double benching.

There are limited concerns with waste dump and leach pads as these are developed with 3H:1V (~18°) overall angles and neither have presented stability issues on the property.

13.1.2 Pit Optimisations and Designs

Pit optimisations and subsequent pit designs were completed by Marigold personnel in 2020 using the current Mineral Resources estimate.

Optimisations used the Lerchs-Grossman algorithm. MMC developed operating mining costs for the existing mining fleet during the pit optimisation process. The mining cost for the pit shells was based on the total mining net of haulage mining costs, which are presented in Table 12.3, in addition to ore and waste haulage costs that were incorporated into the cell model.

The ROM leach recovery model, as developed by MMC, was also incorporated into the Mineral Resources cell model. To facilitate the calculations and the Mineral Resources tabulations, variables were incorporated into the model for recovered gold [gold x recovery] and payable gold [gold x recovery x (1–royalty)]. Payable gold cut-off grades were established at 0.065 g/t Au and 0.104 g/t Au, respectively, for incremental cut-off and breakeven cut-off. Incremental cut-off is based on pit rim routing, so the only mining cost change is the increment between the ore and waste mining costs. Breakeven cut-off includes the ore mining cost.

The mining and processing costs for the evaluation include sustaining capital costs. The mining costs also include the Marigold analytical laboratory because most of the on-site lab work involves assaying production blastholes for ore control. The processing costs also include sustaining capital and the full site reclamation costs.

Overall slope angles used in the optimisation are presented in Table 13.1.

Table 13.1 Overall Slope Angles by Azimuth

Pit	Slope Angle (Degrees)
All Pits in Reserves	47.0-49.0
East Wall Mackay	45.0
Fill Material	35.0

Twelve Lerchs-Grossman pit optimisations were run at gold prices from $800/oz to $1,500/oz: $100/oz increments from $800/oz to $1,000/oz; $50/oz increments from $1,000/oz to $1,400/oz; and $100/oz increments from $1,400/oz to $1,500/oz.

The $1,350/oz gold price cone was selected as a guide to develop the ultimate pit and subsequent pit phase designs.

Geotechnical review recommendations provided by Knight Piésold (2014) and confirmed by CNI on pit slope geometry were incorporated into the pit designs. Berm/catch bench widths range from 7.2–8.2 m in rock and from 7.2–15.4 m in fill and are designed for every 15.1 m bench height.

13.2 Pit Phases and Timing

The pit optimisation for the LOM plan used a Lerchs-Grossman algorithm with an internal recoverable gold value of 0.065 g/t. The optimised pit was built into an ultimate pit design that includes access and takes into account geotechnical considerations for designed highwall angles.

The overall design has three distinct areas: the main Mackay pit, the North Mackay pits, and the Valmy area pits. Figure 13.1 shows the ultimate pit configurations, including current backfill.

The Mackay ultimate pit is an expansion, consolidation, and deepening below the water table of four existing pits into a single pit of approximately 4.6 km long, 1.8 km wide, and 430 m deep. It contains more than 60% of the mineral reserve tonnage. For sequencing purposes, the ultimate pits are designed into 15 logical development stages.

Tonnages for each mining phase are shown in Table 13.2.

Table 13.2 Mining Phase Design Summary

Phase Name	Ore (kt)	Waste (kt)	Strip Ratio
5N2	3,051	11,030	3.62
8SExt	16,539	61,224	3.70
EB	10,236	59,764	5.84
H1	2,344	24,507	10.46
M4P1	3,229	3,147	0.97
M4P2	35,232	72,496	2.06
M5	779	427	0.55
M7	11,113	35,475	3.19
M9	15,374	40,677	2.65
Mud1	1,311	6,293	4.80
Mud2	958	4,652	4.85
RD	72,386	259,298	3.58
TZ	18,026	98,890	5.49
VS	9,216	39,649	4.30
VN	4,757	10,531	2.21
Total	**204,550**	**728,061**	**3.56**

*Differences between the Mineral Reserve and LOM quantities used in the economic analysis are due to differences between planned and actual 31 December 2021 face positions
* Totals may not match due to rounding

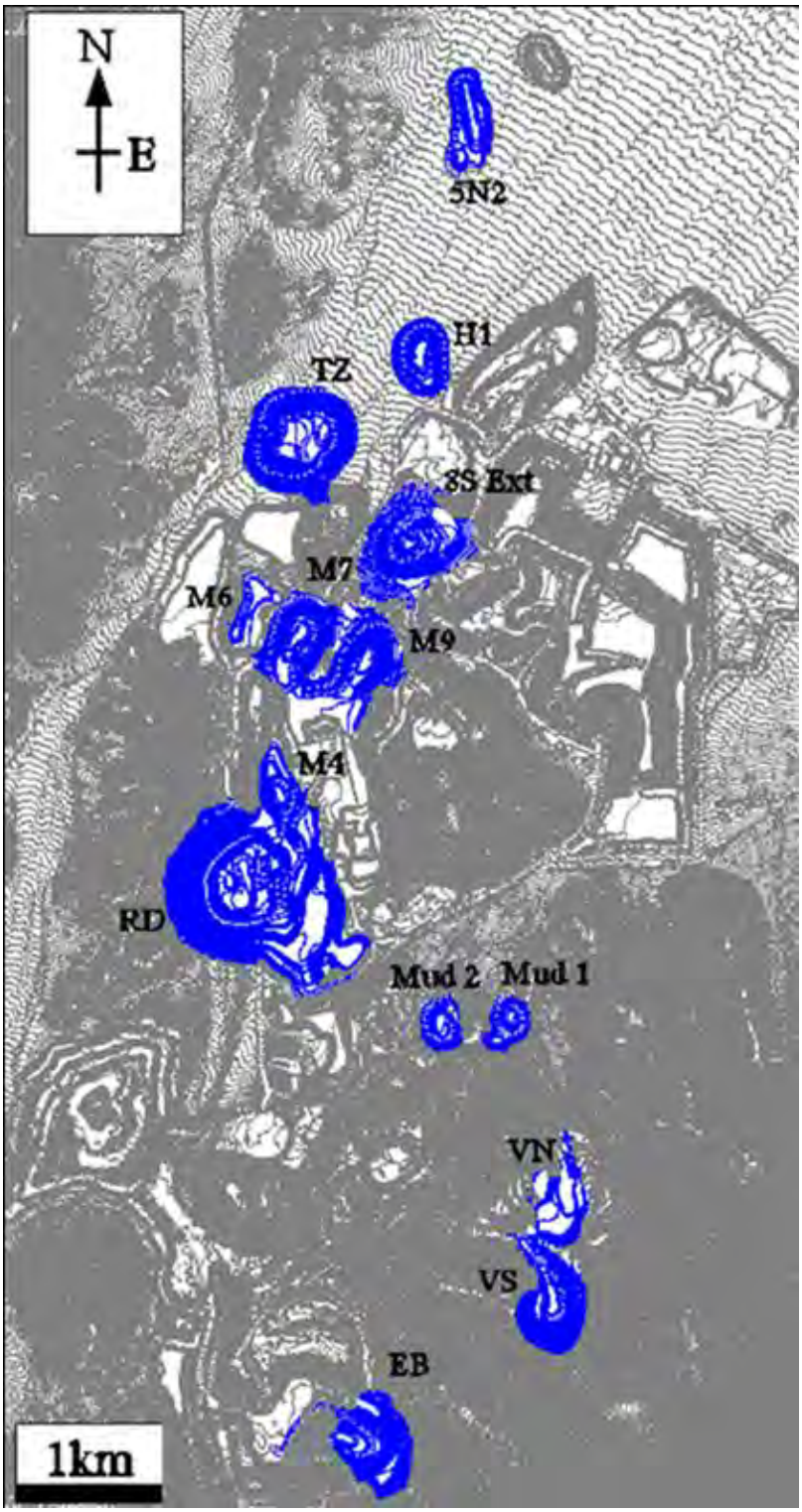
13.3 Production Rates, Mine Life, Dimensions and Dilution Factors

Mining is scheduled 24 hours per day, 363 days per year on a rotation of two 12-hour shifts. The current mine plan provides 17 years of operational life, including 11 years of active mining followed by 6 years of processing the heap leach pad.

In order to meet near-term LOM production rates, the existing shovel fleet of four units will be maintained by deferring retirement of the smaller EX5500 hydraulic shovel to 2023. The haul fleet averages 25 x 300 t class units and will peak at 28 trucks. Short term variations in mine fleet requirements are managed by delaying retirement of older units when they are scheduled to be replaced. The average sustained mining rate is 90.4 Mtpa over the first 10 years of the remaining 11 year mining life while ore delivery to the ROM leach pad is at an average annual rate of 19.7 Mt. Average payable gold production over the 10 years of full production is approximately 222,000 ounces per year. In general, ore will be mined on 15.2 m benches.

The mineralised zones are structurally controlled and strike in a generally northern direction. They vary in width throughout the Property from one metre or less up to 40 m long and 49 m wide. In the LOM model, there is no dilution or mining loss added to the Mineral Reserves for planning and scheduling.

Figure 13.1 Marigold Ultimate Pit (end of year 2032)



SSR, 2021

13.4 Stripping Requirements

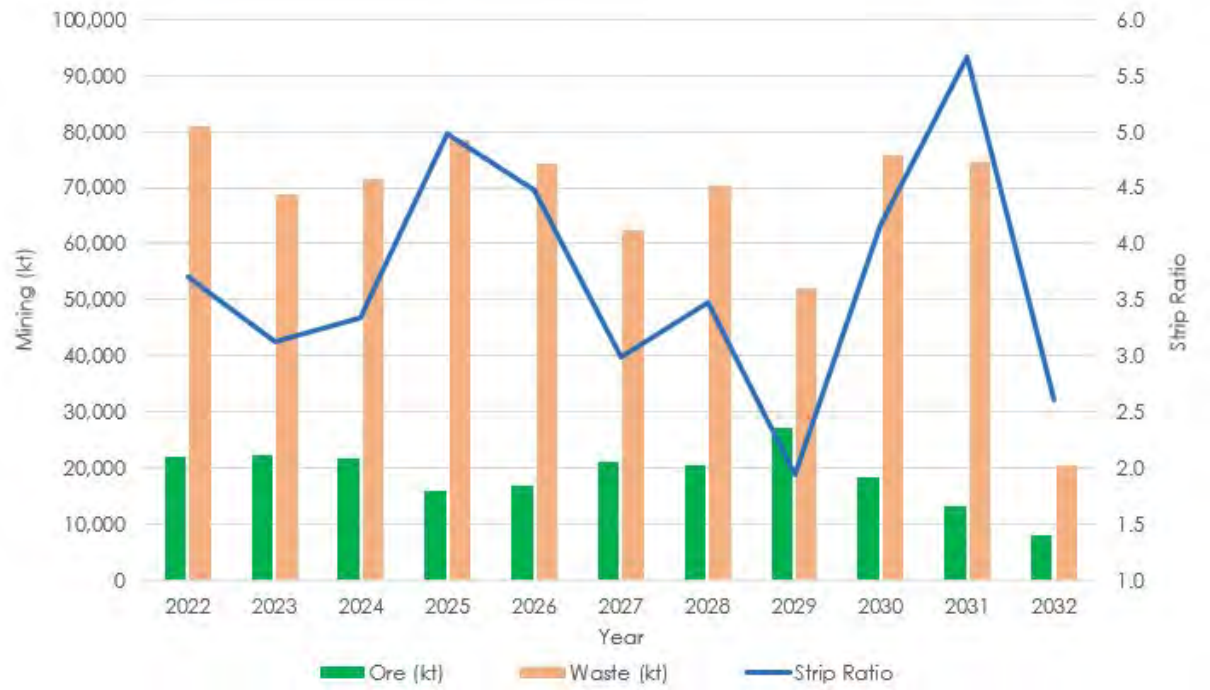
The LOM strip ratio is 3.6:1. Stripping requirements are consistent over the life of the main Mackay pit area at an average strip ratio of 3.3:1. The stripping requirements for the other two areas, Mackay North and Valmy, are planned to be above the LOM average at 6.6:1 and 4.6:1, respectively. Table 13.3 and Figure 13.2 show the annual production schedule for the LOM, including ore tonnes mined, waste tonnes mined, and strip ratio.

Table 13.3 Annual Production Schedule Tonnes Mined

Year	Ore (kt)	Waste (kt)	Strip Ratio
2022	21,818	80,800	3.70
2023	22,010	68,638	3.12
2024	21,411	71,419	3.34
2025	15,713	78,276	4.98
2026	16,538	74,096	4.48
2027	20,857	62,370	2.99
2028	20,207	70,152	3.47
2029	26,912	52,024	1.93
2030	18,189	75,674	4.16
2031	13,103	74,301	5.67
2032	7,792	20,313	2.61
Total	**204,550**	**728,061**	**3.56**

*Differences between the Mineral Reserve and LOM quantities used in the economic analysis are due to differences between planned and actual 31 December 2021 face positions
* Totals may not match due to rounding

Figure 13.2 Mine Annual Production Schedule



SSR, 2021

13.5 Required Mining Fleet and Machinery

The equipment list for the Marigold mining fleet is presented in Table 13.4. Capital replacement of mining equipment is scheduled throughout the LOM plan as sustaining capital when a piece of equipment reaches the end of its useful life and cannot be repaired or rebuilt economically. Sustaining capital is not planned within the last five years of the LOM plan because it is assumed that equipment life can be stretched out and replacements are difficult to justify near the end of the Property life. The sustaining capital replacement costs are included in the reserve optimisation calculation costs. Capital costs are discussed in Section 18. As of the date of the Marigold21TRS, MMC does not employ contract mining services, except with respect to blasting, as discussed in Section 13.7.

Table 13.4 Marigold Mining Fleet Equipment List

Number of Pieces	Equipment Name and Class
1	P&H 4100 XPC electric shovel
2	Komatsu PC7000 hydraulic shovels
1	Hitachi EX5500 hydraulic shovel
1	Caterpillar 992 wheel loader
8	Hitachi EH5000 300 t haul trucks
17	Komatsu 930E 300 t haul trucks
1	Caterpillar 789B haul truck
3	Caterpillar 789B water trucks
3	Ingersoll Rand DML drills
3	Atlas Copco PV271 drills
4	Caterpillar 834 and 854 wheel dozers
6	Caterpillar D10 and D11 track dozers
3	Caterpillar 16H and 16M motor graders
3	Lube / fuel trucks
1	Caterpillar 637 scraper
1	Caterpillar 789 Lowboy heavy hauler

13.6 Ore Control Drilling and Method

Blasthole sampling is used to define ore zones. A grade control sample is taken every 15.2 m of drilling. The sample is manually collected from a cross-section of the cone of drill cuttings. The procedure includes removal of the sub drill material. Ore Control personnel periodically audit the performance of the blast hole samplers and provide feedback on compliance to standard. Benches are mined 15.2 m with an electric or hydraulic shovel in stripping and bulk ore mining areas.

If ore is encountered in the stripping areas on the 15.2 m benches, it is mined at that bench height to maintain pit productivity. A dilution factor is added to the monthly survey using a 1.0 m rind around ore shapes at the calculated grade for the shape. This is added to the surveyed tonnage for the bench and reported as ore mined during the month.

Each blasthole sample is analysed for gold at the on-site laboratory facility. A cold cyanide digestion is performed on each sample to determine the quantity of cyanide soluble gold contained in the sample. Due to the non-destructive analysis method of the cold cyanide leach, it generally does not measure the total amount of gold in a sample. At Marigold, about one in every five blasthole samples containing 0.10 g/t (historically, 0.003 oz/st) cyanide soluble gold is assayed for total gold content using FA with a gravimetric finish. Samples from each ore polygon delineated by ore control are selected for fire assay based on the grade distribution for the polygon tonnage and targeting one sample per every 2,000 short tons of ore. The FA results (Au g/t) from the blastholes and exploration drillholes in the pit area, and cyanide soluble assay results (Au g/t) are used to determine a fire-assay-to-cyanide-soluble ratio for the pit area. This ratio is applied to all remaining cyanide soluble assays in the blast to calculate a total gold value contained in each blasthole.

FA grades associated with each blasthole are entered into the grade control (blasthole) model. The blast pattern is then converted to a blasthole cell model with cell sizes of 3.05 m x 3.05 m x 7.6 m. The blasthole data is kriged using ordinary kriging in two dimensions on the bench. If there is sufficient volume above the cut-off grade to make a mineable shape of ore, this is blocked out and surveyed in the pit (indicated by ore flags for mining) to be sent to the leach pad for processing.

13.7 Drilling and Blasting

Blasthole drilling is performed with three Atlas Copco PV271 rigs that drill with both rotary and hammer drill bits as well as three Ingersoll Rand DML rigs that drill with hammer bits. The rigs drill 22.2 cm diameter blastholes. The PV271 rigs can drill to 16.8 m in a single pass. The DML rigs can drill to 10.4 m in a single pass.

The normal explosive is a heavy ANFO (blend of ANFO and emulsion) which is placed by a combination of both contractor and Marigold employees. An emulsion product is also used for wet holes to manage groundwater in the winter and fall and help break up the rock in areas of the pit that are more difficult to dig.

The blast patterns are adjusted for rock conditions. Typically, the patterns are 7.3 m x 6.4 m for the 15.2 m benches. To help break the toe of the bench, 1.5 m of sub drilling is added to each hole. The ore host rock generally breaks easily with blasting, and this provides a good ROM leach feed to the pad. Electronic detonators are used to control the timing of the blasthole detonation. The typical fragmentation is P_{80} of 20.3 cm.

A trim blast is performed around the limits of the mining on final highwall configurations. This is a four-row pattern that is shot to a free face to minimise blast damage and vibration into the highwalls. Historically, a presplit blasting pattern has been used on final highwalls to ensure good wall conditions and minimise the potential for a wall failure. A new crest and catch bench are formed every 15.2 vertical metres of mining that ranges from 6.7–9.1 m depending on the highwall angle.

13.8 Loading Operations

Loading operations are performed with one electric Komatsu 4100 XPC rope shovel with a 52.8 m^3 dipper, two diesel hydraulic Komatsu PC7000 hydraulic shovels, and one diesel hydraulic Hitachi EX5500 shovel. Double-sided loading is typically used where there is adequate working room. Digging faces are defined by ore control and are marked in the field with flags and on maps that are provided to the operators. All loading units are equipped with a high-precision digging screen that is a component of the Modular Dispatch system. The screen, located in the operator's cab, updates in real time to show the location and grade of the ore material being mined. Dig boundaries are typically adjusted to allow for movement associated with blasting.

13.9 Hauling Operations

Excavated rock is loaded into haul trucks and sent to either a waste dump or a leach heap based on the average gold grade of the material. Waste rock is hauled to the multiple waste stockpile locations or to previously mined-out areas for backfilling pits. Pit backfilling, where not mandated by permit to eliminate pit lakes in certain satellite pits, has positive impacts at Marigold: it reduces costs associated with haulage distance and helps address the lack of dump space due to permitting restrictions and current land position. Backfilling plans are reviewed and adjusted to minimise the potential for sterilising future mineralisation. Minimising the waste haulage distance to the nearest facility improves mining productivity and minimises haulage costs. Ore is hauled to the leach pad facility and stacked in lifts for processing. Pit and dump progression stages at the end of each of each year of the LOM plan are presented in Figure 13.3 to Figure 13.8.

Marigold has a mixed fleet of Hitachi and Komatsu 300 t class haulage trucks for ore and waste haulage.

A Modular Dispatch system is used to optimise fleet management. Trucks are sent haulage assignments according to priorities set for the loading units and which loading unit requires a truck at that time.

Annually, from December to February, there is snow, fog, and freezing temperatures at the Property. However, there is a minimal amount of haulage downtime due to the weather in most years.

13.10 Mine Support

Mine support functions are performed using different quantities and types of equipment. These include water trucks, dozers and graders as well as other non-operated ancillary equipment such as the radar highwall monitoring units. Mine support functions include ripping leach pads after a panel is completed, monitoring slope stability, maintaining roads and access points, and developing exploration drill pads. This work is completed with a fleet of Caterpillar D8, D10 and D11 class track dozers and Caterpillar 18, 16H and 16M motor graders.

Current mine support fleet numbers are included in Table 13.4.

13.11 Mine Maintenance

Mine maintenance is an integral function of the mining operations and relates to the day-to-day upkeep of the mining equipment. Activities such as preventive maintenance, equipment rebuilds and fixing equipment on breakdowns are all included in the mine maintenance function. The objective is to provide efficient maintenance of the mining fleet, thereby increasing reliability and availability of this equipment through effective strategies, planning and continuous improvement. High levels of equipment availability and reliability facilitate operational and delivery performance, resulting in asset intensity reduction, and reduced direct operational and maintenance costs.

13.12 Mine General and Administration

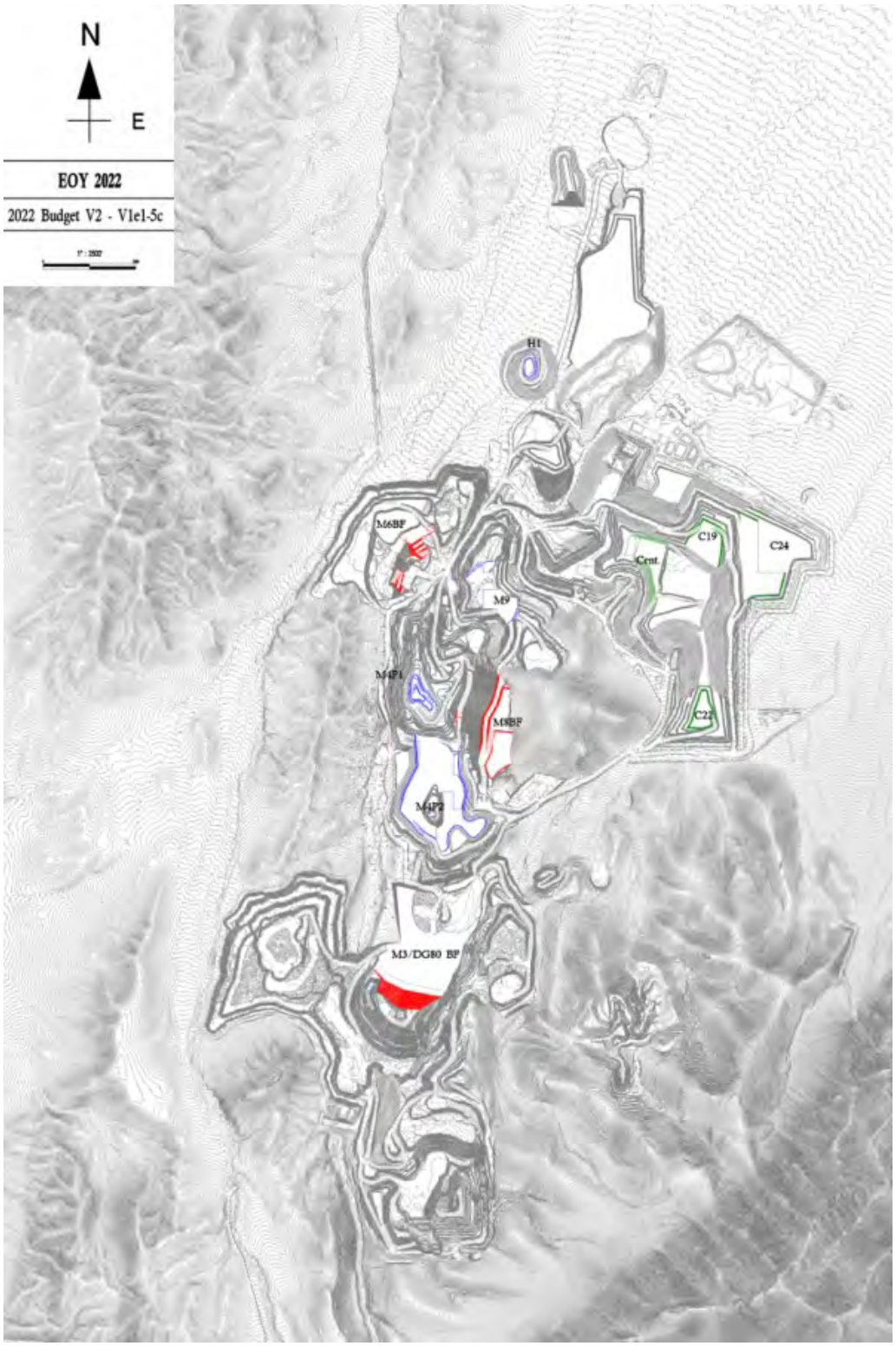
Mine G&A refers to all day-to-day supervision and engineering support of mining operation activity. Expenses included in the mine G&A are mine salary labour charges and fringe benefits, mine office supplies, safety supplies, equipment rentals and leases, light-vehicle tires, miscellaneous contract services, travel expenses, training, and tax and freight charges.

13.13 Mine Safety

Marigold has one mine rescue and emergency response team which is trained to competently assess accident conditions and fight fires. There is one ambulance and one small fire truck available on site and a rescue trailer that is used in emergencies. The Property is set up with hydrants and appropriate connectors, hoses, and wrenches at strategic locations. For mobile equipment fires, the Property is set up with large water trucks equipped with water cannons.

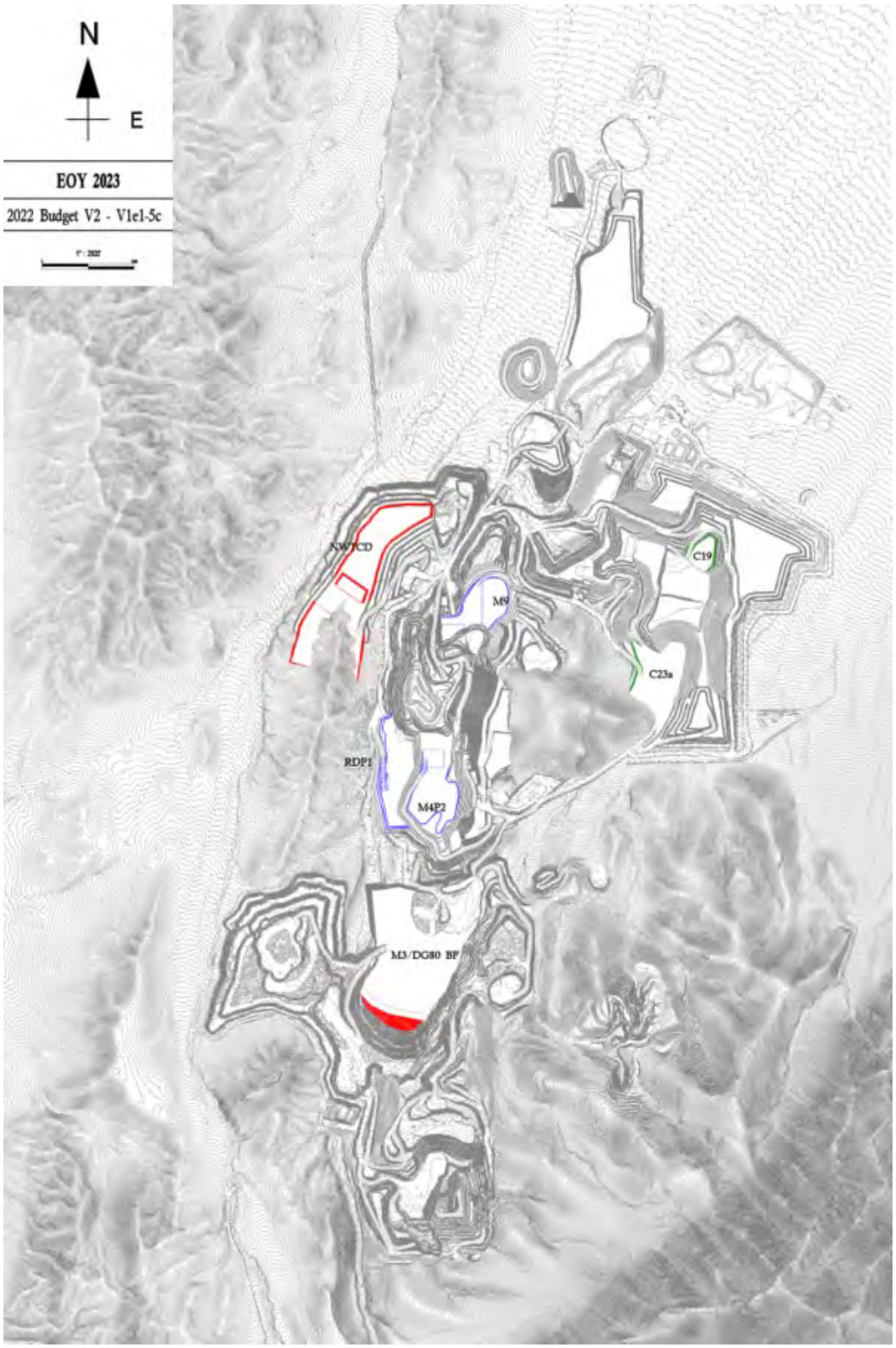
Marigold also has access to and can call either the Valmy Fire Department (5 km away) or Battle Mountain Fire Department (24 km away), when required. There is a monthly training session for the Marigold rescue team to ensure effective participation in any recovery operations in the event of a mine incident.

Figure 13.3 End of Production Year 2022



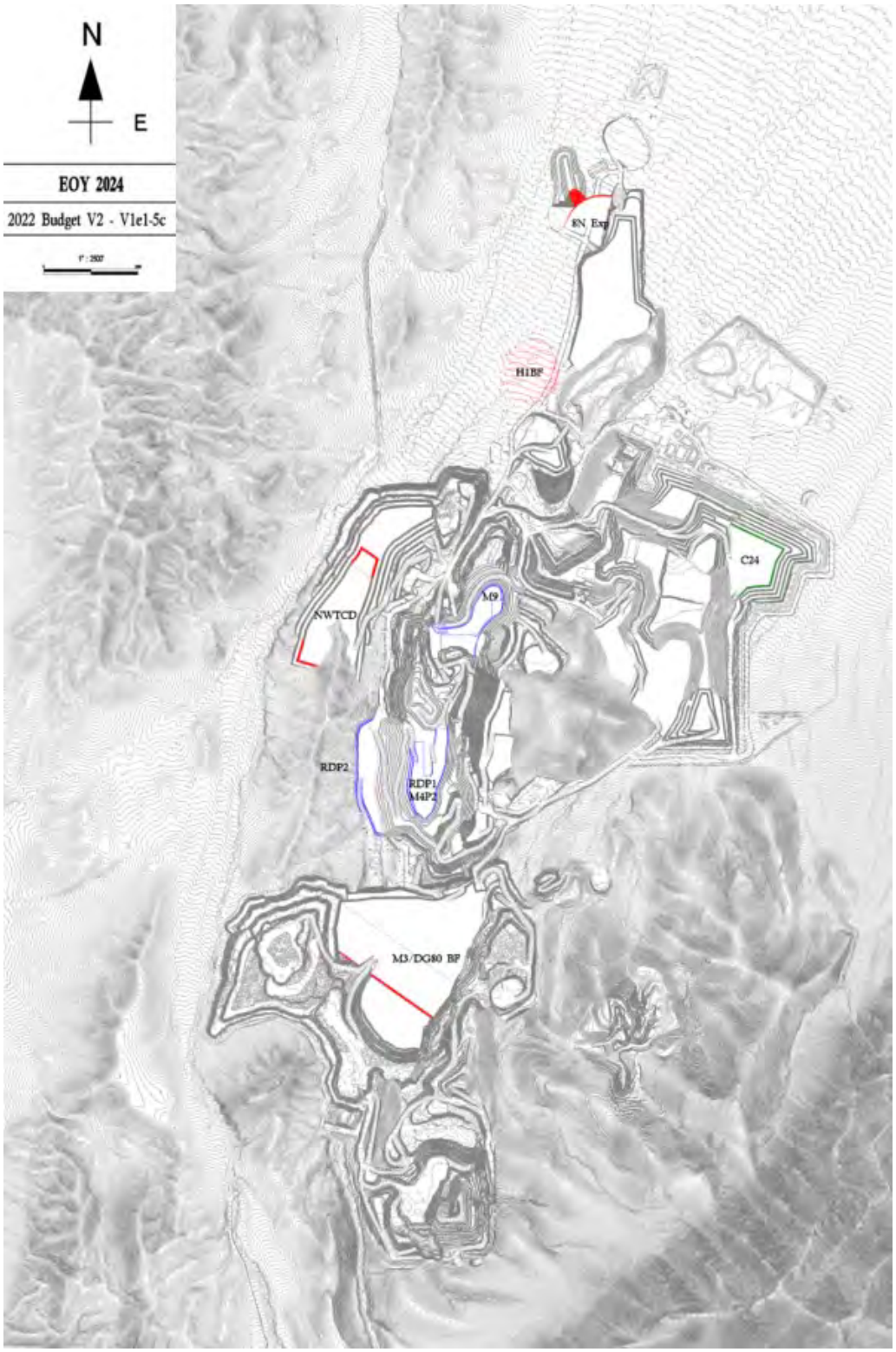
SSR, 2021

Figure 13.4 End of Production Year 2023



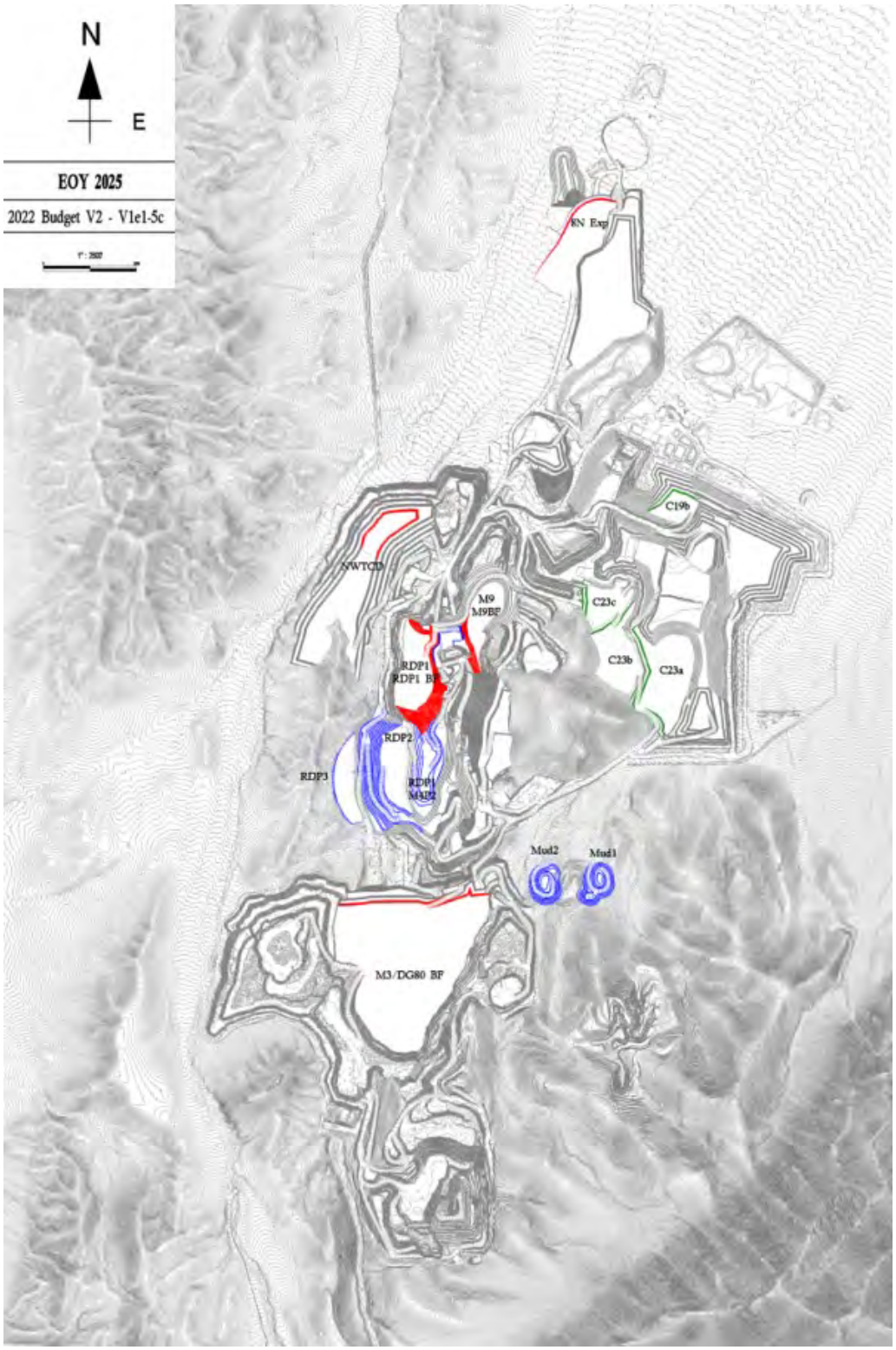
SSR, 2021

Figure 13.5 End of Production Year 2024



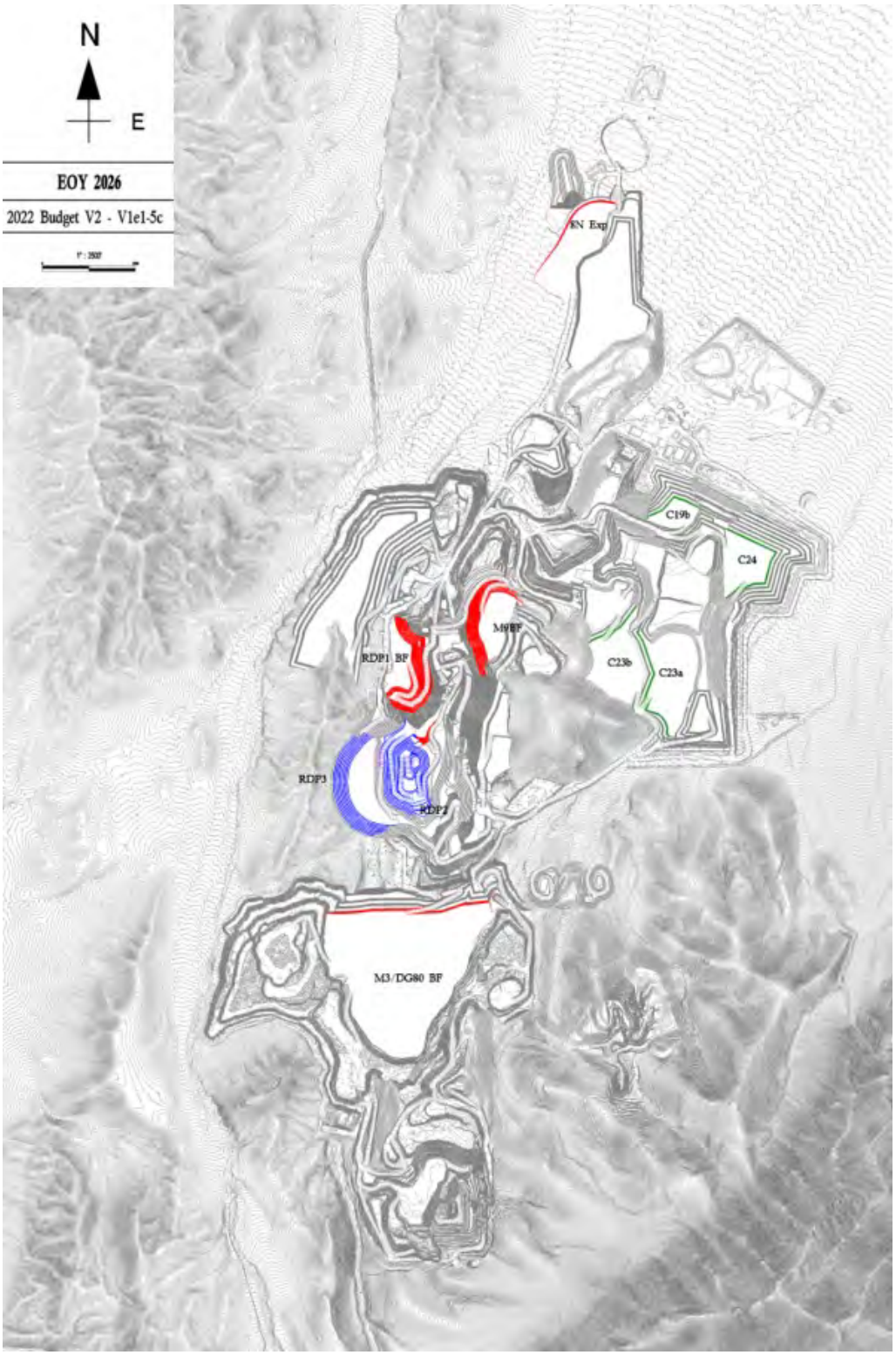
SSR, 2021

Figure 13.6 End of Production Year 2025



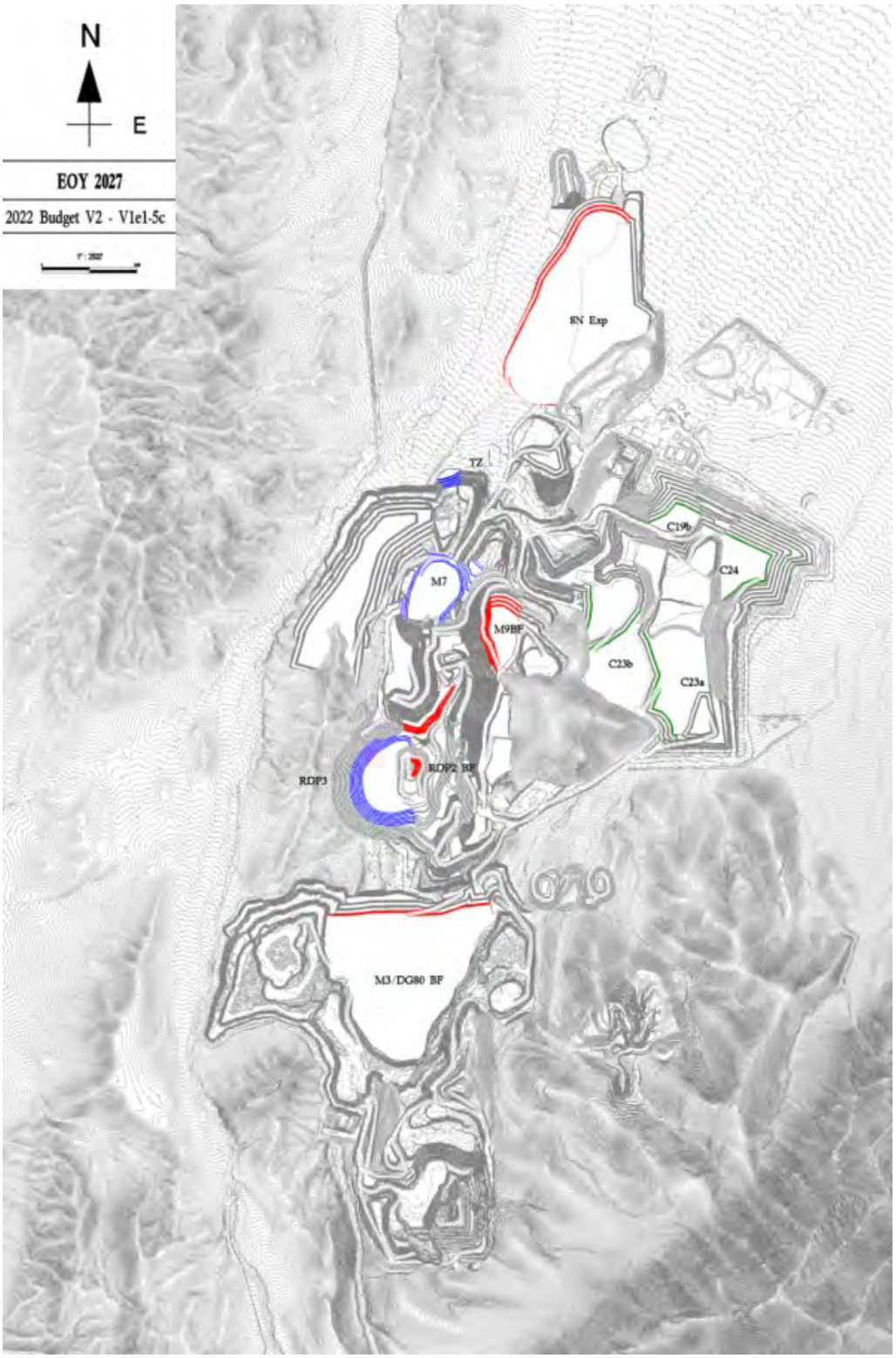
SSR, 2021

Figure 13.7 End of Production Year 2026



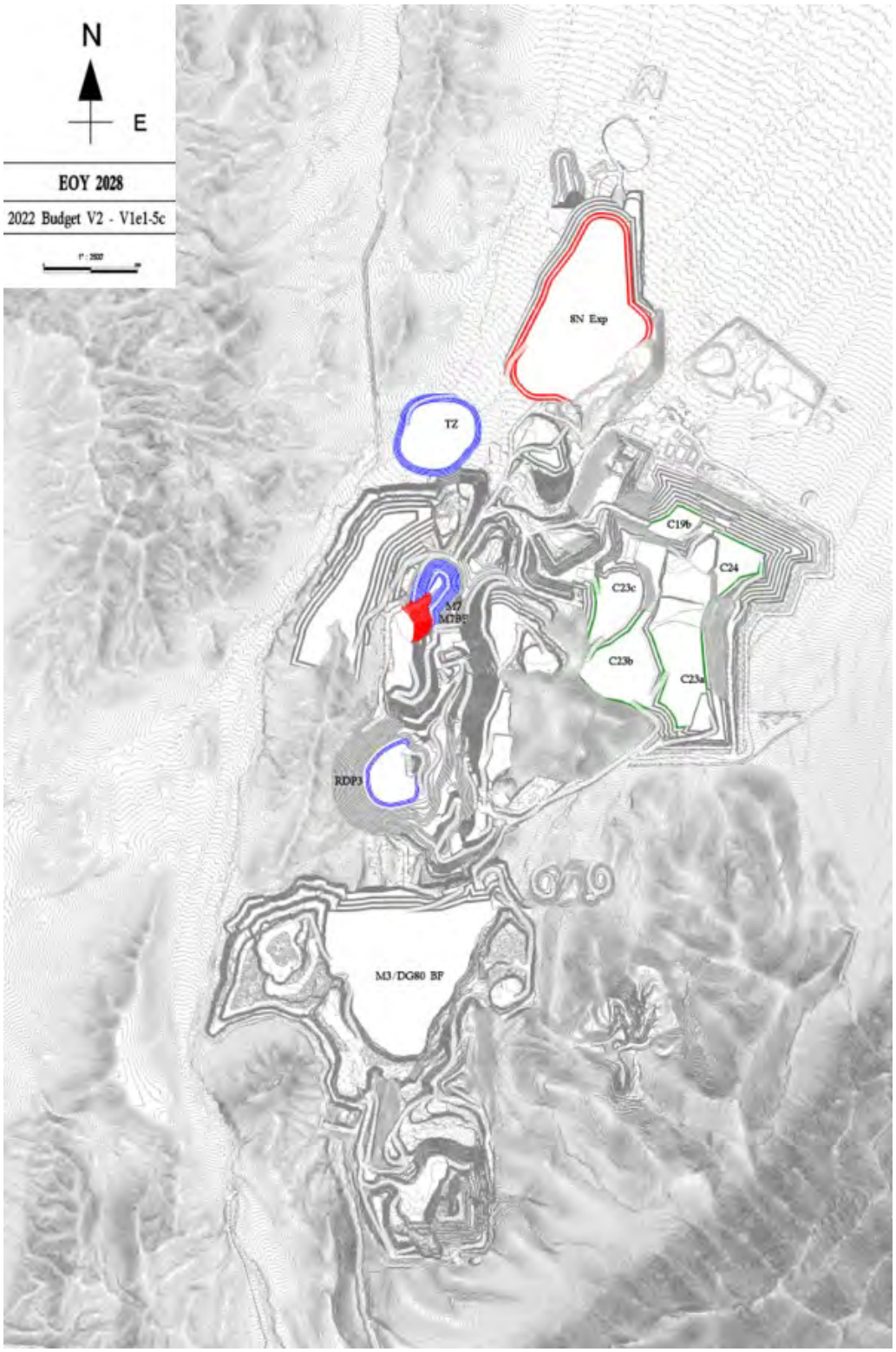
SSR, 2021

Figure 13.8 End of Production Year 2027



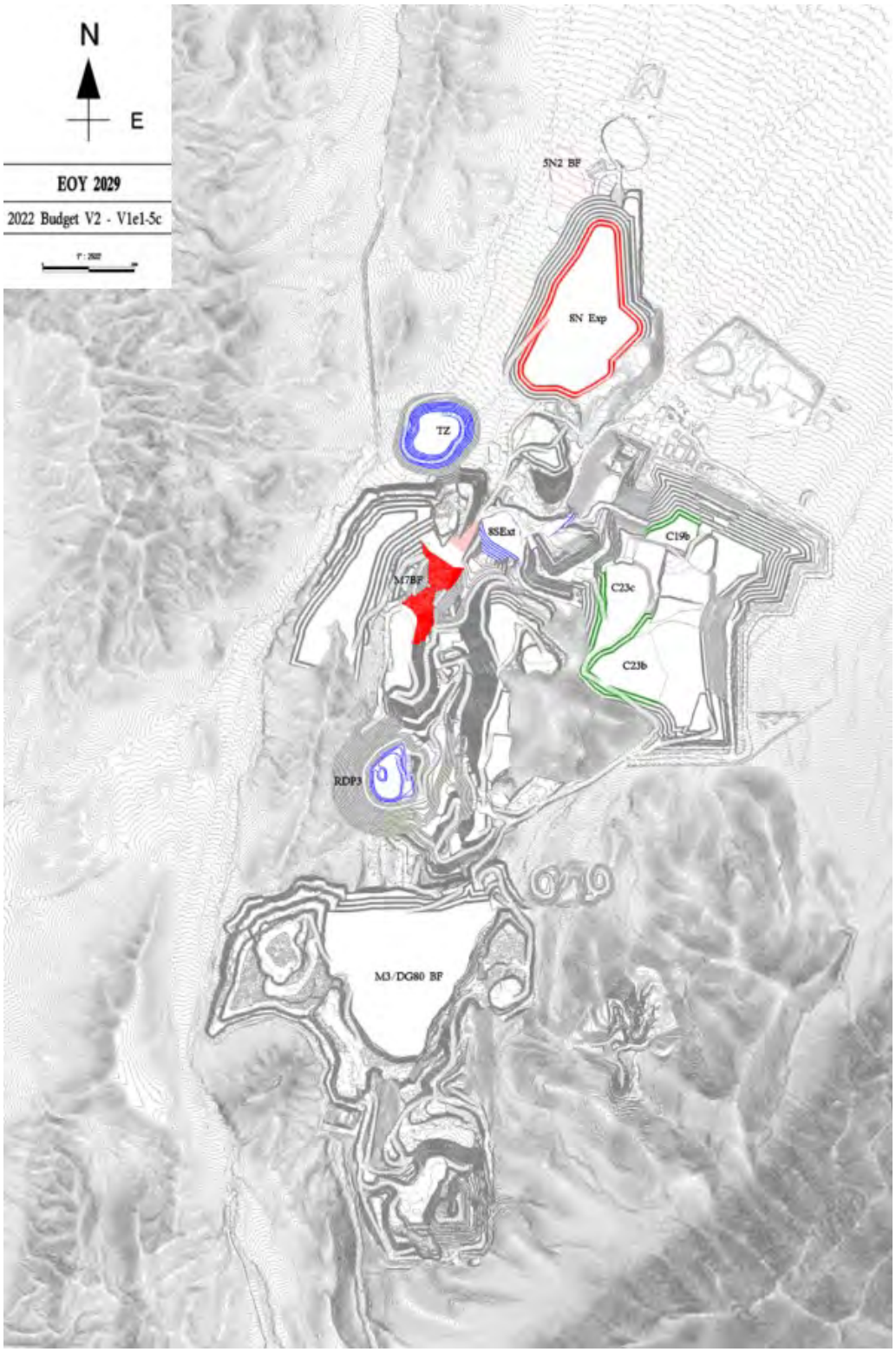
SSR, 2021

Figure 13.9 End of Production Year 2028



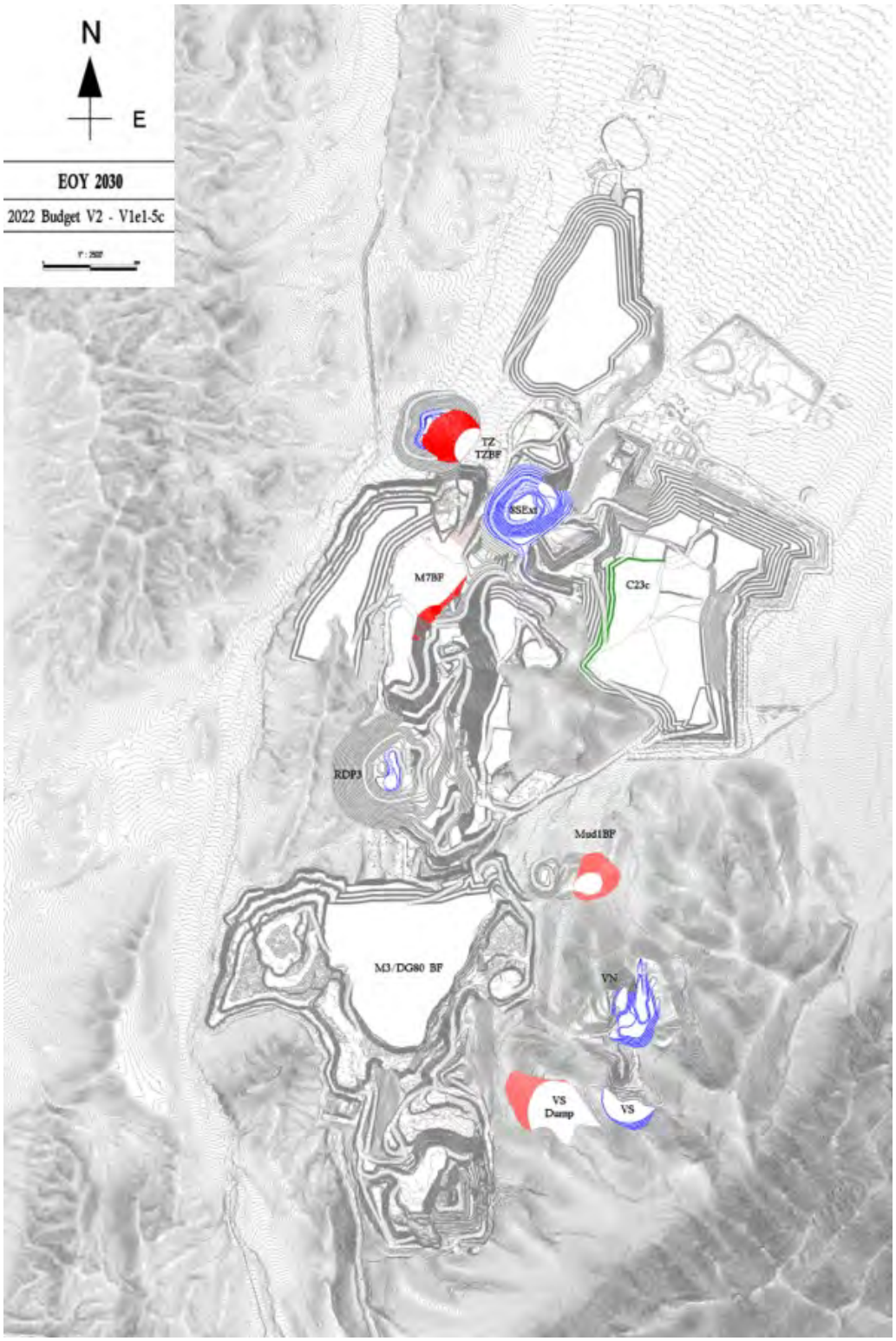
SSR, 2021

Figure 13.10 End of Production Year 2029



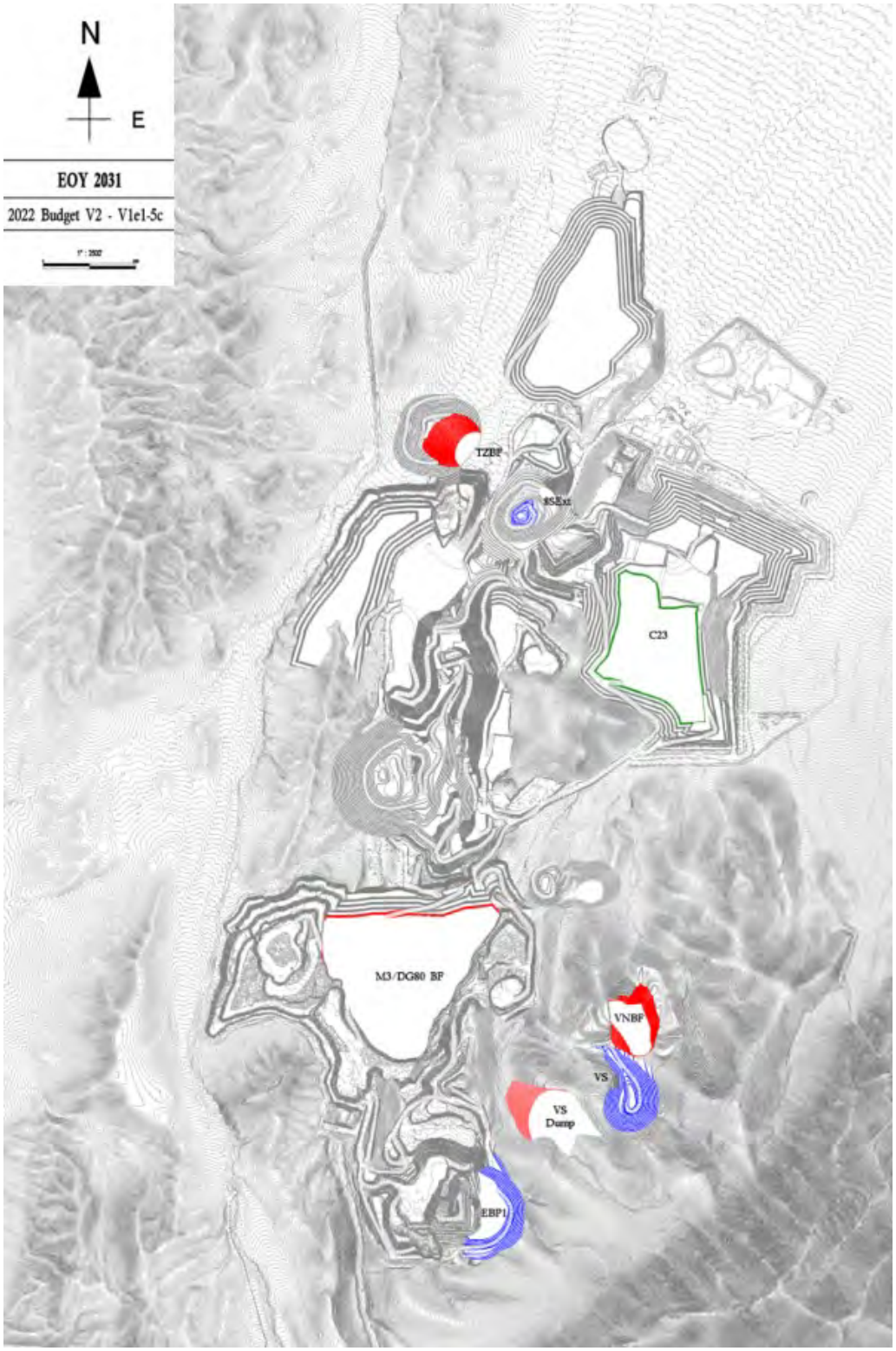
SSR, 2021

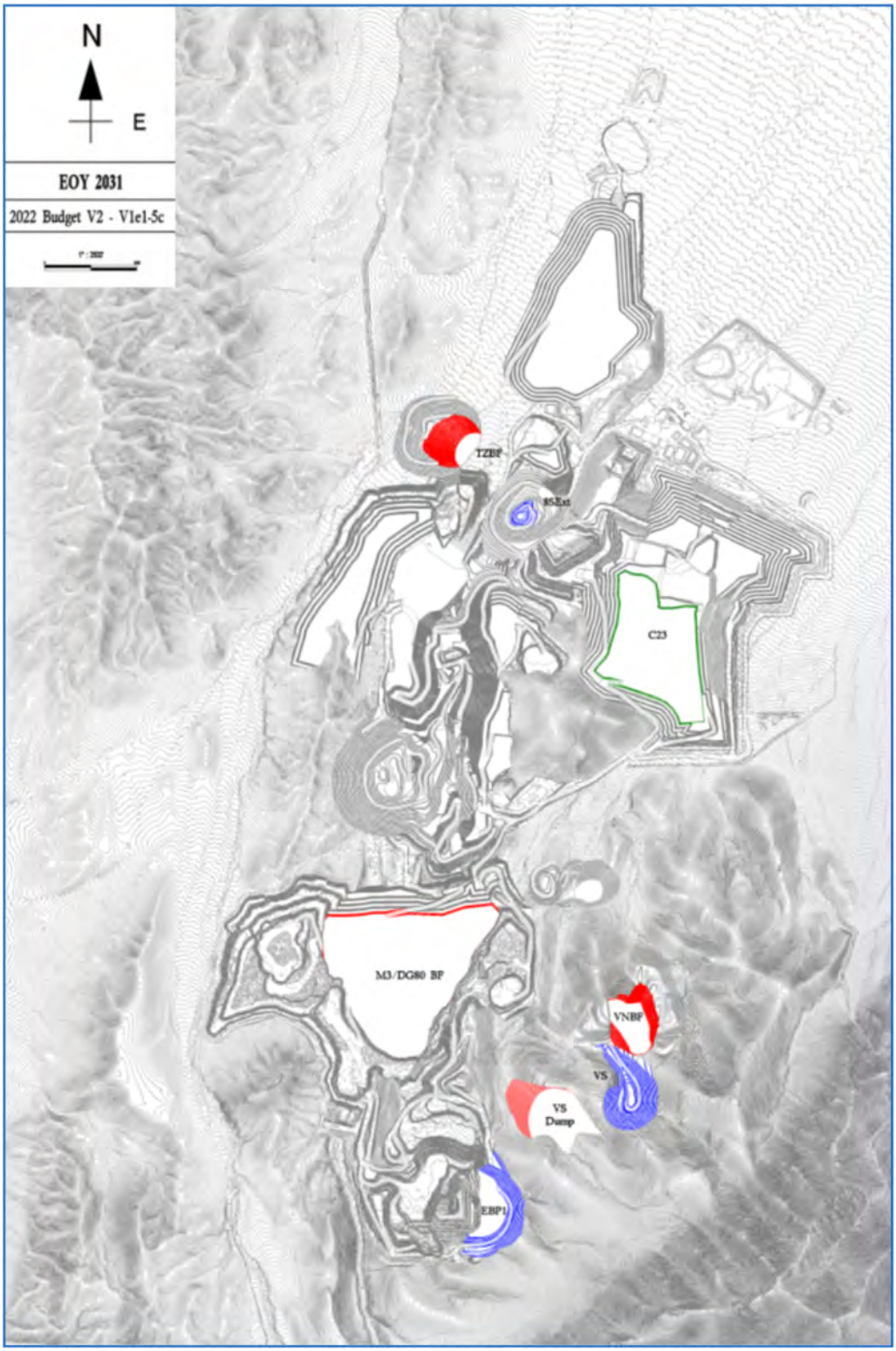
Figure 13.11 End of Production Year 2030



SSR, 2021

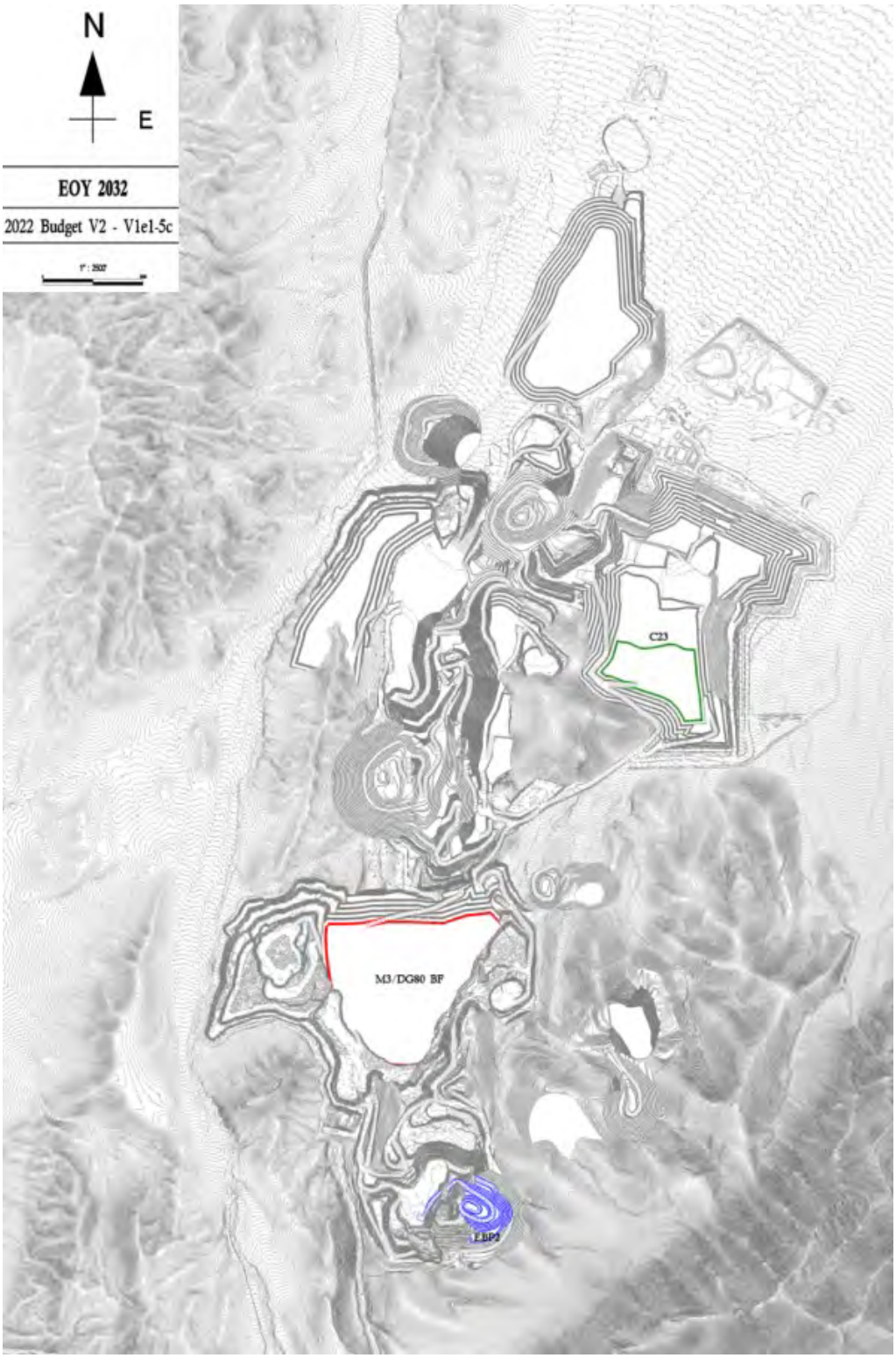
Figure 13.12 End of Production Year 2031




N
E
EOY 2031
2022 Budget V2 - V1e1-5c
TZBP
C23
M3/DG80 BP
VNBP
VS
VS Dump
EBP1

SSR, 2021

Figure 13.13 End of Production Year 2032



SSR, 2021

13.14 Mine Dewatering

The Marigold Mine Plan of Operations (PoO) Amendment for the Mackay Optimization Project record of decision in October 2019, allowed mining to be carried out below the water table in the expanded Mackay pit. The approved dewatering system incorporated a pit dewatering design by Piteau Associates that consisted of a series of water wells to be located around the periphery of the ultimate pit to extract water for mine operations use and infiltration. Infiltration is by means of a series of rapid infiltration basins (RIBs) located in an area of deep alluvium cover about 5 km north of the operations area. The initial area selected for the RIB location was relocated to an adjacent land section. Permitting delays associated with this relocation have resulted in short-term mine water diversion by means of temporary discharge permits into a local drainage. Trial RIBs are expected to be permitted and constructed in mid-2022 and approval for the expanded RIB field is expected to be in place by early 2023.

The dewatering system is developed in stages with the initial design incorporating 14 dewatering wells, each with a nominal sustainable pumping rate of 1.89 m^3/min.

Figure 13.14 shows existing and planned well sites. New wells are developed in advance of the mining elevations required to support the LOM plan. Recent monitoring and modelling of pumping and drawdown rates indicate that the current number of wells included in the design is conservative and potentially not all will be required to achieve the required drawdown.

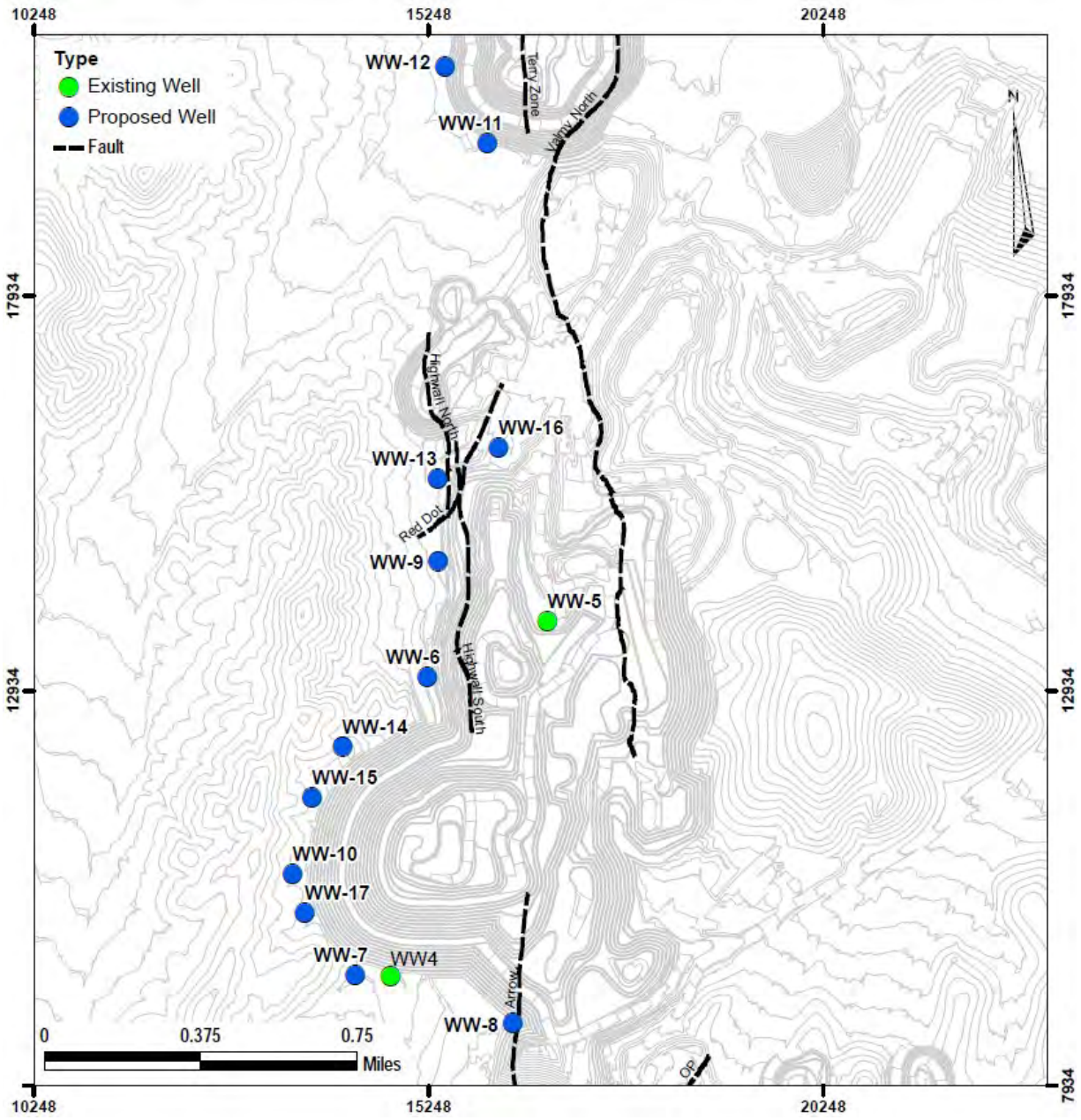
Some dewatering water is diverted for mine use with the majority delivered by pipeline to the RIB field north of the mine for re-infiltration. The RIBs are located in areas of thick alluvium which facilitates rapid infiltration back into the aquifer and also provides the benefit of attenuation of naturally elevated arsenic levels in the ground water before it reaches the existing water table. Initial testwork indicates that water treatment will not be necessary prior to infiltration but the economic modelling includes a provision for water treatment, should it prove necessary in the future.

Trial RIBs will be permitted and constructed in mid-2022 to allow infiltration performance to be verified and the RIB cell design and configuration to be finalised. Initial RIB design criteria are summarised in Table 13.5.

The RIB design being permitted includes a total of 14 RIBs. Figure 13.20 shows the conceptual layout of the RIBs and spoil piles with the majority located on (BLM) Section 30.

The location of the RIB area relative to the mining operation is shown in Figure 15.1.

Figure 13.14 Existing and Proposed Dewatering Wells

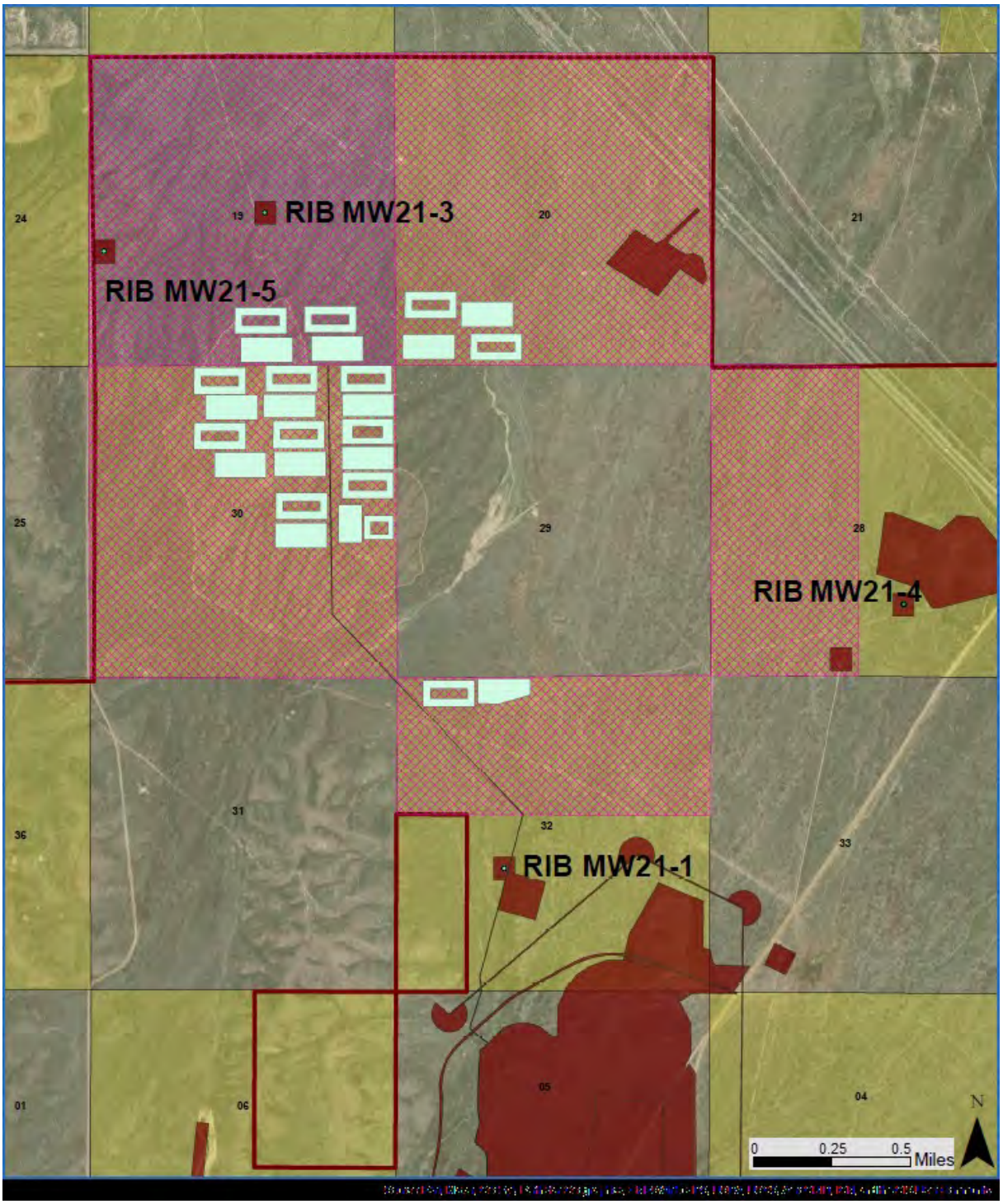


Piteau, 2021

Table 13.5 RIB Design Criteria

RIB Cell Design Attribute	Unit	Dimensions (m)
Basin floor length	m	210
Basin floor width	m	59
Basin crest length	m	247
Basin crest width	m	106
Minimum basin depth	m	6.1
Excavation/dump slope	H:V	3:1
Minimum spacing between cells	m	122
Access road width	m	7.3
Infiltration capacity	m/day	0.43
Infiltration capacity per cell	m^3/min	3.8
Cell availability	%	50

Figure 13.20 Conceptual Layout of RIBs and Spoil Piles



SSR, 2021

14 PROCESSING AND RECOVERY METHODS

14.1 Introduction

The Marigold processing facilities combine industry standard run-of-mine (ROM) heap leaching, carbon adsorption, carbon desorption and electro-winning circuits to produce a final precious metal (doré) product.

The Marigold heap leach and gold recovery circuit is typical in the industry for treating solutions containing gold cyanide. A simplified flowsheet for the process is shown in Figure 14.1.

14.1.1 Ore Stacking on Leach Pad

Ore processing is undertaken via stacking and leaching on a ROM heap leach pad. ROM ore is delivered to the leach pad by haulage truck and stacked in 6.1 to 12.2 m lifts. Pebble lime is added to the haulage trucks from a storage silo to control pH prior to dumping. Fresh ore is ripped and cross-ripped prior to commencement of leaching. The available pad area is divided into manageable cells for inventory and irrigation control. These cells provide control of irrigation duration and time between lifts to manage future ore placement.

14.1.2 Leaching Solution to the Pad

A series of header and sub header lines distribute the barren solution to the pad with application by drip-tubing on the surface and impact sprinklers on side slopes. The overall barren solution application rate to the leach pad is 0.122–0.143 L/min/m^2.

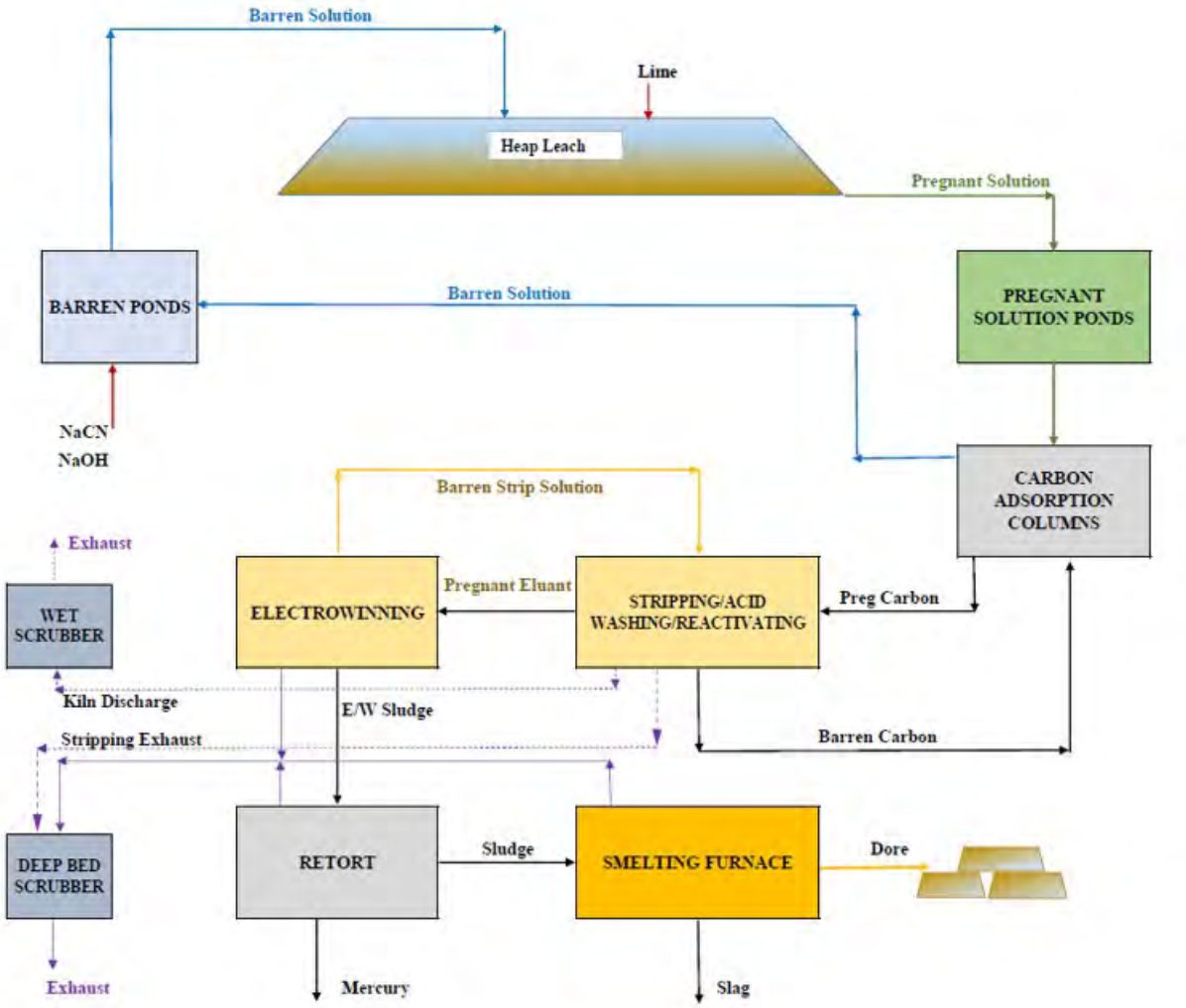
The Marigold heap leach solution processing facilities consist of two barren ponds, six pregnant ponds, and one stormwater/overflow pond. Pregnant pond 1 is inactive due to a leak. Ancillary facilities include solution pumps and piping, two separate sodium cyanide addition facilities, two sodium hydroxide addition systems (barren solution pH adjustment) and four locations for antiscalant addition.

The heap leach pad was originally constructed in 1990 and has since expanded as required, with ongoing expansion of solution processing facilities to match production rate and leach area. Barren leach solution (cyanide-bearing solution, very low in gold grade) is applied selectively to different areas of the pad, or cells. At any given time, approximately 0.5 million square metres of pad area is being leached, with other areas draining or being made ready to accept ore for the next lift.

The barren leach solution is pumped to the leach pad by two independent barren solution distribution systems. Combined barren solution flow capacity from the two pumping systems is 53 m^3/min. Sodium hydroxide is added to the barren solution in the pond after the carbon column discharge. Sodium cyanide is added to the barren solution at the spillway between barren ponds one and two.

The new ore placed on the heap leach pad in cells, is leached for a targeted 120 days.

Figure 14.1 Simplified Marigold Processing Flowsheet



SSR 2021

14.1.3 Pregnant Solution

Pregnant solution (gold bearing) from the leach pad is collected into the pregnant solution pond(s) and pumped to seven parallel carbon column trains, each with five columns, to recover gold from solution. Column discharge solution reports to the barren ponds before the solution is recycled back to the leach pad.

14.1.4 Carbon Processing

Loaded carbon from the carbon columns is transported by a dedicated truck to the carbon processing facility where gold is eluted (re-dissolved) from the carbon in strip vessels (two 3 t capacity carbon vessel). The precious-metal-bearing solution is passed through two 2.1 m^3 electro-winning cells in parallel where the metals are plated out of the solution. The electro-winning barren solution is recycled back through the strip vessel until the batch process is complete.

14.1.5 Refining

The plated material (sludge) resulting from electrowinning is collected in a filter press and then retorted for drying and mercury removal. After retorting, the sludge is mixed with flux and smelted in a propane fired furnace for final precious metal recovery.

Stripped carbon is screened to remove the fine carbon, acid washed to remove carbonate scale, and thermally reactivated to remove any organic contamination, as required, before returning to the carbon columns.

14.1.6 Ventilation

Ventilation from the strip circuit pregnant and barren solution tanks, electro-winning cells, retort and smelting furnace is directed to a deep bed scrubber (sulfur-impregnated activated carbon) where any vapourised mercury is recovered prior to exhaust.

The kiln discharge is vented to a wet scrubber that uses water mist to condense mercury and recover it as elemental mercury. After demisting, the air is also passed through sulfur-impregnated carbon to recover any remaining vapourised mercury prior to exhaust.

14.1.7 Planned Processing Upgrade Projects

A number of ongoing improvement project are planned, these include:

- With the increasing height of the heap leach pads, barren booster pumps are planned to be installed to maintain solution flow rates at 53 m^3/min as the pad grows taller and further from the pump locations.
- Installation of mobile telemetry and instrumentation to be able to remotely monitor individual area barren application rates. In addition, telemetry on primary pregnant and barren flowmeters.
- Further ventilation upgrades on the refinery to improve mercury removal, decrease mercury volatilization, and improve working temperature within the buildings.

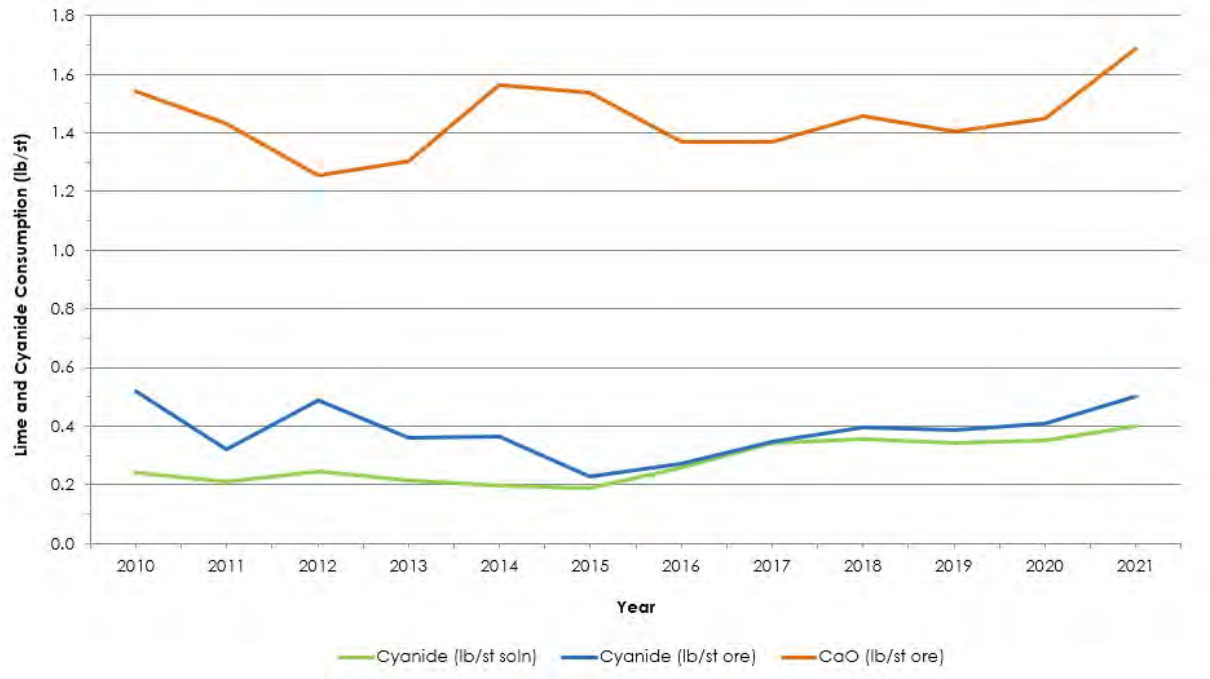
14.1.8 Reagents

Reagent consumption rates are within industry norms for the types of ores processed.

Consumption rates for the two most expensive reagents, sodium cyanide (NaCN) and lime (CaO), vary depending on ore type.

Average annual reagent unit consumption rates of the two key reagents, cyanide and lime (CaO) for the period 2010–2021 are shown in Figure 14.2.

Figure 14.2 Average Annual Reagent Consumption



SSR, 2021

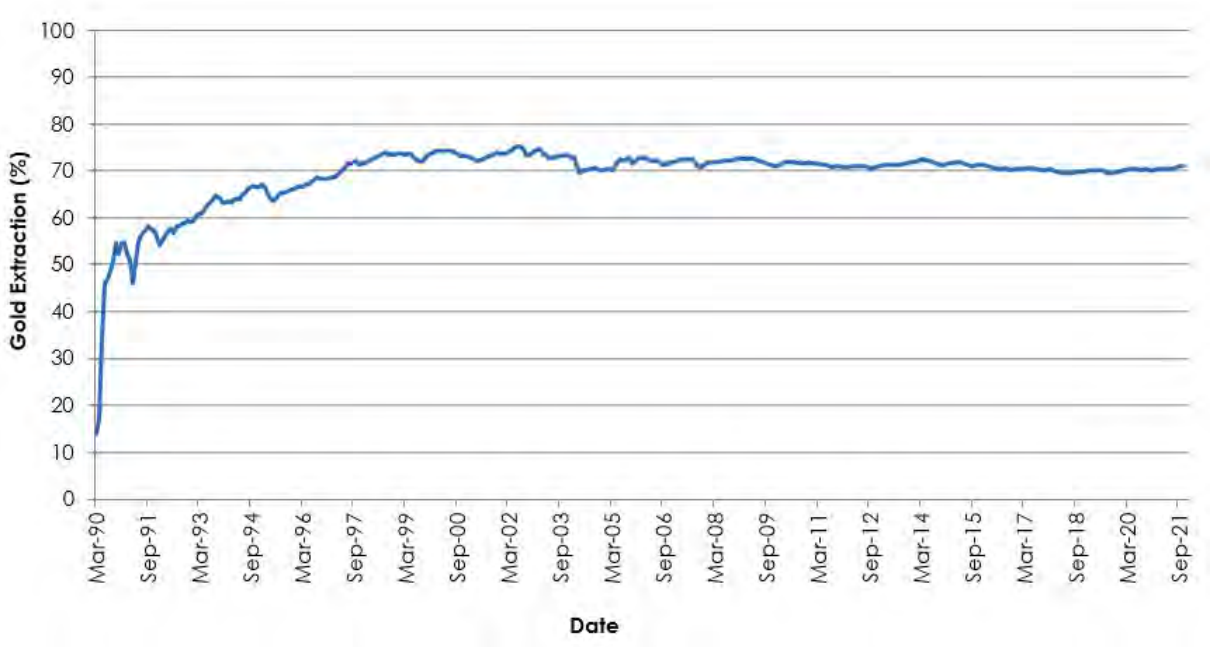
14.2 Gold Recovery

14.2.1 Recovery from Heap Leaching

From March 1990 through December 2021, gold recovery from the heap leach pad is 71.1%. This recovery was achieved with 90–120 day primary leach cycles and an overall mass-of-solution to mass-of-ore ratio of 1.28:1.

The gold recovery trend achieved from March 1990 through December 2021 from the Marigold heap leach is shown in Figure 14.3.

Figure 14.3 Marigold Heap Leach Pad Gold Recovery Curve from March 1990 through December 2021



SSR, 2021

15 INFRASTRUCTURE

The overall site layout of the Property is shown in Figure 15.1. Additional details on the LOM plan can be found in Section 13.

15.1 Site Access, Power and Water

15.1.1 Site Access

Marigold is accessible via Interstate Highway 80 in northern Nevada and is approximately 5 km south–south-west of Valmy in Humboldt County. The site access road supports two lanes of traffic and consists of hard-packed clay and gravel.

15.1.2 Power

The power supply for Marigold is provided by NV Energy Inc. via a 120 kV transmission line to site. Site power draw is 5 MW. After exiting the main substation, power is distributed through a 25 kV distribution grid. The main electrical substation is shown in Figure 15.3 and Figure 15.4.

15.1.3 Operations Water Supply

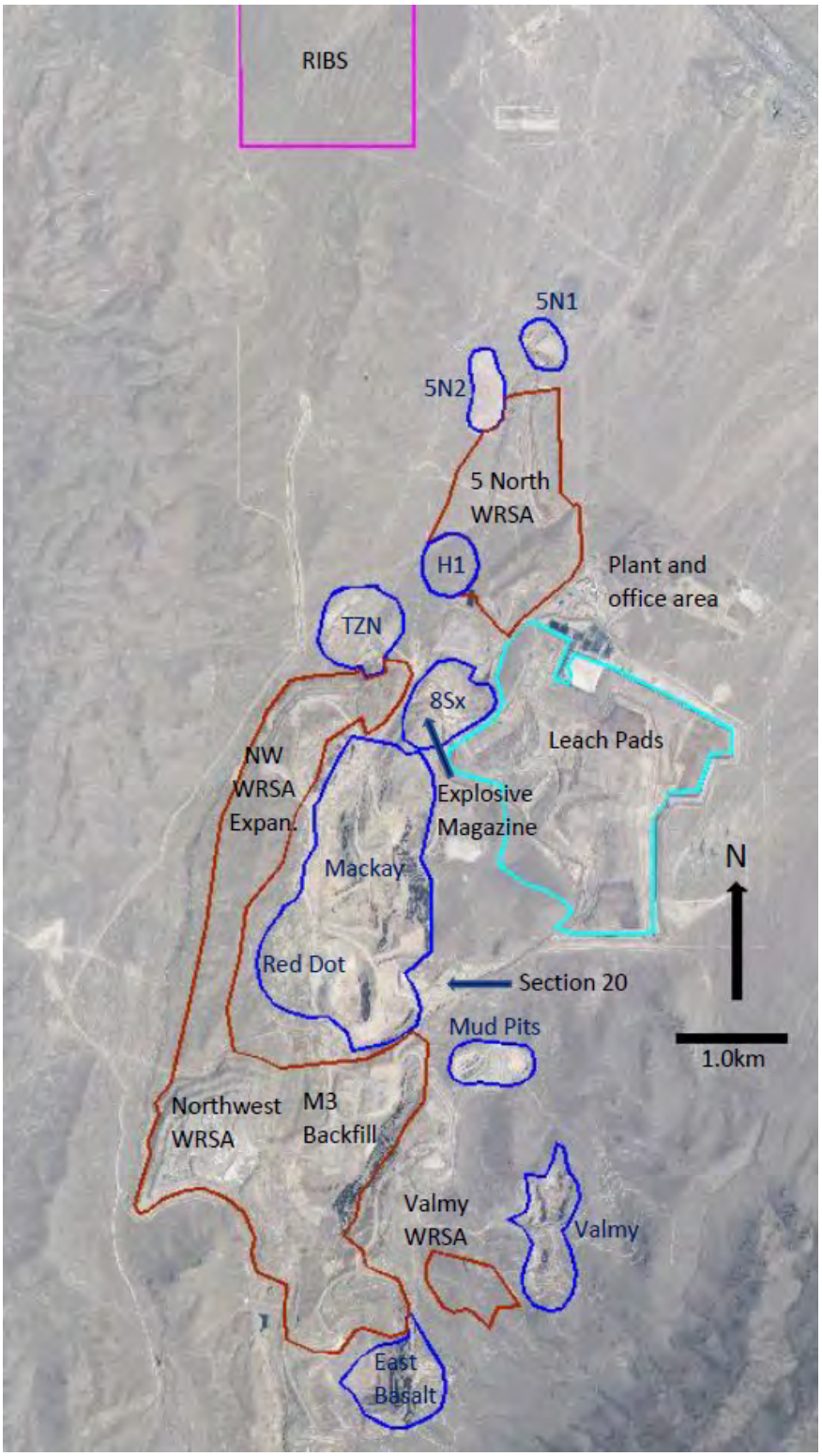
Water for Marigold is supplied from three existing groundwater wells located near the access road to the Property. Marigold owns groundwater rights and collectively allows up to 3.134 Mm^3 of water consumption annually, the majority of which is used as makeup water for process operations. On average, total freshwater makeup is 2.4 m^3/min. The well pump parameters are listed in Table 15.1, and the locations of the pumps are shown in Figure 15.2.

Table 15.1 Pump Assets

Pump Asset	Pump Capacity (hp)	Power Consumption (kW)
793-PMP-001	75	56
793-PMP-002	150	112
793-PMP-003	150	112

Discussion of the extraction and infiltration of pit water is included in Section 13.14.

Figure 15.1 LOM Site Map Showing Final Pit Limits, Waste Dumps, and Leach Pad



MMC, 2021

15.2 Buildings and Facilities

15.2.1 Buildings and Facilities in Main Plant and Offices Area

The buildings and facilities described below are located in the main plant and offices area as shown in Figure 15.3 and Figure 15.4:

- Truck shop and mobile maintenance warehouse: The Marigold truck shop complex is located near the mine entrance. It is a four-bay shop sized for 300-tonne class haul trucks. The shop contains a tool crib, oil and lubricant bulk storage, ten offices, locker rooms, training room and warehouse. A covered warehouse storage yard is located adjacent to the admin building complex.
- Mill building: The mill building consists of facilities supporting the metal recovery operations, including the refinery and metallurgical laboratory. Adjacent to the mill building is the thickener water storage tank and remaining CIL tanks from the 1989 flowsheet.
- Crushing plant: The crushing plant is used to produce stemming for blastholes, road material and over liner for heap leach pad. The crusher is a remnant from the 1989 flowsheet.
- Heap leach carbon columns: The heap leach carbon columns are an integral part of the gold recovery process, which is detailed in Section 14.
- Wash bay: The wash bay is located next to the truck shop and consists of one covered bay. The wash bay building also contains a settling pond for water recycling.
- Administration building and light vehicle (old) shop: The main administration building encompasses most site-support departments and includes a small warehouse facility, the shovel and drill shop (former truck shop), light-vehicle maintenance bay and the assay laboratory. Adjacent to this building are trailers which provide additional office space.
- Assay laboratory: The assay laboratory supports ongoing mine operations, including grade control and gold solution analysis.
- Motor control centre (MCC): The motor control centre houses controls for the pumps and boosters for the barren and pregnant solution ponds.

15.2.2 Additional Buildings and Facilities on Site

Additional buildings and facilities on site include:

- Site access building
- Potable water treatment building
- Process line-out building
- Radio shop
- Safety building
- Hose shop and storage
- Tire pad
- Fuel stations

15.2.3 Additional Facilities on Section 20

Additional facilities are located on Section 20, which is identified in Figure 15.1. These facilities include:

- Welding and fabrication shop
- Dispatch/MineCare office and mine operations line-out building

- GPS dispatch receiver
- Diesel tanks and fuelling station

15.3 Explosives Magazine

The explosives magazine is located a safe distance from the plant and offices area as identified in Figure 15.1.

15.4 Tailings Storage Facility and Water Diversion

The TSF was decommissioned and reclaimed. The only remaining activity concerning the TSF is ongoing monitoring.

The Trout Creek water diversion structure and flood control dam is located west of the former Basalt Pit. It is designed for a 100-year storm event.

15.5 Leach Pads and Solution Ponds

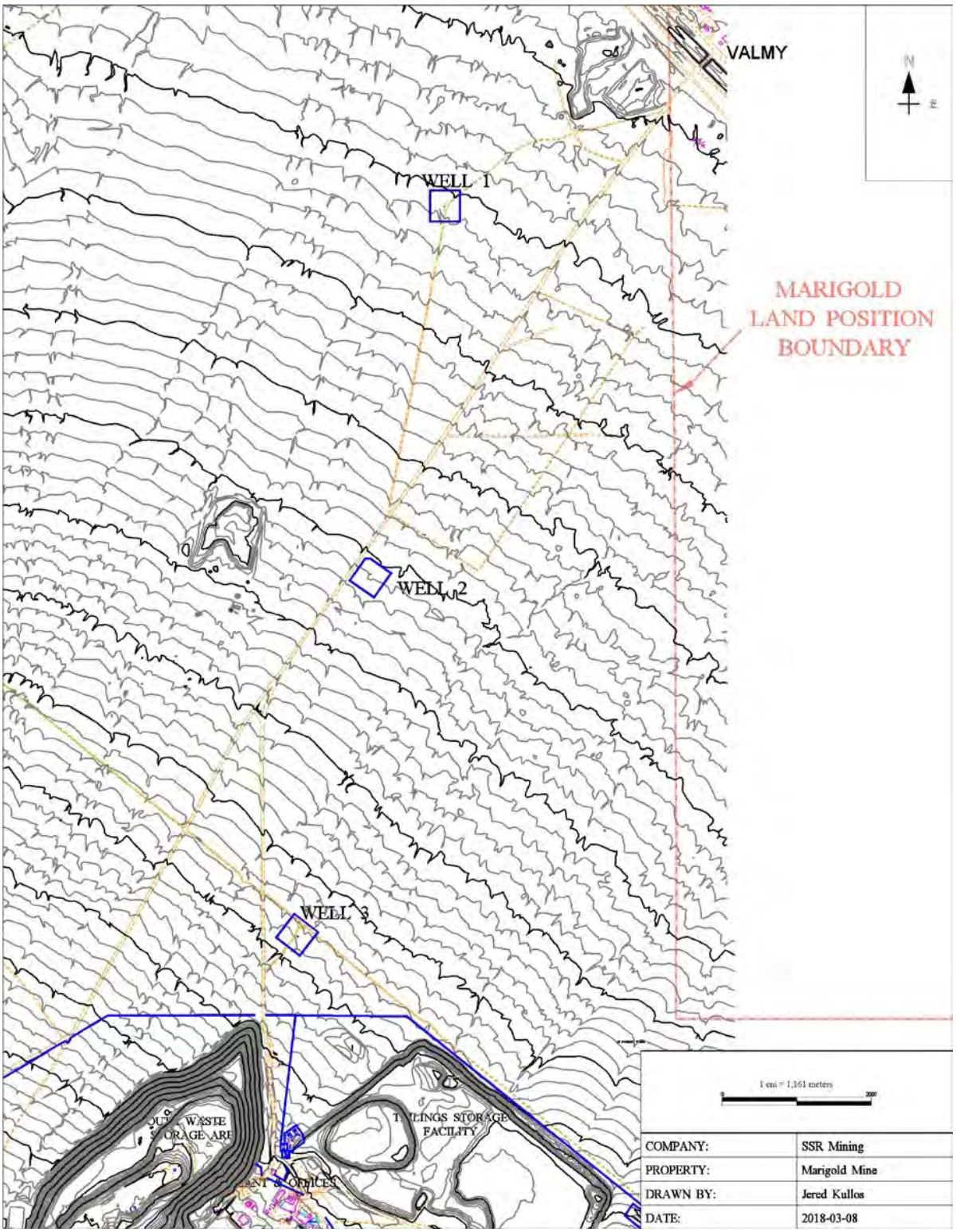
The leach pad is discussed in detail in Sections 14 and is shown in Figure 15.1.

Details on the barren and pregnant solution ponds can be found in Section 14.

15.6 Waste Dumps

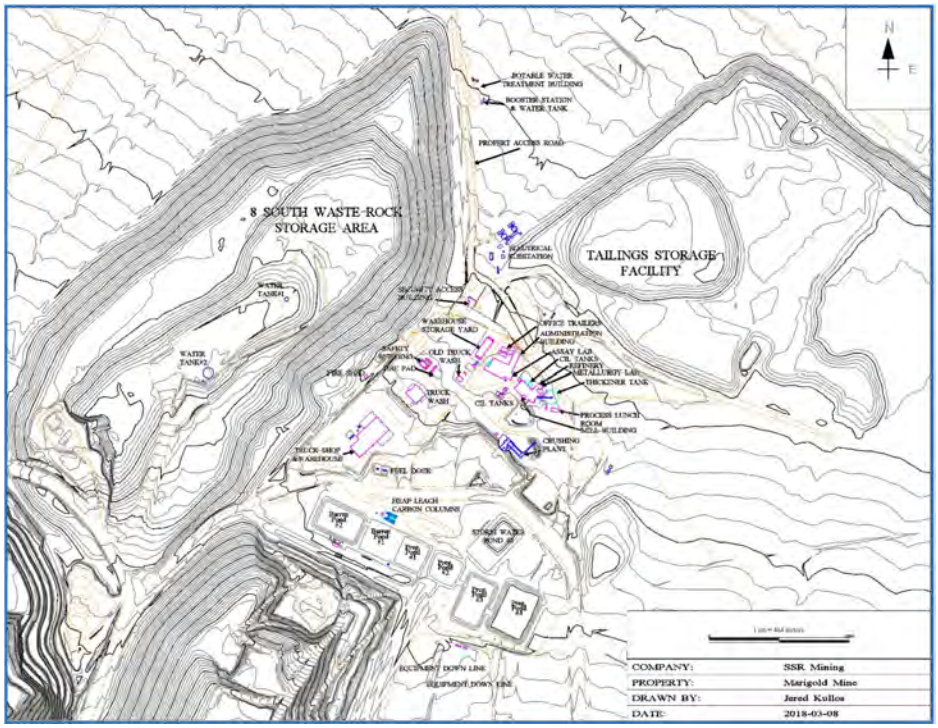
Details on completed, in progress, and future waste dumps can be found in Section 13. The general location of planned and current waste dumps is shown in Figure 15.1.

Figure 15.2 Well Sites



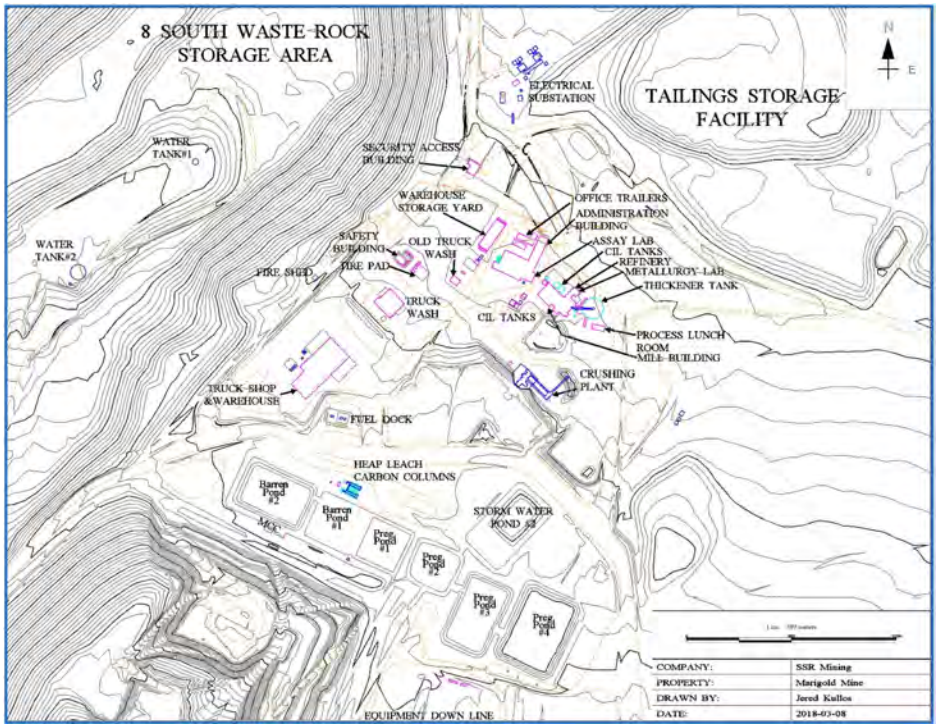
SSR, 2018

Figure 15.3 Main Infrastructure Area



SSR, 2018

Figure 15.4 Plant, Shops and Offices



SSR, 2018

16 MARKET STUDIES

16.1 Marketing and Metal Prices

The metal prices used in the Marigold21TRS are based on an internal assessment of recent market prices, long-term forward curve prices, and consensus among analysts regarding price estimates. For the economic analysis in the Marigold21TRS, the metal prices shown in Table 16.1 were used.

Table 16.1 Metal Prices

Metal	Unit	Average	2022	2023	2024	2025	2026	>2026
Gold Price	$/oz	1,647	1,800	1,740	1,710	1,670	1,600	1,600
Silver Price	$/oz	21.56	24.00	23.00	22.00	21.00	21.00	21.00

Marigold currently produces gold/silver doré bars. The doré refining terms are typical and consistent with standard industry practices and reflect similar contract conditions for doré refining worldwide.

The doré is securely transported by road freight to a refinery where it is refined into gold bullion. The bullion is sold by SSR to banks that specialise in the purchase and sale of gold bullion.

No external consultants or market studies were directly relied on to assist with the sales terms and commodity price projections used in the Marigold21TRS. The relevant QP agrees with the assumptions and projections presented in this section of the Marigold21TRS.

16.2 Contracts

There are a number of acceptable refineries with the capacity to refine doré. Currently, SSR has entered into a non-exclusive refining agreement with Asahi Refining USA, Inc., and the terms and conditions of this contract are within industry norms. The transportation and refining costs for the doré and other operating costs are also in accordance with industry standards.

17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS

17.1 Environmental Studies

Significant portions of the Property exist on public lands administered by the BLM. Therefore, the majority of environmental studies related to mining activities are conducted under BLM authority as part of the NEPA regulations, which require various degrees of environmental impact analyses dictated by the scope of the proposed action. Marigold has undergone several significant NEPA actions in the normal course of operational planning; the most recent is an amendment to the existing PoO to permit the future mining of all pits to their planned maximum depths.

The environmental baseline studies to support the Environmental Impact Statement (EIS) process were initiated in 2013. These baseline studies completed in preparation for the Plan of Operations – Mackay Optimization Project Amendment included, but were not limited to, socioeconomics, air quality impacts, cultural and archaeological resources, groundwater model, pit lake model, screen-level ecological risk assessment (SLERA), waste rock/material characterisation, water characterisation, sage grouse habitat evaluation, evaluations for flora and fauna, and feasibility evaluation and pilot testing for rapid infiltration basins. A list of the baseline studies and reports is shown in Table 17.1.

Table 17.1 Baseline Studies

Study Media	Documents/Reports Included Baseline Studies and Data Compiled for Marigold Mine Mackay Optimization EIS
Hydrology/Water Quality/ Geochemistry	Groundwater Model Report, Waste rock Management Plan, Water Characterisation Report, Water Management Plan, Pit Lake Model Report, Screening Level Ecological Risk Assessment Report
Air Quality	Air Quality Assessment
Flora/Fauna	Habitat Evaluations (including sensitive special surveys), Migratory Bird Surveys, Plant Surveys, Weed Management Plan, Raptor Nest Survey, Bat Survey, Sage Grouse Habitat Survey
Socio-Economic	Economic Impact Report
Cultural Resources	Cultural Resource Survey

The final EIS record of decision approving the amended plan of operations was received 30 October 2019.

Scope of the amended plan of operations included:

- Increasing surface disturbance by 833 ha acres on private and public lands.
- Consolidation of multiple pits into three larger pits with associated expansion of pits, waste rock storage areas and leach pads.
- Mining below the historic water table requiring installation of facilities to extract and dispose of excess groundwater.

The approval allowed for infiltration of excess dewatering water by way of rapid infiltration basins (RIBs) on private (leasehold) land north of the mine. An alternative location on adjacent BLM land is in the process of being approved. RIB testing, approval and construction, and the associated water pollution control permit issuance is expected by early 2023. In the interim, mine dewatering and infiltration is proceeding according to the LOM plan by means of temporary surface discharge permits allowing water diversion into local watercourses.

Subsequent to the EIS, a minor modification was submitted and approved through the BLM and the NDEP to increase the total approved disturbance to 3,296 ha; which was related to converting some land for heap leach cell 19B construction, modifying waste rock storage facilities, and converting some land to infill.

SSR has a reasonable expectation that all necessary operating permits will be granted within the required timeframes to meet the LOM plan.

17.2 Environmental Permits

Specific federal, state and local (Humboldt County, Nevada) regulatory and permitting requirements apply to Marigold activities. Marigold currently holds active, valid permits for all current facets of the mining operation, including, but not limited to, those permits listed in Table 17.2.

Table 17.2 Marigold Mine Permits 31 December 2021

Permit Name	Permit Number
Plan of Operations	NVN-065034 (previously N26-88-005P)
Reclamation Permit and Bond	0108
Water Pollution Control Permit (including Petroleum Contaminated Soils Permit)	NEV0088040
Stormwater General Discharge Permit	NVR300000
Title V Air Quality Operating Permit	AP1041-2967
Class II Air Quality Operating Permit	AP1041-3666
Mercury Operating Permit to Construct: Phase II air)	AP1041-2254
EPA/RCRA ID	NVD986766954
Industrial Artificial Pond Permit	39502
Jurisdictional Waters of the U.S. Determination	N/A (no jurisdictional waters) (August 2019 determination)
Class III Landfill Waiver	SW1764
Hazardous Materials Permit (State of Nevada)	97207
Potable Water Permit	HU-1103-NTNC
Septic Permit	GNEVOSDS09-0016
	GNEVOSDS09-S0341
	GNEVOSDS09-L0252
DOT Hazardous Materials Registration	061521550469DF
Liquefied Petroleum Gas – Class 5 License	5-3482-01
Trout Creek Dam Permit (including Dam/Impoundment Permit)	J-666
Water Rights	83256 (Changed 3691 (Certificate 583))
	2324 (Certificate 584)
	86582
	86583
	86584[1]
	86585[1]
	87235-87242
	76425S01, 76425S02, 76425S03
	88986
	90787
	91141[1]
	90788
	3282 (Certificate 499)
	V01898
	2216 (Certificate 498)
County Conditional Use Permit	UH-15-07
MSHA ID	26-02081

1. As at November 2021, permit is pending with the State of Nevada Division of Water Resources
Certain permits listed here are renewed annually and may be issued under a different permit number.

Given the number of active permits at Marigold, some degree of permit modification or renewal effort is typically underway. With the exception of water-related permits already discussed, approved permits are in place for all planned mining activities.

17.3 Environmental Impacts

At present, there are no known environmental issues that impact the ability to extract Mineral Resources at the Property. Specifically, no threatened or endangered species are known to exist at the site; there are no year-round watercourses on the Property; groundwater impact of mining has been addressed and all environmental regulations and permit conditions are continuously being met. Cultural resource surveys have been conducted across the Property, and an approved programme of avoidance, distance buffer and mitigation measures are in place as part of the existing PoO.

Waste rock is managed in several designated surface storage areas within the Property boundary, concurrently reclaimed to 3:1 slopes when the sequence of mining operations allows, and then re-vegetated with native seed mixes. When possible, older pits are backfilled with waste rock. To date, all waste rock encountered at Marigold has been oxide in nature and non-acid-generating as confirmed by quarterly sampling. There are no waste rock areas with observed runoff or stability concerns.

The only tailings area at Marigold operated during a limited period from 1989 to 1999; this area has been reclaimed and revegetated, and the State Engineer's office no longer lists it as a permitted dam.

17.4 Environmental Monitoring Programme

Marigold has an extensive monitoring programme in place for both groundwater quantity and quality and seasonal surface water quantity and quality. Results from this programme as well as long-term trend data are reported to both state and federal agencies. Air, geochemical, vegetation, wildlife, and industrial health monitoring are also conducted regularly according to permit requirements. Agency representatives from the Nevada Division of Environmental Protection, Nevada Department of Wildlife, and Bureau of Land Management also conduct routine compliance inspections on a quarterly basis.

17.5 Reclamation and Closure

MMC engages in concurrent reclamation practices and is bonded for all permitted features, as part of the Nevada permitting process. Current bonding requirements are based on third-party cost estimates to reclaim all permitted features at the Property. Both the BLM and State of Nevada review and approve the bond estimate, and the BLM holds the financial instruments providing the bond backing.

State regulatory requirements mandate a formal closure plan be filed two years before the facility initiates closure. Both the BLM and State require a tentative closure plan as part of normal NEPA and operating permit requirements. Marigold has filed and maintained these closure plans, which, in conjunction with standard reclamation and re-vegetation of all disturbed areas, include discussions on removal of most infrastructure, monitoring, and notably long-term heap leach drain down solution management. Marigold's currently approved closure plan describes a series of evapotranspiration cells to manage long-term solution drain down following an approximate two-year period of active solution volume reduction through evaporation.

Costs associated with all reclamation and closure activities are discussed in Section 18 and are reflected in the agency-approved bond amount.

17.6 Community Relations and Social Responsibilities

There are currently no outstanding negotiations or social requirements regarding operations at the Property. The nature of NEPA and large-scale state permits involve public comment periods as well as public meetings. Recently held meetings generated minimal concern from the community, and local county government has been consistently supportive of continued mine operations at Marigold. There are no formal discussions required with local stakeholders or Native American tribal representatives, but mine management does meet informally to provide general updates and to discuss proposed donation/support requests.

Community support and engagement is well established at Marigold, and mine management provides regular updates with respect to the Property to local stakeholders and regulators.

18 CAPITAL AND OPERATING COSTS

18.1 Introduction

Costs related to the development of reserves are based on a combination of historic site costs for fixed costs and a zero-base cost method for calculating variable costs. The variable costs are based on tonnage mined, tonnage processed, or hours worked for mining, maintenance, process and administration costs. The total planned spend is divided by tonnes mined for mining and maintenance unit costs, and ore tonnes stacked for process and administration unit costs.

18.2 Capital Costs

LOM project capital costs (excluding closure costs) are summarised in Table 18.1

Table 18.1 Summary of Capital and Reclamation Costs

Capital Costs	**Total ($M)**
Exploration and Development	9.1
Sustaining Capital	348.9
Mine Development	10.3
Total Capital Costs	**368.3**
Reclamation	71.8
Total Capital and Reclamation	440.1

Sustaining capital costs include:

- Replacement of mining equipment as it reaches its economic life during the remaining 11 years of mining. The majority relates to replacing haul trucks and excavators but is also covers drills and mine support equipment. Equipment replacement represents approximately 25% of future sustaining capital costs.
- Major equipment rebuilds and component replacement. In order to maintain equipment availability for the extended equipment lives, major equipment is programmed for rebuilds at set points during its economic life. Approximately 50% of future sustaining capital is capitalised parts and maintenance costs associated with these rebuilds. Major components with a life of more than one year are capitalised.
- Costs associated with on-going expansion of the leach pad and associated process infrastructure represents about 8% of future capital.
- Dewatering and permitting costs total about 17% of future sustaining capital, with the majority associated with dewatering infrastructure (wells, pipelines, rapid infiltration basins) that are required to lower the water table in advance of planned mine development.

The costs associated of reclamation and closure activities at Marigold were estimated to be $71.8M with the majority of the costs incurred from 2033 through to 2045.

18.3 Operating Costs by Category

The LOM operating costs estimate is $10.05/t of processed ore. Operating costs per tonne for the LOM and next five years of operations are shown in Table 18.2.

Table 18.2 Summary of Operating Costs

Operating Costs	Total LOM ($M)	$/t Ore	
		Years 1–5	LOM
Mining	1,469	7.53	7.18
Processing	373	1.57	1.82
Site Support	214	0.92	1.05
Total Operating Cost	**2,056**	**10.01**	**10.05**

Totals may vary due to rounding

18.3.1 Mine Operating Costs

The LOM operating cost estimates include:

- Hauling
- Blasting
- Loading
- Road and dump maintenance
- Drilling
- Mine engineering and administration
- Maintenance
- Dewatering

Production Drilling

Depending on rock conditions, a combination of hammer drilling and rotary drilling is used at the Property.

The major operating cost categories for drilling in the LOM plan are labour, fuel and consumable supplies, including drill hammers, drill bits and drill steel.

Blasting

The major operating cost categories for blasting in the LOM are labour, ammonium nitrate, emulsion, contract blasting labour and support, and blasting accessories. These categories comprise more than 95% of the total blasting costs. Ammonium nitrate is the primary blasting agent, and, in areas of hard rock or when meteoric water exists from perched groundwater, rain or snow, an emulsion product is used as a supplementary blasting agent.

Loading

The major operating cost categories for loading are labour, fuel for the PC7000 shovels, power for the P&H 4100 shovel, and ground engaging tools (GET), which include bucket teeth and other steel parts for all loading equipment.

Hauling

The major operating cost categories for hauling are labour, fuel, tires, and wear parts.

Roads And Dumps

The major operating cost categories for the support equipment fleet are labour, fuel, tires, dust suppression, and GET.

Maintenance

Mine maintenance costs associated with the LOM plan are for preventative and repair maintenance on the mine operations mobile production equipment and mobile support equipment. Maintenance costs are developed from historical data and planned work that is based on hours that the equipment accumulates during normal mining activities.

The major operating costs for mine maintenance are labour, maintenance repair parts, on-site contract labour, lube oils and greases, filters, hydraulic hoses, maintenance supplies, small tools and welding supplies.

Dewatering

Dewatering operating costs are mainly associated with (mains) power consumption for the dewatering wells.

Processing

Processing costs over the LOM include all costs required to recover the gold from the rock after it is mined and placed on the leach pad. This includes the cost of chemicals to process the ore, pumping costs to get the barren solution to the leach pad, pumping costs to get the pregnant solution to the carbon columns for gold recovery after it returns from the leach pad, and the costs associated with the extraction of the gold from the carbon to produce the final doré product shipped from Marigold.

A total of 85% of the operating costs for processing are labour, cyanide, lime, power, maintenance supplies and leach supplies. The remaining 15% of the costs are for other supplies, reagents and final off-site refining costs required to produce doré to a standard that meets the criteria defined by the London Bullion Market Association (LBMA).

The Marigold laboratory is under the direction of the Processing Department and operating costs include expenses associated with sampling, assaying and supplies related to leaching and refining.

18.3.2 G&A

G&A costs for the LOM include accounting and site administration, warehousing, safety, human resources, and environmental. These costs are related to supporting the operations groups in the mine, maintenance and processing departments.

The major operating cost for this group is labour, taxes, insurance, transportation expenses, and legal and audit expenses make up a large portion of the remaining costs.

19 ECONOMIC ANALYSIS

19.1 Introduction

This economic analysis presents the key economic performance indicators for Marigold, including cash costs, all-in sustaining costs (AISC) and net present value (NPV), based on a 5% discount rate and mid-year cash flows approach. Cash flow projections commenced on 1 January 2022 and are estimated over the remaining LOM based on estimates of sales revenue, site production costs, capital expenditures, and other cash flows, including taxes and reclamation expenditures, all presented on a real cash flow basis.

This economic analysis is based on the latest Marigold LOM plan that excludes Inferred mineralisation. Differences between the economic analysis quantities and the Mineral Reserve in Section 12 are the result of actual end of 2021 face positions used to report the Mineral Reserve being different to those predicted in the LOM plan. These differences are not considered material.

Marigold produces gold doré which is refined into gold bullion and, in turn, sold to bullion banks. The financial model includes recoverable gold on the leach pad and gold doré on hand as at 1 January 2022, all of which is sold over the remaining LOM. There is expected to be approximately 2,375 koz recoverable gold stacked over an active mining period of eleven years. LOM production includes an additional 161 koz payable gold that are on the leach pad as at 1January 2022, for a total production of 2,536 koz payable gold. Reclamation is expected to continue for thirteen years after the last mining is completed. Gold production continues through 2038. The final reclamation occurs in 2045.

Cash inflows from sales assume all production within a period is sold, with minimal working capital movements, using a LOM average gold price of $1,647/oz.

The estimates for site production costs, sustaining capital and reclamation expenditures have been developed specifically for Marigold and are presented in earlier sections of the Marigold21TRS.

Based on SSRs projections as set forth in the Marigold21TRS, Marigold will incur LOM cash costs of $1,009 per payable ounce of gold sold and AISC of $1,154 per payable ounce of gold sold over the LOM to 2038. The after-tax NPV using a 5% discount rate and mid-year cash flows approach is $860M over the LOM.

Key project economic indicators are summarised in Table 19.1.

Table 19.1 Marigold Key Economic Indicators

Item	Unit	Amount
Oxide Processed		
Heap Leach Quantity Placed	Mt	205
Gold Feed Grade	g/t Au	0.48
Total Gold Produced		
Total Payable Gold	koz	2,536
Gold Recovery	%	74.7[1]
5-Year Annual Average		
Total Payable Gold Produced	koz/yr	215
Free Cash Flow	$M/yr	72
Total Cash Costs (CC)	$/oz payable Au	1,042
All In Sustaining Costs (AISC)	$/oz payable Au	1,278
Key Financial Results		
LOM Total Cash Costs (CC)	$/oz payable Au	1,009
LOM All In Sustaining Costs (AISC)	$/oz payable Au	1,154
LOM Site Operating Costs[2]	$/t treated	10.07
After-Tax NPV	$M	860
Discount Rate	%	5
Mine (processing) Life	years	17

1. Recovery includes impact of starting pad inventory
2. Includes operating cost plus $0.02/t refining cost
3. Differences between the Mineral Reserve and LOM quantities used in the economic analysis are due to differences between planned and actual 31 December 2021 face positions

19.2 Mine and Leaching Production Statistics

Mined material is either placed on the waste dumps or directly onto the leach pad over the course of eleven years of active mining. SSR has estimated its gold grades and recovery rates for each period to determine the recoverable ounces stacked. The annual production figures were obtained from the LOM plan. Total LOM production includes 164 koz recoverable gold that is on the leach pad as of1 January 2022.

A summary of estimated mine production and gold production over the LOM is shown in Table 19.2.

Table 19.2 Mining and Leaching Production

Year	Total Mined (kt)	Ore Mined (kt)	Au Grade (g/t)	Waste Mined (kt)	Gold Recovery (%)	Recover-able Gold Stacked (koz)	Gold Produced (koz)
2022	102,616	21,818	0.53	80,798	76.4%	282.2	230.0
2023	90,646	22,010	0.38	68,637	76.2%	203.6	260.1
2024	92,828	21,410	0.42	71,418	76.4%	218.3	200.4
2025	93,988	15,713	0.50	78,275	74.9%	190.1	201.9
2026	90,633	16,538	0.40	74,095	76.1%	161.3	182.3
2027	83,225	20,857	0.40	62,369	74.0%	198.5	138.3
2028	90,358	20,207	0.64	70,151	73.8%	305.5	302.7
2029	78,934	26,911	0.43	52,023	71.5%	265.5	278.6
2030	93,861	18,188	0.47	75,673	72.4%	198.2	220.3
2031	87,403	13,103	0.68	74,299	75.6%	215.6	209.8
2032	28,105	7,792	0.72	20,313	75.6%	136.0	162.1
2033	–	–	–	–	–	–	77.7
2034	–	–	–	–	–	–	29.9
2035	–	–	–	–	–	–	15.0
2036	–	–	–	–	–	–	10.0
2037	–	–	–	–	–	–	7.0
2038	–	–	–	–	–	–	10.0
Total	**932,597**	**204,547**	**0.48**	**728,050**	**74.7%**	**2,374.9**	**2,535.9**

1. Gold produced from 2033 onwards is derived from the residual recoverable gold remaining in the leach pad when mining is completed and is recovered through continued leaching from 2033 to 2038.
2. Recoverable Gold Stacked on Pads refers to gold content of ore stacked on the pads in that period that is recoverable by the leaching process. Gold Produced refers to the amount of gold recovered from the heap in that period and processed to product for sale. The difference between the values in these columns is due to the lag effect of the leach cycle on gold dissolution in the heap and ounces already in the pads as of 1 January 2022.
3. The LOM production quantities differ from the Mineral Reserve due to differences between planned mining and actual end of 2021 face positions.
4. Overall leaching recovery excludes impact of previously placed recoverable ounces.
5. Differences between the Mineral Reserve and LOM quantities used in the economic analysis are due to differences between planned and actual 31 December 2021 face positions.
6. Totals may vary due to rounding.

19.3 Sales and Refinery Process

The gold doré is poured at site and is transported by road via a secure vehicle to Asahi Refining USA, Inc. (Asahi) in Salt Lake City, Utah, which is approximately five hours away. SSR has entered into a non-exclusive refining agreement with Asahi, and the terms and conditions of this contract are within industry norms. The transportation and refining costs for the doré are also in accordance with industry standards.

Marigold or its agent sells all the gold (doré or refined bullion) to bullion banks.

19.4 Revenue

Annual revenue is determined by applying forecast metal prices to the estimated annual payable metal for each operating year. Sales prices have been applied to all LOM production without escalation.

To determine the metal price assumptions used to calculate revenue, SSR reviewed consensus forecasts. Consistent with the financial modelling approach, these consensus forecasts and metal price assumptions are expressed in constant 2022 dollars.

Forecast metal prices used to inform the economic model are shown in Table 19.3.

Table 19.3 Forecast Metal Prices

Metal	Unit	Average	2022	2023	2024	2025	2026	>2026
Gold Price	$/oz	1,647	1,800	1,740	1,710	1,670	1,600	1,600
Silver Price	$/oz	21.56	24.00	23.00	22.00	21.00	21.00	21.00

19.5 Operating Costs

Operating costs for Marigold, which include mining, processing, and site support, have all been estimated. Unit LOM and 5-year operating costs are summarised in Table 19.4.

Table 19.4 Unit Operating Costs

Operating Costs	Total LOM ($M)	$/t Ore	
		Years 1–5	LOM
Mining	1,469	7.53	7.18
Processing	373	1.57	1.82
Site Support	214	0.92	1.05
Total Operating Cost	**2,056**	**10.01**	**10.05**

19.6 Royalties

Marigold is subject to a variety of NSR royalty payments, payable to various parties under the terms of the leases, as described in Section 3. The annual average NSR royalty payments range from 3.7% to 10.0%.

19.7 Cash Costs and AISC

Over the production life cash costs are estimated to average $1,009 per payable ounce of gold sold, and AISC is estimated to average $1,154 per payable ounce of gold sold as shown in Table 19.6.

Table 19.5 Operating Costs per Payable ounce of Gold Sold

Operating Costs	Value ($/payable oz of gold sold)
Mine Operations	579
Processing	147
General and Administration	84
Inventory Adjustment	54
Royalties and Refining (net of silver credits)	144
Subtotal Cash Costs	**1,009**
Sustaining Capital	138
Development/Exploration	8
Total AISC	**1,154**

1. Inventory adjustment represents carrying values of starting leach pad and doré inventory at 1 January 2022, which are released into cash costs over the LOM through to 2038 as the associated gold ounces are sold.
2. Payable ounces of gold sold over the LOM total 2,535.9 koz.
3. Totals may vary due to rounding.
4. Cash costs and AISC per payable ounce of gold sold are non-GAAP financial measures.

Average annual cash costs per payable ounce of gold sold range from $868 to $1,201 during the eleven years of active mining and leach pad stacking. Table 19.7 summarises the cash costs and AISC over the LOM.

Table 19.6 Cash and AISC Unit Costs

Year	Cash Costs ($/payable oz of gold sold)	AISC ($/payable oz of gold sold)
2022	988	1,261
2023	913	1,233
2024	1,081	1,287
2025	1,116	1,318
2026	1,167	1,307
2027	1,201	1,449
2028	952	1,042
2029	868	937
2030	912	972
2031	919	990
2032	878	912

1. Cash costs include mine operations, processing, G&A, inventory adjustment, royalties and refining charges (net of silver credits). AISC includes cash costs and sustaining capital.
2. Totals may vary due to rounding.
3. Cash costs and AISC per payable ounce of gold sold are non-GAAP financial measures.

19.7.1 Taxation

Marigold is subject to Nevada Net Proceeds of Minerals Tax, Nevada property and sales taxes, and U.S. federal income tax. The economic analysis calculates these taxes in accordance with legislation enacted as at 1 January 2022. Property and sales taxes are accounted for in the operating costs of the mine.

Nevada Net Proceeds of Minerals Tax

The State of Nevada imposes a 5% net proceeds tax on the value of all minerals extracted in the State. This tax is calculated and paid based on a prescribed net income formula applied only to income and expenses from mining, disallowing deductions for exploration and related-party financing costs. This tax is a deductible expense for U.S. federal income tax.

Nevada Excise Tax

In 2021 the State of Nevada enacted Assembly Bill 495, effective 1 July 2021, which is an annual excise tax on gold and silver revenue. Under the bill, the tax rates vary based on the taxpayer's Nevada gross revenue. A 0.75 % rate is imposed on Nevada gross revenue of more than $20 million but not more than $150 million in a taxable year (defined as the calendar year). A rate of 1.10 % applies to Nevada gross revenue exceeding $150 million in any tax year. The LOM average rate is about 0.9%.

Nevada Property Tax

Humboldt County assesses property tax on 35% of the total appraised value of Marigold's real and personal property. The effective LOM current property tax rate is adjusted to reflect planned increases in the mine mobile fleet and leach pad areas. This property tax is a deductible expense for U.S. federal income tax.

Humboldt County Sales Tax

The Nevada sales tax rate for Humboldt County is 6.85%. Supplies and materials used in mining operations are taxed by the vendor at this rate. This sales tax is not recoverable but is a deductible expense for US federal income tax.

US Federal Income Tax

Federal income tax is determined under regulations that came into effect on 1 January 2022. Under these regulations, which removed alternative minimum tax, the mine is subject to a federal income tax rate of 21%.

19.8 Excluded Costs

Exploration costs unrelated to the delineation of existing Mineral Reserves have been excluded.

19.9 Sensitivity Analysis

The after-tax NPV calculation is based on the cash flows for the Property from and after 1 January 2022. Marigold is expected to generate $1,315M in pre-tax cash flow and $1,166M in after-tax cash flow over the LOM. The after-tax NPV using a 5% discount rate is $860M over the LOM.

Table 19.7 and Table 19.8 shows the results of sensitivity analysis from changes in discount rate, gold price, operating costs and sustaining capital. The cash flow used to evaluate Marigold is presented in Table 19.8.

Table 19.7 Marigold21TRS Gold Price Sensitivity

After-Tax NPV ($M)	Long-Term Gold Price ($/oz)							
Discount Rate	**1,000**	**1,200**	**1,350**	**1,400**	**1,600**	**1,750**	**1,800**	**2,000**
Undiscounted	516	733	895	949	1,166	1,329	1,383	1,600
5%	472	657	796	842	1,027	1,166	1,212	1,397
10%	418	565	676	713	**860**	970	1,007	1,155
12%	350	453	530	556	659	737	762	866
15%	329	419	487	509	599	667	689	779

Table 19.8 Marigold21TRS Gold Price Sensitivity

Variable	Change from Base NPV5% ($M)				
	-20%	**-10%**	**–**	**10%**	**20%**
Capital Cost	1,096	978	860	742	623
Operating Costs	915	887	860	832	805

Table 19.9 Cash Flow

Item	Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
Revenue																									
Heap Leach - Gold Revenue	**4,176**	414	453	343	337	292	221	484	446	352	336	259	124	48	24	16	11	16	0	0	0	0	0	0	0
By-Product Revenue	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
Net Revenue	**4,177**	414	453	343	337	292	221	484	446	353	336	259	124	48	24	16	11	16	-	-	-	-	-	-	-
Realisation Costs																									
Freight and Refining	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
Royalties	**364**	40	43	37	36	28	24	53	40	22	19	12	6	2	1	1	0	1	-	-	-	-	-	-	-
Total - Realisation Costs	**367**	41	43	38	36	28	24	53	41	22	19	12	6	2	1	1	0	1	-	-	-	-	-	-	-
Operating Costs																									
Mining	**1,469**	150	139	147	152	146	136	137	132	133	137	62	-	-	-	-	-	-	-	-	-	-	-	-	-
Processing - Heap Leach	**373**	31	31	31	30	30	30	31	32	30	29	27	20	11	3	3	2	2	-	-	-	-	-	-	-
Site Support	**214**	19	18	18	17	17	17	17	16	16	16	16	6	6	5	4	2	2	0	0	0	0	0	0	0
Total - Site Operating Costs	**2,056**	200	188	196	199	193	183	184	180	179	182	104	26	17	8	7	4	3	0	0	0	0	0	0	0
Operating Surplus / (Deficit)	**1,755**	173	222	109	102	71	14	247	225	151	135	143	93	29	15	8	7	12	–0	–0	–0	–0	–0	–0	–0
Capital Costs																									
Sustaining	349	57	77	35	41	26	34	27	19	13	15	5	0	–	–	–	–	–	–	–	–	–	–	–	–
Closure	72	–	–	–	–	–	–	0	0	0	0	0	8	8	7	6	5	8	10	6	4	5	2	1	1
Development/ Exploration/Working and Other	19	6	6	6	–	–	0	–	0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total - Capital Costs	440	63	83	41	41	26	34	27	20	14	15	6	8	8	7	6	5	8	10	6	4	5	2	1	1
Net Cash Flow Before Tax	1,315	110	139	68	61	46	-20	220	205	138	120	137	85	21	9	2	2	4	-11	-7	-5	-5	-2	-1	-1
Tax	148	19	17	13	11	3	-1	23	25	16	14	13	5	-0	-1	-2	-2	-3	-1	-0	-0	-0	-0	-0	-0
Net Cash Flow After Tax	1,166	91	122	55	50	42	-19	196	180	121	105	124	80	22	10	4	4	6	-9	-7	-5	-5	-2	-1	-1

Totals may vary due to rounding

20 ADJACENT PROPERTIES

Marigold is located near the northern limits of a regional belt of ore deposits commonly referred to as the Battle Mountain-Eureka trend. This north–north-west striking alignment of mines and prospects. It is the second most prolific gold belt in Nevada after the Carlin trend, and it includes variants of Carlin Type Gold Deposits (CTGD), distal type sediment hosted deposits as well as skarn and copper–gold porphyry systems.

Three major gold deposits lie adjacent to the SSR property. Nevada Gold Mines' Phoenix mine is ~10km south-east of the Buffalo Valley property, i-80 Gold Corp's Lone Tree mine is ~7 km north-east of Marigold, and Waterton Global Resource Management's Converse project is ~6 km west of Marigold. There are also several inactive mines and exploration and/or development projects that can be found within a 19 km radius of the property.

Reported production and Mineral Resources for these adjacent properties are presented in Table 20.1.

Table 20.1 Past Production and Mineral Resources for Adjacent Properties

Property	Owner	Years of Production	Gold Produced (Moz)	Stated Mineral Resources and Mineral Reserves (gold unless otherwise stated)		
				Mineral Reserves	Measured and Indicated Mineral Resources	Inferred Mineral Resources
Phoenix[1]	Nevada Gold Mines	2006–Present	unknown	2.9 Moz gold (0.58 g/t) 840 Mlb copper @ 0.18%	5.28 Moz	0.34 Moz
Lone Tree Complex[2]	i-80 Gold Corp.	1991–2012	4.53	n/a	610 koz of Au @ 1.51g/t	2.76 Moz @ 1.6 g/t
Converse[3]	Waterton	–	–	n/a	6.12 Moz	0.59 Moz

1. Nevada Gold Mines, May 2021; Investor Day Presentation
2. i-80 Gold Corp., 2021; Technical Report, filed 21 October 2021
3. Chaparral Gold, 21 October 2014; website, deposit sold to Waterton Global Resource Management in 2014

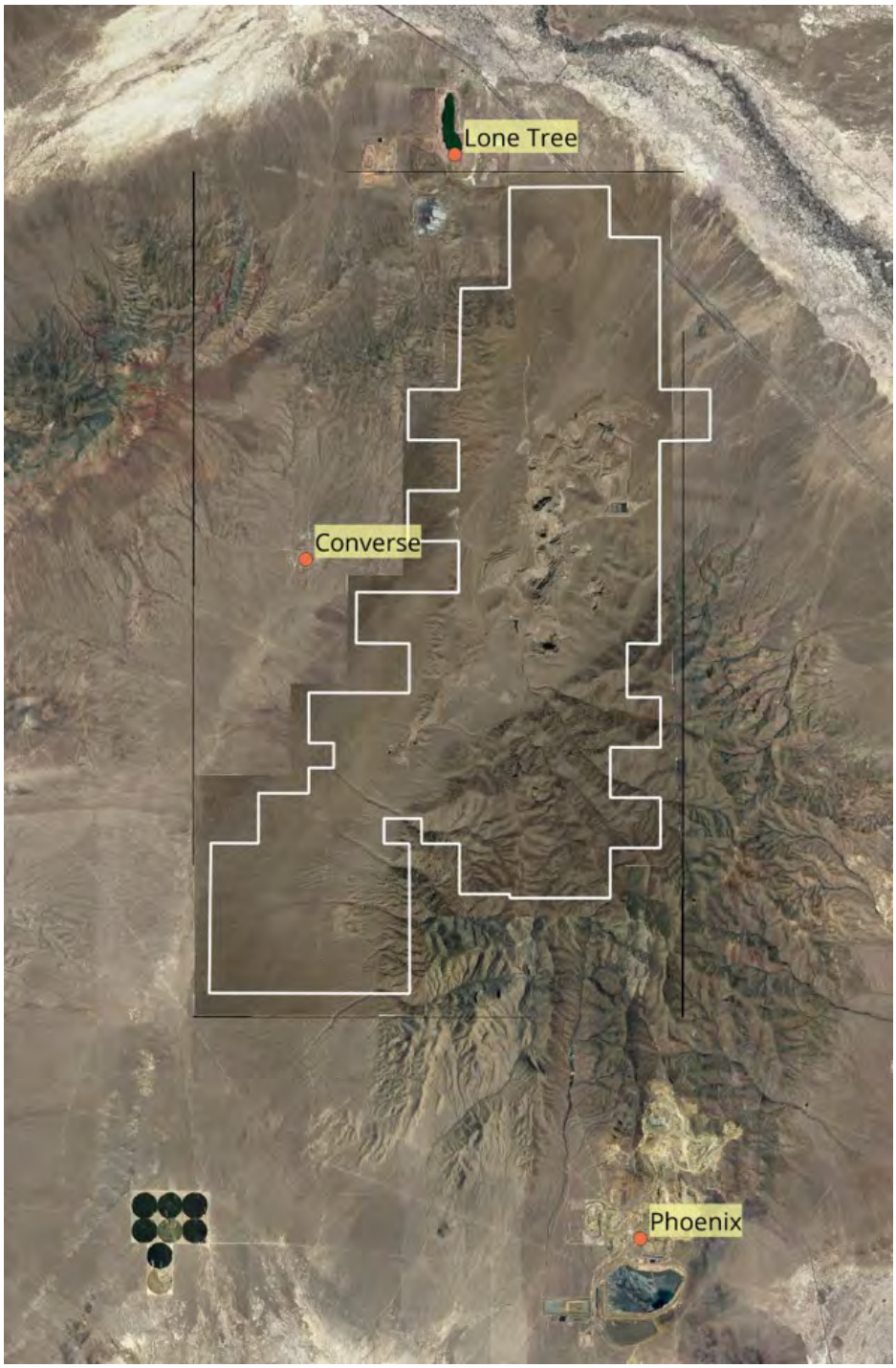
Phoenix mine is currently operating by Nevada Gold Mines and is polymetallic Au-Cu-Ag porphyry system that has been in production since 2006. The mine includes various deposit types, all structurally controlled by north-west trending faults.

Lone Tree is considered a distal-disseminated deposit that may be genetically related to a porphyry-type system, mineralization was structurally controlled by north–north-west trending faults.

At Converse, gold mineralization is hosted within a skarn that developed within the Havallah Formation. No production has occurred at Converse to date.

A plan map of mine properties adjacent to Marigold is presented in Figure 20.1.

Figure 20.1 Plan Map Showing Marigold Property Outline and Mineralisation Relative to Adjacent or Nearby Mines or Published Deposits



The outer property boundary is shown as white outline
SSR, 2017

21 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information

22 INTERPRETATION AND CONCLUSIONS

The estimate of Mineral Resources presented in Table 11.11 and the estimate of Mineral Reserves presented in Table 12.1 were prepared for Marigold with an effective date of 31 December 2021.

The estimate of Mineral Resources was prepared using a domain-controlled, ordinary kriging technique with verified drillhole sample data derived from exploration activities conducted by various companies from 1968 to 2021.

The conversion of Mineral Resources to Mineral Reserves used industry best practices to determine operating costs, capital costs, and recovery performance. Therefore, the estimates are considered to be representative of actual and future operational conditions.

Based on an evaluation of the available data from the Marigold mine, the authors of this report have drawn the following conclusions.

Possible areas of uncertainty that could materially impact the estimate of Mineral Reserves at Marigold include the commodity price assumptions, capital and operating cost estimates, estimation methodology, pit dewatering, and the geotechnical slope designs for the pit walls. These reasonably foreseeable impacts of the uncertainties in the cost, operations and estimation assumptions are discussed here:

- Commodity price assumptions: If the price of gold drops significantly below the cost of production for a significant period of time, it becomes uneconomic to extract the gold.
- Capital/operating cost estimates: If the operating cost of a major contributor to the operation, such as explosives, labour or fuel, increases more than has been reasonably estimated, the profit generated from the sale of gold ounces will decrease. And similarly, if the estimated capital cost to expand a heap leach pad or rebuild equipment, for example, is significantly more than anticipated, the additional capital input required may impact the profitability of the operation.
- Mineral Resource estimation methodology: The impact of the estimation methodology on the economic viability will be minimal because the applied methodology meets industry standards and has been verified by independent/external consultants.
- Mineral Reserves estimation methodology: The impact of the estimation methodology on the economic viability will be minimal because the applied methodology meets industry standards and has been verified by independent/external consultants and has been validated by historical reconciliation with mine production.
- Geotechnical slope designs for pit walls: Marigold has operated for approximately 30 years, and the mining conditions and stable wall angles for the different rock types are well understood. There may be a risk that unidentified fault plane(s) and wall conditions encountered below the water table require the angle of a pit slope wall to be lowered to overcome potential multi-bench failure. Lowering the slope angle of the wall would mean that more waste material would need to be mined to reach the ore zone. Mining more waste than anticipated will increase the cost of production per ounce of gold and will negatively impact the project economics. Alternatively, ore defined as Mineral Reserves could be left in the ground un-mined if the cost to remove overlying waste rock exceeds the value of the recoverable metal.

There are a number of active environmental permits at Marigold, and some degree of permit modification or renewal effort is typically always underway. The Marigold21TRS was prepared with the latest information regarding environmental and closure cost requirements and has indicated that work is in progress with regard to the renewal or extension of additional environmental permits.

The Marigold21TRS presents the LOM plan for Marigold as of 31 December 2021. Mining commenced on the Marigold deposit in 1988 with an expected mine life of eight years; now, approximately 30 years of continuous gold production later, the latest LOM plan still foresees an eleven-year mine life. The future development for Marigold is planned as a large open pit ROM heap leach operation, which exploits Mineral Resources exceeding 5 Moz contained gold.

In total, the LOM plan states that Marigold will produce 2,536 koz of gold over an active mining period of eleven years with residual leaching over a further six years to 2038. LOM production includes an additional approximately 164 koz payable gold sold that is on the leach pad as at 1 January 2022.

Marigold will operate at an average total material movement rate of 250,000 tpd, or 90.4 Mtpa over the next ten years. Reclamation is expected to continue for an additional seven years following the last gold production. Going forward, operational efficiency and cost control measures remain key areas of focus for optimum margins, increasing Marigold's medium to long-term potential and enabling the conversion of additional Mineral Resources into Mineral Reserves.

Based on SSR's projections as set forth in the Marigold21TRS, Marigold will incur average annual cash costs of $1,009 per payable ounce of gold sold and AISC of $1,154 per payable ounce of gold sold over the processing LOM to 2038. The after-tax NPV using a 5% discount rate is $860M over the LOM.

Several optimisation studies were initiated in 2017 to investigate opportunities to further increase Marigold's operating efficiency. These studies include haulage profile optimisation, expansion equipment studies and equipment productivity improvements. Indications from the operational excellence programme over the past four years show improvements that have translated into improved per unit operating costs.

SSR has initiated exploration and Mineral Resources and Mineral Reserves development activities to enhance Marigold's operating margins and extend the mine life. Further studies will examine the deep sulfide-hosted gold and could include further drilling evaluation and metallurgical testwork.

All QPs have reviewed the conclusions and agree with the findings of the Marigold21TRS.

23 RECOMMENDATIONS

SSR should continue its commitment to safe gold production and continuous progress within the guidelines of its environmental and social license to operate drive improvements at Marigold. The following recommendations include work that has already been identified by SSR and in some cases is in progress.

23.1.1 Processing

Pursue an upgrade to the barren pumping system in order to maintain a solution to ore ratio in excess of 1.5 as the leach pad increases height and new expansions are further from the barren ponds. An upgrade to the pumping system will aid in reducing the current WIP inventory and decrease the likelihood of building inventory in the future. Perform a trade -off study between CIC efficiency loss at high flow vs addition CIC trains with increased efficiency over the life of mine plan. The additional column trains to create a one-pass recovery system are a significant improvement to the system however there is still opportunity to optimize the flow rates through the columns and pull ounces forward through increased efficiency.

23.1.2 Metallurgy / Analytical

Investigate sample processing automation throughout the assay lab to decrease potential for bias and increase representivity. Continue work on fully implementing the ICP-OES to reduce detection limits for gold on leach pad, plant, and blasthole samples. Continue to conduct metallurgical test work with the goal of understanding all future leach ore at Marigold and how test results compare to resource model predictions. Perform more detailed test work on the sulfide ore types to better understand the value of this material at Marigold in the future. Utilize the new LECO machine for sulfur and carbon speciation both in current Marigold ore but also in conjunction with drilling activities being performed for near pit expansions. These data can be utilized to optimized reagent addition as well as reduce operational risks associated with preg-robbing material.

23.1.3 Mineral Resources

Incorporate geological data (from pit mapping) and hard boundaries (from faults that offset mineralisation) into the resource model. Costs associated with this project are minor.

Re-assay all samples that report the cyanide soluble gold assay values as zero and have not been assayed by the FA method outside of the current LOM pit designs. This should be conducted in a phased-in manner and will help convert Mineral Resources to Mineral Reserves and increase the volume of Mineral Resources and Mineral Reserves.

Collect additional density samples from core holes and in pit, where required, to obtain an improved spatial distribution of density values. Attempt to obtain additional samples from the upper levels of the deposit at between 0–152.4 m deep. It is planned by SSR that one sample be collected for every 9.1 m (30ft) downhole from surface. The density testwork could be completed at Marigold's on-site laboratory and a proportion of these samples should be sent to a commercial laboratory for QA/QC purposes.

Upgrade the Mineral Resources classifications and infill drilling programme. Systematically design infill drill programs to increase the confidence of the model estimates based on the LOM plan within sparsely drilled areas and before ultimate pit walls are finalised.

23.1.4 Mine Planning

Develop and evaluate a digital twin of the mine haulage network utilising industrial mathematics to iterate on material destinations over the LOM and optimise haulage profiles. Code projections of dewatering progress to the mine planning model. Record weekly plan variances, explanations, and associated actions for trending.

23.1.5 Exploration Drilling

Conduct RC exploration drilling to target the lateral extensions of structures known to contain mineralisation. This drilling could target near-surface, higher grade oxide mineralisation. The estimated cost for this project is between $3M and $5M spent over a period of 3–5 years.

23.1.6 Mine Operations

The Marigold operations team anticipates undertaking work focused on improving quality of ore delivered to leach pads and tactical fleet resourcing optimisations for improved cost efficiencies in the haulage cycles. To improve utilisation of existing dispatch tools onsite as well as implementation of industrial mathematics-based haulage simulation tools for strategically optimised efficiencies throughout the LOM. Training of dispatch personnel for operation of updated fleet management systems onsite to optimise load / haul fleet resourcing and positively improve site productivity should be undertaken. Site will also deploy simulation software for strategic haulage network planning. This haulage simulator can be used to identify opportunities for mine planners and operations personnel to optimise material destinations.

23.1.7 Maintenance Operations

The Marigold maintenance teams is committed to remain focused on improved maintenance operations at the site with the aim of increasing equipment availabilities and reducing unit costs. Projects underway include disciplined work planning and execution and consumables wear optimisation.

Following improvements experienced from previous years' initiatives, Marigold's maintenance teams remain focused on improving quality of planned work execution at the site. Key areas of focus include plan compliance improvements, Komatsu PC7000 shovel availability increases, and coordination with supply chain for improved parts availability. These projects are primary enablers to ensuring site production requirements may be met.

In addition to systematic improvements, site has undertaken multiple trials to improve upon life of wear parts and maintenance consumables in the operation. These improvements include Shovel GET wear analysis, engine air filter pre-cleaners (de-risks potential supply chain shortages), and truck bed liner wear packages. Scale of sustaining improvements are pending based upon successful trials within the operation.

24 REFERENCES

This section lists the references used in support of the Marigold21TRS.

AMEC Americas Ltd., 2014. Marigold Drill Hole Deviation Study. Memorandum, Prepared for Silver Standard Resources Inc., Dated 21 May 2014. (AMEC, 2014)

Call & Nicholas Inc, 2019. Slope Stability Study of the Red Dot Design, Marigold Mine, July 2019. (CNI, 2019a)

Call & Nicholas Inc,2019. Marigold Mine Site Visit Recommendations 6–7 July 2021, August 2019. (CNI, 2019b)

Call & Nicholas Inc, 2019. Analysis of Soil Slopes – H1, 5N1 and 5N2, October 2019. (CNI, 2019c)

Carver, J.N., Rathnam, K., Rice, T., and Yeomans, T.J., 2018. NI 43-101 Technical Report on the Marigold Mine, Humboldt County, Nevada, USA, 31 July 2018. (SSRTR18)

Cline, J.S., Hofstra, A.H., Muntean, J.L., Tosdal, R.M., and Hickey, K.A., 2005. Carlin-type gold deposits in Nevada: Critical geologic characteristics and viable models, Economic Geology 100th Anniversary Volume, p. 451–484. (Cline et al., 2005)

Cook, H.E., 2015. The Evolution and Relationship of the Western North American Paleozoic Carbonate Platform and Basin Depositional Environments to Carlin-type Gold Deposits in the Context of Carbonate Sequence Stratigraphy, in Pennel, W.M., and Garside, L.J., eds., New Concepts and Discoveries, Geological Society of Nevada Symposium Proceedings, Reno/ Sparks, Nevada, May 2015, v. 1, p. 1-80. (Cook, 2015)

Cook, H.E. and Corboy, J.J., 2004. Great Basin Paleozoic carbonate platform; facies, facies transitions, depositional models, platform architecture, sequence stratigraphy, and predictive mineral host models; field trip guidebook; metallogeny of the Great Basin Project, 17–22 August 2003, 135 p. (Cook and Corboy, 2004)

Cook, H. E. and Taylor, M. E., 1977. Comparison of continental slope and shelf environments in the Upper Cambrian and lowest Ordovician of Nevada, in The Society of Economic Paleontologists and Mineralogists, Special Publication No. 25 pp. 51 – 81. (Cook and Taylor, 1977)

Cox, D.P., 1992. Descriptive model of distal-disseminated Ag-Au, U.S. Geological Survey Bulletin 2004, 19 p. (Cox, 1992)

Cox, D.P. and Singer, D.A., 1990. Descriptive and grade-tonnage models for distal-disseminated Ag-Au deposits: A supplement to U.S. Geological Survey Bulletin 1693, U.S. Geological Survey Open-File Report 90-282, 7 p. (Cox and Singer, 1990)

Doebrich, J.L. and Theodore, T.G., 1996. Geologic History of the Battle Mountain Mining District, Nevada, and Regional Controls on the Distribution of Mineral Systems in Coyner, A.R., and Faney, P.L., eds., Geology and Ore Deposits of the American Cordillera, Geological Society of Nevada, Symposium Proceedings, Reno/Sparks, Nevada, April 1995, pp. 453-483. (Doebrich and Theodore, 1996)

du Bray, E.A., 2007. Time, space, and composition relations among northern Nevada intrusive rocks and their metallogenic implications, Geosphere, v.3, p. 381–405. (du Bray, 2007)

Emsbo, P., Hofstra, A.H., Lauha, E.A., Griffin, G.L., and Hutchinson, R.W., 2003. Origin of high-grade gold ore, source of ore fluid components, and genesis of the Meikle and neighboring Carlin-type deposits, northern Carlin trend, Nevada, Economic Geology, v. 98, p. 1069– 1100. (Emsbo et al., 2003)

Fithian, 2015. Geology, Geochemistry, and Geochronology of the Marigold Mine, Battle Mountain-Eureka Trend, Nevada, M.Sc. Thesis, Golden, Colorado, Colorado School of Mines, 120 p. (Fithian, 2015)

Fithian, M.T., Holley, E.A., and Kelly, N.M., 2018, Geology of gold deposits at the Marigold mine, Battle Mountain district, Nevada: Reviews in Economic Geology, v. 20, p. 121–155.

Glamis Gold Ltd. 2001. Glamis Marigold Mine Millennium Project Section 31 Technical Report and Reserve Summary for the Glamis Marigold Mine July 2001. (Revised). (Glamis Gold, 2001)

Grauch V.J.S., Rodriguez B. D., and Wooden J.L., 2003. Geophysical and Isotopic Constraints on Crustal Structure Related to Mineral Trends in North-Central Nevada and Implications for Tectonic History Economic Geology, April 2003, v. 98, pp. 269-286. (Grauch et al.,2003)

Hamilton, W., 1987. Crustal extension in the Basin and Range Province, southwestern United States, in Coward, M.P., Dewey, J.F., and Handcock, P.L., eds., Continental Extensional Tectonics, Geological Society Special Publication No. 28, pp. 155-176. (Hamilton, 1987)

Hofstra, A.H. and Cline, J.S., 2000. Characteristics and models for Carlin-type gold deposits, Reviews in Economic Geology, v. 13, p. 163–220 (Hofstra and Cline, 2000).

Ilchik, R.P. and Barton, M.D., 1997. An amagmatic origin of Carlin-type gold deposits, Economic Geology, v. 92, p. 269-288. (Ilchik and Barton, 1997)

Johnston, M.K. and Ressel, M.W., 2004. Carlin-type and distal disseminated Au-Ag deposits: Related distal expressions of Eocene intrusive centers in north-central Nevada in Controversies on the origin of World-class gold deposits, Part 1: Carlin-type gold deposits in Nevada, by J.L. Muntean, J. Cline, M.K. Johnston, M.W. Ressel, E. Seedorff, and M.D. Barton: Society of Economic Geologists Newsletter, v. 59, p. 12-14. (Johnston and Ressel, 2004)

Kester, M., 2015. On infrared absorption band position variation as a result of gold mineralization in a distal disseminated gold deposit at the Marigold Mine, Humboldt Co., Nevada, Senior Thesis, South Dakota School of Mines and Technology, 29 p. (Kester, 2015)

Ketner, K.B, 2008. The Inskip Formation, the Harmony Formation, and the Havallah Sequence of Northwestern Nevada—An Interrelated Paleozoic Assemblage in the Home of the Sonoma Orogeny. US Department of the Interior U.S. Geological Survey. Professional Paper 1757. (Ketner, 2008)

Ketner, K.B, 2013. Stratigraphy of Lower to Middle Paleozoic Rocks of Northern Nevada and the Antler Orogeny US Department of the Interior U.S. Geological Survey. Professional Paper 1799. (Ketner, 2013)

Knight Piésold Ltd. (KPL), 2014. Marigold Mine – Review of Rock Mechanic Considerations, dated 24 July 2014. REF. NO. NB101-201/24. Vancouver, British Columbia, Canada. (Knight Piésold, 2014)

Large, R.R., Bull, S.W., and Maslennikov, V.V., 2011. A carbonaceous sedimentary source-rock model for Carlin-type and orogenic gold deposits, Economic Geology, v. 106, p. 331–358. (Large et al., 2011)

Magee Geophysical Services LLC, 2014. Gravity Survey over the Marigold Mine Property, Humboldt County, Nevada. August 2014. (Magee, 2014)

Magee Geophysical Services LLC, 2014. Gravity Survey over the Marigold Mine Property, Humboldt County, Nevada. September 2016. (Magee, 2016)

McKee, E.H., 2000. Potassium-argon chronology of Cretaceous and Cenozoic igneous activity, hydrothermal alteration, and mineralization, in Theodore, T.G., Geology of pluton-related gold Mineralization at Battle Mountain, Nevada, Monographs in Mineral Resource Science, no. 2, p. 121–143. (McKee, 2000)

McGibbon, D.H., 2004. Marigold Summary and Tour Guide (Internal report), pp. 1-3. (McGibbon, 2004)

McGibbon, D H., 2005, Geology of the Antler and Basalt Gold Deposits, Glamis-Marigold mine, Humboldt County, Nevada, in Rhoden, H.N., Steininger, R.C., and Vikre, P.G., eds., Geological Society of Nevada Symposium 2005: Window to the World, Reno, Nevada, May 2005, pp. 399–409. (McGibbon, 2005)

McGibbon, D.H., and Wallace, A.B., 2000. Geology of the Marigold Mine area: in Theodore, T.G., 2000, Geology of pluton-related gold mineralization at Battle Mountain, Nevada; Monographs in Mineral Resource Science No. 2: Center for Mineral Resources, Tucson, Arizona, pp. 222–240. (McGibbon and Wallace, 2000)

Muntean, J.L., Cline, J.S., Simon, A.C., and Longo, A.A., 2011. Magmatic-hydrothermal origin of Nevada's Carlin-type gold deposits, Nature Geoscience, v. 4, p. 122–127. (Muntean et al., 2011)

Muntean, J.L. and Cline, J.S., 2018, Diversity of Carlin-Style Gold Deposits: Reviews in Economic Geology, v. 20, p. 1-5

OreWin, 2022. Marigold21TRS is the Marigold 2021 Project Update Report

Pells Sullivan Meynink, 2021. Geotechnical Review: Marigold Gold Project. Internal memo by PSM Consult Pty Limited. (PSM, 2021)

Piteau Associates, Marigold Mine Mackay Pit Dewatering System Design 4180-R03, January 2021. (Piteau, 2021)

Ressel, M.W., and Henry, C.D., 2006. Igneous Geology of the Carlin Trend, Nevada: Development of the Eocene Plutonic Complex and Significance for Carlin-Type Gold Deposits, Economic Geology, v. 101, p. 347-383. (Ressel and Henry, 2006)

Roberts, R.J., 1964. Stratigraphy and Structure of the Antler Peak Quadrangle, Humboldt and Lander Counties, Nevada: U.S. Geological Survey Professional Paper 459-A, 93 pp. (Roberts, 1964)

Roberts, R.J. 2002. A Passion for Gold, an Autobiography. University of Nevada press 1st Edition. Reid, R.F. (Roberts, 2002)

Sillitoe, R.H., and Bonham, H.F., 1990. Sediment-hosted gold deposits: Distal products of magmatic-hydrothermal systems, Geology, v. 18, p. 157–161. (Sillitoe and Bonham, 1990)

Theodore, T. G., 1991. Preliminary geologic map of the North Peak Quadrangle, Humboldt and Lander counties, Nevada. USGS Open-File Report. 91-429. (Theodore, 1991a)

Theodore, T. G., 1991. Preliminary geologic map of the Valmy Quadrangle, Humboldt and Lander counties, Nevada. USGS Open-File Report. 91-430. (Theodore, 1991b)

Theodore, T.G. (2000). Geology of Pluton-related Gold Mineralization at Battle Mountain, Nevada. Tucson, Arizona: centre for Mineral Resources, the University of Arizona. (Theodore, 2000)

Wallace, A.R., Ludington, S., Mihalasky, M.J., Peters, S.G., Theodore, T.G., Ponce, D.A., John, D.A., and Berger, B.R., 2004. Assessment of metallic mineral resources in the Humboldt River Basin, northern Nevada, U.S. Geological Survey Bulletin 2218, 309 p. (Wallace, 2004)

Waterton Global Resource Management website, 2018: www.watertonglobal.com

Wright, James L., 2016 Marigold Property Gravity Survey. (James L. Wright, 2016)

Wyld, S.J., Rogers, J.W., and Copeland, P., 2003. Metamorphic Evolution of the Luning-Fencemaker Fold-Thrust Belt, Nevada: Illite Crystallinity, Metamorphic Petrology, and 40Ar/39Ar Geochronology, The Journal of Geology, v. 111, p. 17-38. (Wyld et al., 2003)

Zoback, M.L., McKee, E.H., Blakely, R.J., and Thompson, G.A., 1994. The Northern Nevada rift: Regional tectonomagmatic relations and middle Miocene stress direction, Geological Society of America Bulletin, v. 106, p. 371-38.

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

OreWin has relied on the following information provided by SSR in preparing the findings and conclusions in this Technical Report Summary regarding the following aspects of modifying factors:

- Macroeconomic trends, data, and assumptions, and interest rates.
  - This has been used in Section 19
- Marketing information and plans within the control of the registrant.
  - This has been used in Sections 16 and 19
- Legal matters outside the expertise of the qualified person, such as statutory and regulatory interpretations affecting the mine plan.
  - This has been used in Sections 3 and 17
- Environmental matters outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17
- Accommodations the registrant commits or plans to provide to local individuals or groups in connection with its mine plans.
  - This has been used in Sections 3 and 17
- Governmental factors outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17

OreWin considers it reasonable to rely on SSR because SSR employs professionals and other personnel with responsibility in these areas and these personnel have the best understanding of these areas. OreWin is not qualified to provide advice on legal, permitting and ownership matters.

OreWin

OreWin
Independent Mining Consultants

SSR Mining Inc.

Seabee 2021
Technical Report Summary

February 2022

Job No. 21014

IMPORTANT NOTICE

This notice is an integral component of the Seabee 2021 Technical Report Summary (Seabee21TRS) and should be read in its entirety and must accompany every copy made of the report. The Seabee21TRS has been prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Seabee21TRS has been prepared for SSR Mining Inc. (SSR) by OreWin Pty Ltd (OreWin). The Seabee21TRS is based on information and data supplied to OreWin by SSR and other parties and where necessary OreWin has assumed that the supplied data and information are accurate and complete.

This report is a Feasibility Study (FS) that represents forward-looking information. The forward-looking information includes metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and other assumptions used in the FS. Readers are cautioned that actual results may vary from those presented. The factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially are presented in the body of this report under each relevant section.

The conclusions and estimates stated in the Seabee21TRS are to the accuracy stated in the Seabee21TRS only and rely on assumptions stated in the Seabee21TRS. The results of further work may indicate that the conclusions, estimates and assumptions in the Seabee21TRS need to be revised or reviewed.

OreWin has used its experience and industry expertise to produce the estimates and approximations in the Seabee21TRS. Where OreWin has made those estimates and approximations, it does not warrant the accuracy of those amounts and it should also be noted that all estimates and approximations contained in the Seabee21TRS will be prone to fluctuations with time and changing industry circumstances.

The Seabee21TRS should be construed in light of the methods, procedures, and techniques used to prepare the Seabee21TRS. Sections or parts of the Seabee21TRS should not be read or removed from their original context.

The Seabee21TRS is intended to be used by SSR, subject to the terms and conditions of its contract with OreWin. Recognising that SSR has legal and regulatory obligations, OreWin has consented to the filing of the Seabee21TRS with US SEC. Except for the purposes legislated, any other use of this report by any third party is at that party's sole risk.

Title Page

Project Name:	Seabee Gold Operation
Title:	Seabee 2021 Technical Report Summary
Location:	Saskatchewan, Canada
Effective Date of Technical Report Summary	31 December 2021
Effective Date of Mineral Resources:	31 December 2021
Effective Date of Mineral Reserves:	31 December 2021

Qualified Persons:

- The Seabee21TRS was prepared by appropriately experienced technical professionals employed by OreWin Pty Ltd (OreWin), an independent mining consultancy. OreWin is responsible for the Mineral Resources and Mineral Reserves reported in the Seabee21TRS and for Sections 1 to 25 of the Seabee21TRS.
- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining, was responsible for the overall preparation of the Seabee21TRS and, the Mineral Reserve estimates, Sections 1 to 5; Sections 10; Section 12 to 25.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3; Section 6 to 9; Section 11; Sections 22 to 25.

Signature Page

Project Name:	Seabee Gold Operation
Title:	Seabee 2021 Technical Report Summary
Location:	Saskatchewan, Canada
Date of Signing:	23 February 2022
Effective Date of Technical Report Summary:	31 December 2021

/s/ Sharron Sylvester

Sharron Sylvester, Director, OreWin Pty Ltd

/s/ Bernard Peters

Bernard Peters, Technical Director – Mining, OreWin Pty Ltd, BEng (Mining), FAusIMM (201743)

/s/ Sharron Sylvester

Sharron Sylvester, Technical Director – Geology, OreWin Pty Ltd, BSc (Geol), RPGeo AIG (10125)

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1

1.1 Introduction 1

1.2 Mineral and Surface Rights 2

1.3 Accessibility, Climate, Local Resources, Infrastructure, and Physiography 2

1.4 History 2

1.5 Geology and Mineralisation 3

1.6 Exploration 4

1.7 Development and Operations 4

1.8 Processing and Recovery 5

1.8.1 Reasonable Prospects for Eventual Economic Extraction 5

1.9 Mineral Resource Estimate 5

1.10 Mineral Reserve Estimate 7

1.11 Environmental and Social 8

1.12 Production 9

1.13 Economic Analysis 11

1.14 Interpretation and Conclusions 15

1.14.1 Mineral Resources 15

1.14.2 Mineral Reserves Estimation 15

1.15 Recommendations 15

1.15.1 Further Assessment 15

2 Introduction 17

2.1 SSR Mining Inc. 17

2.2 Terms of Reference 17

2.3 Qualified Persons 17

2.4 Site Visits and Scope of Personal Inspection 17

2.5 Effective Dates 18
2.6 Information Sources and References 18
3 PROPERTY DESCRIPTION 19
3.1 Location 19
3.2 Ownership 20
3.3 Mineral Tenure 20
3.4 Underlying Agreements 26
3.5 Environmental Considerations 26
3.6 Permits and Authorisation 27
4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY 28
4.1 Accessibility 28
4.2 Local Resources and Infrastructure 28
4.3 Climate 28
4.4 Hydrogeology 30
4.5 Physiography 30
5 HISTORY 31
5.1 Previous NI 43-101 Technical Reports 32
6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT 34
6.1 Regional Geology 34
6.2 Property Geology 36
6.3 Structural Setting 37
6.4 Mineralisation 39
6.5 Deposit Types 42
7 EXPLORATION 44
7.1 Surficial Geochemistry 44

7.2 Geophysical Surveys 46
7.2.1 Fixed Wing Aeromagnetic Survey 2007 46
7.2.2 Titan-24 DC / IP and MT Survey 2010 46
7.2.3 Airborne Magnetic and Radiometric Survey 2016 47
7.3 Drilling 48
7.3.1 Drilling by Cominco, Claude Resources, and Placer 1947–1988 50
7.3.2 Drilling by Claude Resources 1989–2015 51
7.3.3 Drilling by Claude Resources and SSR 2016 53
7.3.4 Drilling by SSR Mining 2017 Onwards 53
7.3.5 SSR Drilling Procedures 54
7.3.6 Drill Sampling 56
7.3.7 Density Data 58
8 SAMPLE PREPARATION, ANALYSES, AND SECURITY 60
8.1 Historical Samples 60
8.2 Diamond Core Samples (1989 to Present) 60
8.3 Chip and Muck Samples 60
8.4 Quality Assurance and Quality Control Programmes 61
9 DATA VERIFICATION 62
9.1 Verifications by SSR 62
9.2 Verifications 65
9.2.1 Site Visit 65
9.2.2 Verifications of Analytical Quality Control Data 65
9.2.3 Discussion 66
10 MINERAL PROCESSING AND METALLURGICAL TESTING 70
10.1 Style of Mineralisation 70
10.2 Metallurgical Investigations 70

10.2.1 Metallurgical Testwork 70
10.2.2 Process Plant Improvements 70
10.3 Recovery Estimates 72
11 MINERAL RESOURCE ESTIMATES 74
11.1 Resource Modelling Methods 74
11.1.1 Santoy Mine 74
11.1.2 Porky Deposit Area 75
11.2 Cell Model Validation 76
11.3 Mineral Resource Classification 76
11.4 Reasonable Prospects for Eventual Economic Extraction 78
11.5 Mineral Resource Statement 78
11.6 Reconciliation 79
12 MINERAL RESERVE ESTIMATES 80
12.1 Mineral Reserve Statement 81
13 MINING METHODS 83
13.1 Introduction 83
13.2 Mining Methods 85
13.3 Primary Access 86
13.4 Level Design 86
13.5 Material Handling 87
13.6 Ventilation 87
13.7 Backfill 88
13.8 Dewatering 88
13.9 Hydrology Considerations 89
13.10 Geotechnical Considerations 89
13.10.1 Rock Mass Quality and Rock Properties 89

13.10.2 Stress Regime and Most Likely Mode of Failure 89
13.10.3 Specific Geotechnical Risk 91
13.10.4 Current Mitigation Measures Used to Minimise the Geotechnical Risk Support System 91
13.10.5 Geotechnical Reports Review 92
13.11 Mine Schedule 97
13.12 Mobile Equipment 99
14 PROCESSING AND RECOVERY METHODS 100
14.1 General 100
14.2 Crushing 103
14.3 Grinding 103
14.4 Gravity Recovery 103
14.5 Cyanide Leaching 103
14.6 Carbon-in-Pulp 103
14.7 Carbon Elution and Electrowinning 104
14.8 Gold Refining 104
14.9 Carbon Regeneration 104
14.10 Mill Tailings 104
15 INFRASTRUCTURE 105
15.1 Site Access Roads 109
15.2 Product Loadout 110
15.3 Utilities 110
15.3.1 Water 110
15.3.2 Sewage Disposal 110
15.3.3 Power 110
15.3.4 Fuel Storage 110

15.3.5 Explosives Storage 110
15.4 Tailings Management Facilities 111
15.4.1 East Lake TMF 111
15.4.2 Triangle Lake TMF 111
15.5 Waste Rock Structures 113
15.6 Rock Quarry 113
15.7 Water Facilities 113
16 MARKET STUDIES 115
16.1 Contracts 115
17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS 116
17.1 Regulatory Setting 116
17.2 Federal Environmental Assessment Process 116
17.3 Provincial Environmental Assessment Process 117
17.4 Seabee Environmental Assessments 117
17.5 Environmental Permits/Authorisations 118
17.6 Environmental Considerations 118
17.7 Mine Closure 119
17.8 Social and Community Impact 123
17.9 Safety 123
18 CAPITAL AND OPERATING COSTS 125
18.1 Capital Costs 125
18.2 Operating Costs 126
19 ECONOMIC ANALYSIS 127
19.1 Economic Assumptions 127
19.1.1 Pricing and Discount Rate Assumptions 127

19.2 Overview and Results 128
19.2.1 Production and Cost Summary 129
19.2.2 Project Financial Analysis 131
20 ADJACENT PROPERTIES 136
21 OTHER RELEVANT DATA AND INFORMATION 138
22 INTERPRETATION AND CONCLUSIONS 139
22.1 Mineral Resources 139
22.2 Mineral Reserves Estimation 139
23 RECOMMENDATIONS 140
23.1 Further Assessment 140
24 REFERENCES 141
25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT 145

TABLES

Table 1.1 Summary of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 6
Table 1.2 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 6
Table 1.3 Summary of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price 7
Table 1.4 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price 8
Table 1.5 Mining Production 10
Table 1.6 Seabee21TRS Economic Analysis Gold Price Assumptions 12
Table 1.7 Seabee21TRS Results Summary 13
Table 1.8 Financial Results 13
Table 1.9 Key Economic Assumptions 14

Table 1.10 After-Tax NPV Sensitivity to Gold Price and Discount Rates 14

Table 3.1 Mineral Tenure Information – All Tenements 100% SGO Mining Inc. Owned 21

Table 5.1 Historical Production from the SGO (1996–2021) 33

Table 6.1 Key Stratigraphic and Structural Elements Controlling Mineralisation at the Seabee, Santoy, and Porky Deposits (SSR, 2017b) 41

Table 7.1 Surface and Underground Drilling Completed on the SGO to 31 December 2021 49

Table 9.1 Summary of Analytical QA/QC Data 67

Table 11.1 Capping Values at Santoy Mine 75

Table 11.2 Parameters for Mineral Resource Classification 77

Table 11.3 Summary of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 78

Table 11.4 Summary of Cut-off Values and Metallurgical Recoveries of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price 79

Table 11.5 Annual Grade Reconciliation at Santoy for 2020 and 2021 79

Table 12.1 Mineral Reserve Input Parameters 80

Table 12.2 Summary of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price 81

Table 12.3 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price 82

Table 13.1 Excavation Dimensions 87

Table 13.2 Santoy Mine Dewatering Requirements 89

Table 13.3 Summary of Testing Results for the Hangingwall Structure at Seabee Mine 90

Table 13.4 Summary of Testing Results for the Footwall Structure at Seabee Mine 90

Table 13.5 Summary of Testing Results for the Orezone Structure at Seabee Mine 90

Table 13.6 Development, Waste Rock, and Backfill Summary 99

Table 14.1 Seabee Mill Production Statistics 2006–2021 101

Table 18.1 Capital Costs Estimate 125

Table 18.2 LOM Average Operating Expense Estimate 126

Table 19.1 Seabee21TRS Economic Analysis Gold Price Assumptions 127

Table 19.2 Seabee21TRS Key Economic Assumptions 127

Table 19.3 Seabee21TRS Results Summary 128

Table 19.4 Production Statistics 129

Table 19.5 Cash Costs 131

Table 19.6 Seabee21TRS Economic Analysis Gold Price Assumptions 131

Table 19.7 Operating Costs and Revenues 132

Table 19.8 Total Project Capital Cost 132

Table 19.9 Financial Results 133

Table 19.10 After-Tax NPV5% Sensitivity to Gold Price and Discount Rates 133

Table 19.11 After-Tax NPV5% Sensitivity to Operating and Capital Cost Changes 133

Table 19.12 Estimated Cash Flow 135

FIGURES

Figure 1.1 Project Location Map 1

Figure 1.2 Production Plan Tonnage 10

Figure 1.3 Processing Schedule 11

Figure 1.4 Production Plan Recovered Gold Ounces 11

Figure 1.5 Cumulative Cash Flow 14

Figure 3.1 Location of the Seabee Gold Operation 19

Figure 3.2 Ownership 20

Figure 3.3 Land Tenure Map 25

Figure 4.1 Infrastructure at SGO and Typical Landscape of Project Area 29

Figure 6.1 Cree Lake Zone and Reindeer Zone of the Trans-Hudson Orogen 34

Figure 6.2 Regional Geology of the South-Western Trans-Hudson Orogen 35

Figure 6.3 Local Geology Setting 37

Figure 6.4 Integrated Structural Analysis of the SGO by SRK (2009) Based on Goldak's 2007 Aeromagnetic Survey 39

Figure 6.5 Typical Mineralisation Observed at the SGO 40

Figure 7.1 Historical Rock Samples Collected at the SGO 44

Figure 7.2 Historical Rock Samples Collected at the SGO 45

Figure 7.3 Map Showing the Distribution of Surface Drilling in Relation to the Seabee, Santoy and Porky Deposits, and other known Gold Occurrences on the Seabee Property 50

Figure 10.1 Historical Annual Milled Daily Throughput 71

Figure 10.2 Historical Annual Head and Tailings Grade Trend 72

Figure 10.3 Mill Feed Grade and Gold Recovery 2017–2020 73

Figure 13.1 Santoy Mine – Existing Development 84

Figure 13.2 Santoy Mine – 2021 Life-of-Mine Development Design 84

Figure 13.3 Santoy Mine – 2021 Life-of-Mine Stope Designs 85

Figure 13.4 2017 Structural Data 96

Figure 13.5 2021 Structural Data 96

Figure 13.6 Production Plan Tonnage 97

Figure 13.7 Processing Schedule 98

Figure 13.8 Production Plan Recovered Gold Ounces 98

Figure 14.1 Seabee Mill Flow Sheet 102

Figure 15.1 Seabee Gold Operation Major Infrastructure 106

Figure 15.2 Seabee Gold Operation Mill Site Infrastructure 107

Figure 15.3 Seabee Gold Operation Tailings Management Facility Infrastructure 108

Figure 15.4 Santoy Mine Major Infrastructure 109

Figure 19.1 Production Plan Tonnage 129

Figure 19.2 Processing Schedule 130

Figure 19.3 Production Plan Recovered Gold Ounces 130

Figure 19.4 Cumulative Cash Flow 134

Figure 20.1 Location of the Six Properties included in the Taiga Gold Transaction with Respect to the Seabee Gold Operation 137

1 EXECUTIVE SUMMARY

1.1 Introduction

The Seabee 2021 Technical Report Summary (Seabee21TRS) is an independent Technical Report Summary prepared under the guidelines of and in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300) for SSR Mining Inc. (SSR), on the Seabee Gold Operation (SGO, the Project).

The SGO is located in Saskatchewan, Canada, at the north end of Laonil Lake, approximately 125 km north-east of the town of La Ronge (Figure 1.1).

The property hosts the Santoy mine, which has been in continuous commercial production since 2014. Commercial production at the now-depleted Seabee mine commenced in 1991 and was ceased in 2018.

Figure 1.1 Project Location Map

Google Earth, 2022

SSR Mining Inc. (SSR) holds a 100% interest in the property through its wholly-owned subsidiary, SGO Mining Inc. (SGO Mining). SSR acquired the SGO on 31 May 2016 as a result of the acquisition of Claude Resources Inc.

SSR is a gold mining company with four producing assets, located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

1.2 Mineral and Surface Rights

The SGO is comprised of seven mineral leases and 102 mineral claims that cover an area of approximately 62,158 ha. SGO Mining holds a 100% interest in the property.

Activities at the property are centred at approximately 55.7° latitude north and 103.5° longitude west.

1.3 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

Access to the SGO is by fixed-wing aircraft to the 1,275 m airstrip located on the property. During the winter months, a 60 km winter road is built between the mine site and Brabant Lake to transport heavy supplies and equipment by truck. Mining operations are conducted year-round.

The climate is borderline subarctic. Winters are long, dry, and cold (average –24°C) while summer is short, wet, and moderately warm (average +24°C). Precipitation is low, with an annual average of 486.2 mm.

The site is relatively flat, with much of the area comprised of irregular, hummocky, rocky exposures. Overburden soils are thin in this area, and often the rock outcrops are exposed.

1.4 History

The Laonil Lake region has been intermittently explored since the 1940s, with the first gold discovery made in 1947. Cominco conducted an extensive prospecting, geological mapping, trenching, and diamond drilling programme between 1947 and 1950, and in 1958 was granted 10 quartz mining leases covering the property on which the SGO is located. From 1974 through 1983, Cominco conducted detailed drilling and exploration, and in 1983 sold the property to BEC International Corporation (BEC). BEC subsequently sold the property to Claude Resources in 1985.

In June 1985, Claude Resources optioned the property to Placer Development Limited (subsequently Placer Dome Inc. (Placer)). Placer conducted an extensive exploration programme, however, on completion it allowed its option to expire and returned the property to Claude Resources in June 1988.

Claude Resources completed bulk sampling and drilling as part of a feasibility study for the Seabee deposit and reported a Mineral Reserve estimate in December 1988. Construction of the Seabee mill was completed in late 1991, and mining commenced in December 1991.

In 1998, prospecting and mapping identified several new discoveries including the Porky West zone in 2002, the Santoy 7 deposit in 2004, the Santoy 8 and Santoy 8 East deposits in 2005, and the Santoy Gap deposit in 2010.

Commercial production at the Santoy 7 deposit was achieved in 2007, and an economic study to evaluate the Mineral Resource at the Santoy 8 deposit was conducted in 2008. Portal construction and surface infrastructure development of the Santoy mine was initiated in late 2009, and environmental studies and permitting for commercial mining of the Santoy 8 and Santoy 8 East deposits were completed in 2010. Underground development continued in 2010, and the Santoy mine advanced towards commercial production in the second quarter of 2011.

On 31 May 2016, SSR acquired Claude Resources, thereby taking ownership of the SGO.

SSR filed the previous NI 43-101 Technical Report on the SGO in October 2017, with an effective date of 31 December 2016.

1.5 Geology and Mineralisation

The SGO is located within the northern portion of the Pine Lake greenstone belt. The belt has a strike length in excess of 50 km and comprises a variety of geochemically distinct tholeiitic mafic volcanic rocks formed in juvenile island arc settings, along with contemporaneous mafic intrusive rocks, volcaniclastics, sediments, and felsic intrusions of varying age. Metamorphic grade across the Pine Lake greenstone belt ranges from upper greenschist to upper amphibolite, with the SGO hosted in the latter. The belt has been complexly folded by at least four major phases of deformation that are observed across the SGO site and elsewhere in the Glennie domain of the Proterozoic Trans-Hudson Orogen.

The SGO can be subdivided into three main geological domains:

- The now-ceased Seabee mine is hosted within a coarsely layered mafic intrusion dominated by gabbro in the mine sequence.
- The Santoy mine area is hosted within a sequence of mafic volcano-sedimentary and intrusive rocks separated by generally north–south trending thrust faults.
- The Porky deposit area is a mineralised trend hosted along a 12 km long openly folded unconformity, separating arenaceous sedimentary rocks of the Rae Lake synform to the north from mafic volcanic rocks of the Seabee mine area to the south.

Gold mineralisation at the Santoy mine is hosted within calc-silicate altered shear structures with diopside-albite ±titanite-bearing quartz veins and occurs in gold-sulfide-chlorite-quartz veins in the shear zones, near or in the granodiorite and granite sills. Diopside-albite calc-silicate alteration facies are the main host to gold mineralisation in the Santoy 8A and Santoy 9A, 9B, and 9C zones. The Gap Hangingwall (GHW) deposit is hosted within a shallow dipping, north plunging, folded limb of the Lizard Lake Pluton. Mineralisation is concentrated near the fold hinge within centimetre to metre-scale quartz veining that strikes roughly north–south and dip sub-vertically.

At the Porky deposit, the brittle-ductile lode gold system is hosted along a thick corridor of calc-silicate altered mafic volcanics and arenaceous sedimentary rocks that straddle a major unconformity along the southern margin of the Rae Lake synform. Both the Porky Main and Porky West deposits are characterised by the same calc-silicate alteration package; however, the unconformity and arenites host most of the auriferous quartz veins at the Porky West deposit.

1.6 Exploration

The Laonil Lake region has been explored since the 1940s, with the first gold discovery made by prospectors in 1947. Since that time, exploration at the SGO has comprised of surficial geochemical sampling, airborne and ground geophysical surveys, and extensive drilling. To 31 December 2021, drilling completed on the SGO property (by SSR and previous operators) includes:

- 2,324 surface drillholes totalling 496,197 m and
- 6,139 underground drillholes totalling 1,161,184 m.

Exploration surface drilling and infill surface and underground drilling completed by SSR since 2017 has been executed in the Carruthers, Herb Lake, Porky Main, Porky West, Seabee, and Santoy areas.

The objective of ongoing exploration conducted by SSR is to delineate, increase, and upgrade Mineral Resources. Underground drilling since 2016 focused on Santoy 8 and 9, GHW, and Santoy Hangingwall.

At the SGO, the 3-year budget calls for an average of 80 km of combined surface and underground drilling per year between 2022 and 2024. This drilling is for testing of targets to maximise Mineral Resource potential at the mine as SSR develops its long-term strategy for continuing to replenish its 3–5-year reserve inventory in the same way it has for more than 20 years, with particular focus on bringing higher grade zones on stream to displace lower tenor inventory that currently occurs in the schedule from 2024 onwards.

1.7 Development and Operations

The life-of-mine (LOM) plan of the Mineral Reserve at the SGO, commencing 1 January 2022, includes 2.68 Mt at an average grade of 6.7 grams of gold per tonne (g/t Au). A total of 580 koz of gold will be delivered to the mill.

There is currently one operating mine as part of the SGO, that being Santoy. Mining will continue at the Santoy mine to provide feed to the mill located near the old Seabee mine.

Access underground at the Santoy mine is provided from the surface at the Santoy portal via a main ramp with sublevels spaced between 17–20 m vertically. Mining is carried out using sublevel open stoping mining methods with backfill. Stopes are filled with a combination of rock fill (RF) and cemented rock fill (CRF), mined in a bottom-up mining sequence. Sill pillars are mined on retreat once the stopes below and above have been mined (stopes above filled with CRF and allowed to cure). The mining sequence will continue to proceed in several longitudinally retreating, bottom-up advancing mining fronts. Current practice for material handling will remain with ore being truck hauled to surface and then hauled 14 km to the mill.

The major infrastructure at the SGO site includes roads and an airstrip, powerhouse and electrical distribution system, mill buildings and related services facilities, portal and ventilation raises, fuel storage, explosive storage, water supply and distribution, water management ponds and water treatment plant, tailings management facilities, administrative buildings, and camp accommodation.

There are currently two tailings management facilities (TMF) that are being used by the mill: the East Lake TMF and the Triangle Lake TMF. Tailings deposition alternates between the two TMFs where winter deposition occurs in the Triangle Lake TMF and summer deposition is in the East Lake TMF. The remaining storage capacities of both facilities, based on the planned production rates, will potentially reach maximum capacity towards the end of 2030. To ensure that water treatment volumes are attained, a water treatment plant was constructed at East Lake TMF.

1.8 Processing and Recovery

SGO was originally developed based on bench scale metallurgical testwork that characterised the Seabee deposit as a lode gold style of mineralisation that was free milling and that would respond to a standard flow sheet employing gravity recovery and cyanidation. The Seabee deposit was processed for 25 years in the mill constructed immediately adjacent to the Seabee shaft and the plant is now used to process ore from the Santoy mine.

The mill flow sheet is a conventional crushing and grinding circuit employing gravity gold recovery and cyanide leaching with carbon-in-pulp for recovery and production of doré gold on site. The initial capacity was 500 tonnes per day (tpd), which was later expanded to 1,000 tpd with the addition of a third grinding mill.

Historical recovery at the Seabee mill was in the 94%–96% range, with routine low levels of losses both in the tailings solids and solution. Future recovery estimates are 98% and are based on the recent mill performance with mill recoveries of more than 98%. These improvements are attributed to the better condition of the leach equipment as well as the restored leach capacity.

1.8.1 Reasonable Prospects for Eventual Economic Extraction

The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes and using a cut-off grade of 2.07 g/t Au that is based on a gold price of $1,750/oz.

1.9 Mineral Resource Estimate

The Mineral Resource for SGO was completed by the SSR technical department on site. OreWin reviewed the assumptions, parameters, and methods used to prepare the Mineral Resource Statement and is of the opinion that the Mineral Resource is estimated and prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Mineral Resource is estimated based on cell models representative of the mineralised veins and using an assumed gold price of $1,750/oz.

The Mineral Resource estimate is based on all available data for SGO as of 31 December 2021. The Mineral Resource is reported exclusive of Mineral Reserves in Table 1.1 and Table 1.2.

Table 1.1 Summary of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

Area	Mineral Resource Classification							
	Measured		Indicated		Measured + Indicated		Inferred	
	Tonnage (kt)	Au (g/t)	Tonnage (kt)	Au (g/t)	Tonnage (kt)	Au (g/t)	Tonnage (kt)	Au (g/t)
Santoy Mine	71	19.75	745	12.74	816	13.35	2,238	6.43
Porky West	–	–	52	5.03	52	5.03	516	4.42
Total SGO	**71**	**19.75**	**797**	**12.23**	**869**	**12.85**	**2,754**	**6.05**

1. Mineral Resources are reported based on 31 December 2021 as-mined survey data.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis.
4. The Mineral Resources estimate is based on a 2.07 g/t Au cut-off with a gold price assumption of $1,750/oz.
5. Santoy Mine includes Santoy 8, Santoy 9, and GHW lodes.
6. The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes.
7. SSR has 100% ownership of the Project.
8. The point of reference for Mineral Reserves is the point of feed into the processing facility.
9. Tonnage is metric tonnes and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 1.2 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

Mineral Resource Classification	Tonnage (kt)	Au (g/t)	Contained Gold (koz)	Cut-off (Au g/t)	Metallurgical Recovery (%)
Measured	71	19.75	45	2.07	98
Indicated	797	12.23	313	2.07	98
Measured + Indicated	**869**	**12.85**	**359**	**2.07**	**98**
Inferred	2,754	6.05	536	2.07	98

1. Mineral Resources are reported based on 31 December 2021as-mined survey data.
2. Mineral Resources are reported exclusive of Mineral Reserves.
3. Mineral Resources are shown on a 100% basis.
4. The Mineral Resources estimate is based on a 2.07 g/t Au cut-off with a gold price assumption of $1,750/oz.
5. Santoy Mine includes Santoy 8, Santoy 9, and GHW lodes.
6. The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes.
7. SSR has 100% ownership of the Project.
8. The point of reference for Mineral Reserves is the point of feed into the processing facility.
9. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

1.10 Mineral Reserve Estimate

The SGO Mineral Reserve estimate was completed by the SSR technical department on site. OreWin reviewed the assumptions, parameters, and methods used to prepare the Mineral Reserve Statement and is of the opinion that the Mineral Reserve is estimated and prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Mineral Reserve Statement is reported in Table 1.3 and Table 1.4. The reference point at which the Mineral Reserve is identified is where ore is delivered to the processing plant (i.e., mill feed). OreWin is unaware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant issues that may materially affect the Mineral Reserve estimate. However, the Mineral Reserve may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent Mineral Resource and Mineral Reserve estimates. The Mineral Reserve may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. The effective date of the Mineral Reserve Statement is 31 December 2021.

Table 1.3 Summary of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price

Area	Mineral Reserve Classification					
	Proven		Probable		Total	
	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)
Santoy Mine	304	9.16	2,379	6.40	2,684	6.72

1. Mineral Reserves are reported based on 31 December 2021as-mined survey data.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,600 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 2.52 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz of gold.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98%.
7. SSR has 100% ownership of the Project.
8. Santoy Mine includes Santoy 8, Santoy 9, and Gap Hangingwall lodes.
9. Metals shown in this table are the contained metals in ore mined and processed.
10. The point of reference for Mineral Resources is the point of feed into the processing facility.
11. Tonnage is metric tonnes and g/t represents grams per metric tonne.
12. Totals may vary due to rounding.

Table 1.4 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grade (Au g/t)	Contained Gold (koz)	Cut-off Value (Au g/t)	Metallurgical Recovery (%)
Proven	304	9.16	90	2.52	98
Probable	2,379	6.40	490	2.52	98
Total Mineral Reserves	**2,684**	**6.72**	**580**	**2.52**	**98**

1. Mineral Reserves are reported based on 31 December 2021as-mined survey data.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,600 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 2.52 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz of gold.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98%.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. The point of reference for Mineral Reserves is the point of feed into the processing facility.
10. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
11. Totals may vary due to rounding.

The 2021 Mineral Reserve is a net increase of 86 koz (18%) total contained gold ounces as compared with the 2020 Mineral Reserves. Although mining depletion has occurred in the Santoy 8A and 9A mining zones, the 2021 Mineral Reserve has increased with the conversion of the Santoy Mineral Resource in the GHW zone into a Mineral Reserve. An increase in the gold commodity price has also resulted in a decrease in the Mineral Reserve cut-off grade.

1.11 Environmental and Social

SSR has successfully completed three environmental assessments for the SGO to date. The site is regulated by both the Saskatchewan Ministry of Environment and Environment and Climate Change Canada. In accordance with provincial environmental legislation and regulations, the operation must adhere to the terms and conditions of an Approval to Operate a Pollutant Control Facility (Approval to Operate). The SGO is in compliance with all the terms and conditions of its current Approval to Operate number PO19-193, issued in October 2019 with an expiry date of September 2022. SSR is responsible to apply to renew this Approval to Operate a minimum of 90 days prior to the expiry date.

The dominant environmental liability at the SGO is the management of the mill tailings and associated tailings effluent. Appropriate infrastructure and operational plans are in place to reduce operational and closure risks associated with these liabilities to acceptable levels.

In 2016 SSR initiated a thorough stakeholder engagement plan designed to strengthen its relationship with communities impacted by the SGO, and the existing social licence to continue operations of the facility. No significant public concern with the SGO was expressed during the stakeholder engagement process.

There are no known environmental concerns at the SGO that cannot be successfully mitigated through the implementation of the various approved management plans that have been developed based on accepted scientific and engineering practices.

In accordance with provincial regulations, SSR has submitted an updated decommissioning and reclamation plan and cost estimate every five years, since 1996. Following initial regulatory review and subsequent edits by SSR, the 2020 revision to the preliminary decommissioning and reclamation plan was approved by the Ministry of Environment. Work on a revision is currently underway to cover the expanded Triangle Lake TMF. The total cost to implement the closure plan using a third-party contractor is currently C$12.0M. This cost estimate incorporates costs to cover release of the property, following the successful implementation of the closure plan, back to the province by way of Saskatchewan's Institutional Control Program.

1.12 Production

Future proposed mine production has been scheduled to optimise the mine output and meet the plant capacity.

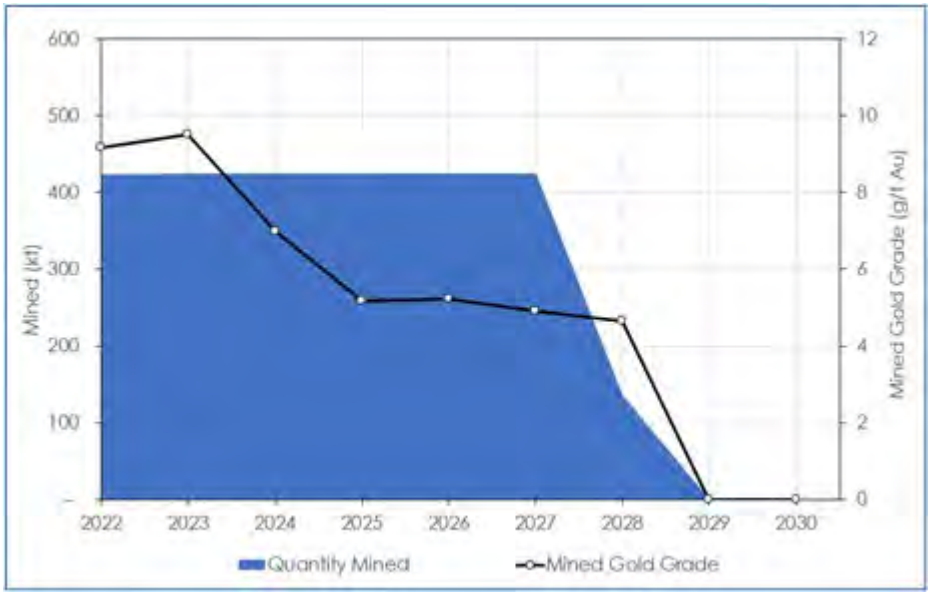
The mining production forecasts are shown in Table 1.5.

Mine, process, and metal production are shown in Figure 1.2 through Figure 1.4.

Table 1.5 Mining Production

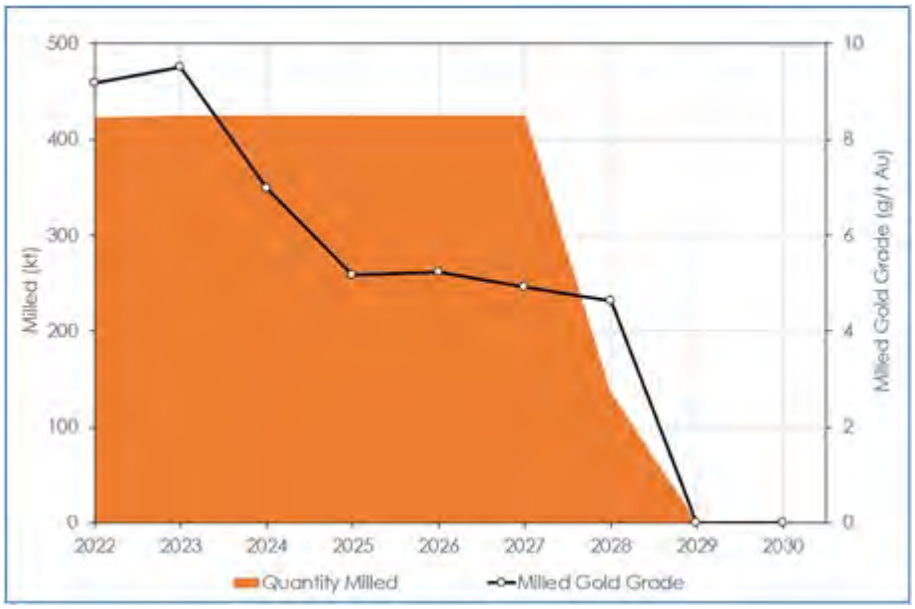
Item	Unit	Total LOM	2-Year Annual Average	LOM Annual Average
Gold Feed – Tonnes Processed				
Quantity Ore Tonnes Treated	kt	2,684	424	424
Au Feed Grade	g/t	6.72	9.34	6.72
Gold Recovery	%	98.0	98.0	98.0
Metal Produced				
Gold	koz	568	125	90

Figure 1.2 Production Plan Tonnage



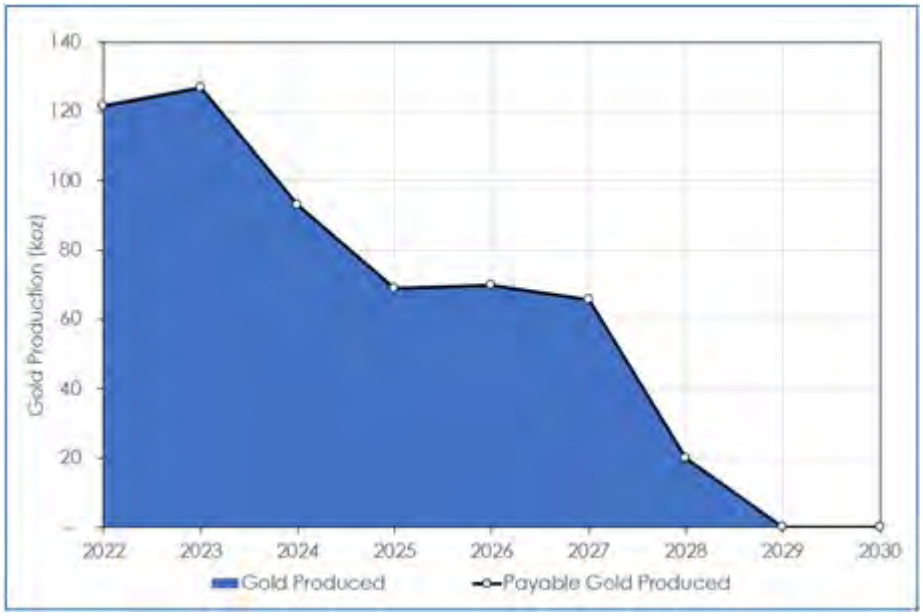
OreWin, 2021

Figure 1.3 Processing Schedule



OreWin, 2021

Figure 1.4 Production Plan Recovered Gold Ounces



OreWin, 2021

1.13 Economic Analysis

The estimates of cash flows have been prepared on a real basis as at 1 January 2022 and a mid-year discounting is used to calculate NPV.

The projected financial results include:

- After-tax NPV at a 5% real discount rate is $249M.
- Mine life of six years.

The estimated total cash costs for the first two years of production is $538 per payable ounce of gold, with a LOM average of $735. The all-in sustaining cost (AISC), which includes infrastructure capital and capital development, is $868 per payable ounce of gold for the first two years of production, with a LOM average of $1,021.

The gold prices used for the economic analysis are shown in Table 1.6. Gold provides the only revenue included in the analysis.

Table 1.6 Seabee21TRS Economic Analysis Gold Price Assumptions

Metal Price	Unit	2022	2023	2024	2025	Long- Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600

The key results of the Seabee21TRS are summarised in Table 1.7. The projected financial results for undiscounted and discounted cash flows, at a range of discount rates are shown in Table 1.8. The estimates of cash flows have been prepared on a real basis as 1 January 2022 and a mid-year discounting is used to calculate net present value (NPV).

Other key economic assumptions for the discounted cash flow analyses are shown in Table 1.9. The results of NPV5% sensitivity analysis to a range of changes in gold price and discount rates is shown in Table 1.10.

A chart of the cumulative cash flow is shown in Figure 1.5.

Table 1.7 Seabee21TRS Results Summary

Description	Unit	Seabee21TRS
Gold Feed – Tonnes Processed		
Quantity Ore Tonnes Treated	kt	2,684
Au Feed Grade	g/t	6.72
Gold Recovery	%	98.0
Metal Produced		
Gold	koz	568
Key Cost Results		
Site Operating Costs	$/t milled	155
Mine Site Cash Cost	$/oz payable gold	734
Royalties and Refining	$/oz payable gold	0.5
Total Cash Costs (CC)	$/oz payable gold	735
All-in Sustaining Costs (AISC)	$/oz payable gold	1,021
Average Gold Price	$/oz payable gold	1,701
NPV	$M	249
Discount Rate	%	5
Project Life	years	6

Table 1.8 Financial Results

Discount Rate	NPV ($M)	
	Before-Tax	After-Tax
Undiscounted	372	274
2.0%	358	263
5.0%	338	249
10.0%	309	228
12.0%	299	221
15.0%	285	211
18.0%	273	201
20.0%	265	196

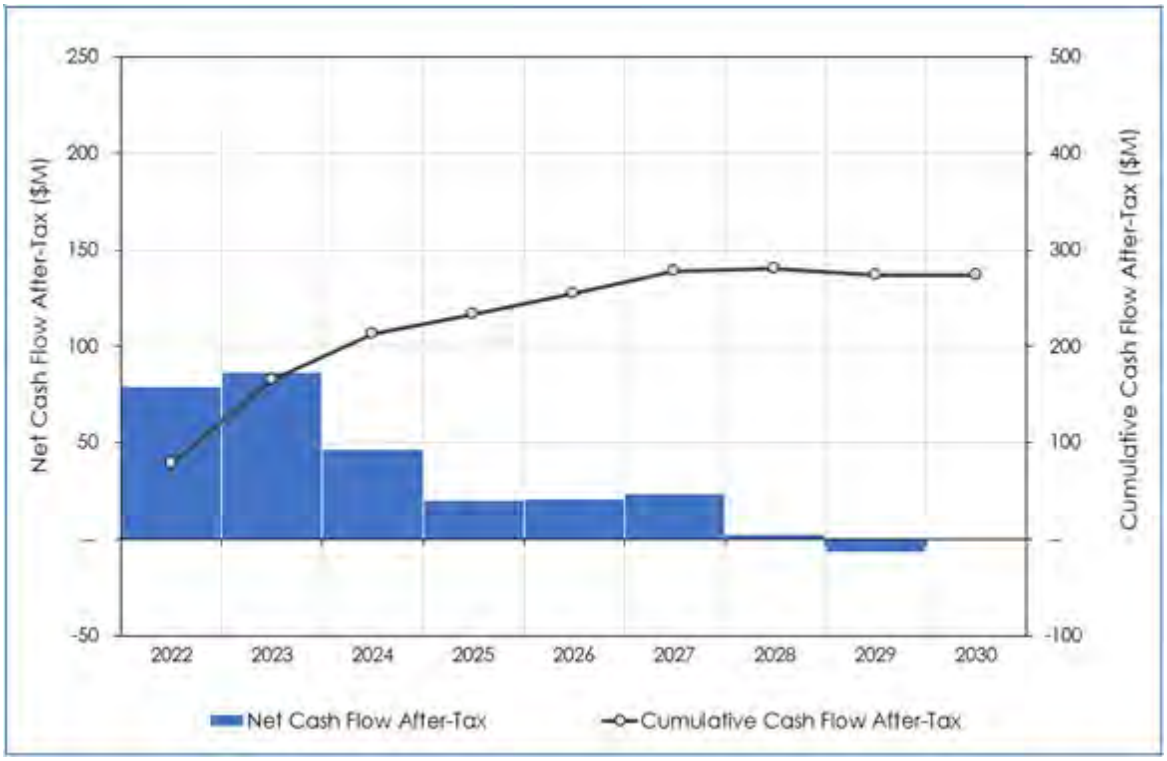
Table 1.9 Key Economic Assumptions

Model Assumption	Unit	Value
Refinery Charge	$/oz gold	0.45
Gold Payability	%	99.5
Tax Rate	%	25.9

Table 1.10 After-Tax NPV Sensitivity to Gold Price and Discount Rates

Discount Rate	Gold Price ($/oz)								
	–400	–300	–200	–100	–	+100	+200	+300	+400
Undiscounted	106	148	190	232	274	316	358	400	442
2%	104	144	184	224	263	303	343	383	422
5%	101	138	175	212	249	286	323	360	396
10%	96	129	162	195	228	261	294	327	359
12%	94	126	158	189	221	252	284	315	347

Figure 1.5 Cumulative Cash Flow



OreWin, 2021

1.14 Interpretation and Conclusions

1.14.1 Mineral Resources

Mineral Resources for the Seabee21TRS have been estimated in and prepared in accordance with S-K 1300.

Areas of uncertainty that may materially impact the Mineral Resource estimates include:

- Assumptions used to generate the data for consideration of reasonable prospects of eventual economic extraction for the Seabee deposit.

  GHW mining recovery could be lower, and dilution increased. Early stoping in GHW should be used to confirm mining method parameters for the GHW zone in terms of costs, dilution, and mining recovery. Early development will also provide access to data and metallurgical samples at a bulk scale that cannot be collected at the scale of a drill sample.
- Environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
- Commodity prices and exchange rates.
- Cut-off grades.

1.14.2 Mineral Reserves Estimation

Mineral Reserves for the Seabee21TRS have been estimated in and prepared in accordance with S-K 1300.

Areas of uncertainty that may impact the Mineral Reserve estimate include:

- Any changes to the resource model as a result of further definition drilling at the site.
- Changes to mining conditions that have an impact to operating costs, production rates or mining recovery factors.
- Commodity prices and exchange rates.

1.15 Recommendations

OreWin is not aware of any significant risks and uncertainties that could be expected to affect the reliability or confidence in the information discussed herein.

1.15.1 Further Assessment

The key areas for further studies/work are:

- Ongoing drilling to expand the Mineral Resource aimed to increase mine life and optimise grade in years 2024 and beyond, as Seabee has managed to do for many years.
- Ongoing geotechnical drilling and logging will be required to increase the confidence in geotechnical data as the project develops.
- Ongoing geotechnical mapping should take place at regular intervals in the planned developments to verify the rock mass conditions determined and to assess the rock mass quality where there is currently little information. This will also allow for the identification of localised weak zones and potentially unstable wedges which should be appropriately supported.
- While the structural analysis provides an impression of the major joint sets across the project area, further geotechnical scanline mapping should be conducted regularly as mining commences to allow for the identification of low angle joints in the hangingwall, localised joint sets and for potential wedges and instabilities.
- Update the Santoy geotechnical model to include the expanded GHW mining zone.

- Early stoping in GHW should be used to confirm mining method parameters for the GHW zone in terms of costs, dilution, and mining recovery. Early development will also provide access to data and metallurgical samples at a bulk scale that cannot be collected at the scale of a drill sample.
- Update site standard operating procedures to include a more transparent Mineral Resource and Mineral Reserve process, clearly documenting the key input parameters applied, and an audit trail of approvals for each phase of the work performed.
- Implementation of Operational Excellence projects identified based on SSR's recent operational review may present incremental improvements to production and operating costs.
- Continue with ongoing review of capital and operating cost estimates and performance and productivity tracking.

2 INTRODUCTION

2.1 SSR Mining Inc.

The SGO is owned and operated by SGO Mining Inc., a wholly owned subsidiary of SSR.

In most cases, the parent company will be referred to as SSR throughout this Technical Report Summary.

2.2 Terms of Reference

The Seabee21TRS is a Technical Report Summary (TRS) on the SGO, prepared for SSR by OreWin, working with SSR, SGO, and their consultants.

The purpose of this Seabee21TRS is to report the Mineral Resources and Mineral Reserves for the project.

The primary source of data for the Seabee21TRS is the Seabee 2021 Project Update.

This Report uses metric measurements except where otherwise noted. The currency used is US dollars ($) unless otherwise stated.

2.3 Qualified Persons

The following people served as the Qualified Persons (QPs) as defined in subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300):

- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director – Mining, was responsible for the overall preparation of the Seabee21TRS and, the Mineral Reserve estimates, Sections 1 to 4; Sections 5 and 6; Section 13; Sections 15 to 27.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director – Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 4; Section 7 to 12; Section 14; Sections 25 to 27.

2.4 Site Visits and Scope of Personal Inspection

OreWin personnel, Sharron Sylvester and Graeme Baker visited the Project 6 February 2020. The site visit included briefings from mining, geology, and exploration personnel; site inspections of potential areas for mining, including underground; discussions with staff; and review of the existing infrastructure and facilities around the Project site.

2.5 Effective Dates

The report has a number of effective dates, as follows:

- Effective date of the Report: 31 December 2021.
- Drillhole database close-out date for Mineral Resource estimate: 15 November 2020.
- Effective date of Mineral Resource model: 31 December 2020.
- Effective date of Mineral Resource report: 31 December 2021.
- Effective date of Mineral Reserves report: 31 December 2021.

2.6 Information Sources and References

The reports and documents listed in Section 5.1 (Previous Technical Reports), Section 24 (References), and Section 25 (Reliance on Information Provided by the Registrant) of this report were used to support the preparation of the report.

Additional information was sought from SSR and SGO personnel where required.

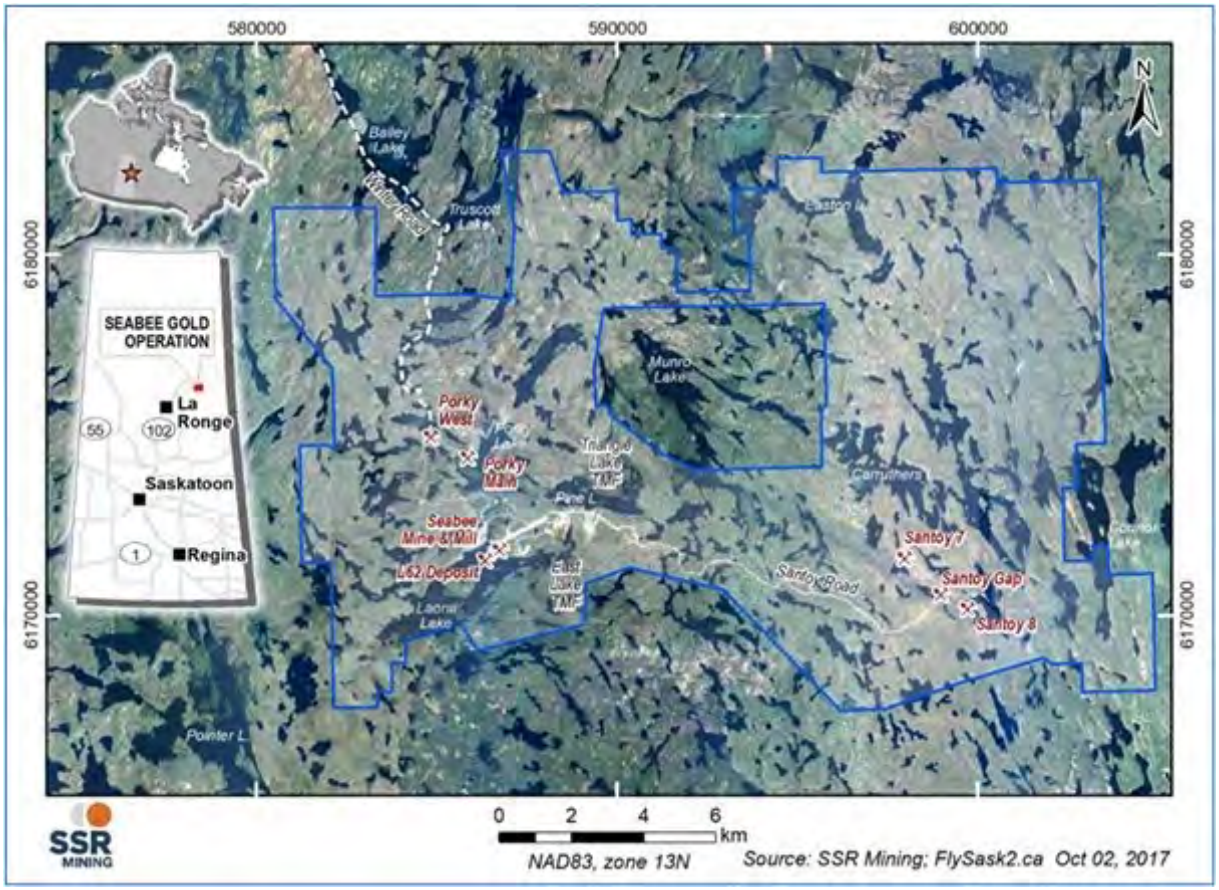
3 PROPERTY DESCRIPTION

3.1 Location

The Seabee Gold Operation (SGO) is located at the northern end of Laonil Lake, approximately 125 km north-east of the town of La Ronge, in Saskatchewan, Canada (Figure 3.1). The centre of the property is located at approximately 55.7° latitude north and 103.5° longitude west.

The mine is a remote operation with access to the mine site by fixed wing aircraft to a 1,275 m airstrip located on the property. Equipment and major resupply items are transported to the site via a 60 km winter ice road, which is typically in use from end of January through to the end of March.

Figure 3.1 Location of the Seabee Gold Operation



SSR, 2017

SGO has been in continuous operation since 1991. Ore is currently produced from the Santoy underground mine from a ramp access / surface portal and is hauled 14 km to the mill located at the Seabee site. A second underground mine, also having ramp access, was operated from 1991–2018 at Seabee.

3.2 Ownership

SSR Mining Inc. (SSR) holds a 100% interest in the property through its wholly-owned subsidiary, SGO Mining Inc. (SGO Mining). SSR acquired the SGO on 31 May 2016 as a result of the acquisition of Claude Resources Inc.. The structure is shown in Figure 3.2.

SSR is a gold mining company with four producing assets, located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

Figure 3.2 Ownership

(1) Formerly known as Claude Resources Inc.

3.3 Mineral Tenure

The SGO is comprised of seven mineral leases and 102 mineral claims that cover an area of approximately 62,158 ha (Table 3.1 and Figure 3.3).

SSR holds a 100% interest in the property through its wholly owned subsidiary, SGO Mining.

Table 3.1 Mineral Tenure Information – All Tenements 100% SGO Mining Inc. Owned

Area	Tenement Number	Expiry Date	Area (ha)
Seabee Area	CBS 7058	08 May 2031	1,230
	CBS 7076	31 May 2031	856
	ML 5535	01 July 2035	45
	ML 5536	01 August 2025	50
	ML 5543 iP	24 January 2033	86
	ML 5551 iP	31 December 2024	115
	ML 5557	01 February 2029	42
	ML 5558 iP	01 February 2029	36
	ML 5559	21 November 2034	333
	S-97986	19 June 2031	250
	S-100748	13 November 2029	930
	S-101660	13 November 2029	280
	S-101661	13 November 2029	425
	S-102737	08 May 2029	360
	S-102738	08 May 2029	130
	S-102739	08 May 2029	380
	S-106678	23 September 2029	1,880

	S-106771	24 June 2029	196
	S-106772	24 June 2029	193
	S-106773	27 December 2029	328
	S-110855	07 May 2031	1,321
	S-110856	04 December 2029	693
	S-111431	22 November 2030	774
	S-111432	22 November 2029	847
	S-113347	26 October 2029	1,309
	S-113350	05 December 2029	197
	S-113993	05 December 2029	29
	S-113994	05 December 2029	341
	Seabee Area Subtotal		**13,657**
Seabee, Carina	S-99942	31 October 2029	**65**
Seabee Fisher	MC00000999	16 November 2027	2,757
	MC00001042	07 January 2029	513
	MC00001165	16 February 2029	675
	MC00002559	17 December 2027	329
	MC00002560	17 December 2027	429
	MC00002561	17 December 2027	641
	MC00002598	18 December 2027	643
	MC00002602	18 December 2028	702
	MC00002603	18 December 2028	711
	MC00002746	14 January 2029	280
	MC00002750	14 January 2028	232
	MC00002758	15 January 2029	517
	MC00002759	15 January 2028	544
	MC00002760	15 January 2028	675
	MC00002761	15 January 2029	496
	MC00002762	15 January 2029	559
	MC00002763	15 January 2028	528
	MC00002794	22 January 2028	495
	MC00002795	22 January 2029	197
	MC00002796	22 January 2029	69
	MC00002868	02 February 2028	498
	MC00002869	02 February 2028	507
	MC00003512	29 July 2027	495
	MC00003514	29 July 2029	524
	MC00003515	29 July 2029	626
	MC00003541	05 August 2027	495
	MC00003542	05 August 2027	492
	MC00003543	05 August 2027	461
	MC00003544	05 August 2028	480
	MC00003545	05 August 2027	564
	MC00003546	05 August 2027	439
	MC00003547	05 August 2027	616

	MC00003548	05 August 2027	563
	MC00003549	05 August 2027	460
	MC00003550	05 August 2027	654
	MC00003553	06 August 2027	575
	MC00003568	09 August 2029	526
Seabee Fisher, cont.d	MC00003584	11 August 2027	591
	MC00003585	11 August 2027	414
	MC00003605	17 August 2027	710
	MC00003628	23 August 2027	1,031
	MC00003630	23 August 2027	731
	MC00003668	31 August 2029	265
	MC00004671	19 March 2029	2,739
	MC00012708	13 May 2028	17
	S-111184	16 February 2029	526
	S-111185	16 February 2029	150
	S-111186	16 February 2029	529
	S-111400	06 October 2029	300
	S-111401	06 October 2029	791
	S-111402	06 October 2029	434
	S-111403	06 October 2029	143
	S-111404	06 October 2029	155
	Seabee Fisher Subtotal		**30,493**
Seabee Fisher S	MC00007135	13 November 2028	251
	MC00007136	13 November 2028	214
	MC00007290	20 November 2028	1,167
	MC00007291	20 November 2028	934
	MC00007293	20 November 2028	705
	MC00007294	20 November 2028	598
	MC00007295	20 November 2028	296
	Seabee Fisher S Subtotal		**4,165**
Seabee New	MC00000028	14 March 2030	262
	MC00000030	14 March 2030	392
	MC00000069	19 March 2028	905
	MC00000070	19 March 2029	1,226
	MC00003517	30 July 2029	113
	MC00003518	30 July 2029	216
	MC00003532	04 August 2029	163
	MC00003551	05 August 2028	494
	MC00003552	06 August 2029	1,382
	MC00003564	09 August 2027	260
	MC00003571	10 August 2029	526
	MC00003593	13 August 2029	574
Seabee New, cont.d	MC00003631	23 August 2029	783
	MC00003716	10 August 2029	244
	MC00003717	10 August 2029	330

	MC00012589	27 February 2030	497
	MC00012591	27 February 2030	393
	MC00012592	27 February 2030	682
Seabee New Subtotal			**9,442**
Seabee Shane	S-105301	07 November 2033	**642**
Seabee Truscott	MC00000093	19 March 2030	**3,695**
GRAND TOTAL			**62,158**

iP Mineral leases from which the SGO is currently producing

Note: Work filings have been submitted to the Saskatchewan Ministry of the Economy and are pending review

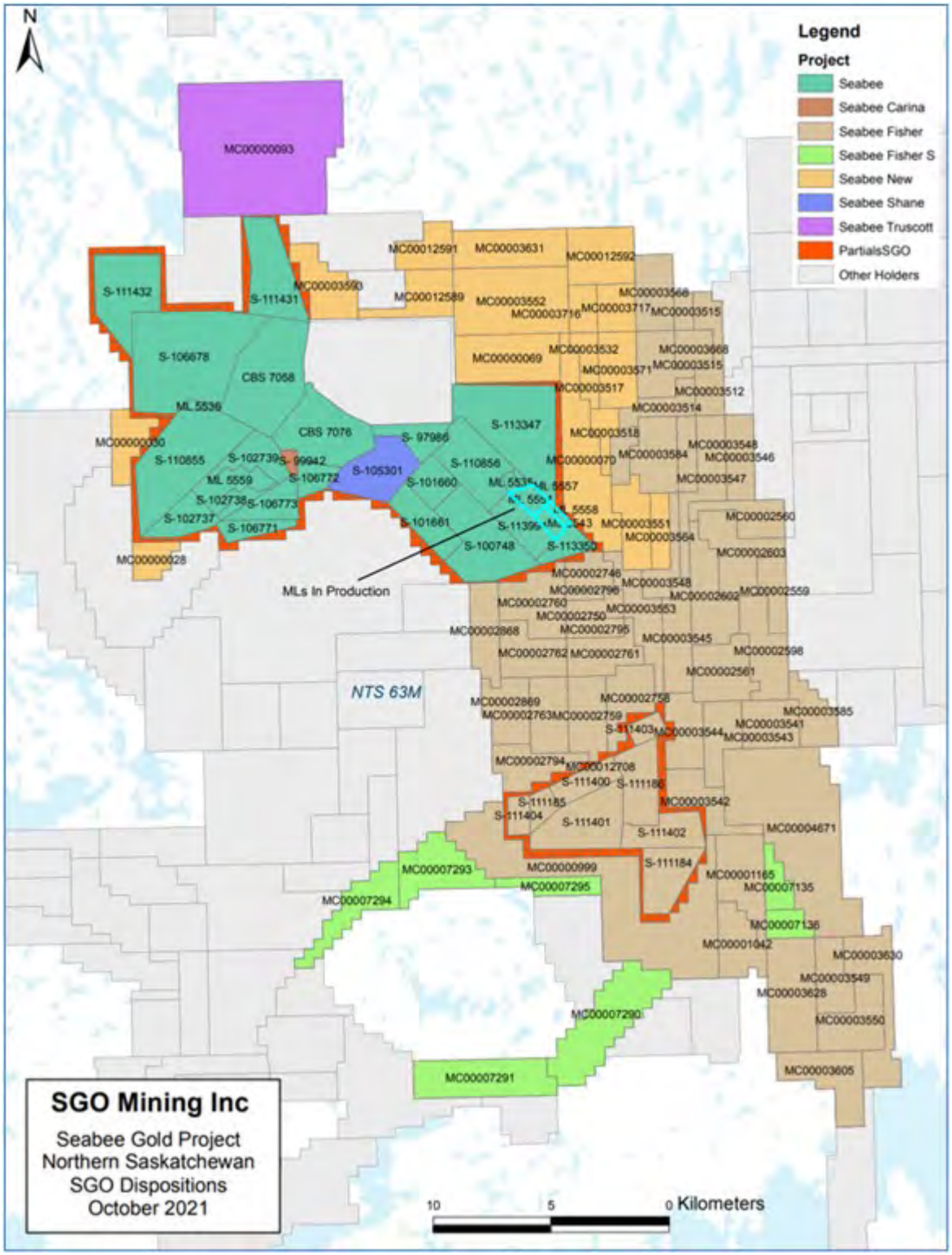
Claude Resources initially staked or acquired the SGO mineral leases and mineral claims prior to SSR's acquisition of the property on 31 May 2016.

In January 1999, after Claude Resources fulfilled the conditions of an option agreement and obtained a 100% interest in the adjoining Currie Rose property, a portion of a previous claim CBS 7057 was converted to a mineral lease (ML 5520). The original 10 quartz mineral claims covering the Seabee mine site were consolidated into a single mineral lease (ML 5519) granted by the Provincial Crown in November 1999. In July 2021, a formal request from SGO operations to consolidate ML 5519 and ML 5520 into a single mineral lease ML 5559, a non-producing lease expiring in 2034, was granted.

Additional mineral leases were added at the Santoy 7 deposit (ML 5535) and Porky West deposit (ML 5536) in 2007, at the Santoy 8 deposit (ML 5543) in 2009, and at the Santoy Gap deposit (ML 5551) in 2013. The SGO is currently producing from mineral leases ML 5558, ML 5543, and ML 5551.

Annual rental and mining land taxes, and the fulfillment of work commitments, are required by SSR to ensure that the mineral leases and mineral claims remain in good standing.

Figure 3.3 Land Tenure Map



SGO, 2021

3.4 Underlying Agreements

The SGO is subject to production and net smelter return (NSR) royalties payable to third parties.

Claude Resources entered into a royalty agreement with Orion Mine Financial Fund (Orion) in 2014 to grant a 3% NSR royalty on gold sales from the SGO. Payments are to be paid quarterly in cash or in physical gold at the average price of gold in each calendar month. This royalty has subsequently been transferred by Orion to Osisko Gold Royalties Ltd.

In the first quarter of 2016, Claude Resources also granted an aggregate 1% NSR royalty on gold production from certain mineral dispositions to an individual and a private company. These dispositions include MC00003518, MC00003532, MC00003571, MC00003573, MC00003594, MC00003631, MC00003716, and MC00003717 from which the SGO is not currently producing. SSR has an option to re-purchase one half of this NSR royalty for C$1.0M.

The SGO is also subject to certain royalty payments to the Province of Saskatchewan that are calculated on 10% of net operating profits and are payable once capital and exploration costs are recovered. No royalty payments have been made to the Province of Saskatchewan to date.

To the extent known, no other significant factors or risks affect access, title, or the right or ability to perform work at the SGO.

3.5 Environmental Considerations

Further discussion is provided in Sections 15 and 17 of this Seabee21TRS. The primary environmental considerations and potential liabilities with the SGO are related to the operation's solid waste (mill tailings) and the treatment and release of mine and mill effluent.

The tailings produced at the mill are currently managed in permanent management facilities (the East Lake tailings management facility and the Triangle Lake tailings management facility). The operation of these two facilities is conducted in accordance with the SGO's Tailings Operation, Maintenance, and Surveillance Manual (SRK, 2020) and the Canadian Dam Safety Guidelines. In addition, the current approved SGO Preliminary Decommissioning and Reclamation Plan, 2016 Update (SRK, 2017b) addresses all potential long-term environmental and physical stability issues of the containment structures in accordance with the Canadian Dam Association Guidelines. The SGO cost estimate for closure activities were updated in 2020 and approved by the Ministry of Environment in July 2020 (Ministry of Environment, 2020).

With respect to water management and treatment, three discharge points exist at the operation. Mine water from the old Seabee mine (also referred to as the 2B mine, not currently in operation) is pumped to surface settling ponds that discharge to Laonil Lake. Mine water collected in the Santoy mine is pumped to surface and discharged to the Santoy settling ponds, which is treated in a Moving Biological Bed Reactor (MBBR) water treatment plant in order to remove ammonia and nutrients from the water prior to discharge to Lizard Lake.

In addition, mill effluent accumulating in the two tailings management facilities that is not recycled to the mill as make up process water is treated in a chemical treatment plant through the addition of lime, hydrogen peroxide and ferric sulfate. The treated water from this plant currently discharges to the East Pond which flows through a series of wetlands and ultimately reports to the northern arm of Laonil Lake. A new chemical treatment plant combined with a MBBR was recently constructed to replace the existing chemical treatment plant. Both water treatment plants operate in compliance with the SGO's Approval to Operate. All water discharges to the environment are in compliance with applicable provincial and federal regulations.

3.6 Permits and Authorisation

Following a successful environmental assessment for a proposed gold mine development in the Province of Saskatchewan, applicants must secure a Surface Lease Agreement and subsequently an Approval to Operate a Pollutant Control Facilities (Approval to Operate) both issued from the Province of Saskatchewan's Ministry of Environment.

The SGO currently has a valid surface lease with the Province of Saskatchewan, which was amended in March 2010. This surface lease provides SSR the Crown Land surface rights necessary to carry out the mining, milling, and associated operations at the SGO. The existing surface lease is in effect from March 2010 to its expiry date of 31 May 2040 (SMOE, 2010).

The SGO also holds an Approval to Operate No. PO19-193. This approval is issued by the Province of Saskatchewan's Ministry of Environment pursuant to The Environmental Management and Protection Act, 2010 and its regulations. This approval was issued in October 2019 and is valid until September 2022. Renewal of this approval is triggered through an application submitted to the Ministry of Environment at least 90 days prior to its expiry date. Subject to the terms and conditions of this approval, SSR is authorised to operate all pollutant control facilities associated with the operation's mine and mill (SMOE, 2016).

The SGO is also obligated to operate in compliance with the Canadian Metal and Diamond Mining Effluent Regulations issued pursuant to the Canadian Fisheries Act.

The SGO is currently in compliance with all environmental approvals and authorisations.

4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

4.1 Accessibility

Access to the SGO is by fixed-wing aircraft from the town of La Ronge, Saskatchewan to a 1,275 m airstrip located on the property (Figure 4.1). During the winter months, a 60 km winter road is built between the mine site and Brabant Lake on Highway 102, approximately 120 km north of La Ronge, to transport heavy supplies and equipment by truck.

4.2 Local Resources and Infrastructure

SSR employs a workforce of approximately 350 employees who work on rotating schedules at the SGO. Up to 251 employees can be accommodated at the mine camps, which are equipped with kitchen and dining facilities, and a recreation room.

Electrical power to the property is provided by the provincial power authority, the Saskatchewan Power Corporation, via a 138 kV hydroelectric transmission line from Island Falls.

Potable water is obtained locally through SSR's on-site potable water system.

4.3 Climate

The province of Saskatchewan is generally considered to have a continental climate, with temperatures and precipitation that vary significantly between seasons; winter is typically cold and dry, while summer is warm and wet. The majority of the province's precipitation comes from summer rainfall, however, cool winters with long-surviving snowpack also contribute to greater precipitation.

The climate at the SGO is similar to that of the nearby Environment Canada weather station at Island Falls. The mean monthly temperatures recorded at this station between 1981 and 2010 range from –22.2°C in January to 17.3°C in July. Daily maximum temperatures have ranged on average from –15.9°C in January to 22.9°C in July, while daily minimum temperatures have ranged on average from –28.4°C in January to 11.6°C in July.

In the spring and summer months, historical total rainfall ranges on average from 6.8 mm in April to 84.6 mm in July, with mean annual rainfall totalling 347.9 mm. The winter months can experience significant snowfall, with historical monthly averages of 17.9 cm in February and March and up to 26.9 cm in November, with mean annual snowfall totalling 138.5 cm. A mixture of rain and snowfall is commonly experienced during the spring and fall.

Figure 4.1 Infrastructure at SGO and Typical Landscape of Project Area

A: SGO on-site airstrip apron
B: Seabee mine site
C: Seabee mine camp
D: Core shack
E: Typical landscape with view of Laonil Lake

4.4 Hydrogeology

Water inflow is well understood at the SGO based on actual data and is not expected to change during the life of mine. The current dewatering infrastructure system adequately manages water inflows and the system is expected to be expanded as the footprint of the Santoy mine expands.

4.5 Physiography

The SGO is located within the Precambrian Canadian Shield environment, which is vegetated with a mixture of deciduous and coniferous trees and shrubs typical of a boreal forest, as shown in Figure 4.1. The area has been glacially scoured and is comprised of rocky, ice moulded ridges separated by lakes or muskeg filled depressions. Local relief in the surrounding area can be high, with the shoreline rising sharply to an elevation of 15–20 m above the lake surface (Golder 2009).

The site is relatively flat, with much of the area comprised of irregular, hummocky, rocky exposures. Low areas between hummocks that may have 5–9 m of relief are commonly filled with pockets of glacial till, and occasionally with muskeg. Overburden soils are thin in this area, and often the rock outcrops are exposed (Golder 2009).

5 HISTORY

The Laonil Lake region has been intermittently explored since the 1940s, with the first gold discovery made in 1947 by prospectors working on behalf of Cominco Inc. (Cominco). Cominco conducted an extensive prospecting, geological mapping, trenching and diamond drilling programme between 1947 and 1950, and in 1958 was granted 10 quartz mining leases covering the property on which the Seabee Gold Operation (SGO) is located. From 1974 through 1983, Cominco conducted detailed drilling and exploration, and in 1983 sold the property to BEC International Corporation (BEC). BEC subsequently sold the property to Claude Resources in 1985.

In June 1985, Claude Resources optioned the property to Placer Development Limited (subsequently Placer Dome Inc. (Placer)). Placer conducted an extensive exploration programme, which involved geological mapping, trenching and stripping, geophysical, geochemical, environmental, and metallurgical studies, as well as surface and underground drilling. Upon completion of the programme, Placer allowed its option to expire and returned the property to Claude Resources in June 1988.

Claude Resources performed a geological review and analytical study to validate the work completed by Placer, and Cominco Engineering Services Limited (Cominco Engineering) subsequently completed bulk sampling and drilling as part of a feasibility study for the Seabee deposit. A Mineral Reserve estimate was completed in December 1988 and a positive feasibility study was completed in August 1989, which was further revised in May 1990. In the summer of 1990, Claude Resources placed the Seabee deposit into production and construction of the Seabee mine was initiated. Mill construction was completed in late 1991, and mining commenced in December 1991.

In 1998, prospecting and mapping was conducted by Claude Resources on the SGO site and a number of new discoveries were made, including the Porky West zone in 2002, the Santoy 7 deposit in 2004, the Santoy 8 and Santoy 8 East deposits in 2005, and the Santoy Gap deposit in 2010. Permit applications were submitted in 2005 to build an all-weather access road and conduct bulk sampling, and permission was subsequently granted to bulk sample the Santoy 7 and Porky West zones.

Commercial production at the Santoy 7 deposit was achieved in 2007, and an economic study to evaluate the Mineral Resource at the Santoy 8 deposit was conducted in 2008. Portal construction and surface infrastructure development of the Santoy mine was initiated in late 2009, and environmental studies and permitting for commercial mining of the Santoy 8 and Santoy 8 East deposits were completed in 2010. Underground development continued in 2010, and the Santoy mine advanced towards commercial production in the second quarter of 2011.

Claude Resources' 2012 and 2013 exploration programmes focused on the Santoy deposit and establishing its geological and structural relationship to the Santoy 8 deposit. In February 2013, a shaft extension project was completed at the Seabee mine to reduce trucking distance and ore handling. In 2014, the ventilation raise at the Santoy deposit was completed and production was initiated. During 2015, an underground drill chamber was completed to begin drill testing the plunge continuity of the Santoy 8 deposit.

On 31 May 2016, SSR acquired Claude Resources and the SGO.

5.1 Previous NI 43-101 Technical Reports

Mineral Resource and Mineral Reserve estimates have been prepared at various stages for the SGO. The two most recent are described below.

- The 2013 NI 43-101 Technical Report (Claude 2013) for the SGO, filed prior to SSR's ownership, reported (as at 31 December 2012):
  - Measured plus Indicated Mineral Resources of 469.6 kt at a grade of 5.10 g/t Au for 77 koz of contained gold, and
  - Inferred Mineral Resources of 2,957.6 kt at a grade of 6.35 g/t Au for 603.4 koz of contained gold.
  - Proven and Probable Mineral Reserves of 2,785.2 kt at a grade of 6.19 g/t Au for 554.1 koz of contained gold.
- The 2017 NI 43-101 Technical Report (SGOTR17) for the SGO:

  'NI 43-101 Technical Report for the Seabee Gold Operation, Saskatchewan, Canada; Michael Selby, P. Eng; Dominic Chartier, P. Geo; Mark Liskowich, P. Geo; Jeffrey Kulas, P. Geo; reviewed by: Gary Poxleitner, P. Eng and Glen Cole, P. Geo, with Trevor Podaima, P. Eng., G. Ross MacFarlane, P. Eng,, and Caitlyn Adams, GIT, dated 20 October 2017,

  filed prior to SSR's ownership, reported (as at 31 December 2016):
  - Measured plus Indicated Mineral Resources of 2,074 kt at a grade of 8.02 g/t Au for 535 koz of contained gold, and
  - Inferred Mineral Resources of 2,495 kt at a grade of 7.66 g/t Au for 615 koz of contained gold.
  - Proven and Probable Mineral Reserves of 1,371 kt at a grade of 8.19 g/t Au for 361 koz of contained gold.

These earlier reports are superseded by the Mineral Resource and Mineral Reserve estimates documented in this Seabee21TRS.

The SGO has produced over 1.6 Moz of gold since production began in 1991. Production has steadily increased to achieve a peak output of 84 koz, 96 koz, and 112 koz of gold during 2017, 2018, and 2019, respectively. A drop in gold production was experienced in 2020 due to impacts from the COVID-19 pandemic, resulting in less tonnes being processed. A summary of the production history of the SGO since 1996 is presented in Table 5.1.

Table 5.1 Historical Production from the SGO (1996–2021)

Year	Milled Ore			Recovery	Gold Produced	Cash Cost	Kitco Gold Price ($/oz)
	ktpa	tpd	Grade (Au g/t)	(%)	(oz)	($/oz)	
1996	194	531	6.45		36,709	345	388
1997	211	579	9.36	92.2	58,467	215	331
1998	225	615	9.27	92.6	60,200	168	294
1999	245	672	7.30	92.3	54,100	193	279
2000	238	651	8.58	87.9	58,300	190	279
2001	275	753	6.13	88.8	46,300	221	271
2002	202	553	6.59	93.7	41,500	246	310
2003	209	572	7.95	94.7	50,800	253	363
2004	187	512	7.15	95.2	41,200	297	410
2005	236	648	6.32	92.9	42,200	358	445
2006	246	674	6.16	93.6	46,300	396	603
2007	228	624	6.35	95.4	44,323	586	695
2008	228	626	6.46	95.8	45,466	683	872
2009	248	678	6.17	95.3	46,827	613	972
2010	204	559	7.55	95.5	47,270	692	1,225
2011	257	705	5.68	95.3	44,750	918	1,572
2012	275	754	5.86	95.6	44,756	998	1,669
2013	280	767	5.11	95.3	43,850	954	1,411
2014	280	766	7.32	95.7	62,984	757	1,266
2015	277	760	8.82	96.3	75,748	525	1,165
2016	313	857	7.91	96.6	80,351	639	1,250
2017	330	967	8.25	97.4	83,998	602	1,259
2018	352	1,125	9.16	97.4	95,602	505	1,267
2019	344	1,087	9.56	98.2	112,137	464	1,398
2020	255	1,163	10.10	98.4	81,686	534	1,790
2021	382	1,180	9.92	98.4	118,888	514	1,799

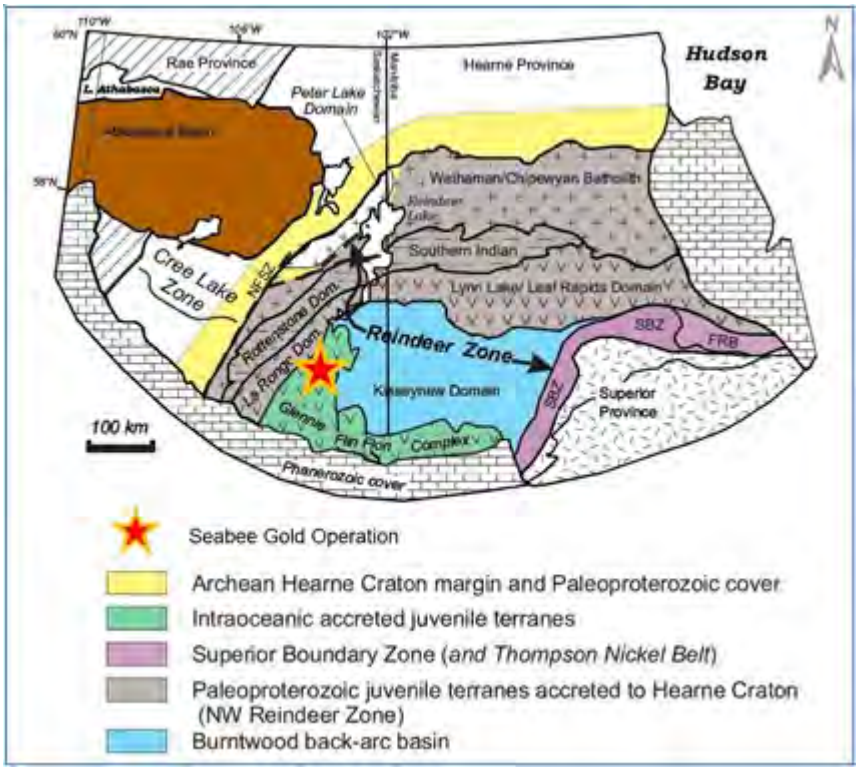
Period from and after acquisition of Claude Resources by SSR on 31 May 2016 by SSR

6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT

6.1 Regional Geology

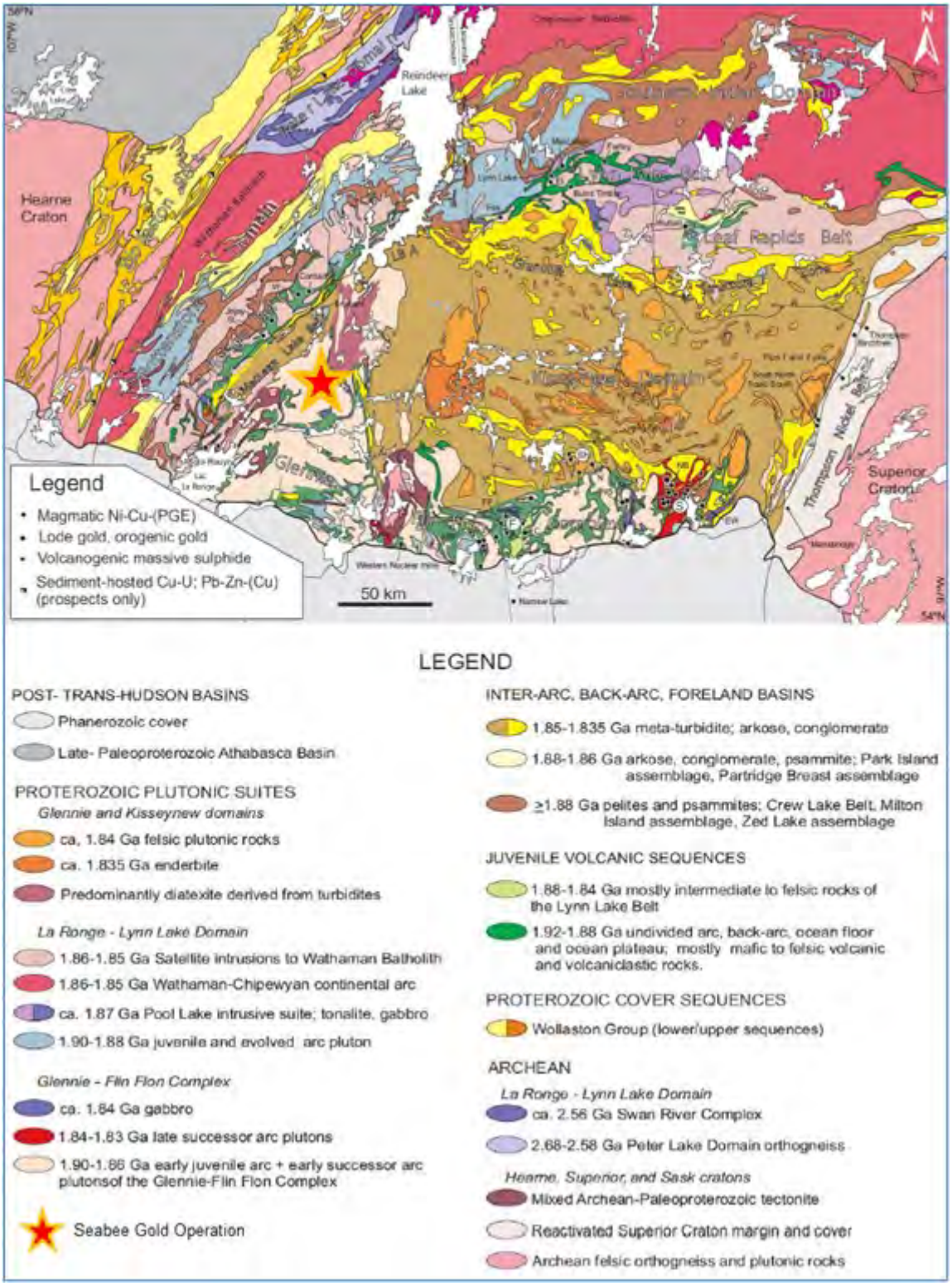
Northern Saskatchewan forms part of the Churchill Province of the Canadian Shield and has been subdivided into a series of litho-structural crustal units, of which the Seabee Gold Operation (SGO) is located within the Glennie domain of the Proterozoic Trans-Hudson Orogen (Figure 6.1 and Figure 6.2; Corrigan et al. 2007). The Trans-Hudson Orogen marks the collisional suture zone between the Rae-Hearne, Sask and Superior cratons formed during the closure of the Manikewan ocean (Stauffer 1984) and is divided into two distinct zones: namely, the Cree Lake Zone and the Reindeer Zone. The Cree Lake zone is composed of early Proterozoic continental shelf sedimentary rocks that overlie Archean rocks of the Hearne Province to the west. The Reindeer zone is comprised of mid-oceanic ridge basalts, oceanic island-arc basalts, inter-arc volcanogenic sedimentary rocks, and molasse-type sedimentary rocks. Plutonic rocks of various composition and age intrude the supracrustal sequence.

Figure 6.1 Cree Lake Zone and Reindeer Zone of the Trans-Hudson Orogen



Corrigan et al, 2007

Figure 6.2 Regional Geology of the South-Western Trans-Hudson Orogen



Corrigan et al, 2007

The Reindeer zone is further subdivided into litho-tectonic domains based on similarities of lithology, metamorphic grade, and structure (Lewry and Sibbald 1977), of which the Glennie domain is one such component. The Glennie domain is wedge shaped and is characterised by arcuate belts of Lower Proterozoic supracrustal rocks separated by granitoid gneisses and granitoid intrusions (Macdonald, 1987). It is bounded on the west by the north–north-east trending Stanley shear zone and bounded on the east by the north–south trending Tabbernor fault zone. To the south, Phanerozoic sedimentary rocks cover the Glennie domain.

Lewry et al. (1990) interpreted the Reindeer zone as a folded stack of nappes and thrust complexes divided by ductile mylonitic zones, emplaced during the terminal collision of the Trans-Hudson Orogen. The interpretation was based on Archean rocks that were found within the Glennie domain and neighbouring Hanson Lake block (Bell and Macdonald, 1982; Chiarenzelli et al., 1987; Craig, 1989) and imply that the Reindeer zone is underlain in part by Archean rocks (Lewry et al. 1990; Bickford et al. 1990). Extensive seismic geophysical studies (White et al., 1994) and samarium-neodymium systematics (Chauvel et al., 1987) support the interpretation.

The SGO is contained within one of the nappe sheets, referred to as the Wapassini Allochthon, and is interpreted as an upper tectonic assemblage separated from a lower sequence (the Iskwatikan Subdomain) by a high strain zone known as the Guncoat Gneisses (Macdonald, 1987). The allochthon was refolded and intruded by later plutons.

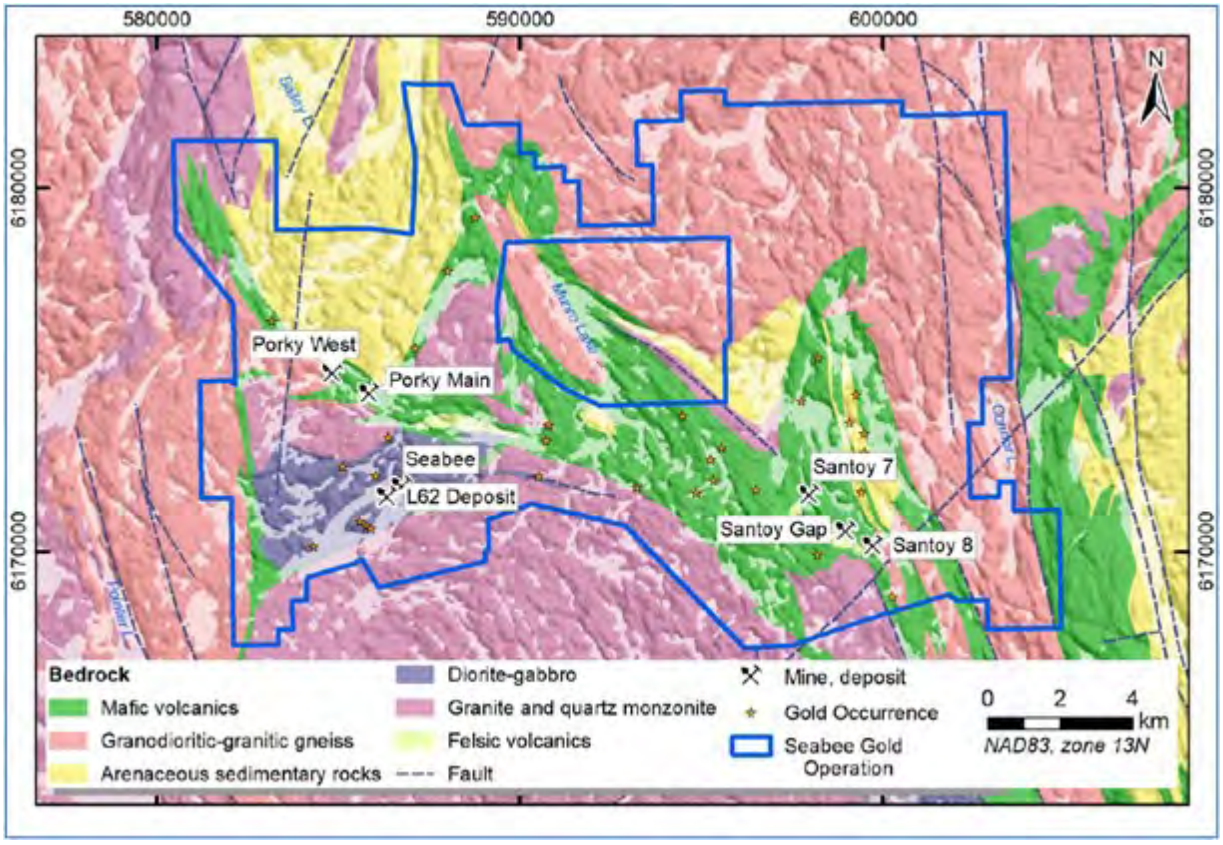
6.2 Property Geology

The SGO is located within the northern portion of the Pine Lake greenstone belt. The belt has a strike length in excess of 50 km and comprises a variety of geochemically distinct tholeiitic mafic volcanic rocks formed in juvenile island arc settings, along with contemporaneous mafic intrusive rocks, volcaniclastics, sediments and felsic intrusions of varying age, as shown in Figure 6.3. Metamorphic grade across the Pine Lake greenstone belt ranges from upper greenschist to upper amphibolite, with the SGO hosted in the latter. The belt has been complexly folded by at least four major phases of deformation that are observed across the SGO site and elsewhere in the Glennie domain.

The SGO can be subdivided into three main geological domains:

- Seabee mine: The Seabee mine area is hosted within a coarsely layered mafic intrusion dominated by gabbro in the mine sequence.
- Santoy: The Santoy mine area is hosted within a sequence of mafic volcano-sedimentary rocks variably intruded by granodioritic rocks and separated by generally north–south trending thrust faults.
- Porky: The Porky deposit area is a mineralised trend hosted along a 12 km long openly folded unconformity, separating arenaceous sedimentary rocks of the Rae Lake synform to the north from mafic volcanic rocks of the Seabee mine area to the south.

Figure 6.3 Local Geology Setting



SK GeoAtlas, 2017

6.3 Structural Setting

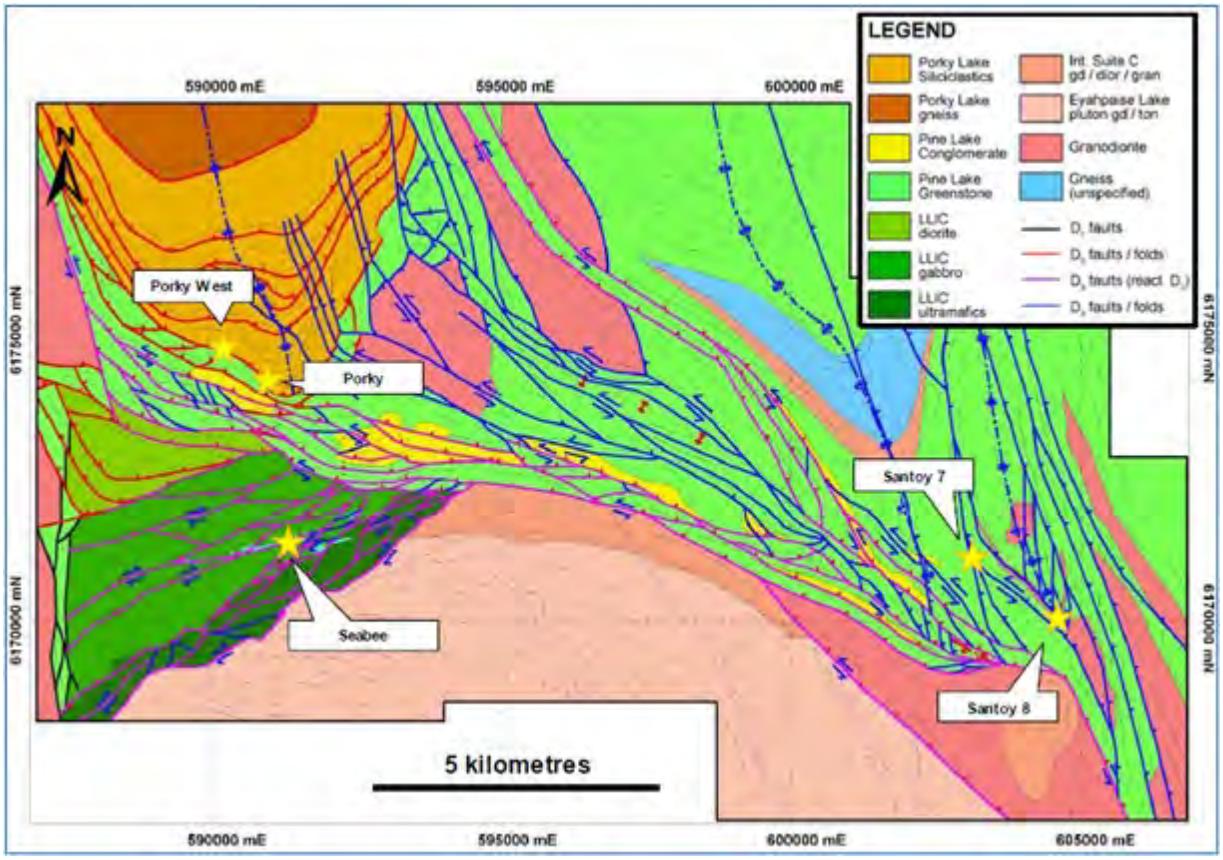
Coeval folding and thrusting during a protracted period of progressive deformation associated with the collision and amalgamation of several Archean continental fragments resulted in four major phases of deformation on the SGO property and are characterised as follows (SRK 2009):

- D1 (approximately 1,870 million years ago (Ma) to 1,845 Ma): Development of gneissic foliation and intrafolial folds associated with amalgamation of the Glennie and Flin Flon domains.
- D2 (approximately 1,845 Ma to 1,830 Ma): South directed thrusting and roughly east–west folding associated with the collision of the Reindeer zone and Sask craton.
- D3 (approximately 1,830 Ma to 1,800 Ma): West directed thrusting associated with north–north-west trending folding and transposition, and strike-slip reactivation of D2 shear zones controlled by the collision of the Superior and Sask cratons. Peak amphibolite grade metamorphism was reached at approximately 1,810 Ma.
- D4 (approximately 1,830 Ma): Refolding of D3 folds into regional type 1 and type 2 interference patterns associated with the final formation of the Trans-Hudson Orogen.

SRK (2009) generated an integrated interpretation using published literature, regional mapping data, drilling data, and geophysical data that was collected during Goldak Airborne Surveys' (Goldak) 2007 (Goldak 2007) aeromagnetic survey over the SGO (see Section 7.2.1). The following observations were made (Figure 6.4):

- Minor D1 faults trend north–south in the south-west corner of the interpretation area; Gneissic foliation and intrafolial folds cannot be observed on the scale of interpretation. D1 faults are present where a narrow strip of Pine Lake greenstone is interpreted to make the boundary between the Laonil Lake intrusive complex to the east and granodiorite units to the west. Any larger scale D1 features have been overprinted by subsequent deformation events.
- Regional north–south compression during D2 focussed on main deformation corridors and lithological contacts in the Laonil Lake intrusive complex. The Porky Lake metasedimentary belt was emplaced as late-stage southward thrust sheet(s) on the Pine Lake greenstone belt:
    - Early-D2 gold mineralisation in the Seabee deposit is hosted in isoclinally folded quartz veins within D2 reverse shear zones that were reactivated as dextral shear zones during D3. Mapped veins appear offset by late-D2 structures that are subparallel to the Eyahpaise Lake pluton intrusive margin (1,859 Ma), suggesting that gold emplacement commenced prior to 1,859 Ma.
    - Late-D2 gold mineralisation in the Porky deposits are associated with the development of a south verging thrust fault which formed late in the D2 phase when the Porky Lake metasedimentary belt was emplaced on the Pine Lake greenstone belt. The hosting fault was subsequently folded along a north–south axis, the Ray Lake synform, during D3 deformation.
- East–west compression during D3 reactivated deformation corridors and D2 structures in the Laonil Lake intrusive complex. Dextral kinematics were observed on west–south-west components, and sinistral kinematics were observed on all other components. Sinistral strike-slip shear zones observed in the central domain of the interpretation area, and north to north-west trending oblique-slip shear zones and folds in the eastern and western domains of the interpretation area. D3 folding affects D2 thrust faults (i.e., Ray Lake synform):
    - Gold mineralisation in the Santoy deposits are associated with north–north-west trending D3 reverses and sinistral-reverse shear zones. It is possible the deposits are controlled by fault intersections, enhancing permeability.

Figure 6.4 Integrated Structural Analysis of the SGO by SRK (2009) Based on Goldak's 2007 Aeromagnetic Survey



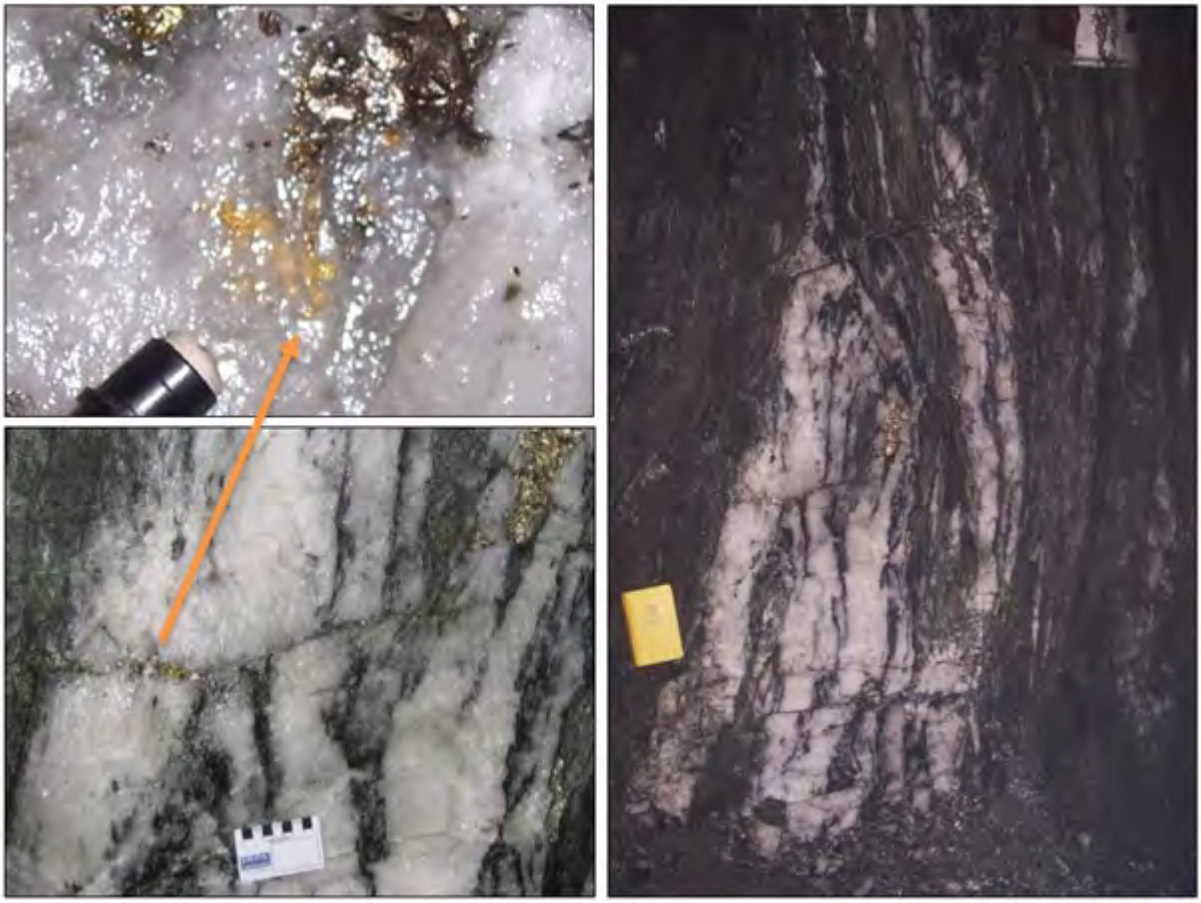
SSR, 2009

6.4 Mineralisation

Gold mineralisation at the (now ceased) Seabee mine is hosted within an extensive network of sub-parallel shear structures, which crosscut the Laonil Lake intrusive complex. Vein mineralogy is dominantly quartz with pyrite, pyrrhotite, and chalcopyrite, and accessory tourmaline and carbonate. Gold occurs primarily as free, finely disseminated flakes and films replacing pyrite or at sulfide boundaries. Higher grade gold values are most often associated within sulfide-rich zones or at vein junctions (Figure 6.5). Silicification is the most common alteration type observed at the Seabee mine.

Gold mineralisation at the Santoy mine is hosted within calc-silicate altered shear structures with diopside-albite ±titanite-bearing quartz veins and occurs in gold-sulfide-chlorite-quartz veins in the shear zones, near or in the granodiorite and granite sills. Diopside-albite calc-silicate alteration facies are the main host to gold mineralisation in the Santoy 8A and Santoy 9A, 9B, and 9C zones. The Gap Hangingwall (GHW) deposit is hosted within a shallowly dipping, north plunging, folded limb of the Lizard Lake Pluton. Mineralisation is concentrated near the fold hinge within cm to m scale quartz veining which strikes roughly north south and dip sub-vertically.

Figure 6.5 Typical Mineralisation Observed at the SGO



SSR, 2017

In the Porky deposit, the brittle-ductile lode gold system is hosted along a thick corridor of calc-silicate altered mafic volcanic and arenaceous sedimentary rocks that straddle a major unconformity along the southern margin of the Rae Lake synform. Both the Porky Main and Porky West deposits are characterised by the same calc-silicate alteration package, however, the unconformity and arenites host most of the auriferous quartz veins at the Porky West deposit.

Table 6.1 summarises the key stratigraphic and structural elements controlling the mineralisation at each of the SGO deposits.

Table 6.1 Key Stratigraphic and Structural Elements Controlling Mineralisation at the Seabee, Santoy, and Porky Deposits (SSR, 2017b)

Area	Zone Name	Main Control of Mineralisation	Host Rock	Strike Length (m)	Vertical Extent (m)	Thickness (m)	Strike
Seabee	L62	Quartz-tourmaline veins in shear zones	Laonil Lake Intrusive Complex gabbro	150	700	1–11	E
	2 Vein	Quartz-tourmaline veins in shear zones	Laonil Lake Intrusive Complex gabbro	1,800	1,400	2–7	ENE
	5-1 Shear	Quartz-tourmaline veins in shear zones	Laonil Lake Intrusive Complex gabbro	800	1,100	1–11	ENE
Santoy	Zone 7	Quartz veins in diopside-albite (calc- silicate) altered shear zones	Mafic metavolcanic rocks and lesser dioritic to granodioritic sills	330	120	2–10	N
	Zone 8	Quartz veins in diopside-albite (calc-silicate) altered shear zones	Mafic metavolcanic rocks and lesser dioritic to granodioritic sills	600	500	2.5–7	NW
	Zone 8 East	Quartz veins and flooding in sheared and isoclinally folded granodiorite	Granodiorite stock in fold nose near hanging wall contact with mafic metavolcanic rocks	200	250	1.5–15	NNW
	Zone 9	Quartz veins in diopside-albite (calc-silicate) altered shear zones	Mafic metavolcanic rocks and lesser dioritic to granodioritic sills	650	650	2–30	NW
	Gap Hanging-wall	Quartz veins in folded granodiorite intrusion	Lizard Lake Pluton	200	800	1–20	EW
Porky	Porky Main	Quartz veins in diopside-chlorite-actinolite (calc-silicate) altered shear zones	Mafic metavolcanic rocks and to a lesser extent arenaceous sedimentary rocks	280	180	1–4	SSE
	Porky West	Quartz veins in silicified calc-silicate altered shear zones	Arenaceous sedimentary rocks and to a lesser extent mafic metavolcanic rocks	400	250	1.5–12	E

6.5 Deposit Types

The Seabee mine, Santoy mine, and Porky deposits host mesothermal, quartz-vein hosted lode gold deposits developed in major brittle-ductile to ductile shear systems. The gold mineralisation throughout the SGO exhibits complex geometrical patterns attributed to a combination of structural and/or lithological controls.

Mesothermal gold deposits typically emplaced as a system of en echelon veins, forming tabular veins in competent host rock lithologies, or as stockwork veinlets and stringers in less competent host rock lithologies. Lower grade bulk-tonnage style mineralisation with gold associated with disseminated sulfides may develop in areas peripheral to quartz veins. Mesothermal gold deposits can also be related to broad areas of fracturing, where gold and sulfides are associated with quartz veinlet networks. The quartz veins are typically in sharp contact with the wall-rock and can display a variety of textures including massive, ribboned or banded, and stockworks with anastomosing gashes and dilations, which may subsequently be altered or destroyed during deformation. Gold-quartz veins are found within zones of intense and pervasive carbonate alteration along faults proximal to trans crustal breaks, and often occur at a high angle to the primary collisional fault zone. They are commonly associated with late syn-collisional, structurally controlled intermediate to felsic magmatism, with economic deposits generally hosted by large competent units, such as intrusions or blocks of obducted oceanic crust (Ash and Alldrick, 1996).

Delaney (1992) suggested that lithological heterogeneities between feldspar porphyry dikes and gabbros of the Laonil Lake Intrusive Complex are responsible for the localisation and propagation of the shear zone. At Seabee, the structures trend between 045° to 085°, and dip north near vertically. Three discrete subsets of structures have been recognised trending at 070°, 085°, and 045°, with the 070° structures containing the auriferous veins. At Santoy, the structures trend between 340° to 315°, and dip moderately to the east. Vein geometry within the shear zones are commonly a combination of 'S' and 'Z' oblique and extensional types, and second order or Riedel shears.

High gold grades occur at the intersection of the primary 'S' shears with subordinate shear structures and/or where potassic altered diorite dikes have intruded the Laonil Lake gabbro prior to strain occurrence. It is probable that secondary dikes introduced additional gold to the system, which was later remobilised under strain conditions.

Exploration at the SGO is guided by applying techniques consistent with the identification and discovery of other quartz-vein lode gold systems. Airborne magnetic data is used in surface exploration to identify structural corridors and asymmetrical features, folds and target areas that are known to host gold on the property. This geophysical data is used in conjunction with regional and detailed geological mapping to identify major zones of shearing and alteration, of which calc-silicate alteration has proven to be the most prospective variety on the SGO property.

Geochemical soil sampling is also used as a regional exploration technique to identify gold and trace element vectors associated with Seabee-style gold mineralisation and has successfully identified gold mineralisation at various locations across the property. Once targets have been delineated by the above exploration methods, diamond drilling at wide spacing is used to test the structural systems to allow for SSR's minimum threshold deposit size to be identified based on observed local grade.

7 EXPLORATION

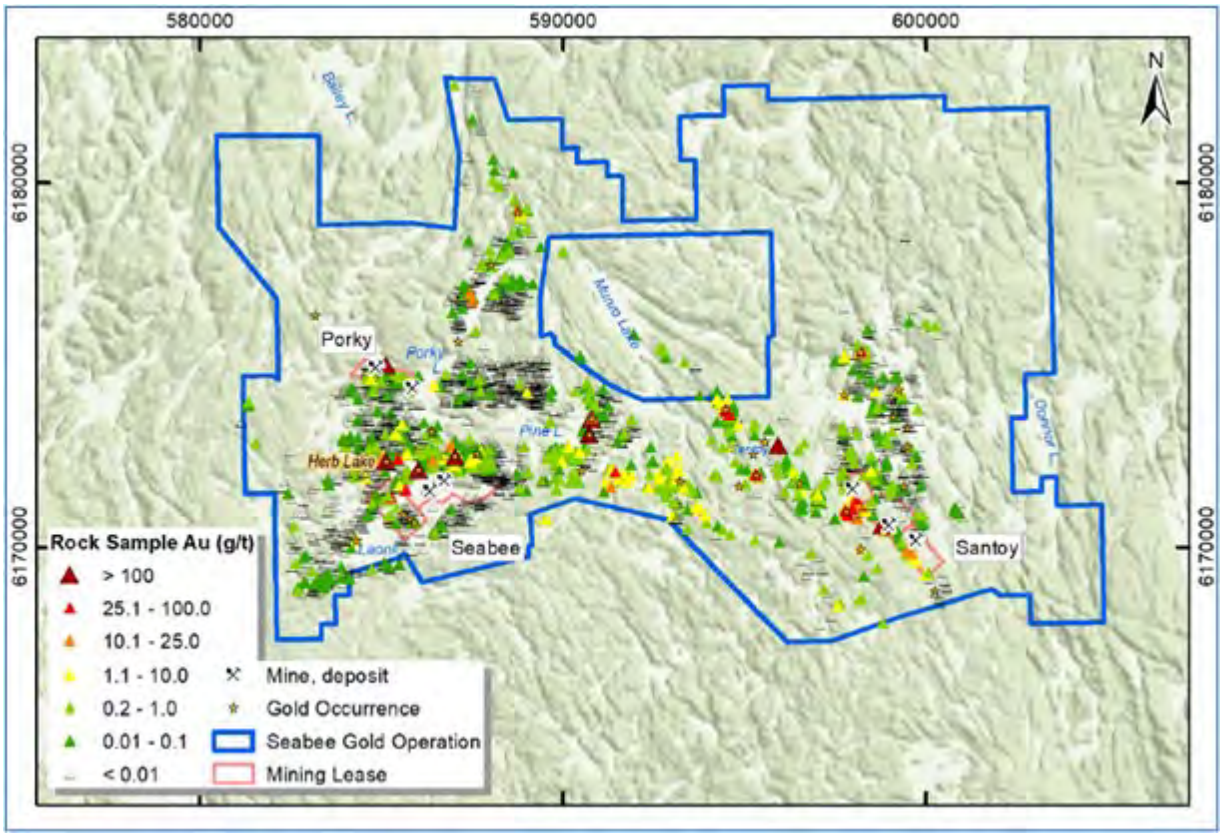
7.1 Surficial Geochemistry

Historically, several rock and soil sampling programmes have been executed on the Seabee Gold Operation (SGO) property (Figure 7.1 and Figure 7.2).

Placer collected over 1,200 surface rock samples and nearly 7,000 soil samples between 1985 and 1988. The majority of samples were collected from the western portion of the property in the vicinity of Laonil Lake and Pine Lake, and proximal to and north of Porky Lake. Sample spacing was approximately every 20–25 m on 100 m spaced lines.

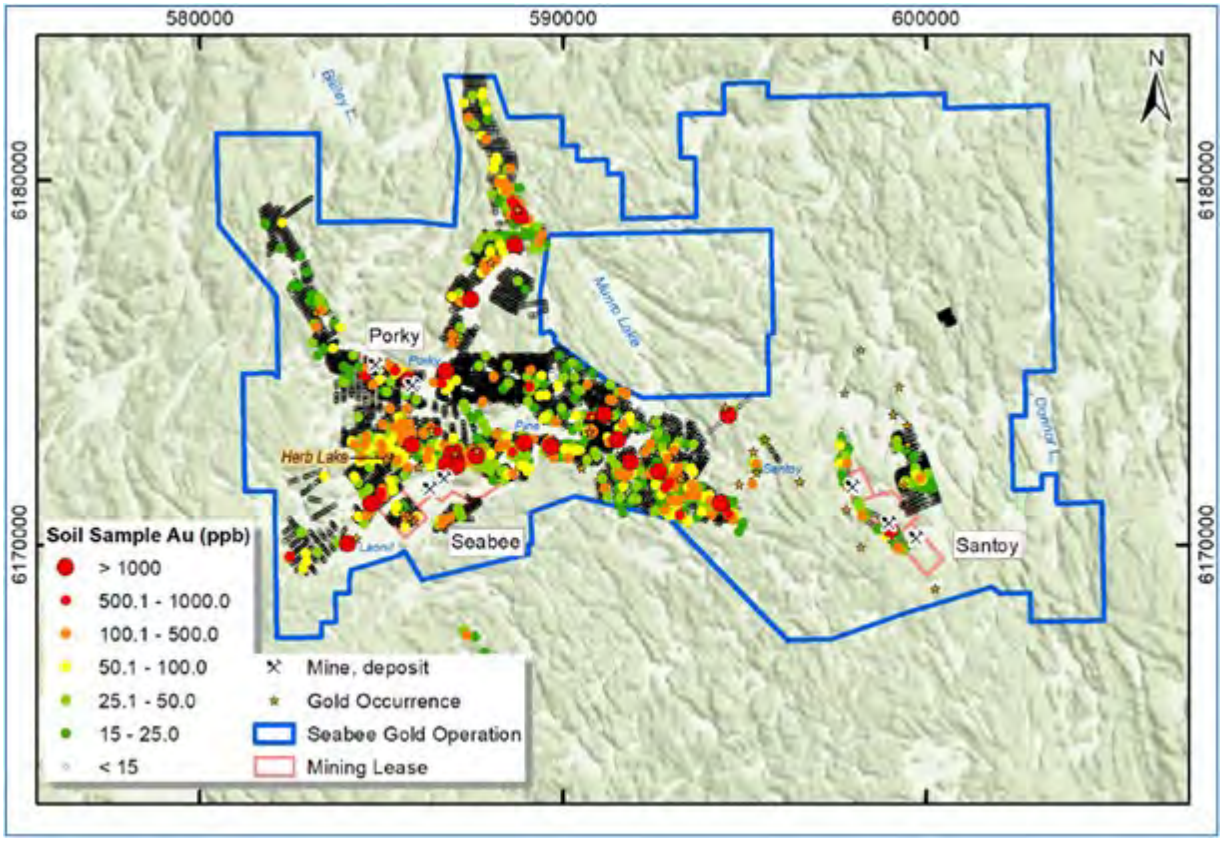
Claude Resources collected nearly 2,000 surface rock samples and over 7,000 soil samples between 1990 and 2013. Soil samples were primarily collected from the western portion of the property, with additional samples collected in the south-central portion of the property and in the Santoy area. Sample spacing was planned every 20–25 m on 100 m spaced lines. In 1990, rock samples were largely collected around the Laonil Lake, Porky Lake and Pine Lake areas, after which time the focus of exploration shifted to the Santoy area and samples were collected from the south-eastern portion of the SGO property.

Figure 7.1 Historical Rock Samples Collected at the SGO



SSR, 2017

Figure 7.2 Historical Rock Samples Collected at the SGO



SSR, 2017

Upon its acquisition of the SGO, SSR undertook a review of all exploration activities conducted on the property by previous operators. An exploration programme was subsequently undertaken, including detailed mapping of the Herb West and Santoy Lake areas, as well as the collection of accompanying soil samples to be submitted for gold assay. Limited anomalous occurrences were identified from grab and soil sample results, and no new showings or gold in soil trends were recognised. SSR plans to map additional regions to the north and east within the Herb Lake area as additional shear zones are targeted.

In the Santoy Lake area, mapping extended from Santoy Lake to the west end of the Santoy mine. Soil sampling conducted over the same area resulted in the collection of 501 samples taken every 25 m on lines spaced 200 m apart. No anomalous trends of significance were identified. However, SSR has planned further exploration in prospective areas east and west of the 2016 exploration programme area.

7.2 Geophysical Surveys

7.2.1 Fixed Wing Aeromagnetic Survey 2007

Goldak performed an aeromagnetic survey over the SGO property on behalf of Claude Resources from 25 February to 15 March 2007 (Goldak, 2007). North–south traverse lines were flown with 100 m spacing and a control line separation of 1,000 m, totalling 2,284 line kilometres of high-resolution magnetic data collected. Nominal terrain clearance was 80 m above ground level.

In 2009, SRK reviewed the aeromagnetic survey to make an integrated interpretation with the addition of using published literature, regional mapping data, and drilling data (Figure 6.4). The following recommendations were made regarding regional targeting:

- Regional deformation corridors have high prospectivity for gold, as structural complexity in the region over time has enhanced permeability.
- Key locations for gold mineralisation can be identified by understanding the kinematics active during gold mineralisation in combination with the interpreted fault geometry:
  - Dilational jogs along D2 and D3 shear zones: shallower dipping segments of D2 and D3 reverse shear zones (similar setting to Santoy 7), left steps along D3 sinistral shear zones, and right steps along D3 dextral shear zones.
  - Fault intersections (i.e., deformation corridors).
- Additional parameters that enhance gold mineralisation in the Seabee area include:
  - High competency contrast (i.e., variations in lithology).
  - Presence of multiple intrusions exploiting similar structural pathways as potential hydrothermal fluids.
  - Proximity to the Pine Lake conglomerates, a structurally bound conglomerate package similar to the Abitibi Timiskaming conglomerates.

7.2.2 Titan-24 DC / IP and MT Survey 2010

In early 2010, Quantec Geoscience Ltd. (Quantec) were commissioned to perform a Titan-24 direct current/induced polarisation and audio-magnetotelluric ground geophysical survey over the Santoy area on behalf of Claude Resources. The Titan-24 direct current and induced polarisation data were inverted to produce cross-sections of the resistivity and chargeability variations along four survey lines. In its standard configuration, the Titan-24 surveys typically image direct current resistivity and induced polarisation to 500–750 m in sub-vertical tabular geological settings, and up to 50% more for sub-horizontal geological settings. Audio-magnetotelluric inversion depth is generally limited to approximately half the length of the survey line or profile.

Quantec (2013) made the following observations and interpretations based on the 2010 survey results:

- Based on common features observed in the four lines, both the chargeability and resistivity showed weak to strong chargeability responses and low to high resistivity distribution.
- A major difference in the direct current / induced polarisation and audio-magnetotelluric signatures between the north-east, central and south-western regions of the survey lines was observed. The highest conductivity was observed from near surface to approximately 100 m depth in both direct current and audio-magnetotelluric resistivity models. The conductive cap was found above a thick, highly resistive body in the central part of the grid. The central part is relatively more resistive, which potentially depicted the mineralisation of interest having gold traces. Drill data provided by Claude Resources confirmed the presence of gold traces related to high resistivity in audio-magnetotelluric sections and at gradient zone of direct current resistivity sections where resistivity changed in nearly two orders of magnitude.
- It is possible that the direct current and audio-magnetotelluric inversions could be affected by 3D signatures of linear structures which may run parallel and/or sub-parallel to the survey lines. The observed high resistivity contrast in direct current and audio-magnetotelluric inversion models potentially defines the geological structures, lithological units and alteration zones which may be related to gold mineralisation.

- Low chargeability responses were generally observed from near surface to approximately 100 m depth and associated with the conductive cap. The north-eastern part of the lines represents high chargeability from near surface to a greater depth than the rest of the grid and may be associated with a geological contact and/or fault zone.
- Below the low chargeability top layer, the central part of the grid shows moderate chargeability associated with high resistivity potentially consisting of the mineralisation of interest. Drilling data provided by Claude Resources confirmed the presence of gold traces related to moderate chargeability. The change in chargeability between the north-east and central areas may describe the alteration zone related to gold mineralisation.
- The geological setting of the region giving rise to a variety of geophysical responses for possible mineralisation, and the inversion results of the direct current/induced polarisation and audio-magnetotelluric models along with drilling data, confirmed that the gold deposit in this area is structurally controlled and dominated at gradient zones.

7.2.3 Airborne Magnetic and Radiometric Survey 2016

SSR contracted Precision GeoSurveys Inc. (Precision) to complete a high resolution airborne magnetic and radiometric survey over the most recently staked portion of the SGO land package from 30 August to 4 September 2016 (Precision 2016). The survey block covered an area of 22.9 km x 15.0 km and included 150 survey lines and 25 tie lines that totalled 1,815 line kilometres. Survey lines were spaced 100 m in an east–west orientation and tie lines were spaced 1,000 m in a north–south orientation. Nominal terrain clearance was specified at 75 m.

Selected suspect anomalies were re-flown for confirmation, specifically those found on a single flight line. Lines to be re-flown were a minimum of 2,000 m long, so that survey line re-flights crossed at least two tie lines and tie line re-flights crossed at least five survey lines.

Survey overview maps (flight lines and digital terrain model), magnetic maps (total magnetic intensity, residual magnetic intensity and calculated vertical gradient of the residual magnetic intensity), and radiometric maps were produced by Precision, with the objective of identifying potential new targets for gold mineralisation on the Seabee property.

The magnetic data was collected to better observe the structural nature of the underlying bedrock and, where possible, determine major breaks in the regional stratigraphy along which shear zones can propagate, and the radiometric data was used to determine the relative amounts of uranium, thorium and potassium in the surficial rocks and soils to be used for the mapping of bedrock lithology, alteration and structure. The resultant data were found to be consistent with the structure of the bedrock and major lithological breaks previously interpreted by geological mapping, air photo interpretation and drilling. The data was also consistent with the two-dimensional structural architecture and intensity of previously flown surveys within juxtaposed survey blocks.

7.3 Drilling

Prior to SSR's acquisition of the SGO, and as at 31 December 2015, a total of 2,037 surface drillholes totalling approximately 389,281 m and 4,818 underground holes totalling approximately 861,514 m had been completed on the property.

For the year ended 31 December 2021, SSR has drilled an additional 287 surface holes totalling approximately 106,916 m and 1,321 underground holes totalling approximately 299,670 m since acquiring the property from Claude Resources Inc.

Table 7.1 summarises the drilling completed on the property. Figure 7.3 displays the surface holes completed on the property. Details regarding the salient drill programmes are discussed in greater detail in the subsections below.

Table 7.1 Surface and Underground Drilling Completed on the SGO to 31 December 2021

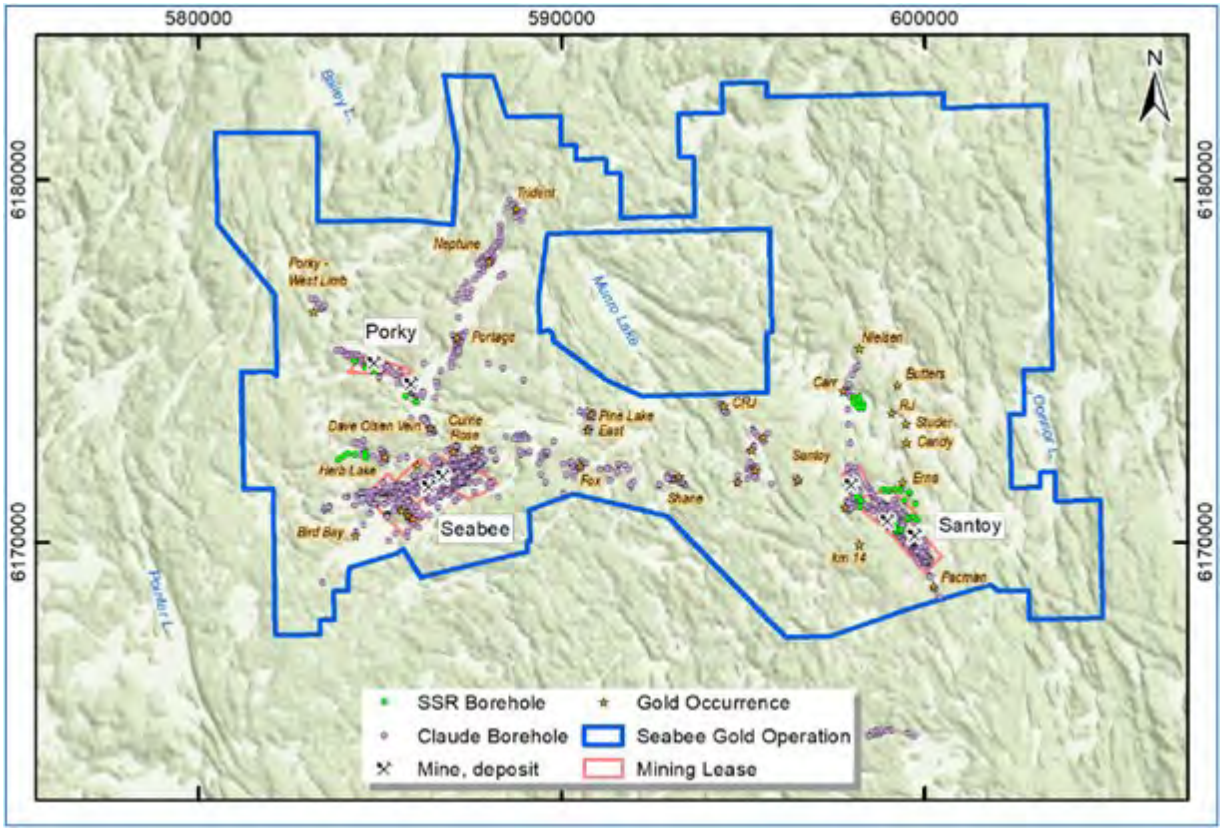
Drilling Programme	Company	No. Surface Drillholes	Surface Metres Drilled	No. Underground Drillholes	Underground Metres Drilled	Total Number of Drillholes	Total Metres
1947–1988	Various (Cominco, Claude Resources, Placer)	278	35,419	77	6,491	355	41,910
1989–2012	Claude Resources	1,742	344,415	4,190	724,858	5,932	1,069,273
2013–2015	Claude Resources	17	9,447	551	130,165	568	139,612
2016	Claude Resources / SSR	51	19,817	306	65,021	357	84,838
2017	SSR	14	10,506	159	61,179	173	71,685
2018	SSR	83	24,389	229	52,500	312	76,889
2019	SSR	44	16,888	174	51,278	218	68,166
2020	SSR	21	9,638	177	30,040	198	39,678
2021	SSR	74	25,678	276	39,652	350	65,330
Total		**2,324**	**496,197**	**6,139**	**1,161,184**	**8,463**	**1,657,381**

1.1.1 Drilling by Cominco, Claude Resources, and Placer 1947–1988

Cominco identified four gold-bearing zones on the SGO property from 1947 through 1950, after drilling 79 holes totalling 4,414 m, and in 1961 drilled two shallow holes of 41 m as part of an overall review of the known property data. In 1974, Cominco drill tested additional vein structures with 16 holes totalling 458 m, and commenced further exploration from 1982 through 1983 whereby 20 holes were drilled totalling 3,776 m. This drill programme was not completed before Cominco sold the property in 1983.

Upon acquisition of the property, Claude Resources drilled three holes totalling 226 m to corroborate Cominco's work and property estimates. Pursuant to an option agreement with Claude Resources, Placer executed an extensive surface and underground drilling programme from June 1985 to June 1988, whereby a total of 95 surface holes and 72 underground holes were completed. Placer determined the property did not meet its criteria for development and returned the property to Claude Resources in 1988.

Figure 7.3 Map Showing the Distribution of Surface Drilling in Relation to the Seabee, Santoy and Porky Deposits, and other known Gold Occurrences on the Seabee Property



SSR, 2017

1.1.2 Drilling by Claude Resources 1989–2015

1.1.2.1 Seabee Area

After obtaining a 100% interest in the Currie Rose property from Currie Rose Resources Inc. in 1994, which consisted of over 4,000 ha surrounding the Seabee mine, Claude Resources conducted a drilling programme to test gold-bearing structures identified the previous year during a prospecting programme. The drill programme consisted of 27 holes totalling 3,458 m. In 1996, drilling defined the 10 zone, identified the previous year and found adjacent to the western boundary of the Seabee mine. A total of 23 holes were drilled totalling 2,567 m. Diamond drilling in 1997 explored the vein extensions of the 10 vein and 2C vein structures with seven holes totalling 1,573 m. The 1999 drill programme focused on an area south-west of the Seabee mine trend and consisted of 7,726 m drilled in 47 holes.

As a follow-up, the majority of holes drilled in 2000 were collared to the west of mining lease ML 5520 in the Bird Lake area, to explore for mineralised structures parallel to the Seabee 2 vein. Targets in the Porky Lake and Pine Lake areas were also tested. Six additional remote targets, namely the Scoop, Porky, Herb, Pine, East, and West Bird Lakes were explored in 2001, with anomalous gold values encountered within variably sheared host rocks.

In 2002, drilling focused on a laterally extensive geochemical soil anomaly on the west shore of Porky Lake, and on a series of quartz-bearing shear structures north and east of the No. 5 ramp access. The drill programme successfully discovered the Porky West zone and produced elevated gold values over narrow widths at the No. 5 ramp access.

Drilling in 2003 in the Porky area discovered the Porky West zone, an arenite-hosted high-grade gold lens. Subsequent drilling in 2004 focused on delineation drilling at the Porky Main and Porky West zones, and exploration drilling on the eastern limb of the Porky Lake anticline targeted the contact between the mafic metavolcanics rocks and feldspathic arenite.

A small diamond drill programme was completed in 2009, which extended the down plunge extent of the Porky West ore shoots.

Evaluation of the Neptune target, located approximately 6 km north of the Seabee mine, was the focus of exploration in 2010, where drill testing included two holes. Exploration efforts in 2011 included a further 28 drillholes to test the 1.8 km strike length of the soil anomaly to vertical depths of up to 250 m, and in 2012, further drilling at the Neptune target confirmed the sporadic nature of the gold-bearing system.

1.1.2.2 Santoy Area

Prospecting and geological mapping in 1998 resulted in the discovery of numerous new veins in the Santoy area. The targets were drill tested in 2002 with encouraging results and became the focus of additional exploration programmes leading to the discovery of the Santoy 7, and Santoy 8 and Santoy 8 East deposits in 2004 and 2005. In 2004, five holes totalling 598 m were drilled at Santoy 6, 48 holes totalling 6,164 m were drilled at Santoy 7, and 21 holes totalling 2,797 m were drilled at Santoy 8. Drilling of the Santoy 8 and Santoy 8 East zones in 2005 was aimed at testing the north–north-west plunge and dip extensions of the mineralised shear structures outlined in previous drill programmes. Sixty-eight holes totalling 15,296 m were drilled, with an additional 20 holes totalling 6,272 m drilled in the summer of 2005. Infill drilling continued in 2007 to collect information for proposed mine plans with 25 m infill data to a depth of 250 m completed on the Santoy 8 and Santoy 8 East deposits. A total of 31,670 m was drilled from 147 holes.

Exploration drilling in 2010 targeted the Santoy Gap area to test the Santoy shear system between the Santoy 7 and Santoy 8 deposits, as well as to continue to investigate the down-plunge continuity of the Santoy 8 and Santoy 8 East deposits. Results from the programme outlined continuity at depth for both the Santoy 8 and Santoy 8 East deposit.

Drilling defined the Santoy deposit in 2011. Multiple high-grade intervals were intercepted, expanding the strike length and width of the known mineralisation. During 2012, exploration focused on defining the relationship between the Santoy and Santoy 8 deposits to depths up to 750 m. Infill and exploration drilling around the Santoy lens and Santoy Shear zone continued to confirm and expand the Santoy system, and also identified a sub-parallel lens approximately 150 m of the east of the Santoy deposit.

In 2013, surface drilling programmes targeted the down plunge extension of the Santoy and Santoy 8 deposits, resulting in two out of three step-out holes returning high-grade gold intercepts. The Santoy system was extended down plunge to 650 m depth and the Santoy 8 deposit was extended 400 m below the base of the previously estimated Inferred Mineral Resource.

Underground drilling in 2014 focused on defining and expanding the Mineral Reserve and Mineral Resource at the Santoy deposit. Results identified high-grade and promising widths of gold mineralisation hosted within three vein systems, named the Santoy 9A, 9B, and 9C deposits. Additional underground drilling in 2015 focused on the expansion of Mineral Reserve and Mineral Resource at the Santoy deposit, and a 6,000 m drill programme targeted the plunge continuity of the Santoy 8 deposit. Results from the Santoy up-dip drilling demonstrated the potential for expansion of the deposit, and drilling results within, down-dip and down plunge also increased confidence in the continuity of the deposit at depth.

1.1.3 Drilling by Claude Resources and SSR 2016

Drilling in 2016 on the SGO property had the objective of increasing and converting the Mineral Resource to Mineral Reserve.

An underground diamond drilling programme to upgrade the Inferred Mineral Resource and explore the extension of the Santoy 8A and Santoy deposits was completed by SSR. From surface, drilling was conducted to upgrade the up-plunge extension of the Santoy 9A, 9B, and 9C deposits as well as to complete deeper infill drilling on the Santoy 8A Inferred Mineral Resource.

At the Seabee mine, five holes were drilled on the 15 Vein target, an offset mineralised structure along the 19 Shear. At the Carr target, located 4 km along strike to the north of the Santoy mine, SSR drilled nine holes over a 2 km strike length, totalling approximately 2,500 m. At the Herb West target, located 2.2 km west–north-west of the Seabee mine, four holes totalling approximately 1,130 m were completed. Results from drilling the above targets revealed shear-hosted quartz-veining structures with gold-bearing sulfide mineralisation and warranted follow-up drilling.

1.1.4 Drilling by SSR Mining 2017 Onwards

Drilling in 2017 from underground continued to focus primarily on the definition and expansion of the resources on the Santoy 8 and 9 veins. During 2017 the first underground programme designed to test the Gap Hangingwall (GHW) target was implemented. A limited surface programme focused on defining the margins of the Santoy 8 and 9 veins that could not be tested from underground. The Exploration team drilled four surface holes attempting to locate the depth continuity of the Santoy 6 showing without success.

Drilling in 2018 from underground continued to focus primarily on the definition and expansion of the resources on the Santoy 8 and 9 veins. One underground drill was dedicated to exploring the Santoy Hangingwall target. Surface drilling focused on the definition of near surface Santoy 9 veins. A surface based deep exploration programme was completed in an attempt to intersect the 926 zone.

Drilling in 2019 from underground shifted significantly to focus on the definition and expansion of the GHW target. Limited underground drilling was conducted on the Santoy 8 and 9 veins largely due to a paucity of suitable drill bays. Surface drilling also focused on the definition and expansion of the GHW target; the result of which was a maiden resource for the GHW deposit at year end of 1.15 Mt at 7.5 g/t Au Indicated and 850 Mt at 7.9 g/t Au Inferred for 496 koz gold. The Exploration team conducted a limited programme along strike of the GHW target within the Lizard Lake Pluton following up on the previous year's prospecting and soil sampling programme with limited success.

Underground drilling in 2020 focused almost exclusively on the definition and expansion of the GHW deposit with limited definition drilling conducted on the Santoy 8 and 9 veins due largely to a paucity of suitable drill bays and size of the GHW. Surface drilling shifted focus to the Santoy Hangingwall target with several smaller programmes also conducted to test near-mine targets that could not be reached from underground platforms. Of the surface targets tested in in 2020 only the Santoy Hangingwall showed promise for developing into a resource. The exploration team conducted limited follow up on their 2019 programme along strike of the GHW with mixed success.

1.1.5 SSR Drilling Procedures

1.1.5.1 Underground Drilling Procedures

The most important dataset informing the current Mineral Resource at the SGO is derived from underground drilling. Underground drill layouts are created using Geovia GEMS software three-dimensional software. Three dimensional lines are created between a desired pierce point and a collar location for each planned hole. The resulting azimuths from the developed hole traces are given to the survey department as a digital plan map, which is then uploaded into the Mine Markup tablet. All underground drill layouts are created in mine grid coordinates. The survey crew then goes underground to physically paint the drill lines of all holes on the excavation walls by means of numbered lines, with front sight and back sight marked accordingly. Spads are drilled into the lines with which the line number and azimuth are marked on flagging tape in the event the painted lines become obscured or illegible over time.

Underground drills are equipped with laser sighting systems for accurate alignment on the specified drill line. Dips are set using digital inclinometers magnetically attached on the drill's feed frame. Completed drillholes are surveyed using a Reflex multi-shot tool and wireless palm unit to measure the azimuth, dip and total magnetic field. Drillholes are surveyed at 10 m intervals from the bottom of the hole to the collar. For holes exceeding 500 m, it is common practice to take single shots every 30–50 m as the hole advances to ensure that deviation is within acceptable ranges. Stored data is transferred to a memory stick from the palm unit and is then uploaded into a programme called S-Process where the data is visually verified, and then transferred into the GEMS MS Access database as a comma-delimited text file (*.csv). Upon completion of each hole, the collar locations and azimuths are recorded by mine surveyors and the data is transferred to the drill geologist as a .csv file for inclusion into the GEMS survey field in the MS Access database. Completed holes are checked against planned hole traces to verify that they are spatially correct in the three-dimensional model.

Underground drill logging takes place at the drill chamber underground. Data from logging is captured on paper log sheets and include header data containing the drillhole identification number, date, the logging geologist's name and planned hole directional data. The main body of the log contains row and column fields for depth intervals, lithological descriptions, sample numbers, assay results and rock quality data measurements. Upon completion of logging, the information is manually entered into the GEMS database by a mine geologist. Completed drill logs are placed in a file folder for future verification by the senior mine geologist before inclusion into resource updates. Completed assay data is housed in an excel database owned by the Seabee mine laboratory. The geology department has read only access to this file and can copy and paste results into the GEMS database. Underground chip and muck sample data is recorded in a sample tag book and later manually entered into the Chips MS Access database by the mine geologist, which is updated with assay results as they are made available in the laboratory excel database.

1.1.5.2 Surface Exploration Drilling Procedures

Upon establishing drill targets, three-dimensional points representing surface drillhole locations are created. Drillhole traces are planned to pierce the target as close to orthogonal as possible to obtain a true thickness of the stratigraphy. After the anticipated hole deviation is accounted for and an optimal trace is obtained, the surface location is inspected to ensure suitability.

In the field, hole collar locations and two front sights are recorded with a handheld GPS prior to data being entered into the MS Access-based Core Logger software. Alternatively, the drill contractor may align the drill using the DeviSight tool which uses GPS to derive an azimuth which is preferable to a compass and front sights due to the elimination of magnetic interference and operator error when aligning two pickets.

Reflex EZ_Shot multi-shot device tests record the hole's azimuth and dip. Tests are completed at 100 m intervals during down-hole drilling and are collected at 30–100 m intervals upon completion of the hole as rods are being pulled if the desired density of measurements is insufficient with the shots taken while drilling. The data are collected via a handheld device that syncs to the Reflex tool down hole and are recorded onto Reflex paper sheets. The paper sheet and digital data are delivered to the supervising exploration geologist and are downloaded and input into a database to track the hole progression, ensuring that unexpected and/or excessive deviation has not occurred.

Once a hole has been completed an aluminium plug is placed approximately 10 m downhole from the base of the casing and the hole is cemented to the top. The SGO mine survey team then takes a DGPS waypoint of the collar location with the base station for final verification of its location, providing accuracy within 0.3 m of the hole location. Drillholes where this level of accuracy is not required may be surveyed in by handheld GPS unit or using the DeviSight's GPS coordinates giving an accuracy on the order of +/–3 m. The digital data is sent to the supervising exploration geologist and the final three-dimensional coordinates of the hole are entered into MS Access database and tracking software.

Drill core is transported to the core logging facility, where it is marked and logged. Data from individual drill programmes is captured in an MS Access database, including drillhole collar and header information, detailed descriptions of lithological units, structures, alteration and mineralisation, core recovery and RQD data, and sample information. Photographs of core are taken both wet and dry, and digital copies are archived. Upon receiving laboratory results and confirming quality control results, the entire dataset is combined into a master MS Access database and incorporated into the tracking software. Core boxes are stacked and stored at the SGO core storage yard with metal tags affixed by staples indicating BHID, box number, and interval contained.

1.1.6 Drill Sampling

1.1.6.1 Sampling by Previous Operators 1949–2009

Generally, historical sampling on the SGO was conducted by a geologist selecting mineralised intervals based on visual inspection of drill core. Selected intervals were split by hydraulic or manual power splitter and sent for analyses at the on-site laboratory or an offsite laboratory.

Information regarding historical sample preparation and analyses is incomplete or unavailable and is therefore not discussed in detail in this Seabee21TRS. Multiple sampling methods are attributed to individual drilling campaigns without differentiation of the method applied to each hole.

Furthermore, drilling prior to 2009 tends only to have dip surveys and no control on azimuth, and is therefore unreliable.

Current Mineral Resource and Mineral Reserve estimates at the SGO are informed almost entirely by drilling post-2009, excluding the Mineral Resources attributed to the Porky West deposit. The historical sample preparation and analyses therefore does not have a significant material impact on the property.

1.1.6.2 Drill Core Sampling by Claude Resources and SSR 2009 to Present

Drill core is logged in detail on site by SSR geologists. Rock quality and core recovery are documented, zones of potential mineralisation are marked for sampling, and three to five samples are marked in both the hangingwall and footwall.

Surface diamond drill core samples are chosen based on geology and average 1.0–1.5 m in width, with 0.3 m width samples taken for geological interpretation purposes. The sampling interval was established by minimum or maximum sampling lengths, and geological and/or structural criteria, and are no less than 0.10 m. Discrete intervals of mineralised or prospective lithologies which measure more than 0.10 m and less than 1.0 m may be sampled as a single sample. Mineralised or prospective lithologies which are greater than 1.0 m in width tend to be broken into one metre sample intervals internal to the interval of interest. Intervals immediately adjacent to mineralised or prospective lithologies are sampled, at a minimum, 1.0 m from the contact with the prospective mineralogy. Sampling of less prospective, or weakly altered lithologies, may be sampled at 1.5–2.0 m intervals at the discretion of the logging geologist.

Intervals deemed un-prospective for gold mineralisation by the geologist are sampled using a composite sample, not exceeding 8 m in length. The composite sample consists of no less than one 10 cm piece of core selected per 1.5 m in the total 8 m sample interval. The composite sample is used to ensure that mineralised zones not immediately recognised by the geologist are not missed. If a composite sample grades more than 0.10 g/t Au, then the interval is re-logged and re-sampled at a 1 m sample interval to determine the source of the anomalous gold grade. Field geologists are trained to sample additional intervals that may have associated gold mineralisation, such as zones of increased sulfide mineral content or quartz veining not previously associated with a known mineralised zone. Sample intervals are recorded in a MS Access database, and photographs of each core box are taken. Certified reference material, blanks or duplicate samples are inserted into the sample stream at regular intervals of at least 1-in-20 samples.

After the drill core is logged and marked for assay it is transferred to the core splitting facility, where the selected intervals are sawed lengthwise. The half core to be analysed is double-bagged, sealed, and labelled with coded security tags, while the other half remains in the core box as a record. In the case of duplicate samples or re-sampling, core is sawn in quarters and a quarter core is retained as a record. Some core intervals are destroyed in metallurgical testing and are marked by survey stakes with metal labels in the core boxes from which the interval is removed from. Samples to be sent for analyses are placed in white rice bags, weighed and closed with a uniquely coded security zip tie. Sample submittal forms are sent to the appropriate laboratory indicating the number of samples, weight and security tag numbers of each sample in the shipment. This data is verified by the laboratory when the shipment is received, and any broken tags or sample bags that appear to have been tampered with are reported.

Underground drill core is logged by geologists in the underground drill chamber. Sample intervals are selected by the logging geologist and measure no less than 0.10 m. Discrete intervals of mineralised or prospective lithologies which measure more than 0.10 m and less than 1.0 m may be taken as a single sample. Mineralised or prospective lithologies that are greater than 1.0 m in width are typically divided into 1 m sample intervals. Intervals immediately adjacent to mineralised or prospective lithologies are sampled, at a minimum, 1.0 m from the contact with the prospective mineralogy. Less-prospective, or weakly altered lithologies may be sampled at 1.5–2.0 m intervals at the discretion of the logging geologist. No samples are taken of core considered by the geologist to be un-mineralised. Sample intervals are recorded on paper logs and later transcribed by hand into a GEMS project database. Certified reference material standards (CRM) are inserted at a rate of 1-in-20 samples.

Once the intervals to be sampled are selected, the whole core is placed in a sample bag with a uniquely numbered identification tag and delivered to the Seabee laboratory for analyses. Un-sampled core is dumped near the drill chamber and used as fill in the mine.

Unauthorised personnel are not permitted access to the drill machines or the core logging and core splitting facilities.

1.1.6.3 Underground Chip and Muck Sampling

Chip samples are collected by a geologist at the working face; the hangingwall to footwall is sampled, with intervals divided based on lithological boundaries and not exceeding 1.5 m in width. Wall rock is also included in this sample type, as it is primarily used as a daily estimate of grade being delivered to the mill. Muck samples are obtained by the geologist when they are unable to reach the working face in a heading. These samples consist of grabs of muck on the floor of the drift, with no less than three muck samples taken at a face unless extenuating circumstances requires fewer samples. Chip samples retain their specific width weighting, while muck samples are assigned a proxy interval based on the number of samples collected and the width of the sill from which the samples are collected. The samples are bagged, tagged with a unique identifying number and transported to the Seabee laboratory for analyses following the methodology described in the previous section. Assay values are tracked in an MS Access database.

1.1.7 Density Data

Density data was collected from NQ diameter drill core during the 2011 Santoy drilling programme by the SGO exploration department. Half core was weighed within mineralised zones, while whole core was weighed within waste domains. A total of 433 density measurements were collected from 45 different holes. The results were tabulated, sorted, and averaged by lithology. Initially weight percent estimates of the various ore zones were calculated based on drill core and underground observations. Assigned densities are reviewed annually by comparing to collected daily density determinations carried out on mill feed samples. Analyses were performed on site by water displacement using the following methodology:

- Place a dry glass vessel on a balance and zero the weight;
- Collect a 20–25 cm piece of half core or whole core from the interval of interest and place into the vessel;
- Record the weight of the core, and zero the balance;
- Fill the vessel to marked line with cold water; and
- Suspend core in water and weigh the vessel with the water and core.

The difference between the original water weight and the second reading is equal to the volume of water displaced by the core, from which the density was calculated using the original weight of the core sample. From this data, an average density value was calculated based on lithology.

Since mid-2014, the Seabee mill has been performing a daily density determination from an approximately 5 kg 24-hour composite sample collected from the belt. The samples are analysed on site by water displacement using the following methodology:

- Riffle composite sample down to an approximately 1 kg representative sample;
- Place a dry flask on a 200 g balance and zero the weight;
- Add sample to the flask (greater than 55 g);
- Record the weight of the sample, and zero the balance;
- Fill the flask to marked line with cold water and ensure outside of flask is dry; and
- Place the flask back on the balance and record the weight.

Two 200 ml flasks have been labelled by SSR staff with the water weight when filled to a specified line to be used for the original water weight. The difference between the original water weight and the second reading is equal to the volume of water displaced by the sample, from which the density is calculated using the original weight of the dry sample.

8 SAMPLE PREPARATION, ANALYSES, AND SECURITY

8.1 Historical Samples

The drillhole sampling, sample preparation, analyses, and security procedures applied prior to 1989 have not been documented in detail.

8.2 Diamond Core Samples (1989 to Present)

Drill core is monitored by SSR staff from the time it is taken out of the ground until it is split and the samples are delivered to the laboratory. Unauthorised personnel are not permitted access to the drill machines or the core logging and splitting facility. Samples that are split for assaying are double-bagged within the splitting facility and identified with a coded security tag. Upon receipt of samples at the laboratory, any sample tags that are broken or any sample bags that appear to have been tampered with are reported to SSR.

All underground samples are assayed at the non-accredited Seabee Gold Operation (SGO) laboratory. Samples are dried for 30–60 minutes, crushed to 10 mesh, and riffle split using a Jones splitter until only 200 g of material remains. The samples are then pulverised in a ring and puck pulveriser until greater than 80% passes through a 200-mesh screen. Thirty grams of pulp material is then analysed for gold by fire assay with gravimetric finish using a 0.01 g/t Au detection limit.

Most surface drilling samples are assayed at TSL Laboratories Inc. (TSL) in Saskatoon, Saskatchewan. TSL is independent of SSR. The laboratory was ISO/IEC 17025 accredited until 18 April 2017 and has since withdrawn from the Standard Council of Canada's system.

Upon receipt of samples, TSL attaches a bar code label to the original sample bag, and the label is scanned to record the sample weight, date, time, equipment used and operator name, allowing for complete traceability of each sample during the laboratory process. Samples are crushed to 70% passing 10 mesh in two stages. The crushed reject is homogenised by passing it once through a Jones riffle splitter down to 250 g and then recombining the two halves, from which 250 g are split using the same riffle splitter. The split is then ring pulverised to 95% passing 200 mesh. Samples are analysed for gold by 30 g fire assay with gravimetric finish using a 0.03 g/t Au detection limit. Pulps and rejects are stored in containers on the TSL laboratory property.

TSL employs comprehensive quality assurance and quality control protocol and control charts for standards assayed at the laboratory show routine performance within two standard deviations of the certified value. The relative precision for gold meets contract specifications and established limits.

8.3 Chip and Muck Samples

Chip and muck samples are bagged, tagged with a unique identification number and transported to the SGO laboratory for analysis following the same methodology as described in Section 8.2.

8.4 Quality Assurance and Quality Control Programmes

In 2006, the SGO geology department introduced an analytical quality assurance and quality control (QA/QC) programme to verify the accuracy of its internal, non-accredited assay laboratory. The programme has since been adopted and modified by SSR and involves the insertion of certified reference material (CRM) standards, duplicate assays, and monthly umpire check assays at an external certified laboratory.

A Rocklabs Ltd. (Rocklabs) CRM is inserted by a mine geologist at a frequency of one per 20 samples, regardless of the sample type. Three distinct CRM samples are typically cycled through the process; one low-grade, one average grade, and one high-grade. The mine geologist records the identification numbers of the CRM samples introduced into the assay stream and checks them as a pass or fail upon receipt of laboratory results. Assay batches with failed CRM results are re-analysed. CRM results are recorded digitally in a spreadsheet provided by Rocklabs to track the pass and fail rates of each of the various reference materials used. The results are compiled in a monthly report and shared with the relevant departments involved in the process.

On a monthly basis, an average of 20 pulp samples are submitted for external analyses by TSL in Saskatoon, Saskatchewan. One CRM is included in each batch of external check samples, and a sieve analysis is performed on one of the pulps to determine percentages passing through –150 and –200 mesh. Results from the analyses at TSL are compared to the on-site results and included in a monthly report.

A blank sample of a coarse-grained quartz-rich rock is inserted after every sample containing visible gold, and pulp duplicates are run every tenth sample by the laboratory. According to SSR, blanks were used and recorded from 2010 to 2014.

SSR reviews the results from the above control samples to accept the data from each individual batch or to reject the data and request a re-run. A batch is rejected if the result for the standard exceeds the tolerance of the 95% confidence level stated on the standard's certificate. The failure trigger for pulp duplicates is less defined due to the lode-gold nature of the mineralisation; however, batches are considered for re-run when duplicate assay values are greater than ±10%. With respect to coarse-grained blanks, sample batches are rejected if the result is greater than three times the detection limit of the laboratory.

9 DATA VERIFICATION

9.1 Verifications by SSR

All exploration and production procedures undertaken by SSR follow detailed procedures and exploration and production data are verified prior to consideration for geological modelling and Mineral Resource estimation. Experienced mine geologists implement industry standard measures to ensure the reliability and trustworthiness of data.

SSR closely monitors analytical quality control data, and upon receipt of results from the lab confirm that sample batches have either passed or failed. Quality control failures are investigated, and failing batches are requested for re-assaying. In addition, monthly check assays are sent for external analysis at TSL and compared to the on-site results. Monthly reports are compiled outlining the performance of analytical quality control data and distributed amongst departments involved in the process.

In 2016, SSR commissioned a review of the exploration and mine geology department databases at the (SGO). The mine databases encompassed the period 2004–2017, whereas the exploration review involved the 2016 database only.

In early 2016, 585 pulp duplicates from the mine database were evaluated from randomly chosen samples, representative of the Santoy deposit. The following assay audit observations were made (Konst, 2016a):

- Of the matched pairs, 60 outliers (10%) were identified to exhibit significant nugget effect. Outliers were defined as matched pairs with a grade difference over 0.1 g/t Au and greater than 100% precision, and those with a grade difference over 0.5 g/t Au and greater than 25% precision.
- A total of 102 of the second pulp analyses returned higher assay values, 116 returned lower assay values, and 367 returned the same value. Of the matched pairs, the original gold analyses had a mean gold grade of 2.19 g/t Au while the second pulp returned a mean value of 2.51 g/t Au, a 13.4% difference.

- A total of 223 matched pairs above the lower reporting limit were considered suitable for precision evaluation. Calculated precision, including outliers, was 24% at a cut-off grade of 3.0 g/t Au and 23% at a cut-off grade of 5.0 g/t Au.
- The evaluation indicated likely issues with gold grain size for the analytical method used. The more erratic higher grade matched pairs represented 27% of the pulp duplicates reporting above the lower detection limit and represented approximately 35% of the gold contained within the matched pair sample set. Improvements to the analytical method, in the form of screen-metallic assays, was suggested.

A total of 54 screen metallic assay results were chosen, based on grade, from the 585 pulp duplicates for evaluation. Konst (2016b) concluded the following from his investigation:

- Evaluation of the screen fire assay results confirmed the presence of significant coarse gold in the selected samples and highlighted its potential impact on grade estimation. The percentage of contained metal present as coarse gold could not be quantified as details were lacking regarding the screen fire assay determinations.
- Samples were selected based on having original average grades greater than 5.0 g/t Au, forming a selection bias. Samples that returned low initial grades, but that may have contained un-assayed nuggets of coarse gold that would have been picked up in a screen fire assay, were excluded. This bias exaggerates the apparent impact that coarse gold may have on the deposit as a whole, and a direct comparison of mean gold grades suggested that the original gold grades were overestimated by 23%.
- Based on pulp duplicates alone, the analytical precision well above detection was 15%. Subtracting it from the pulp-duplicate and screen fire assay precision of 31% indicated that the overall bias between the two datasets was closer to 16%, exaggerating grade by 16%. This, however, is not indicative of the exploration assay data because nugget samples, which reported below their true grade, were not selected for analysis in the screen fire assay study.
- A comprehensive screen fire assay programme was recommended for zones of interest to provide an accurate determination of gold content in deposits of this nature.
- Gold grain size analyses would assist in determining screen size for future screen fire assays and given the coarse nature of gold in the deposit, it was recommended to use a rigorous multi-subsample “no-roll” method of selecting aliquots from pulps and minus fractions for assay.

An audit of drilling and assay data indicated poor precision was noted (23% at 5.0 g/t Au and a detection limit of 0.1 g/t Au) but was assumed to have negligible impact on Mineral Resource estimates due to the abrupt nature of the mineralisation boundaries. Significant re-tooling steps were not deemed necessary, however low-cost steps to improve assay precision, and additional recommendations aimed at improving overall assay and survey accuracy, process efficiencies, and auditability were made.

A portion of the database was compared to the source information to understand the nature and frequency of database errors. Disagreement between surveyed collar azimuths and downhole magnetic surveys of six drillholes, and significant disagreements between high-grade assays and re- runs were the most notable issues identified and are described as follows (Konst, 2016c):

- Variations in azimuth, ranging from 2° to 16°, were observed when corrected FlexIT survey comma delimited files were compared to GEMS database exports of downhole surveys, implying a possible counter-clockwise rotation of the local magnetic field due to local concentrations of magnetic minerals. A non-magnetic survey was recommended where historical drillholes could be re-surveyed.

- A total of 204 assay results from mine geology drill core and quality assurance/quality control samples were randomly selected from mine lab worksheets dated February, March, May, and June 2016 and compared to an August 2016 GEMS database export of assay results. Two high-grade assay re-runs returned nil values, which is what resides in the current database. The errors affect only 1% of the test data, but amount to a simple average grade for the GEMS dataset that is 20% lower than the original laboratory results. A lack of documentation made it unclear as to which results, or combination of results, should be deemed correct and included in the database, and it was recommended that assays greater than 60 g/t Au be reviewed to ensure all relevant assay data is included in the final assay database.

- An addendum to the original Seabee mine site drilling and assay audit involved the inclusion of exploration collar survey data from six randomly selected Santoy drillholes. Variations between the final database and original azimuth ranging from 7.6° to –2.8° reinforced the recommendation that non-magnetic surveys be executed where historical holes are available for re-survey.

Konst (2016d) also conducted a review of the sampling, preparation, and analytical quality assurance of the 2016 Seabee exploration programme and made the following recommendations:

- Blanks were submitted as pre-prepared pulps. It was recommended that barren half-core be used instead and inserted following mineralised samples to properly test for contamination during the sample preparation process.
- CRM analysed at TSL were submitted at a frequency of 1-in-40, however samples were assayed in batches of 20, meaning that only half of the analytical batches were controlled for accuracy. The insertion rate of quality control standards was recommended to be increased to 1-in-20 to test all analytical batches.
- Improvements in grind quality control at the Seabee mine was highlighted, as TSL's analytical precision was observed to be significantly better.
- A lack of sufficient data to quantify prep precision and sampling precision, and how it varies with grade, was identified. Crush duplicates to quantify prep precision were recommended to be incorporated into the Seabee quality assurance protocol, and half-core field duplicates over quarter-core were recommended to provide a true measure of sampling precision.
- A comparison of analytical methods indicated that results by fire assay with a gravimetric finish be given priority over fire assay with an atomic absorption spectrometry finish.
- TSL's greater than 5.0 g/t Au protocol for selecting screen metal assay samples has a selection bias. A site driven protocol such as selecting zones containing visible gold was recommended.

An evaluation of 240 umpire pulp duplicates provided as matched pairs of Seabee mine data from January to November 2016 and January 2017 was performed. The matched pairs were created by taking a second random selection of pulp material from Seabee mine pulp samples and sending them to TSL for check analysis. A total of 238 matched pairs returned results above the reported lower detection limit of 0.03 g/t Au and were therefore suitable for precision analysis. The following observations and recommendations were made by Konst (2017):

- Only one (9%) of the 11 samples sieve tested passed the 95% passing 150 mesh pulverisation specifications. The remaining 10 reported over 80% passing 150 mesh. It was recommended that the mine laboratory increase its efforts to meet grind specifications.
- The 2016 calculated analytical precision was 32% at a cut-off grade of 3.0 g/t Au. The mine versus TSL precision was confirmed by TSL versus TSL pulp duplicate precision, indicating precision issues are not attributable to the Seabee mine laboratory performance, but that gold grain size distribution presents significant challenges for the analysis method used.

- Screen metallic assays previously reported on indicated the average proportion of coarse gold was 32% but could range up to 72% of the total grade. There was no direct correlation between coarse gold and grade, and other geologic controls influenced the distribution of 'nugget' gold.

Mr. Konst was subsequently contracted by SSR to perform routine reviews of the monthly quality assurance and quality control results of the SGO.

9.2 Verifications

9.2.1 Site Visit

In accordance with S-K 1300 guidelines, OreWin visited the SGO on 6 February 2020, accompanied by representatives of SSR. The OreWin team included Sharron Sylvester BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director and Graeme Baker, BEng (Mining), Fellow AusIMM (200051), employed by OreWin Pty Ltd as Principal Mining Consultant.

The site visits took place during active drilling and production activities. All aspects that could materially impact the integrity of the data informing the Mineral Resource estimate (core logging, sampling, analytical results, and database management) were reviewed with SSR staff. OreWin spoke with mine staff to ascertain exploration and production procedures and protocols. OreWin observed core from six drillholes and confirmed that the logging information accurately reflects actual core. The lithology contacts checked by OreWin match the information reported in the core logs. OreWin toured the underground operations at Santoy and assessed the attributes of the shear-hosted gold-sulfide-chlorite-quartz veins.

9.2.2 Verifications of Analytical Quality Control Data

To assess the accuracy and precision of analytical quality control data, OreWin routinely analyses such data. Analytical quality control data typically comprises analyses from standard reference material, blank samples, and a variety of duplicate data. Analyses of data from standard reference material and blank samples typically involve time series plots to identify extreme values (outliers) or trends that may indicate issues with the overall data quality. To assess the repeatability of assay data, several tests can be performed, of which most rely on certain statistical tools. OreWin routinely plots and assesses the following charts for duplicate data:

- Bias charts
- Quantile-quantile (Q-Q) plots
- Mean versus half relative deviation (HRD) plots
- Mean versus half absolute relative deviation plot
- Ranked half absolute relative deviation (HARD) plot

9.2.3 Discussion

OreWin analysed the available analytical quality control data of the SGO to confirm that the analytical results are reliable for informing Mineral Resource estimates. All data were provided in Microsoft Excel spreadsheets from SSR, and OreWin aggregated the assay results for the external quality control samples for further analysis. Control samples (blanks and CRM) were summarised on time series plots to highlight the performance of the control samples. Field duplicates and umpire laboratory pulp duplicates were analysed using bias charts, quantile-quantile, and relative precision plots.

The analytical quality control data produced between 2010 and early 2017 are summarised in Table 9.1. The data produced on the SGO represents approximately 4.1% of the total number of samples.

Table 9.1 Summary of Analytical QA/QC Data

Sample	ALS	(%)	TSL	(%)	Seabee	(%)	Total	(%)	Comment
Sample count	181,288		71,325		59,607		312,220		
Blanks	310	0.17	155	0.22	849	1.42	1,314	0.42	
QC samples	624	0.34	257	0.36	4,139	6.94	5,020	1.61	
CRMs									
– SE29	16	0.01	17	0.02			33	0.01	0.597 g/t Au
– SE44					98	0.16	98	0.03	0.660 g/t Au
– SF57			11	0.02	139	0.23	150	0.05	0.848 g/t Au
– SF85					131	0.22	131	0.04	0.848 g/t Au
– SG40	174	0.10	41	0.06	95	0.16	310	0.10	0.976 g/t Au
– SG56					191	0.32	191	0.06	1.027 g/t Au
– SH35	57	0.03	48	0.07			105	0.03	1.323 g/t Au
– SH24	18	0.01	23	0.03	14	0.02	55	0.02	1.326 g/t Au
– SH82					43	0.07	43	0.01	1.333 g/t Au
– SH41	157	0.09	27	0.04			184	0.06	1.344 g/t Au
– SH69					652	1.09	652	0.21	1.346 g/t Au
– SH65					54	0.09	54	0.02	1.348 g/t Au
– SJ63					685	1.15	685	0.22	2.632 g/t Au
– SJ53					96	0.16	96	0.03	2.637 g/t Au
– SJ80					160	0.27	160	0.05	2.656 g/t Au
– SK62					98	0.16	98	0.03	4.075 g/t Au
– SL46	56	0.03	44	0.06	97	0.16	197	0.06	5.867 g/t Au
– SL51	79	0.04			92	0.15	171	0.05	5.909 g/t Au
– SL61	35	0.02	30	0.04	301	0.50	366	0.12	5.931 g/t Au
– SL76					131	0.22	131	0.04	5.960 g/t Au
– SN16					90	0.15	90	0.03	8.367 g/t Au

– SN60					58	0.10	58	0.02	8.595 g/t Au
– SN50					97	0.16	97	0.03	8.685 g/t Au
– SP59					354	0.59	354	0.11	18.12 g/t Au
– SP73					121	0.20	121	0.04	18.17 g/t Au
– SQ36	19	0.01	15	0.02			34	0.01	30.04 g/t Au
– SQ48	13	0.01	1	<0.01	342	0.57	356	0.11	30.25 g/t Au
Field duplicates	186	0.10	73	0.10			259	0.08	
Check assays			902	1.26			902	0.29	
Total QC Samples	1,120	0.62%	1,387	1.94%	4,988	8.37%	12,695	4.07%	

Blank samples analysed at the Seabee mine laboratory, TSL, and historically at ALS Limited (ALS), indicated acceptable performance. Several samples, however, yielded values above the warning limit (defined as ten times the lower detection limit), though, this occurred 5% of the time or less at each laboratory. Further examination identified a number of blank samples analysed at the Seabee mine laboratory between 2010 and 2011 that displayed anomalously high gold grades and indicated potential contamination during the sample preparation process or possible mislabelling of blank material. After 2011, the abundance of failed blanks appeared to be rectified, with all blank samples assaying at or below the warning limit. Post-2013, however, blank material has not been submitted to the Seabee mine laboratory. OreWin strongly recommends that blank material, such as barren half core, be inserted routinely into the sample stream to monitor any potential contamination during sample preparation.

SSR uses a series of CRM (standards) which are submitted with mine geology samples at the Seabee mine laboratory, and with exploration samples at TSL, and historically at ALS. Standards submitted to the Seabee mine laboratory and TSL largely performed within expected ranges, and mean grades are similar to expected values. Several significant outliers, however, have been observed, which are likely attributed to the mislabelling of other standards used at the time or from the possible mislabelling of blank material. Standards submitted to ALS demonstrate an overall worse performance than those submitted to TSL; however, due to the historical nature of the samples, the cause of the deficiency remains unknown. OreWin recommends that SSR continue to monitor the performance of standards and investigate and identify the cause of any significant outliers.

Monthly umpire check assaying is performed at TSL of pulp duplicate samples processed at the Seabee mine laboratory. HARD plots suggest that approximately 60% of umpire samples have HARD below 10%, indicating that the umpire laboratory had difficulty consistently reproducing pulp assay results from Seabee mine laboratory.

10 MINERAL PROCESSING AND METALLURGICAL TESTING

10.1 Style of Mineralisation

The Seabee Gold Operation (SGO) was originally developed based on bench scale metallurgical testwork that characterised the Seabee deposit as a lode gold style of mineralisation that was free milling and that would respond to a standard flow sheet employing gravity recovery and cyanidation. After the successful commissioning of the Seabee mill and the operation matured the mill became the reference flow sheet for other mineralisation that was identified as a possible mill feed source.

The SGO deposits, are classified as lode gold style deposits with the gold in quartz veins typically in shear zones with some variations of the host rock mineralisation, with gabbros at Seabee and mafic metavolcanics at the Santoy and Porky deposits. As the satellite deposits advanced to potential development, bench scale testing was employed to confirm the free milling potential and the presence of any deleterious elements.

10.2 Metallurgical Investigations

10.2.1 Metallurgical Testwork

With the introduction of Santoy ore to the process plant metallurgical testing of drill composites has been undertaken. The composites selected from the diamond drilling represent the footwall, centre and hanging wall of the stacked vein zones.

The results of the testwork indicate the following key metallurgical parameters:

- Diagnostic leach testing of the Master Composite indicated that 99% of the gold was extractable by cyanide leach, indicating the material is free milling.
- In the Master Composite approximately 55% of the gold grains were >100 micron in size. Indicating the gold is gravity recoverable.
- High gravity recoverable gold of up to 91% to gravity concentrate at a 0.18% mass pull
- High cyanide gold recovery of gravity tailings at 95%.
- The overall gold recovery, by gravity and cyanide leach, was 95% to 99% for the size samples tested.
- SSR is not aware of any processing factors or deleterious elements that could impact potential economic extraction.

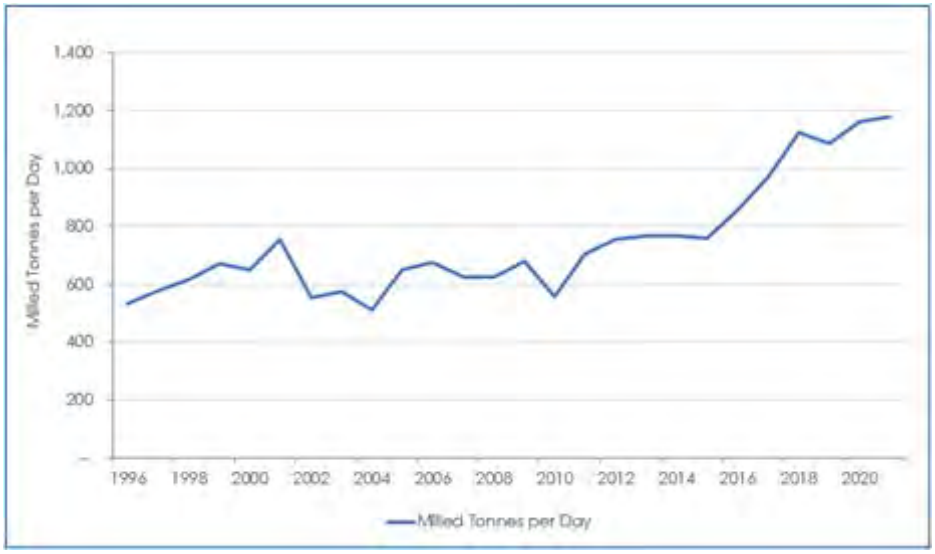
10.2.2 Process Plant Improvements

With the consistent long-term metallurgical response of the Seabee and Santoy deposits processed to-date, the focus of metallurgical investigations has been on improvements to process capacity constraints and process operating cost reductions.

The Seabee process plant was originally built as a 500 tpd operation. Subsequent capital projects have included the addition of the primary ball mill, addition of a second Knelson concentrator and Acacia gravity gold recovery. Process improvements have included, improved grind size control, improved gravity circuit utilisation, improved leach feed thickener chemistry and reduction in flocculant addition, and carbon and cyanide management.

The Figure 10.1 shows the average annual milled tonnes per day. The current Seabee process plant capacity is nominally 1,320 tpd or 1,240 tpd annual average.

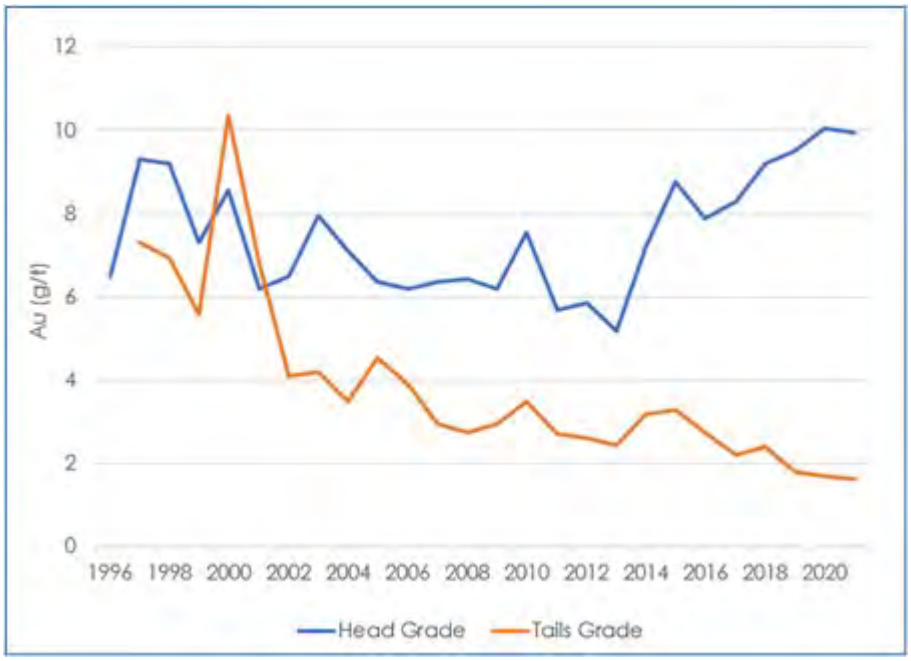
Figure 10.1 Historical Annual Milled Daily Throughput



SSR, 2021

While throughput has increased since commencement of operations as shown in Figure 10.1, metallurgical performance has improved with improvement in metallurgical control with a consistent trend in reduction of tailings losses, even with increasing head grade, as shown in Figure 10.2.

Figure 10.2 Historical Annual Head and Tailings Grade Trend



SSR, 2021

A number of further capacity improvement projects are being investigated including:

- Optimisation of the gravity gold Acacia recovery circuit
- Optimisation of grinding cyclone performance
- Improvements in thickener performance and flocculant usage
- Improvements in carbon management, with recovery of fine carbon and carbon activity improvement.

These programmes are expected to provide further improvements in throughput, gold recovery and reduction in operating costs.

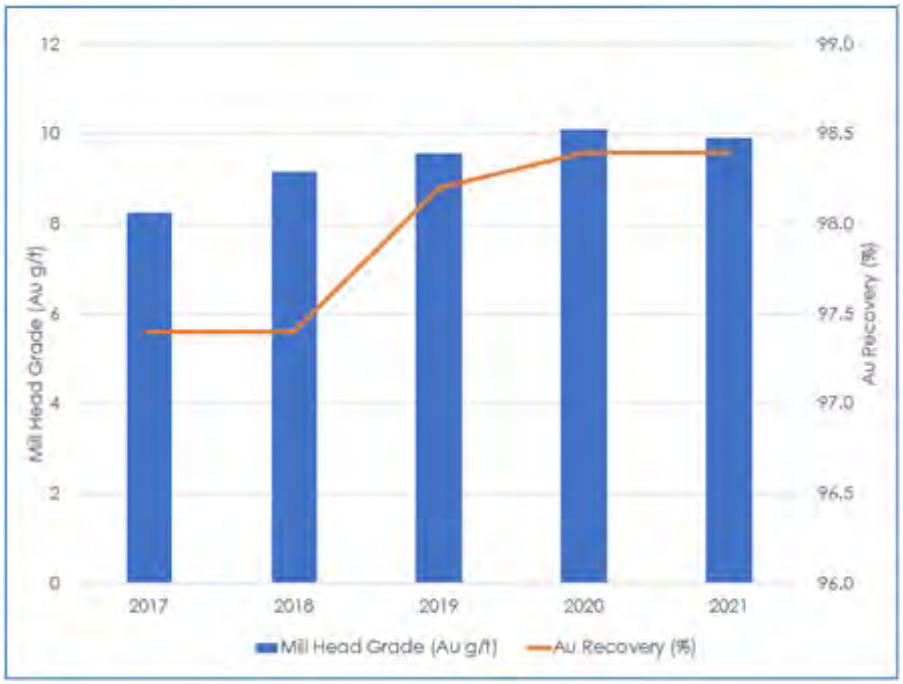
10.3 Recovery Estimates

Historical recovery at the Seabee mill was in the 94%–96% range, with routine low levels of losses both in the tailings solids and solution. Future recovery estimates are 98% and are based on the recent mill performance with mill recoveries of more than 98%. These improvements are attributed to the better condition of the leach equipment as well as the restored leach capacity.

The Seabee operation is characterised by coarse gold making the gravity recovery circuit critical to the overall gold recovery of the process plant. Historically gravity recovery was approximately 40%. In recent years with incorporation of gravity circuit improvements including the Acacia circuit gravity gold recovery has improved to 60%–70% of recovered gold, with the CIP accounting for 30%–40%. Overall gold recovery is estimated at 97%–98.5%.

Figure 10.3, indicates the Mill feed grade and recovery for 2017 to 2020.

Figure 10.3 Mill Feed Grade and Gold Recovery 2017–2020



SSR, 2021

The future recovery estimates of 98% are based on the recent mill performance with mill recoveries of more than 96.5%.

11 MINERAL RESOURCE ESTIMATES

The Mineral Resources for the Seabee Gold Operation (SGO) comprise the Santoy 8, 9, GHW, and the Porky West deposits. The deposits are mined by underground mining methods.

This section summarises the Mineral Resource estimation methods and the key assumptions and parameters.

11.1 Resource Modelling Methods

Cell modelling techniques were used for Mineral Resource evaluation for all deposit areas. The resource models used to report Mineral resource estimates were created using data to 31 December 2020.

Geovia GEMS software was used to construct the geological solids, conduct geostatistical analysis and variography, construct the cell model, estimate metal grades, and to report the Mineral Resource. Cell modelling methodologies have been adapted and refined from previous audits in 2011, 2014, and 2016.

The Mineral Resource evaluation methodology involves the following procedures:

- Database compilation and verification.
- Construction of wireframe models for the boundaries of the gold vein mineralisation.
- Data conditioning (compositing and capping) for geostatistical analysis and variography.
- Cell modelling and grade interpolation.
- Definition of Mineral Resource classification domains and validation.
- Assessment of "reasonable prospects for eventual economic extraction".
- Preparation of the Mineral Resource Statement.

11.1.1 Santoy Mine

The Santoy mine is comprised of three zones: Santoy 8, Santoy 9, and Gap Hangingwall (GHW). Mineral Resources are reported for all three areas. Mining and drilling at Santoy 8 has defined sub-parallel ore bodies dipping from 40°–60° east and plunging to the north. Similarly, mining and drilling at Santoy 9 has defined sub-parallel veins dipping from 45°–55° east and plunging to the north. Drilling and mining at the GHW has identified a body of north–south oriented quartz veins occupying the hinge of a folded limb of the Lizard Lake Pluton. The mineralised envelope plunges to the north and the dip of the orebody ranges from <40° to 50°. Both the lateral and horizontal limits of the Santoy 8 and Santoy 9 veins have been defined through underground development and core drilling from surface and underground. The central area of the GHW has seen underground development on two levels. The horizontal and vertical extremities of the orebody are currently only defined by surface and underground diamond drilling.

The Santoy mine drill database contains 2,030 underground diamond drillholes for 394,345 m, and 774 surface diamond drillholes for 248,048 m.

Mineral Resources for all veins from the Santoy mine are estimated using cell modelling methods. The Santoy 8 veins are: 8A, 8B, 8C, 8D, 8F and 8G. The Santoy 9 veins are: 9A, 9B, and 9C. GHW is reported as a single entity. Drilling data are used to generate 10–30 m spaced vein sectional and/or plan polylines. Vein polylines are linked to create vein solids that are used to code Mineral Resource cells.

The individual assays are composited to 1.0 m length for all veins. Residual composites less than 10% of the composite length are excluded. Grade capping is applied on composites in each vein separately. Several capping assessments were undertaken, incorporating the use of histograms, cumulative frequency curves, and probability plots. Statistical impacts are also verified with cap percentiles, coefficient of variation, and changes in mean values. Capping at Santoy 8 ranges between 15–110 g/t Au, Santoy 9 ranges between 91–110 g/t Au, and GHW is capped at 45 g/t Au (Table 11.1).

Table 11.1 Capping Values at Santoy Mine

Vein	Capping (g/t Au)
Santoy 8A	110
Santoy 8B	25
Santoy 8C	29
Santoy 8D	29
Santoy 8F	45
Santoy 8G	15
Santoy 9A	110
Santoy 9B	91
Santoy 9C	110
Gap Hangingwall	45

A combination of linear semi-variography and variography is performed on the capped composited data to determine the variograms, search ellipses, and estimation parameters. A standard cell size of 3 m x 3 m x 3 m is used. Ordinary kriging is used to interpolate gold grades in the cell model. For the GHW the broadest interpolation is inverse distance squared (ID2).

The density assigned to veins is 2.75 t/m^3 at Santoy 8 and Santoy 9 and GHW ore is assigned a density of 2.65 t/m^3. Waste density is set to 2.91 t/m^3. Density values are based on the average density of samples measured using the water displacement method.

11.1.2 Porky Deposit Area

The Porky deposit area is comprised of two zones: Porky West and Porky Main. Drilling and mining at Porky West has defined sub-vertical structures dipping approximately 65° to the south-west. Drilling at Porky Main defined shear zones plunging at about 45° to the south-east.

The Porky West drill database contains 89 surface diamond holes for 17,647 m drilled between 2003 and 2009. In addition, 166 underground chip and muck sample traverses (1,291 samples) were completed. The polygonal Mineral Resource estimation at Porky West was completed in 2009 using GEMS software and verified recently by the mine geology team. A capping value of 15 g/t Au was determined using the 95th percentile. Density of 2.70 t/m^3 was used based on testwork completed at the Seabee assay lab. Due to the 65° dip of the orebody, the GEMS polygonal resources were estimated using an inclined longitudinal section method.

Porky Main was estimated using polygonal methods by Claude Resources in 2005. However, SSR has not been able to verify the results of this polygonal estimate, therefore Porky Main is not included in the Mineral Resource Statement contained herein but may be included in the future pending additional drilling and modelling.

11.2 Cell Model Validation

SSR used a variety of methods to validate the Mineral Resources determined by cell modelling.

Validation of the high-grade capping thresholds was performed by an independent selection of capping values. Capping for each domain was based on probability plots and a proprietary statistical utility.

For all domains, SSR validated the cell model using a visual comparison of model estimates and the drillhole composites for each domain on sections and plans. The grades can be seen to follow the orientation of the search ellipses. Visual validation of model grades in addition to reconciliation data, as described in Section 11.6, have been the primary methods of cell model validation.

11.3 Mineral Resource Classification

Industry best practices suggest that Mineral Resource classification should consider the confidence in the geological continuity of the mineralised structures, the quality and quantity of exploration data supporting the estimates, and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating these concepts to delineate regular areas at similar resource classification.

SSR is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support Mineral Resource evaluation. The sampling information was acquired primarily by closely spaced surface and underground core drilling and supported by underground development and chip sampling.

SSR considers that the gold mineralised zones show good geological continuity, respecting the direction of maximum continuity, and defined by an adequate drill spacing with reliable sampling information allowing classified within the meaning of the S-K 1300 Regulations for Mineral Resources and Mineral Reserves. Mineral Resources are reported within wireframed classification domains at a specified cut-off grade determined annually. The classification parameters used to define classification domains are detailed in Table 11.2.

Generally, for gold mineralisation exhibiting good geological continuity, SSR considers that zones can be classified as Measured if one (or more) of the following criteria is applicable:

- The zone is sampled in two-dimensions by mine development within a maximum of 1 or 2 sublevel spacing.
- The zone is sampled in one dimension by mine development and informed by core drilling at a drill spacing of less than 25 m while respecting the direction of maximum continuity.
- Despite no adjacent sampled mine development, the drill spacing is less than 15 m while respecting the direction of maximum continuity.

Similarly, SSR considers that gold mineralised zones can be classified as Indicated if the zone is sampled in one dimension by mine development and informed by core drilling at a drill spacing of less than 35 m while respecting the direction of maximum continuity; or drilled at a spacing of 25 m or less with no adjoining underground development.

Table 11.2 Parameters for Mineral Resource Classification

Classification		Areas – Underground Development		
		Two Dimensions	One Dimension	None
Measured	Distance from Development	1 or 2 sublevel spacing	Projected no more than the spacing of 2 sublevels	–
	Drill Spacing	–	Closely spaced drilling on the same structure (~<25m)	Drill spacing of ~<15m
Indicated	Distance from Development	–	Projected no more than the spacing of 4 sublevels	–
	Drill Spacing	–	Closely spaced drilling on the same structure (~<35m)	Drill spacing of ~<25m
Inferred	Distance from Development	–	–	–
	Drill Spacing	–	Closely spaced drilling on the same structure (~<75m)	Taken to the extents of the inferred search ellipse while being subject to geological interpretation

Conversely, gold mineralised zones sampled in one direction of mine development and informed by drill spacing of less than 75 m or estimated at the extent of the search ellipse can appropriately classified in the Inferred category because the confidence in the estimate is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability.

11.4 Reasonable Prospects for Eventual Economic Extraction

The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes and using a cut-off grade of 2.07 g/t Au that is based on a gold price of $1,750/oz.

11.5 Mineral Resource Statement

The Mineral Resource for SGO was completed by the SSR technical department on site. OreWin reviewed the assumptions, parameters, and methods used to prepare the Mineral Resource Statement and is of the opinion that the Mineral Resource is estimated and prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Mineral Resource is estimated based on cell models representative of the mineralised veins and using an assumed gold price of $1,750/oz.

Mineral Resources are reported exclusive of Mineral Reserves and have been summarised by project and resource classification in Table 11.3.

Table 11.4 shows the cut-off values and metallurgical recoveries associated with the Mineral Resources.

Table 11.3 Summary of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

Area	Mineral Resource Classification							
	Measured		Indicated		Measured + Indicated		Inferred	
	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)
Santoy Mine	71	19.75	745	12.74	816	13.35	2,238	6.43
Porky West	–	–	52	5.03	52	5.03	516	4.42
Total SGO	**71**	**19.75**	**797**	**12.23**	**869**	**12.85**	**2,754**	**6.05**

1. Mineral Resources are reported based on 31 December 2021 as-mined survey data.
2. Mineral Resources are reported exclusive of Mineral Reserves
3. Mineral Resources are shown on a 100% basis
4. The Mineral Resources estimate is based on a 2.07 g/t Au cut-off with a gold price assumption of $1,750/oz.
5. Santoy Mine includes Santoy 8, Santoy 9, and GHW lodes.
6. The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes.
7. SSR has 100% ownership of the Project.
8. The point of reference for Mineral Resources is the point of feed into the processing facility.
9. Tonnage is metric tonnes and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 11.4 Summary of Cut-off Values and Metallurgical Recoveries of Seabee21TRS Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $1,750/oz Gold Price

Mineral Resource Classification	Tonnage (kt)	Grade (Au g/t)	Contained Gold (koz)	Cut-off Value (Au g/t)	Metallurgical Recovery (%)
Measured	71	19.75	45	2.07	98
Indicated	797	12.23	313	2.07	98
Measured + Indicated	**869**	**12.85**	**359**	**2.07**	**98**
Inferred	2,754	6.05	536	2.07	98

1. Mineral Resources are reported based on 31 December 2021as-mined survey data.
2. Mineral Resources are reported exclusive of Mineral Reserves
3. Mineral Resources are shown on a 100% basis
4. The Mineral Resources estimate is based on a 2.07 g/t Au cut-off with a gold price assumption of $1,750/oz.
5. Santoy Mine includes Santoy 8, Santoy 9, and GHW lodes.
6. The Mineral Resources in the Seabee21TRS were assessed for reasonable prospects for eventual economic extraction by reporting only material that fell within conceptual underground shapes.
7. SSR has 100% ownership of the Project.
8. The point of reference for Mineral Resources is the point of feed into the processing facility.
9. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

11.6 Reconciliation

The SGO routinely compares the Mineral Resource and Mineral Reserve models with production results. As an example, the yearly grade reconciliation between the Mineral Resource model and the actual mined grade from the Santoy underground workings for the period 2020 to 2021, is presented in Table 11.5. The reconciliation between the Mineral Resource model and recovered grades is reasonable. This demonstrates that the Mineral Resource model adequately predicts grades achieved during mining.

Table 11.5 Annual Grade Reconciliation at Santoy for 2020 and 2021

Period	M&I Mineral Resource Estimate Grade (g/t Au)	Mine Grade (g/t Au)	Variance
2020	10.61	10.40	–2%
2021	10.38	10.11	–3%

12 MINERAL RESERVE ESTIMATES

This section summarises the key assumptions, parameters, and methods used in the preparation of the Mineral Reserve Statement for the Seabee Gold Operation (SGO).

The Mineral Reserve estimate was completed by the SSR technical department on site at the SGO. OreWin reviewed the assumptions, parameters, and methods used to prepare the Mineral Reserve Statement and is of the opinion that the Mineral Reserve is estimated and prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

Access underground at the Santoy mine is provided from surface at the Santoy portal via a main ramp, with sublevels spaced between 17–20 m vertically. Mining is carried out using sublevel open stoping mining methods with backfill.

Stopes are filled with a combination of rock fill (RF) and cemented rock fill (CRF), mined in a bottom-up mining sequence. Sill pillars are mined on retreat once the stopes below and above have been mined (stopes above filled with CRF and allowed to cure).

Table 12.1 details the basic parameters used for Mineral Reserve definition.

Table 12.1 Mineral Reserve Input Parameters

Item	Unit	Rate
Minimum Mining Width	m	1.8
Hangingwall Dilution	m	0.18
Footwall Dilution	m	0.18
Minimum Dip	degrees	45
Maximum Stope Length	m	20
Mining Recovery	%	94
Process Recovery	%	98
Gold Price	$/oz	$1,600

Dilution and mining recovery factors were derived from ongoing stope reconciliations using actual mucking and cavity monitor survey data.

A cut-off grade of 2.52 g/t Au was used to estimate the Mineral Reserve. The cut-off grade was determined based on the following:

- Gold price of $1,600/oz
- Exchange rate of C$1.26:US$1.00
- Average milling recovery of 98%
- Royalty of 3.0%

- Payable factor of 99.5%
- Refinery charge of $3.09/oz
- Operating cost of $128/t

12.1 Mineral Reserve Statement

The SGO Mineral Reserve estimate was completed by the SSR technical department on site. OreWin reviewed the assumptions, parameters, and methods used to prepare the Mineral Reserve Statement and is of the opinion that the Mineral Reserve is estimated and prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Mineral Reserve Statement is reported in Table 1.3 and Table 1.4. The reference point at which the Mineral Reserve is identified is where ore is delivered to the processing plant (i.e., mill feed). OreWin is unaware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant issues that may materially affect the Mineral Reserve estimate. However, the Mineral Reserve may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent Mineral Resource and Mineral Reserve estimates. The Mineral Reserve may also be affected by subsequent assessments of mining, environmental, processing, permitting, taxation, socio-economic, and other factors. The effective date of the Mineral Reserve Statement is 31 December 2021.

Table 12.2 Summary of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price

Area	Mineral Reserve Classification					
	Proven		Probable		Total	
	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)	Tonnage (kt)	Grade (Au g/t)
Santoy Mine	304	9.16	2,379	6.40	2,684	6.72

1. Mineral Reserves are reported based on 31 December 2021as-mined survey data.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,600 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 2.52 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz of gold.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98%.
7. SSR has 100% ownership of the Project.
8. Santoy Mine includes Santoy 8, Santoy 9, and Gap Hangingwall lodes.
9. Metals shown in this table are the contained metals in ore mined and processed.
10. The point of reference for Mineral Resources is the point of feed into the processing facility.
11. Tonnage is metric tonnes and g/t represents grams per metric tonne.
12. Totals may vary due to rounding.

Table 12.3 Summary of Cut-off Values and Metallurgical Recoveries, of Seabee21TRS Mineral Reserve Estimate (as at 31 December 2021) Based on $1,600/oz Gold Price

Mineral Reserve Classification	Tonnage (kt)	Grade (Au g/t)	Contained Gold (koz)	Cut-off Value (Au g/t)	Metallurgical Recovery (%)
Proven Mineral Reserves	304	9.16	90	2.52	98
Probable Mineral Reserves	2,379	6.40	490	2.52	98
Total Mineral Reserves	**2,684**	**6.72**	**580**	**2.52**	**98**

1. Mineral Reserves are reported based on 31 December 2021as-mined survey data.
2. The Mineral Reserve estimate is based on metal price assumptions of $1,600 gold.
3. The Mineral Reserve estimate is reported at a cut-off grade of 2.52 g/t Au.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $1,600/oz of gold.
5. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserves estimate is considered sufficient to represent the mining selectivity considered.
6. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98%.
7. SSR has 100% ownership of the Project.
8. Metals shown in this table are the contained metals in ore mined and processed.
9. The point of reference for Mineral Reserves is the point of feed into the processing facility.
10. Tonnage is metric tonnes, ounces represent troy ounces, and g/t represents grams per metric tonne.
11. Totals may vary due to rounding.

The 2021 Mineral Reserve is a net increase of 86 koz (18%) total contained gold ounces as compared with the 2020 Mineral Reserves. Although mining depletion has occurred in the Santoy 8A and 9A mining zones, the 2021 Mineral Reserve has increased the conversion of the Santoy Mineral Resource in the GHW zone into a Mineral Reserve. An increase in the gold commodity price has also resulted in a decrease in the Mineral Reserve cut-off grade.

13 MINING METHODS

13.1 Introduction

This section summarises the key components of the mine plan that form the basis of extracting the Mineral Reserve. Actual data and current operating practice are referenced heavily as the mine plan is based on the successful continuation of current practice. Mining at Seabee is now complete therefore all mining references relate to the Santoy mine.

The mine plan was initially completed by the SSR technical department on site at the Seabee Gold Operation (SGO) and included plans for the overall extraction of the Mineral Resource. OreWin has since reviewed the mine plan and made the appropriate modifications to include extraction of only the Mineral Reserve.

The LOM plan of the Mineral Reserve at SGO, commencing 1 January 2022, includes 2.68 Mt at an average grade of 6.7 g/t Au. The Mineral Reserve estimate includes dilution from hangingwall and footwall overbreak based on ongoing stope reconciliation. A total of 580 koz of gold will be delivered to the mill.

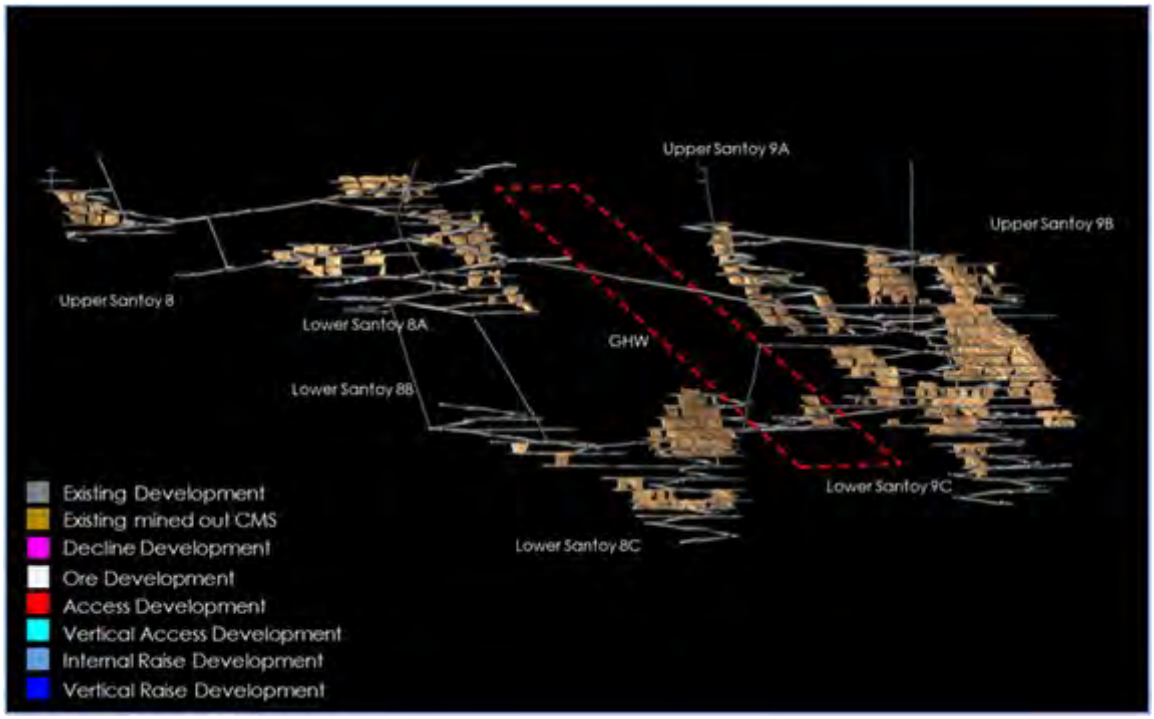
Access underground at the Santoy mine is provided from surface at the Santoy portal via a main ramp, with sublevels spaced between 17–20 m vertically. Mining is carried out using sublevel open stoping mining methods with backfill.

Stopes are filled with a combination of rock fill (RF) and cemented rock Fill (CRF), mined in a bottom-up mining sequence. Sill pillars are mined on retreat once the stopes below and above have been mined (stopes above filled with CRF and allowed to cure).

Mining factors are derived from ongoing analysis of site performance data.

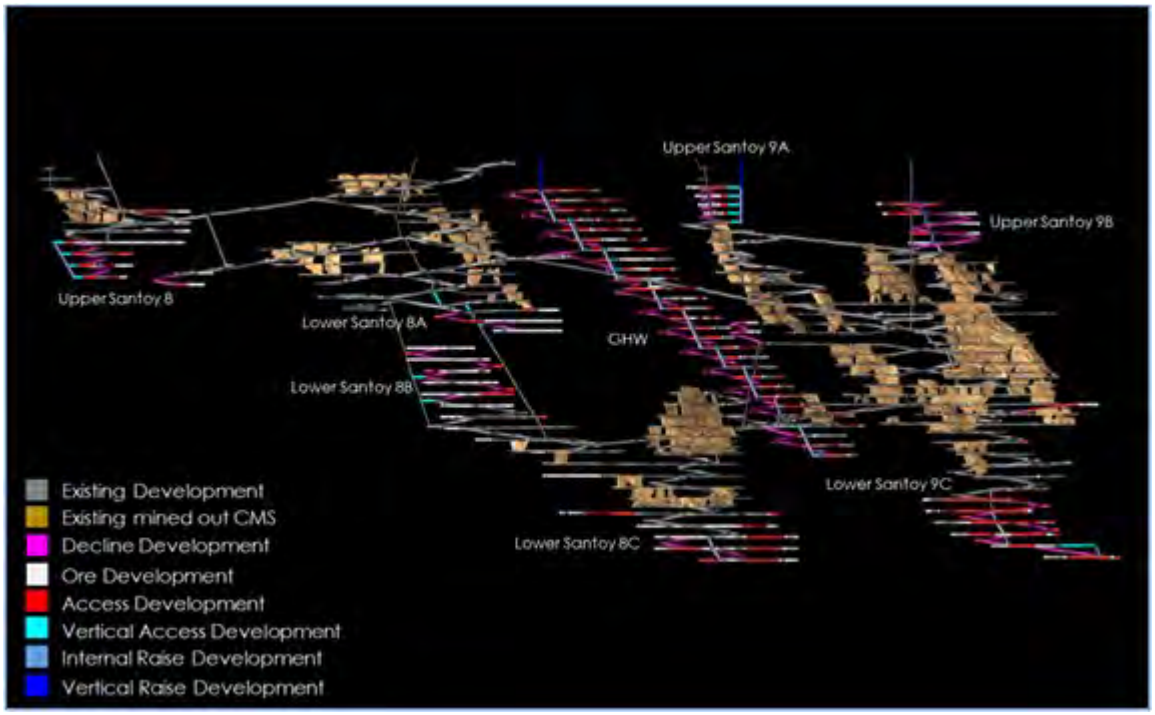
Ore is trucked to surface and dumped on a surface mine ore pad. Ore is then loaded into surface trucks for a 14.0 km haul to the run-of-mine (ROM) stockpile at the mill, located at the old Seabee mine. A longitudinal section of the existing Santoy mine is provided in Figure 13.1 and Figure 13.2 and Figure 13.3 show the Santoy LOM design.

Figure 13.1 Santoy Mine – Existing Development



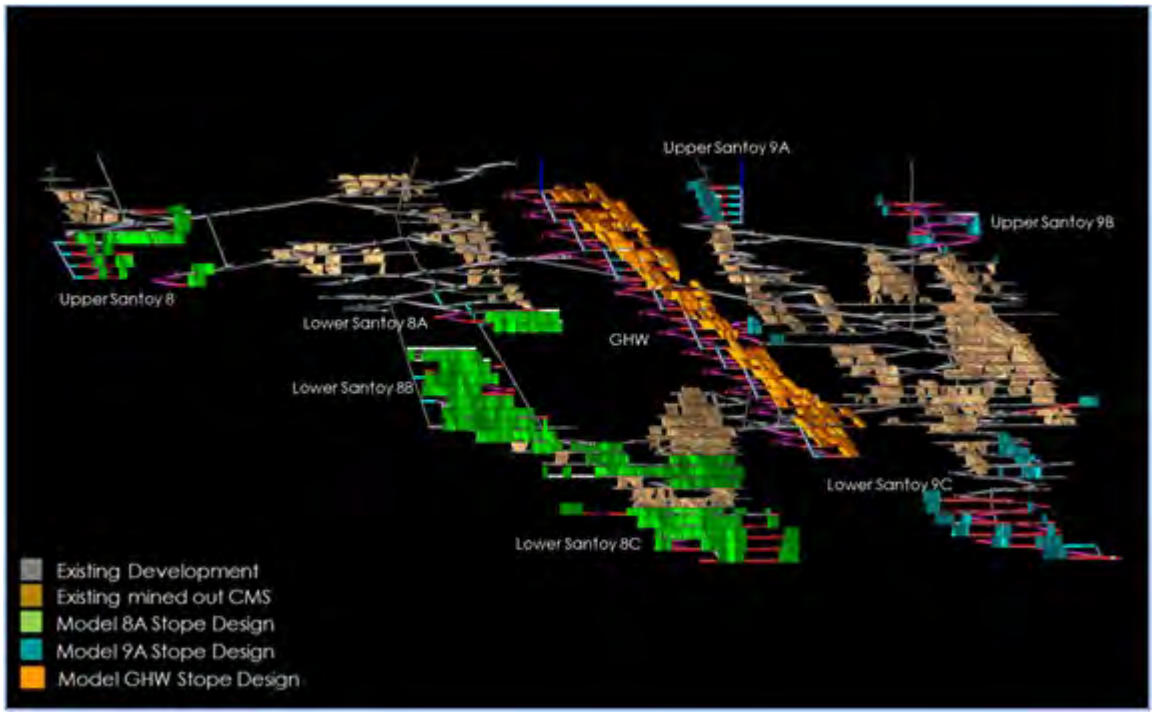
OreWin, 2021

Figure 13.2 Santoy Mine – 2021 Life-of-Mine Development Design



OreWin, 2021

Figure 13.3 Santoy Mine – 2021 Life-of-Mine Stope Designs



OreWin, 2021

13.2 Mining Methods

The primary mining method at the Santoy mine is longitudinal retreat (longhole open stoping). Avoca mining (which is similar in its process) is also used when access from both sides of the sill is available. The minimum mining width is 1.8 m. Planned stopes typically range in width from 3.9 m to 9.0 m. The length of the stopes varies based on deposit geometry and geotechnical guidance. Typical stope extents range from 20 m to 30 m along strike, with a maximum stope strike length of 40 m. External dilution is included based on ongoing stope reconciliations using actual mucking and cavity monitor survey data.

Level spacing varies from 17–20 m (vertical), floor-to-floor. The sill drifts on the levels are connected to a ramp to permit access for the rubber-tired mobile equipment fleet.

Longhole drills are used to drill down from the top level to breakthrough into the bottom level of the stope.

For localised areas with minimal strike length, Alimak mining methods, or captive longhole mining methods, are used to reduce lateral development costs. Access to the captive stopes is provided via an Alimak raise. Where the stope extends less than 15 m from the Alimak raise, production drilling is completed from the Alimak raise climber. For larger stopes, sub-drifts are driven to permit access for a longhole drill.

On completion of mining, stopes are backfilled with development waste rock. A cemented waste rock rib pillar is placed when mining occurs adjacent to backfill stopes. Based on stope sequence and long-term access requirements, some stopes can be left open without backfill.

13.3 Primary Access

Primary access is provided via a main ramp from the surface to the deepest levels. The main ramp begins at the Santoy portal, which is located at the top of the Santoy 8 deposit. Depending on the geometry of the deposit, the main ramp splays into secondary ramps to access longitudinally separated sections of the mine. The ramps are driven 5.0 m wide x 5.0 m high to permit access for the 45 t haulage trucks. Extensions to the existing ramps and additional ramps will be driven to provide access to planned mining levels.

13.4 Level Design

Mining levels are driven from access crosscut drifts from the ramps. A standoff distance of at least 25 m from the ramp to the orebody is used when accessing from the footwall side, and 20 m when accessing from the hangingwall side. Typical level infrastructure excavations include a sump and a truck dump / remuck. Some levels include a drift to access and transfer ventilation from the levels above or below. Access to the longhole stopes is accomplished with sill drifts driven from the access crosscuts. The sill drifts are used for deposit definition, production mucking, and production drilling. The sill drifts are driven 4.2 m high with the width varying to suit the width of the ore (minimum 4.6 m), to a maximum of 8 m.

For a typical Alimak stope, level development consists of a haulage drift, a sill drift, and an Alimak chamber on the lower level and an access drift on the upper level.

The permanent and temporary excavation dimensions at the Santoy mine are provided in Table 13.1. Temporary excavations are openings that are typically only used for less than two years before they are shut down or backfilled.

Table 13.1 Excavation Dimensions

Category	Width (m)	Height (m)
Permanent Excavations		
Ramp	5.0	5.2
Remuck	5.0	5.2
Truck Dump	5.0	6.7
Haulage	4.6	4.2
Sump	4.0	4.0
Refuge Station	6.0	5.0
Safety Bay	1.5	2.4
Ventilation Access	4.6	4.2
Ventilation Raise – Alimak	3.0	3.0
Ventilation Raise – Longhole	4.0	4.0
Temporary Excavations		
Sill	8.0* max	4.2
Access	4.6	4.2
Alimak Chamber	4.2	4.2
Alimak Nest	4.2	6.5
Alimak Sublevel	7.0* max	3.0

* Width varying to suit the width of the mineralised zone

13.5 Material Handling

Ore and waste are hauled via 45 t haulage trucks. Ore is transported to surface where it is dumped and transferred via a wheeled loader into 40 t articulated dump trucks. The ore is then hauled 14 km to the mill ROM stockpile located near the old Seabee mine. Waste rock remains underground for deposition into mined stopes where possible, otherwise stockpiled on surface for later back haul as backfill.

13.6 Ventilation

The Santoy primary ventilation circuit currently provides 170 m^3 per second (360,000 ft^3 per minute (CFM)) downcasting through two ventilation raises located centrally at the Gap Main Fresh Air Raise (FAR) and the Santoy 8 Main FAR, and exhaust via the main ramp and the Santoy 8 East Return Air Raise (RAR). The Gap Main FAR provides fresh air via two fans in parallel with a total power of 597 kw (800 hp), while the Santoy 8 Main FAR provides fresh air via a single fan with a total power of 149 kw (200 hp).

From the Gap Main FAR fans, roughly 113 m^3 per second (240,000 CFM) is sent down the raise until it reaches 31L vent drift where roughly 42 m^3 per second (90,000 CFM) is split off and sent down to the bottom of the Gap Decline with the help of a 74 kw (100 hp) booster fan located in 31L Vent Drift. The remaining 56 m^3 per second (120,000 CFM) continues down a system of raises on the 41 Decline until it reaches the bottom of the face. There is a 149 kw (200 hp) booster fan located on 47L of the 41 Decline to assist with the movement of air to this area.

The Santoy 8 Main FAR pushes roughly 56 m^3 per second (120,000 CFM) from surface to the bottom of 48 Decline through a system of raises. At the bottom of this system are two 74 kw (100 hp) booster fans in parallel that assist with airflow. From here, 38 m^3 per second (80,000 CFM) moves up the 49 Incline and provides ventilation at the face, while the remaining 19 m^3 per second (40,000 CFM) is sent up the 48 Decline and returns to the main exhaust system.

The Gap Hangingwall (GHW) development is currently ventilated using auxiliary fans (located at 46L on the Gap Decline) and ducting pulling from the 90,000 + 40,000 CFM provided by the Gap Decline and the 8 Main FAR respectively. General ventilation plans have been established for the future LOM at Santoy, with ventilation raises being developed at each working level as mining continues. No additional significant capital expenditures have been identified in the current LOM Ventilation plans.

Fresh air is heated by existing propane heaters during the colder winter months.

13.7 Backfill

Rock fill (RF) and cemented rock fill (CRF) using mine waste rock is used for backfill at the Santoy mine. Waste rock is stockpiled on surface temporarily when open stopes are unavailable for deposition.

CRF is used, but not limited to, the creation of sill pillars at the start of a mining front. This is implemented to create a solid barrier between mining fronts. The CRF consists of run-of-mine waste mixed with a cement binder. Santoy mine uses 5% binder in CRF backfilling for sill pillar creation and as low as 3% binder is used for less critical locations. The cement for the backfill comes from a bagged dry-mix product that is turned into useable wet cement near the workplace using a transportable mixer. The bagged dry-mix is stored on surface and brought underground as required.

Based on the underground development design and schedule, there will be sufficient backfill material available from development waste rock.

13.8 Dewatering

Main dewatering is accomplished via main sump/pumping station on 28 Level and 30 Level at the Santoy deposit. The water is pumped to the Santoy 8 deposit underground settling sump and then to the surface mine water management pond located near the Santoy portal.

The Santoy mine dewatering requirements are summarised in Table 13.2 and are based on actual ground water inflows and mining activities.

Table 13.2 Santoy Mine Dewatering Requirements

Source	Dewatering Requirement	
	m^3/day	US gallons/min
Ground Water	280	50
Mining Activities	150	28
Total	430	78

13.9 Hydrology Considerations

Water inflow is well understood at the SGO based on actual data and is not expected to change during the LOM. The current dewatering infrastructure system adequately manages water inflows and the system will continue to be expanded as the footprint of the Santoy mine expands.

13.10 Geotechnical Considerations

13.10.1 Rock Mass Quality and Rock Properties

The rock mass at the Santoy mine is generally classified as good with a rock mass rating (Bieniawski, 1976) (RMR76) of 71%–79%. There are some areas classified as fair, with a RMR76 of 52%–57%.

Rock property testing has not been performed at the Santoy mine, but rock property testing performed for the Seabee mine provides analogous results (Table 13.3, Table 13.4 and Table 13.5).

13.10.2 Stress Regime and Most Likely Mode of Failure

Stress monitoring and in situ stress measurements have not been conducted at the Santoy mine. It is assumed, based on typical Precambrian Canadian Shield conditions (Herget 1988) that the horizontal to vertical stress ratio is 2 and that the major principal stress direction is horizontal and parallel to the strike of the orebody.

The most likely mode of failure at the Santoy mine is either structural or rock mass driven failure. In areas where the RMR is 71%–79%, the dominant mode of failure will be structural. In areas where the RMR is 52%–57%, the dominant mode of failure will be wedge failure. Gravity is the driving force for failure as high stress with seismic activity and rock bursting is not a concern due to the shallow depth of mining.

Table 13.3 Summary of Testing Results for the Hangingwall Structure at Seabee Mine

Zone/Box	Conversion Factor, K	UCS Point Load (MPa)	UCS (MPa)	Tensile Strength (MPa)	Static E (GPa)	Static v	Dynamic E (GPa)	Dynamic v		C (MPa)
HW / U11-037	18	100 ± 19 (10)	102 ± 53 (6)		43 ± 9 (2)	0.29 ± 0.06 (2)	56 ± 10 (10)	0.23 ± 0.03 (10)		
HW / U11-357	18	109 ± 29 (9)	100 ± 5 (4)	13 ± 2.4 (10)	43 ± 12 (3)	0.19 ± 0.08 (3)	51 ± 3 (4)	0.28 ± 0.01 (4)		
Average*	18	105 ± 25	102 ± 41	13 ± 2.4	43 ± 11	0.23 ± 0.09	54 ± 9	0.24 ± 0.03	45°	12

Table 13.4 Summary of Testing Results for the Footwall Structure at Seabee Mine

Zone/Box	Conversion Factor, K	UCS Point Load (MPa)	UCS (MPa)	Tensile Strength (MPa)	Static E (GPa)	Static v	Dynamic E (GPa)	Dynamic v		C (MPa)
HW / U11-037	22	169 ± 45 (10)	171 ± 48 (6)		75 ± 12 (2)	0.20 ± 0.05 (2)	62 ± 7 (10)	0.17 ± 0.06 (10)		
HW / U11-357	11	90 ± 22 (11)	90 ± 35 (4)	12.8 ± 2.6 (10)	78 ± 21 (4)	0.21 ± 0.11 (4)	76 ± 15 (4)	0.22 ± 0.05 (4)		
Average*	17	138 ± 35	139 ± 59	12.8 ± 2.6	77 ± 18	0.21 ± 0.09	67 ± 11	0.18 ± 0.06	48°	30

* Averages are calculated from all test results

Table 13.5 Summary of Testing Results for the Orezone Structure at Seabee Mine

Zone/Box	Conversion Factor, K	UCS Point Load (MPa)	UCS (MPa)	Tensile Strength (MPa)	Static E (GPa)	Static v	Dynamic E (GPa)	Dynamic v		C (MPa)
OZ / U11-037				17.6 ± 2.0 (10)						
OZ / U11-357	8	71 ± 26 (20)	70 ± 18 (10)		35 E 18 (5)	0.17 ± 0.05 (5)	55 ± 9 (14)	0.21 ± 0.04 (14)	57°	23

(x) Number of tests completed

1.1.3 Specific Geotechnical Risk

The geotechnical risks at the Santoy mine are structural and rock mass driven failure. Based on geotechnical underground mapping, the Santoy mine has three primary joint sets that contribute to potential structural failure (Figure 13.4):

- JS1 – 58°/358°
- JS2 – 80°/267°
- JS3 – 13°/195°

In the areas where the rock mass is fair the failure mode will likely be wedge failure due to gravity in sills that are greater than 8.0 m in width. In areas of with a good rock mass or under 8.0 m span, the failure mode will likely be structural.

1.1.4 Current Mitigation Measures Used to Minimise the Geotechnical Risk Support System

At the Santoy mine there are currently several ground support systems in place that are selected depending on the width of the excavation and its application:

- Inclines / Declines: 2.4 m threaded-both-end mechanical rock bolts on a 1.2-by-1.2 m pattern in the back, 10 x 10 mm 6-gauge screen on the back and walls, and 1.8 m split sets on 1.2 x 1.2 m pattern in the walls.
- Intersections 6–9 m wide: 2.4 m #6 rebar on a 1.2 m x 1.2 m pattern in the back, 10 mm x 10 mm 6-gauge screen on the back and walls, and 1.8 m split sets on 1.2 m x 1.2 m pattern in the walls.
- Sills less than 6 m wide: 1.8 m threaded-both-end mechanical rock bolts on a 1.2 m x 1.2 m pattern in the back, 10 mm x 10 mm 6-gauge screen on the back and walls, and 1.8 m split sets on 1.2 m x 1.2 m pattern in the walls.
- Sills 6–7 m wide: 2.4 m threaded-both-end mechanical rock bolts on a 1.2 m x 1.2 m pattern in the back, 10 mm x 10 mm 6-gauge screen on the back and walls, and 1.8 m split sets on 1.2 m x 1.2 m pattern in the walls.
- Sills greater than 7 m wide: designed cable bolt plan that is dependent on site investigation.

1.1.4.1 Barrier Pillar

Currently the only barrier pillar at Santoy is the 37 to 38 Level CRF pillar. Barrier pillars are located at the bottom of the first stoping block, and in the future, there will be uphole stoping directly underneath the CRF pillar. CRF barrier pillars are composed of 5% binder mixed with development waste rock.

1.1.4.2 Extraction Sequence

The extraction sequence includes stopes being extracted from the bottom of the stoping block to the top of the stoping block, and from the extremities of the level towards the access near the centre.

1.1.4.3 Backfill

At the Santoy mine, two types of backfill are used: unconsolidated RF, and CRF. CRF is used when mining occurs directly adjacent to the backfill stopes. All other stopes that are backfilled, are filled with unconsolidated waste rock from development elsewhere in the mine.

1.1.5 Geotechnical Reports Review

A review of previously completed geotechnical studies for SGO has been undertaken. The purpose of the review is to confirm the studies that have been completed to date are appropriate and identify any gaps or areas of residual concern. The following six geotechnical reports were reviewed:

- 2015 – Stantec Study
- 2017 – Pakalnis & Associates Study
- 2017 – SRK NI 43-101 Technical Report
- 2018 – Northern Rock Mining Solutions
- 2020 – Northern Rock Mining Solutions
- 2021 – SSR Internal Report
- 2021 – SSR Ground Control Management Plan (GCMP)

Stantec Geomechanical Overview of Stope and Pillar Stability – Santoy Orebody (March 2015)

The Stantec 2015 Study provided a review of stope and pillar design for the Santoy orebody. Designs are based on rock mechanics utilising empirical design methods using available core logging and very limited intact strength testing to define geotechnical rock mass ratings (Q' and RMR89). Q' was assessed as ranging from 10 to 33 ('Good' rock) and RMR89 ranging from 51–77 ('Fair' to 'Good' rock).

Mapping from development within the area indicated three defect sets: foliation/bedding dipping moderately to the east of south (54°/160°), dominant joint set dipping steeply to the northeast (74°/059°) and a minor joint set dipping moderately to the west (46°/286°).

The Mathews Potvin Stability Graph Method was utilised to assess stope dimensions and indicating hangingwall dimensions not to exceed 25 m down dip and open strike length of 20 m. Mathews Potvin approach to stope design requires appropriate understanding of the structural pattern and at Seabee the appropriate dip of foliation/bedding is critical.

MAP3d numerical analyses was utilised to assess stability of interstitial pillars (i.e., pillars left between parallel ore zones) and indicating backfill of stope is required to mitigate interstitial pillar failure coupled with bottom up sequence and lag mining in hangingwall by one stope.

No support designs were provided for development drives, albeit there was comment that for drifts wider than 5 m, longer support such as cables may be required.

Pakalnis & Associates Report on Site Visit – Santoy Mine (June 2017)

Pakalnis & Associates undertook a site visit in June 2017 and reviewed aspects of development support for the Santoy mine. The key driver in engaging the review was two falls of ground (FOG) on 34L, one in January 2017 and the other in April 2017. Key findings of the report were that the standard support using either 1.8 m or 2.4 m long anchors on a 1.2 m x 1.2 m pattern was not adequate where wide spans were utilised in areas where rock mass quality (RMR) is reduced with the presence of "south dipping 30° structure". Indications that "unstable unless supported by dead-weight requirements". The "south dipping 30° structure" noted in both FOG are not present in the structural pattern noted in the Stantec 2015 Study.

SRK NI 43-101 Technical Report for the Seabee Gold Operation (October 2017)

The SRK 2017 report was a NI 43-101 Technical Report for the Seabee operation and the review focused on Section 16.10 of SRK 2017 report regarding Geotechnical Considerations. Key findings of the SRK Study comprise:

- RMR76 typically 'Good' ranging from 71–79 with some areas classed as Fair ranging from 52–57.
- Structural pattern noted as: foliation/bedding dipping moderately to the north (58°/358°), dominant joint set dipping steeply to the west (80°/267°) and a minor joint set shallow dipping to the south (13°/195°).
- In areas of 'Fair' rock mass quality and for spans greater than 8 m failure mode is likely to be wedges. In areas of 'Good' rock mass quality or under 8 m span the failure mode will likely be structural.

Observations and comments of the review are as follows:

- The difference between RMR76 and RMR89 relates to slightly different ratings in the Bieniawski system over time and typically the latter provides values 5 points higher.
- The structural pattern noted by SRK is distinctly different to that noted in the Stantec 2015 Study but largely identical to that later presented in 2021 SSR Ground Control Management Plan. Two key aspects are indicated. Firstly, stope design needs appropriate consideration of local foliation/bedding dips. Secondly, the SRK structural pattern includes the flat south dipping structures, which was a critical issue in the FOG's noted in the Pakalnis & Associates 2017 Study.
- The SRK Study does not provide an update on stope design parameters or ground support in development and simply states the support types in use for the latter.

NRMS Ramp Inspection and Related Mining Geotechnics (November 2018)

North Rock Mining Solutions (NRMS) provides a review of the Santoy operation. Key aspects of note in the review include:

- Rock mass quality ratings in keeping with the Stantec 2015 Study.
- NRMS indicates support in the declines somewhat conservative.
- Wider spans (>8 m to 10 m) have experienced brow and back failures although a conservative design is suggested based on the rock mass rating and tight cable spacing utilised (nominally 1.5 x 1.0 to 0.75 m).

NRMS provides several potential causes for the failures in what would be expected to be conservative designs. The two most significant issues raised by NRMS to explain the failures include: large discrete structures (which require dead-weight consideration in support design) and undercutting of the hangingwall though inappropriate consideration in the design (this would comprise the hangingwall design being steeper than the local geological bedding / foliation).

NRMS Q4 Mining-Geotechnical Site Visit Summary Notes (September 2020)

In 2020, Northern Rock Mining Solutions (NRMS) provided a further review of the Santoy operation. Part of this review focused on the GHW zone. It was noted that the variability in the bedding/foliation, whilst typically dipping east of north, shows local areas with dip direction to the west and with dips ranging from 35° to 85°. NRMS state: "excavation stability during mining operations largely governed by the presence, detection, and subsequent handling of stope-scale geologic 'contact' structures located in the HW, and less frequently within the FW".

SSR Ground Control Analysis (June 2021)

In 2021 SGO provided a report on the GHW deposit focused on stope stability and ground control. The report was based on a combination of site-specific drilling, mapping and laboratory testing. Key aspects of report include:

- Presented mapping data: foliation / bedding dipping steeply to the north (74/004°), dominant joint set dipping steeply to the southeast (78/134°) and a minor joint set near horizontal. SGO notes the structural pattern has a significant role in determination of rock mass characterisation.
- Logging data indicates geotechnical rock mass ratings of Q ranging from 10–40 ('Good' rock) and RMR ranging from 80–85 ('Very Good' rock).
- Implications of these rock mass ratings indicating wide spans (up to 12 m) before systematic bolting required and with potential to increase strike length of stopes of up to 30 m.
- The study looked at the option of using transverse stopes and with uncemented backfill of stopes to limit failure of proposed narrow transverse pillars.

Of note in the study is the approach to ground control support at Santoy since the 2017 FOG incidents and rationale as to why potential wider spans can be considered with the current systematic support of 2.4 m long rebar on a 1.5 m x1.5 m dice pattern.

SSR notes: "QA/QC programme to ensure frequent and continuous evaluation of the rock mass and joint sets is available to show that the large wedges predicted by the deadweight analysis cannot form".

SSR Ground Control Management Plan (2021)

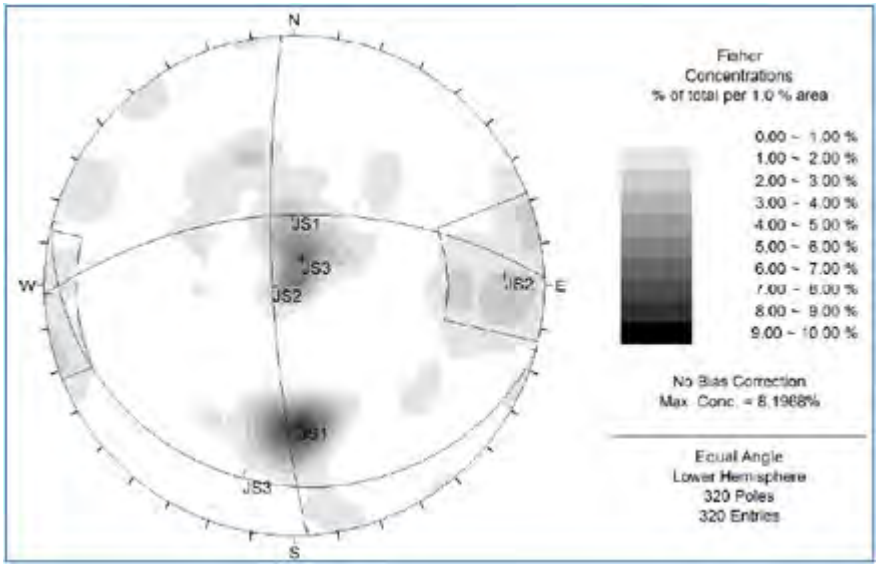
The SSR 2021 Ground Control Management Plan (GCMP) is considered comprehensive and provides an appropriate overview of the support requirements and stope designs at Seabee and appropriate components of a management plan of a principal hazard.

Geotechnical Studies Review Comments

The following comments represent perceived gaps:

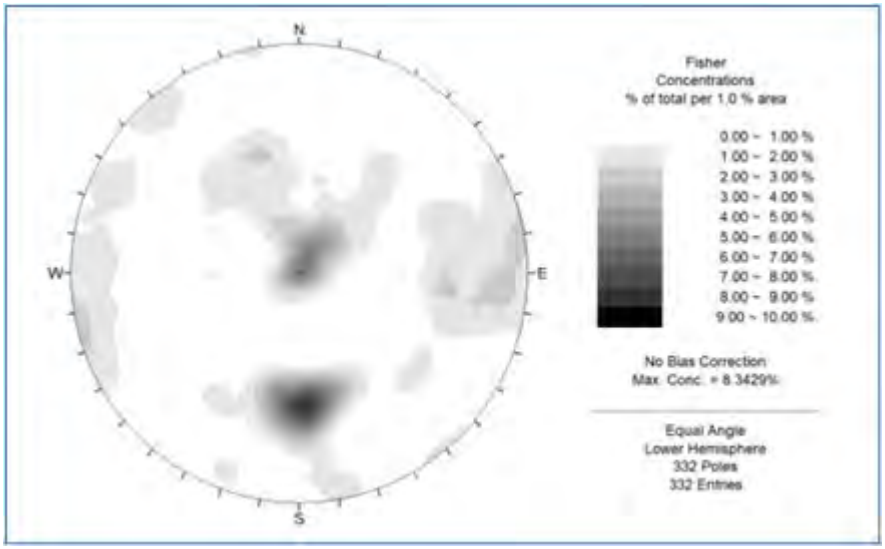
- Whilst latter reporting from NRMS and internal SSR reporting indicate potential for wider spans and less support. While the data supports this being feasible in principle, this is not advisable at a practicable level without appropriate mapping, rock mass evaluation, and design assessment.
- The structural pattern / data is a key driver in the stope designs and support in wider spans as indicated in the Pakalnis & Associates 2017 Study. Whilst the SRK 2017 Study and SSR 2021 GCMP indicate an identical structural pattern, the Stantec 2015 Study and the SGO / SSR 2021 Study indicate distinctly different structural patterns and highlight potential for local variation.
- There is concern for the QA/QC being implemented as it is required to confirm viability of wider spans and less support suggested in the latter geotechnical reporting. The structural data shown in Figure 13.4, for the SRK 2017 Study (320 data points) compared to that presented in Figure 13.5, for the SSR 2021 GCMP (322 data points) is largely identical. This suggests only 12 additional mapping points have been collected in three years, whilst this may not be the case, it somewhat confirms the concern.
- The SSR 2021 GCMP comments on use of a cemented rockfill sill pillar as a solid barrier between mining fronts. However, there is no guidance on the vertical separation between mining fronts in any of the above technical reports that have been reviewed.

Figure 13.4 2017 Structural Data



SRK, 2017

Figure 13.5 2021 Structural Data

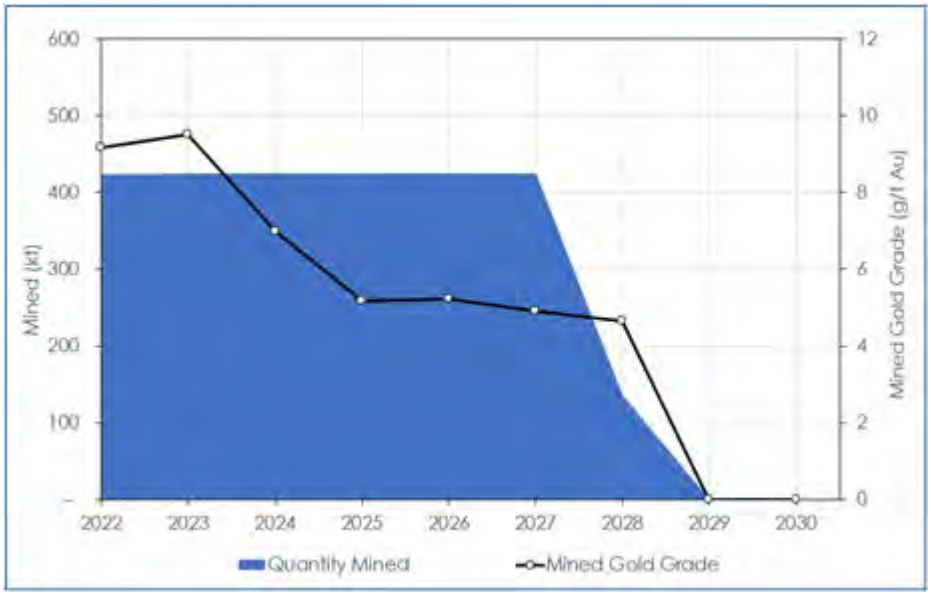


SSR, 2021

1.11 Mine Schedule

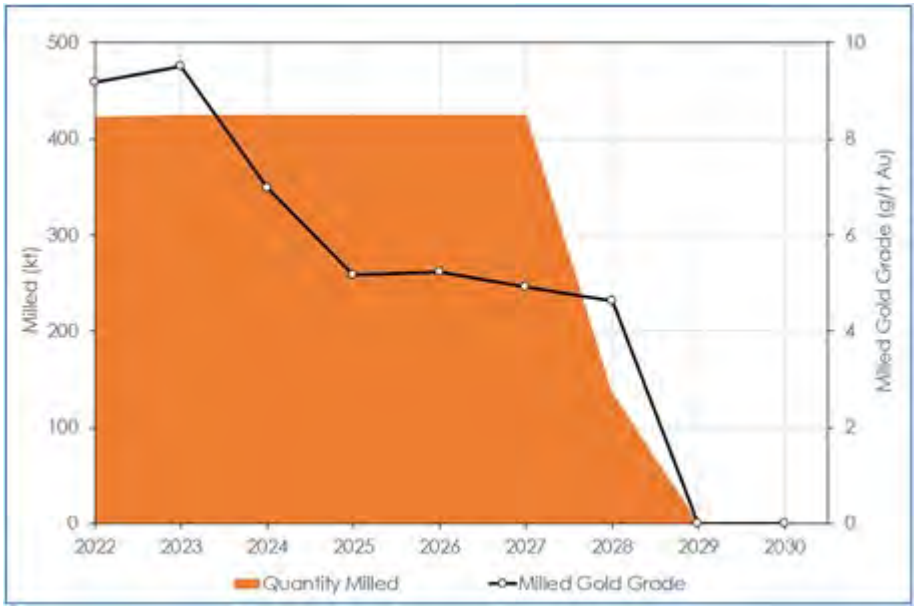
The Mineral Reserve life of mine extends to the first quarter of 2029 at a production rate of 425 ktpa. The Mineral Reserve production profile tonnage and recovered gold ounces are shown in Figure 13.6 and Figure 13.7.

Figure 13.6 Production Plan Tonnage



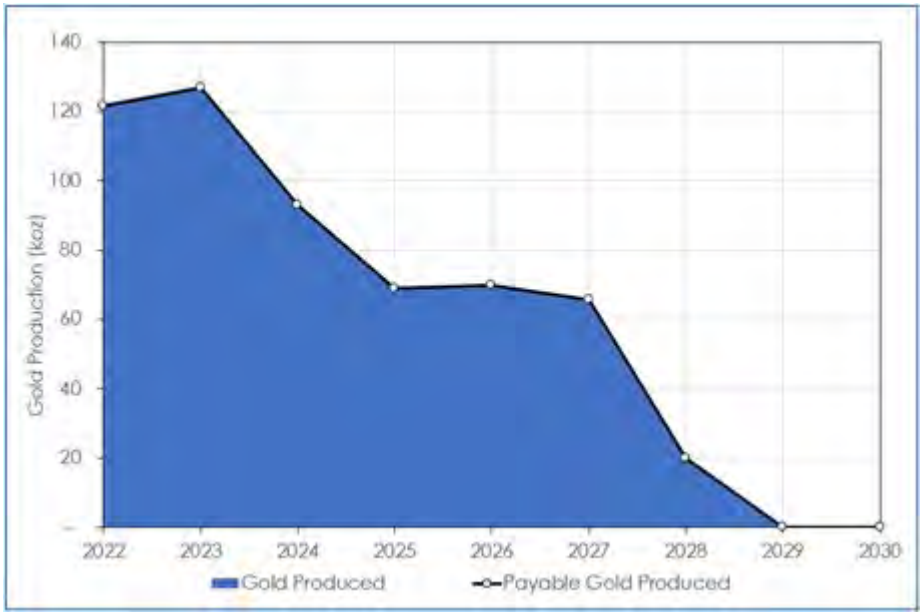
OreWin, 2021

Figure 13.7 Processing Schedule



OreWin, 2021

Figure 13.8 Production Plan Recovered Gold Ounces



OreWin, 2021

The underground development requirements to realise the LOM production plan are summarised in Table 13.6. Annual waste rock generation and backfill requirements are also included in Table 13.6.

Table 13.6 Development, Waste Rock, and Backfill Summary

Item	Unit	2022	2023	2024	2025	2026	2027	2028	Total
Development									
Capital Lateral	m	4,176	3,673	3,431	2,308	1,672	469	–	15,729
Operating Lateral	m	2,508	2,794	1,903	1,761	756	148	–	9,871
Capital Alimak	m	51	–	–	–	57	–	–	109
Operating Alimak	m	186	116	151	40	379	106	–	978
Total	m	6,922	6,583	5,485	4,108	2,865	724	–	26,686
Waste Rock Generated	kt	506	389	493	393	258	109	–	2,149
Backfill Requirement	kt	1,564	278	308	269	305	326	78	1,564

Sum of individual values may not match total due to rounding

1.12 Mobile Equipment

The existing equipment fleet will fulfil the peak requirements of the schedule, capital allowances have been made for the rebuild or replacement of equipment as required over the LOM.

14 PROCESSING AND RECOVERY METHODS

14.1 General

The Seabee deposit was processed for 25 years in the mill constructed immediately adjacent to the Seabee shaft.

The remote location of the mine in northern Saskatchewan is sustained by air transport for the workforce and winter road access for supplies. The operation was initially developed and operated on diesel power and later connected to Saskatchewan grid power in 1992. The initial capacity was 500 tpd, which was later expanded to 1,000 tpd with the addition of a third grinding mill. The mill flow sheet as shown in Figure 14.1 is a conventional crushing and grinding circuit employing gravity gold recovery and cyanide leaching with carbon-in-pulp (CIP) for recovery and production of doré gold on site.

Table 14.1 shows the main operating statistics for the Seabee mill over the last ten years, which was the main reference in planning the future operations on other deposits in the area as well as the Santoy deposit.

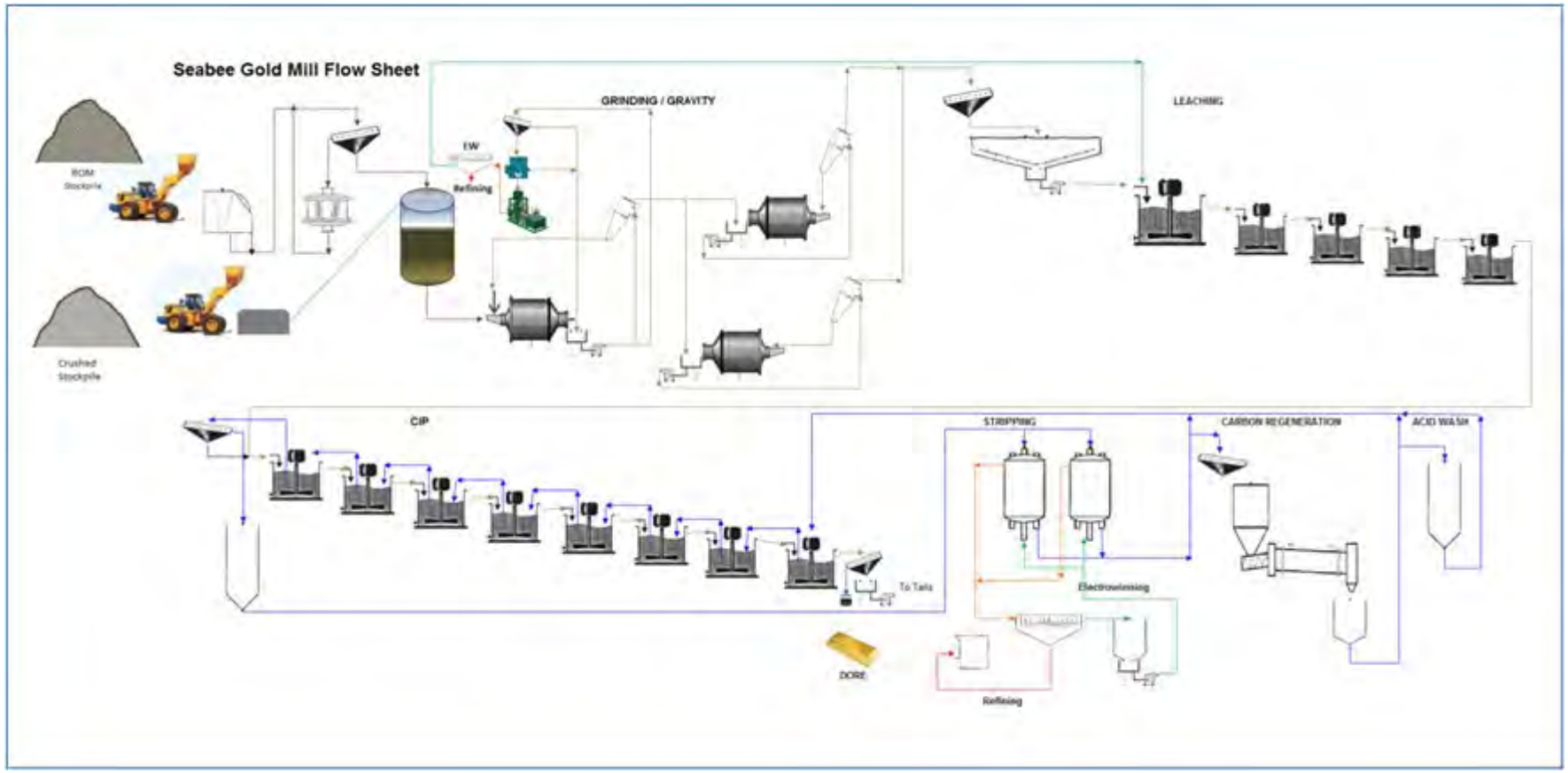
The mill maintains a high availability and routinely averages more than 94% operating time with the average monthly rate from 2014 to the present being 94.6%. Currently, an addition to the gravity recovery circuit is being installed that will increase the gravity gold recovery and reduce the limitations of the main cyanide leach circuit.

Table 14.1 Seabee Mill Production Statistics 2006–2021

Item	Unit	2006	2007	2008	2009	2010	2011	2012	2013
Production	t	246,000	227,700	228,400	247,641	203,958	257,181	275,235	280,054
Daily Rate	tpd	674	624	626	678	559	705	754	767
Mill Head Grade	g/t	6.16	6.35	6.46	6.17	7.55	5.68	5.86	5.11
Recovery	%	93.6	95.4	95.8	95.3	95.5	95.3	95.6	95.3
Gold Produced	oz	46,300	44,323	45,466	46,827	47,270	44,750	44,756	43,850

Item	Unit	2014	2015	2016	2017	2018	2019	2020	2021
Production	t	279,597	277,386	312,679	330,415	352,000	344,040	255,172	382,478
Daily Rate	tpd	756	760	857	967	1,125	1,087	1,163	1,180
Mill Head Grade	g/t	7.32	8.82	7.91	8.25	9.16	9.56	10.10	9.92
Recovery	%	95.7	96.3	96.6	97.4	97.4	98.2	98.4	98.4
Gold Produced	oz	62,984	75,748	80,351	85,395	100,953	110,864	81,540	120,030

Figure 14.1 Seabee Mill Flow Sheet



SSR, 2021

1.2 Crushing

The run of mine ore is crushed at the mil. The circuit consists of primary crushing with a jaw crusher followed by secondary crushing with a cone crusher in closed circuit with a triple deck screen. The product from the crushing circuit, at minus 20 mm, is conveyed to the ore storage bin, which has a live capacity of 400 t. To increase the storage capacity between the crusher and the grinding circuit, and allow for crusher breakdowns or scheduled maintenance, fine crushed ore is stockpile and fed into the circuit through the original crushing feed point.

1.3 Grinding

The grinding circuit consists of a ball mill 2.9 m in diameter and 3.7 m long serving as the primary grinding mill. Two secondary mills, 2.7 m in diameter and 2.6 m long, complete the grinding to 80% passing 200 mesh. The grinding mills operate in closed circuit with hydrocyclones. The ground product is thickened to 48% solids in a 12 m thickener prior to entering the leach circuit. Lime is introduced to the grinding circuit to maintain the pH and free cyanide levels for optimum leach conditions.

1.4 Gravity Recovery

A portion of the cyclone underflow on the primary grinding mill is directed to a Knelson concentrator for further concentration on a vibrating table. The gravity concentrate, averaging approximately 65% of the total gold recovered, is refined with the gold recovered in the hydrometallurgical circuit.

The gravity recovery circuit consists of two Knelson concentrators and an Acacia reactor, which recovers the gravity gold in a separate intense cyanide leach and electrowinning circuit. Installation of this equipment was complete later in 2017. Further optimisation of the Acacia circuit is being undertaken to further improve gravity gold recovery.

1.5 Cyanide Leaching

The leach circuit consists of five agitated leach tanks: one of which is 14.6 m in diameter and 14.6 m in height, and four of which are 8.8 m in diameter and 8.8 m in height. Air injection is maintained in all tanks as well as cyanide addition to the initial tank to maintain the free cyanide level to complete gold dissolution. At the nominal mill capacity, the circuit provides 39 hours of leach time.

1.6 Carbon-in-Pulp

The carbon absorption circuit consists of eight tanks that are 3.4 m in diameter and 4.6 m in height equipped with launder screens to maintain the activated carbon captive in the tanks. The carbon circuit typically has about 17.2 t of activated carbon distributed in the tanks. The CIP tankage provides about three hours of retention time with the gold loaded carbon routinely advanced to the strip circuit.

1.7 Carbon Elution and Electrowinning

The loaded carbon is stripped at atmospheric pressure with a heated solution of caustic and iso-propyl alcohol over an average of three days. Gold is collected on stainless steel cathodes in a single electrowinning cell.

1.8 Gold Refining

The gold recovered by electrowinning from the CIP circuit and the gold recovered by gravity is periodically refined in a gas-fired furnace and poured in doré gold bars on site.

1.9 Carbon Regeneration

To maintain the activity level of the carbon inventory, the Seabee mill has a carbon regeneration process. Prior to elution, the carbon is washed in hydrochloric acid for removal of calcium and other acid soluble impurities. Following elution, the carbon is subjected to heat treatment and attrition in a rotary kiln and screened to remove fines prior to recycle to the CIP circuit.

1.10 Mill Tailings

All tailings solutions in excess of the mill recycle water that are released to the environment are treated with cyanide destruction to maintain the water quality below release quality standards.

The mill operates primarily on recycled water with 96% of the mill water requirements recycled within the grinding circuit and from reclaim water from the tailings management area.

15 INFRASTRUCTURE

The major infrastructure at the Seabee mine is shown in Figure 15.1, Figure 15.2 and Figure 15.3 and includes:

- Roads and airstrip
- Mill buildings and related services facilities including maintenance and truck shops, assay lab, crushing plant, shops and storage buildings, and miscellaneous infrastructure
- Shaft and headframe
- Portal
- Ventilation raises
- 2B mine water management ponds
- Administrative buildings
- Water supply and distribution
- Waste management
- Fuel storage
- On-site explosive storage
- Powerhouse and electrical distribution system
- Ore stockpile
- Tailings management facilities and water management
- East Lake water treatment plant
- Camp accommodation
- Winter road portages

Figure 15.1 Seabee Gold Operation Major Infrastructure

Figure 15.2 Seabee Gold Operation Mill Site Infrastructure

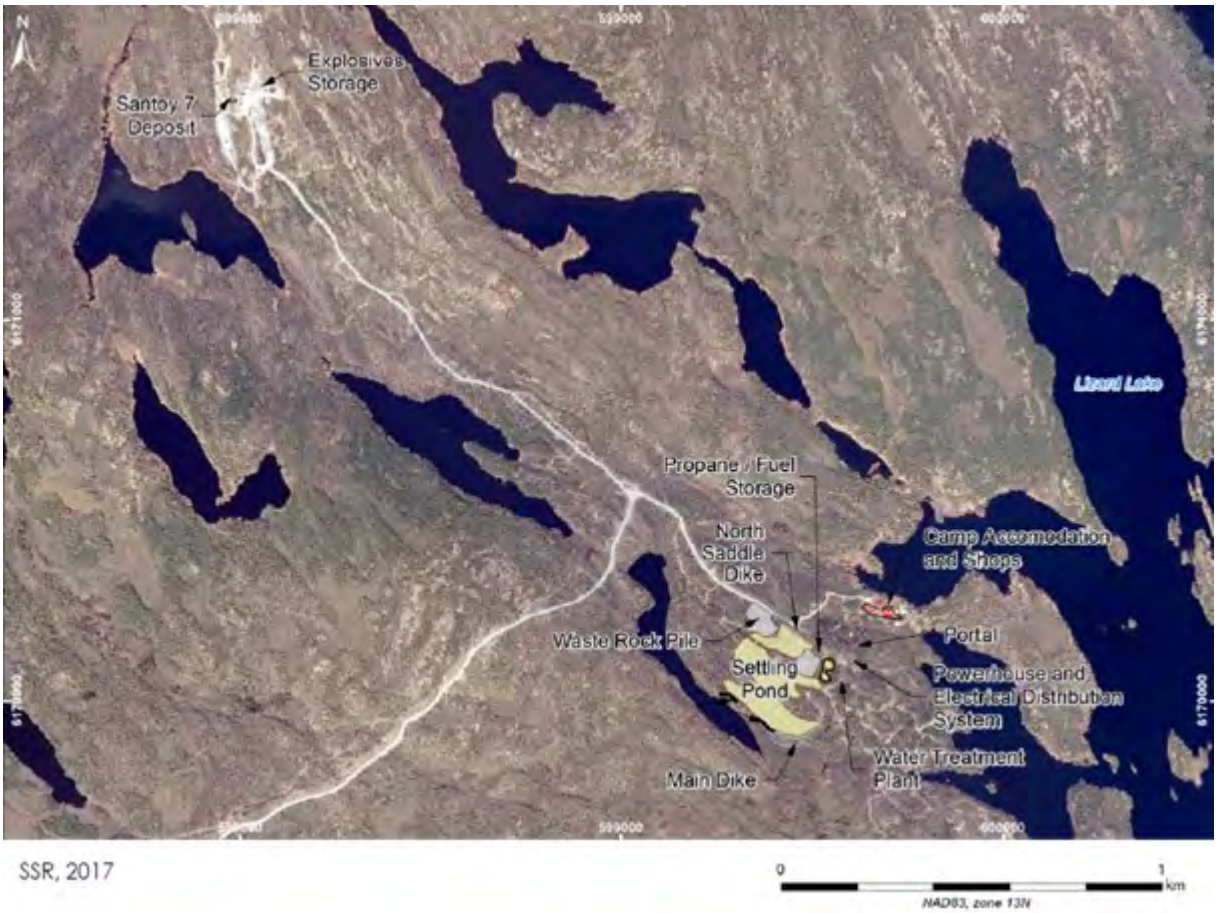
SSR, 2017

Figure 15.3 Seabee Gold Operation Tailings Management Facility Infrastructure

The major infrastructure at the Santoy mine is shown in Figure 15.4 and includes:

- Roads
- Administrative and shop buildings
- Powerhouse and electrical distribution system
- Portal
- Vent raises
- Ore stockpiles
- Waste rock pile
- Settling ponds
- Water treatment plant

Figure 15.4 Santoy Mine Major Infrastructure



15.1 Site Access Roads

As previously stated, the site can be accessed by an 8 km winter road, which begins at Highway 102 near the community of Brabant Lake, Saskatchewan and consists of 12 portages spanning 11 lakes. The majority of annual supplies are transported to site via the winter road, typically throughout the months of February and March, and until mid-April depending on ice quality.

The two mines are connected via a 14 km haul road, called the Santoy Road. This access road is a one-way road that is operated using radio callouts every 1 km and has specific travel convoy times throughout the day. There are also several miscellaneous roads throughout both the Seabee mine and Santoy mine sites that provide access to infrastructure.

15.2 Product Loadout

The product from the processing facility (doré bars) is transported by air to a third-party refinery.

15.3 Utilities

The current camp facilities at the Seabee mine and Santoy mine can accommodate up to 251 employees.

15.3.1 Water

Potable water is obtainable locally through SSR's potable water system at both the Seabee and Santoy mine sites. The site currently uses a slow sand filter system. To better meet the current and future site water needs, a new ultrafiltration potable water system has been installed on site and will be commissioned in Spring of 2022.

15.3.2 Sewage Disposal

At the Seabee mine, sewage is treated in the mill and discharged with the tailings to either the East Lake tailings management facility (East Lake TMF) or Triangle Lake tailings management facility (Triangle Lake TMF).

The septic system at the Santoy mine is a mound system, which is pumped every second day by a vacuum truck to prevent leakage from the system.

15.3.3 Power

Electrical power is provided by a transmission line to the mine by the provincial power authority, Saskatchewan Power Corporation. The mine is connected to a 138 KV hydroelectric power line from Island Falls.

The total power usage for SGO is approximately 8.9 MV amperes and the electrical distribution system has an installed capacity of 10.0 MV.

15.3.4 Fuel Storage

Fuel farms and propane tanks are located at both the Seabee mine and Santoy mine sites.

15.3.5 Explosives Storage

A magazine and an explosives storage area are located at the Santoy 7 deposit servicing the Santoy mine, with a secondary magazine and explosive storage area used previously for the old Seabee mine site situated just off the Porky access road, approximately 1.3 km north-east from the Seabee mill area. Both of these areas have been designed and prepared in accordance with the Mines Regulations (The Mines Regulations 2018, Saskatchewan Employment Act).

15.4 Tailings Management Facilities

There are currently two tailings management facilities (TMF) that are being utilised by the Seabee mill: the East Lake TMF and the Triangle Lake TMF, as shown in Figure 15.3. Tailings deposition alternates between the two tailings management facilities where winter deposition occurs in the Triangle Lake TMF and summer deposition is in the East Lake TMF. The current remaining storage capacities of both facilities, based on an average production rate at 1,200 tpd, will potentially be reached in late-2030.

Maximum capacities also allow that 200,000 m^3 of water are treated and discharged from the tailings management facilities each year. To ensure the treatment volumes are attained, a new water treatment plant at East Lake TMF was constructed in 2017.

Work is currently underway investigating options for extending the life of the TMF's to accommodate any further extensions of the SGO life.

15.4.1 East Lake TMF

East Lake was a natural lake that was converted to a tailings management facility when the Seabee mine was initially developed in 1991. East Lake was partially dewatered prior to tailings deposition, which provided containment for the first six years of operation. Subsequently, vertical concrete dams lined with high density polyethylene (HDPE) were constructed along the topographic lows along the east and south flanks of the tailings management facility to provide additional storage capacity up to mid-2004. At this time, tailings deposition was relocated to the newly constructed Triangle Lake TMF. To accommodate an increased mine life, further expansion of the East Lake TMF was implemented in 2015. The expansion consists of a 6 m high expansion dike that is comprised of waste rock. Stage 1 construction of the expansion dike (Crest elevation 463 m) was completed in 2016 and additional raises have lifted the dike to its current elevation of 465 m.

The existing tailings line is a 6" diameter HDPE pipe that is approximately 2 km in length and stretches from the mill to the East Lake TMF. Spigot locations at the tailings management facility vary over time.

Supernatant water during tailings deposition in the East Lake TMF is regulated by a pump station situated at the north-east corner of the facility. The pond level is maintained below the maximum operating level by pumping and discharging supernatant to either the Back Pond or to the Triangle Lake TMF. There are also three fresh water diversion pumps situated along the western flank of the East Lake TMF that capture and divert water towards Laonil Lake.

15.4.2 Triangle Lake TMF

Similar to the East Lake TMF, the Triangle Lake TMF was a natural lake that was converted to a tailings management facility. To provide initial containment, a North dam was constructed along the northern shoreline of the tailings management facility and tailings deposition commenced in 2004. In 2007, the North dam was raised and the South Dam was constructed along the southern shoreline of the tailings management facility. Both dams were vertical concrete structures lined with HDPE.

As part of the combined East Lake TMF and Triangle Lake TMF expansion to accommodate an increased mine life, the design of the Triangle Lake TMF was modified so that both structures would be raised with mine rock and lined with non-woven geotextile and HDPE liner. The expansion of the tailings management facility was staged, which also included construction of two saddle dikes: saddle dikes W2 and W2A, situated east of the North dam. The design of the saddle dikes was consistent with the raise to the North dam (i.e., rockfill construction with non-woven geotextile and HDPE liner). In the final stage of construction, an emergency spillway was situated at the west abutment of the South dam, accommodating the design storm event for the tailings management facility.

Further wall lifts have been completed on the Triangle Lake TMF and it is currently constructed to its final permitted elevation at 466 m, which will accommodate tailings until late 2030.

Construction of a seepage collection system commenced in the summer of 2014 along the downstream toe of the North dam to collect and manage seepage.

There is a 6″ diameter HDPE pipe that connects to the tailings line at the East Lake TMF and extends approximately 1.2 km to either the North or South dams at the Triangle Lake TMF. Spigot locations at the tailings management facility vary over time.

Water from the East Lake TMF is immediately discharged to the Triangle Lake TMF and thus the water repository and overall water management is accommodated and regulated at the Triangle Lake TMF. Reclaimed supernatant from the Triangle Lake TMF is discharged into the Back Pond, which serves as a lift station, where supernatant is either pumped to the East Lake water treatment plant for treatment or to the Seabee mill as reclaim. Two fresh water diversion pumps are situated along the eastern flank of the tailings management facility that capture and divert water towards Laonil Lake.

15.4.2.1 Tailings Dam Geotechnical Report Review

A review of previous Geotechnical studies was conducted. The purpose of the review is to confirm the completed studies are appropriate and identify any gaps or areas of residual concern. The following eight reports formed the basis of the review:

- 2001 – KHS EIS Study
- 2016 – SRK study to evaluate tailings alternatives
- 2016 – SRK Annual review
- 2017 – SRK Dam Safety Review
- 2018 – SRK Design study for Triangle Lake TMF Expansion
- 2018 – SRK annual review
- 2019 – SRK Dam Break Analysis
- 2019 – Newfields independent review

Whilst the above does not comprise the full extent of reporting the above reports represent key information to allow an appropriate geotechnical review to be conducted.

Below is a summary of key points from the geotechnical reports review related to the Tailings Dam:

- There are seven dams noted in the reporting. Of the seven dams, up to seventeen structures/elements are noted and have been reviewed.
- The extent of ongoing review is comprehensive with Golder having been involved between 2007 and 2013, SRK commencing studies in 2012 and with SRK completing all studies since 2013
- The SRK studies have involved annual reviews and Dam Safety reviews. Whilst all the historical reporting has not been reviewed, the available SRK reporting since 2016 is comprehensive and involving appropriate rigour and detail.
- The SRK studies are comprehensive and have involved numerous SRK staff at various technical levels to indicate appropriate internal review and maintain a high standard
- A third-party review by Newfields of SRK's design for Triangle Lake TMF Expansion stated "well done and meets required standards"

In view of the latter comments in the bullet points above, there are no perceived gaps in the technical studies with regard to the tailings dams at Seabee and with appropriate dam management being practiced.

15.5 Waste Rock Structures

Access roads, the airstrip, dams, dikes, laydown areas, and general site areas were constructed using waste rock, which was characterised as non-acid generating.

15.6 Rock Quarry

In order to sustain waste rock requirements for construction, SSR developed a rock quarry at the SGO. The location of the quarry is adjacent to the existing Triangle Lake TMF. To date, the main consumption of the waste rock has been for the expansions of both tailings management facilities and for the Santoy road upgrade / maintenance.

15.7 Water Facilities

The Santoy mine has one water management structure, which is the Santoy 8 deposit water management pond. The old Seabee mine has two water management structures: the East Lake water treatment plant and the 2B mine water settling ponds.

15.7.2.1 Santoy Mine

Mine water from the Santoy underground mine is discharged into the north-west corner of the Santoy 8 deposit water management pond where it is then pumped to a water treatment plant. The water is treated by a moving bed bioreactor unit to reduce ammonia concentrations. The treated water is pumped into settling Pond 1 where biomass from the process settles out and from there water flows to settling Pond 2 via an overflow spillway. The water is discharged from settling Pond 2 through a culvert and into the north-east corner of the mine water management pond for final settling. Final discharge to the environment is done via a pump situated at the south end of the mine water management pond. Approximately 100,000 m^3 of water from the underground mine is treated and discharged annually.

Settling Ponds 1 and 2 have a perimeter of approximately 105 m and 90 m, respectively, and a maximum height of approximately 3.3 m and 3.8 m, respectively. The ponds are lined with 60 mil HDPE and have a combined total storage volume of approximately 2,250 m^3.

The mine water management pond is contained by a main dike situated at the south end of the facility and a north saddle dike located at the north-west flank. Both structures are comprised of waste rock with slopes graded at 2.0H:1V. The upstream slopes are lined with 60 mil HDPE, which are keyed into a low permeable till foundation. The main dike and north saddle dike are approximately 180 m and 120 m in length, respectively and have a maximum height of approximately 7 m and 3.5 m, respectively. The storage volume of the mine water management pond is approximately 40,000 m^3.

15.7.2.2 Seabee Mine

The East Lake water treatment plant and associated settling ponds 1 and 2 are used to treat and settle the supernatant water from the East Lake TMF and Triangle Lake TMF. Supernatant is transferred from the Back Pond at the East Lake TMF to the water treatment plant where it is initially treated with lime, ferric sulfate, and peroxide. Subsequently, the treated water is discharged to settling pond 1, which overflows to settling pond 2. From here the treated water is pumped to East Pond where it is monitored prior to the final discharge to the environment. Settling ponds 1 and 2 have a perimeter of approximately 190 m and 100 m, respectively, and a depth of 2.5 m and 6 m, respectively. The ponds are lined with 60 mil HDPE and have a combined storage capacity of approximately 13,000 m^3. Approximately 80,000–100,000 m^3 are treated and discharged to the environment annually, which correlates to a treatment rate of approximately 835 m^3 per day, based on a four-month treatment period.

As previously stated, a water treatment plant was constructed in 2017. The water treatment plant has capacity to treat up to 3,400 m^3 per day, removing cyanide, ammonia and copper from the tailings management facility supernatant. In general, the treatment process consists of a pre-treatment step for removal of copper and cyanide followed by a moving bed bioreactor unit for removal of ammonia.

16 MARKET STUDIES

The metal prices used in this Seabee21TRS are based on an SSR internal assessment of recent market prices, long-term forward curve prices, and consensus amongst analysts regarding price estimates. The metal prices selected for the Seabee Gold Operation (SGO), have taken into account the current project life.

SGO currently produces doré bars. The doré refining terms are typical and consistent with standard industry practices and similar to contracts for the refining of doré elsewhere.

The doré is transported by secure freight to a refinery, refined into gold bullion and sold by SSR to banks that specialise in the purchase and sale of gold bullion.

The Qualified Person for this Section 16 agrees with the assumptions and projections presented.

16.1 Contracts

There are a number of acceptable refineries with capacity to refine doré. Currently, SSR is in a non-exclusive contractual relationship with Asahi Refining Canada Ltd. (Asahi). The terms of this contract with Asahi are within industry norms. The cost for transport and refining of the doré is in accordance with industry standards.

17 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS

17.1 Regulatory Setting

The environmental assessment and permitting framework for mining in Canada is well established. Proposed projects are screened both federally and provincially to determine whether an environmental assessment under federal, provincial, or both levels of legislation is required. Following the assessment decision, the project advances to a licensing and permitting phase.

In the event the project's environmental assessment is successful and all necessary licences and permits are granted, the project is then regulated through all phases (construction, operation, closure, and post closure) by both federal and provincial departments and agencies.

17.2 Federal Environmental Assessment Process

In the spring of 2012, the Canadian Environmental Assessment Act (1992) was amended and replaced by the Canadian Environmental Assessment Act (2012) (CEAA 2012). Two significant results of this amendment were the re-definition of what "triggers" a federal environmental assessment and the introduction of legislated time periods within a federal environmental assessment, if required.

Under CEAA 2012, an environmental assessment focuses on potential adverse environmental effects that are within federal jurisdiction including:

- Fish and fish habitat.
- Other aquatic species.

- Migratory birds.
- Federal lands.
- Effects that cross provincial or international boundaries.
- Effects that impact on aboriginal peoples, such as their use of lands and resources for traditional purposes.
- Changes to the environment that are directly linked to or necessarily incidental to any federal decisions about a project.

Under the CEAA 2012, there are two main methods in which a federal environmental assessment could be required:

1. A proposed project will require an environmental assessment if the project is described in the Regulations Designating Physical Activities, CEAA 2012.
2. Section 14(2) of CEAA 2012 allows the federal Minister of Environment to (by order) designate a physical activity that is not prescribed by regulation if, in the Minister's opinion, either the carrying-out of that physical activity may cause adverse environmental effects or public concerns related to those effects may warrant the designation.

17.3 Provincial Environmental Assessment Process

The provincial environmental assessment process begins with the submission of a technical proposal to the Saskatchewan Environmental Assessment Branch (EAB) of the Ministry of Environment (MOE) to determine if the project is considered a "development". The MOE will coordinate an inter-ministry review of the technical proposal and the environmental impact statement using a standing panel of representatives from provincial departments and agencies, which is known as the Saskatchewan Environmental Assessment Review Panel (SEARP).

The Saskatchewan Environmental Assessment Act (SEAA 2013) states:

A "development" means any project, operation or activity or any alteration or expansion of any project, operation or activity, which is likely to:

- have an effect on any unique, rare or endangered feature of the environment;
- substantially utilise any provincial resource and in so doing pre-empt the use, or potential use, of that resource for any other purpose;
- cause the emission of any pollutants or create by-products, residual or waste products which require handling and disposal in a manner that is not regulated by another act or regulation;
- cause widespread public concern because of potential environmental changes;
- involve a new technology that is concerned with resource utilisation and that may induce significant environmental change; or
- have a significant effect on the environment or necessitate a further development which is likely to have a significant effect on the environment.

17.4 Seabee Environmental Assessments

The Seabee Gold Operation (SGO) has been in production since 1991. As part of the initial environmental assessment, approvals and the subsequent expansions at the operation, the existing environment was characterised in three environmental assessments, in accordance with the SEAA 2013. The initial environmental assessment focused on the original Seabee mine and mill and was completed in 1990 (Beak, 1990). The second environmental assessment was necessary to assess the potential environmental impacts associated with the construction and operation of the Triangle Lake TMF and was completed in 2001 (KHS, 2001). The third environmental assessment was necessary to assess the potential environmental impacts associated with the development of the Santoy mine and was completed in 2009 (Golder 2009). For each of these assessments, baseline data was collected and the potential environmental impacts associated with the proposed project were assessed. In all three environmental assessments, no significant potential environmental impacts were identified that could not be mitigated through the implementation of management plans. Subsequently, Ministerial Approvals to proceed to construction and operation were granted for each of the three environmental assessments.

The Triangle Lake TMF, as well as the Santoy mine projects, were screened by the Canadian Environmental Assessment Agency in 2001 and 2009, respectively. The SGO has never required a federal environmental assessment.

17.5 Environmental Permits/Authorisations

Following a successful environmental assessment, the SGO is required to obtain a number of federal and provincial permits / approvals / licences. These permits outline the environmental operating specifications and reporting requirements of the operation. Although all regulatory permits and approvals carry the same level of importance, the Provincial Approval to Operate is the primary regulatory approval required to operate a gold mine in Saskatchewan. The Approval to Operate is issued in accordance with numerous provincial legislation and regulations governing Saskatchewan's mining industry.

Since its inception, the SGO has operated under the terms and conditions of an Approval to Operate, issued by the MOE. As discussed in Section 3.6, the operation's current Approval to Operate number PO19-193, was issued in October 2019 and expires in September 2022. This approval outlines all monitoring and reporting requirements for all operations, including:

- Surface and groundwater in immediate and surrounding areas
- Sediment quality of surrounding lakes
- Aquatic biota in surrounding lakes
- Facilities and areas requiring daily, weekly and monthly inspections
- Regular acid rock drainage/metal leaching testing
- Annual geotechnical inspection by a Professional Geotechnical Engineer
- Development and regular updates to a variety of management plans

The SGO is in compliance with the terms and conditions of this approval.

17.6 Environmental Considerations

Additional environmental baseline information was gathered to augment the existing environmental baseline database. These completed studies included:

- Heritage Resource Impact Assessment (CanNorth, 2016a)
- Vegetation Inventory Study (CanNorth, 2016b)

- Seabee Mine Quarry Rock ML/ARD Assessment (SRK, 2016a)

Following the completion of the above studies and the integration of those results with the existing baseline database developed for the operation as a result of its three previous environmental assessments, a self-screening of the proposed quarry was completed. The quarry project did not require a formal environmental assessment and the quarry has been established to provide waste rock for TMF expansions and other site projects.

Solid non-hazardous waste generated at the site is disposed of in the approved landfill. In accordance with the SGO's Approval to Operate, hazardous wastes are stored in approved facilities at the site until the winter, when these materials are transported off site for disposal at approved hazardous waste disposal facilities. In addition, recyclable materials such as scrap metal are stored in segregated piles on an approved lay down area, and later transferred off site as backhaul material on emptied supply trucks via the winter road.

Sodium cyanide, ferric sulfate, lime, hydrogen peroxide, diesel, gasoline, propane, and all other consumables are transported to the site via truck over the winter road, which is generally operational from the end of January through to the end of March each year. All consumables are transported to the site in accordance with the Transport Canada Transportation of Dangerous Goods Regulations and stored in approved bulk storage facilities in accordance with the SGO's Approval to Operate and Saskatchewan's Hazardous Substances and Waste Dangerous Goods Regulations.

SSR has characterised mine rock and tailings for the potential of acid rock drainage/metal leaching at the SGO since 2012. The results of these analyses are reported to the MOE as part of the operation's annual reporting commitments. Similar programmes will be refined and periodically carried out as operations continue. To date, the findings indicate that the mine rock is non-acid generating. All ores mined at the SGO have a low sulfide content, which is consistent with most vein hosted gold deposits. The current data set shows the Santoy ores carry a lower sulfide content than the ores of the now-ceased Seabee mine. From a geochemical perspective, this means the tailings with the higher sulfur content are located in the lower elevations of the tailings facilities, which are typically saturated or partially saturated. These tailings are then covered stratigraphically by the Santoy tailings through continued operation. The Santoy tailings display the lowest sulfur content (less than 1%) and an equivalent balance of carbonate content, meaning that the residual sulfur content after the carbonate is consumed in the neutralisation process, would not likely support acidic drainage from the upper-most layers of tailings in both facilities. Thus, tailings found in the unsaturated zones of the facilities that will be more readily oxidised are the most geochemically stable tailings. Following 25 years of operation, the site continues to display no evidence of acid drainage.

The geochemical characterisation to date, combined with the tailings operational plan, which ensures that at closure, the unsaturated zone consists of low sulfur bearings tailings, supports the current closure plans for these facilities.

There are no known environmental concerns at the SGO that cannot be successfully mitigated through the implementation of the various approved management plans that have been developed based on accepted scientific and engineering practices.

17.7 Mine Closure

In accordance with Saskatchewan's Mineral Industry Environmental Protection Regulations (1996), the SGO has, since 1996, submitted to the MOE a decommissioning and reclamation plan (closure plan) and cost estimate to implement this plan every five years or when required by the Ministry. In accordance with these regulations and the site's Approval to Operate, this closure plan is required to be revised and submitted for review and approval at least every five years or as requested by the MOE. The most recent closure plan (SGO Preliminary Decommissioning and Reclamation Plan, 2016 Update) was submitted in January 2017 and accepted by the Government of Saskatchewan in July 2020. The closure plan meets the following objectives:

- Complies with previous environmental assessment and existing commitments as outlined in the SGO's Approval to Operate.
- Meets the MOE's final mine closure objectives as outlined in the Guidelines for Northern Mine Decommissioning and Reclamation (SMOE 2008), specifically:
  - Leaves all disturbed areas safe for traditional land uses and in an ecological condition that is consistent with the surrounding physical and biological environment.
  - Leaves the site in a state that requires minimal or no maintenance.
- Eliminates potential short and long-term health, safety and environmental risks associated with any aspect of the site.
- Ensures long term physical stability of all landforms and containment structures, in accordance with the Canadian Dam Association Guidelines.

The total estimated cost to implement the closure plan through an independent contractor is approximately C$12M.

SSR, in accordance with the Mineral Industry Environmental Protection Regulations, is responsible to post financial assurance equalling the closure cost estimate with the Government of Saskatchewan. An update to the closure estimate is currently underway, to cover the approved expanded TMF.

In accordance with the EAB guidance, effluent discharges from the site during the implementation of closure activities will meet Saskatchewan Effluent Quality Limits. Final decommissioning and reclamation water quality objectives for the site, which are determined jointly by the operator and the MOE, will be met at the site prior to the Ministry's acceptance of the property into its Institutional Control Program. The previously approved closure plan and its current reiteration, which is under final review, assume these final water quality objectives will meet Saskatchewan Environmental Quality Standards for Surface Water guidelines which are more stringent than Saskatchewan's Effluent Quality Limits.

The total estimated cost to implement the closure plan (under existing site conditions as of December 2020) through an independent contractor is approximately C$12M. The closure cost estimate allows for the full life cycle of mine closure, which includes the following three phases: 1) a decommissioning and reclamation phase to complete the closure activities; 2) a transitional phase to allow for the monitoring of all decommissioning and reclamation activities, ensuring that all closure criteria have been met; and 3) an institutional control phase. Saskatchewan's Institutional Control Programme requires funds to be set aside for maintenance and monitoring during a 70-year period and requires additional funds to manage the maintenance that may occur as a result of unforeseen events. SSR, in accordance with the Mineral Industry Environmental Protection Regulations, is responsible to post financial assurance equalling the closure cost estimate with the Government of Saskatchewan, covering the three phases of mine closure.

The proposed closure activities for the main components of the Seabee Gold Operation, as described in the SGO Preliminary Decommissioning and Reclamation Plan, 2016 Update are summarised below.

17.7.2.1 Mill, Headframe and Supporting Infrastructure

All infrastructures will go through a systematic process of decontamination of potentially hazardous wastes. All assets will be removed and staged on site for transport off site. The remaining structures will be demolished with the use of heavy equipment and recyclable metal will be segregated and stored for transport off site. The soils, if present under and around the foundations, will be characterised for potential contamination of hydrocarbons or metals. If contamination is identified the extent will be delineated and removed for disposal or onsite remediation in accordance with the applicable regulations. All non-recyclable demolition debris will be buried or disposed of in a designated area on site.

17.7.2.2 Tailings Management Facilities and Water Treatment Sludge

Each facility will be decommissioned and reclaimed using a dry cover, graded towards a spillway, located at the south end of each of the tailings facilities. A 0.3 m cover of erosion-resistant mine rock will be placed on the tailings to form the final cover. This rock cover will mimic the grading of the underlying tailings and eliminate the migration of windblown tailings from the facilities. Dams are constructed of erosion-resistant rock fill and no further closure activities are proposed. The dams are designed and operated in accordance with the guidelines of the Canadian Dam Association, which are reviewed and approved by the MOE. All closure activities associated with the containment structures will comply with the guidelines of the Canadian Dam Association (CDA, 2013).

The plan and costing allows for water treatment to occur until such time as the quality of any remaining ponded water meets site specific water quality objectives.

Water treatment sludges at the mine are relatively small in volume. Following the decommissioning and reclamation of the water treatment plant, the sludges will be covered in place with a till cover or a combination of a liner / till / sand/mine rock cover.

17.7.2.3 Mine Rock and Ore Stockpiles

No mine rock associated with the SGO is characterised as potentially acid generating, and therefore the closure objective is to ensure long-term physical stability of the piles. The largest single source of mine rock in a central location forms the foundation of the airstrip. All of this material will be used as the construction material for the tailings facility covers. A portion of the remaining mine rock will be used as cover material for the clean demolition debris and backfill material for the existing portals and mine openings, where appropriate. Any remaining mine rock not used as construction material in the decommissioning and reclamation activities, will be contoured to a 3:1 slope and allowed to naturally revegetate.

Prior to the completion of operations, all ore stockpiles will be processed.

17.7.2.4 Contaminated Soils

In the event hydrocarbon contaminated material is identified, the material will be excavated and land farmed in a designated area. Any liquid product produced from the land farm will be transferred into drums and sent offsite for disposal in a licenced facility or used in the waste oil burner.

Due to the low sulfide nature of the orebody, and the clean characterisation of the mine rock, soils containing metals that exceed Canadian Council of Ministers of the Environment Canadian Environmental Quality Guidelines are not expected to be encountered; however, should they be, the material will be hauled to and disposed of within the tailings facility.

17.7.2.5 Non-Hazardous Waste Landfill

The current operating procedures for the landfill call for progressive reclamation. Following placement of refuse, it is covered with mine rock. At closure, all slopes of the covered landfill will be contoured to a minimum of a 3:1 slope.

17.7.2.6 Water Treatment Plants

The Santoy mine will be allowed to flood naturally following operations, and therefore the Santoy water treatment plant will be decommissioned. Its components will be either transported off site as assets or disposed of on site as non-hazardous waste.

The East Lake water treatment plants will remain operational throughout the decommissioning and reclamation activities until such time as further water treatment is not required. Following the need for water treatment, the plants will be dismantled and removed from site.

17.7.2.7 Mines

Following completion of production, all rolling stock will be removed from the underground, stored at the staging area, and prepared for transportation off site for either resale or salvage. The underground workings will be inspected and all hazardous wastes and dangerous goods will be transferred to the surface and ultimately off site for disposal at an approved facility. Following this recovery of assets and decontamination, the mines will be allowed to flood naturally.

There are 12 vertical to sub-vertical vent raises and one shaft associated with the SGO . Each of these openings will also be fitted with an engineered concrete reinforced cap keyed into bedrock, in accordance with accepted industry practices. The sub-horizontal openings (five portals) will be backfilled with approximately 15 m of waste rock. The waste rock will be extended past the portal entrance and will be contoured to a slope of 3:1.

A final evaluation of all crown pillars will be completed as part of the engineering of the final closure plan. Crown pillars determined to pose a higher risk of failure will be collapsed as part of the decommissioning process. There are currently 17 crown pillars that do not pose a long-term risk of failure, and six crown pillars, which may require collapse and backfilling as part of the decommissioning and reclamation activities.

17.7.2.8 Miscellaneous Infrastructure

All roads, parking areas, lay down areas, settling ponds, winter road portages, and footprint of the air strip will be scarified to support revegetation following the removal of all culverts, power lines, pipelines and other miscellaneous infrastructure. This infrastructure will be disposed of as part of the major infrastructure decommissioning and reclamation plan.

17.7.2.9 Revegetation

The site will be revegetated in accordance with MOE's Guidelines for Northern Mine Decommissioning and Reclamation through a combination of natural and active revegetation.

17.8 Social and Community Impact

The SGO is within the Treaty 10 area and borders the Pelican Narrows and Brabant Lake community areas of influence (SMOE 2003). These communities were consulted during the completion of previous environmental assessments in support of the project throughout its operating history. The socio-economic study area for the Santoy mine environmental impact statement (the most recent environmental assessment completed in 2009) included La Ronge, Air Ronge, Kitsakie IR 156B, Lac La Ronge IR 156, Nemeiben River IR 156C, Stanley Mission IR 157, Grandmother's Bay IR 219, Brabant Lake, Pelican Narrows IR 184B, Pelican Narrows, Sandy Lake, Southend IR 200, and Deschambault Lake IR 203.

In accordance with the terms and conditions of the operation's Surface Lease Agreement, continual effort has been made at the SGO to engage the nearby communities in order to maximise northern employment opportunities as well as the local purchase of goods and services to support the mine. As of the end of 2021, approximately 19% of the nearly 360 employees at the SGO are northern Saskatchewan residents. The operation continues to honour its social commitments outlined in the project's surface lease agreement.

Since SSR's purchase of the SGO, a concerted effort has been made to maintain and strengthen the relationship with the surrounding communities, including the Lac La Ronge Indian Band and the Peter Ballantyne Cree Nation.

In addition, stakeholder engagement plans have been developed to support the proposed quarry. Engagement activities defined in these plans are currently underway.

17.9 Safety

The management of safety and health at the SGO reflects the effective management of risk. The mine's safety and health strategy is two-fold: to ensure full compliance with the Saskatchewan Mine Act regulations; and to minimise residual risk in relation to regulatory compliance through a risk-centred safety and health management system.

SGO is committed to continuous improvement in all functions and especially in Safety Health and Environment. In 2021, SGO more than halved its TRIFR (Total Recordable Injury Frequency Rate – per million work hours) from 23.0 in 2020 to 10.8 in 2021. SGO has set a target to halve the TRIFR again in 2022.

Mining-related hazards are inventoried and characterised in terms of their risk, i.e., development of a comprehensive risk registry. Controls, in the form of appropriate engineering and mine design, fixed and mobile equipment optimisation, work processes, training and competency verification, and others, are implemented in relation to risks with proportional emphasis on catastrophic risk. Special emphasis is given to risks such as geotechnical, mine design and operational risk.

In addition to the central risk management framework, the mine employs a wide variety of policies, processes and procedures that populate the safety and health management system including, but not limited to, safety committees, daily workplace audits, safety communication, proper use of protective equipment, job hazard analysis and standard operating equipment, contractor management, a focus on behaviour modification and human error, and incident investigation and root cause analysis, among others.

In instances where changes to risk management practices occur as a result of changes to mine equipment, practices, geotechnical information as well as other change criteria, the mine undertakes a change management review to ensure that those changes do not result in an increase in potential risk. Where change does result in additional risk, relevant control measures are modified.

While the SGO's approach to risk management is primarily focused on the prevention of incidents, and has substantially reduced safety incidents, the operation also maintains a properly staffed, trained and provisioned mine rescue team that is prepared to address any foreseeable emergency that might occur underground or on surface. Dedication, and diligent preparation and training have resulted in provincial recognition for the mine's rescue team and system.

SGO's safety and health management system, like all effective management systems, undergoes review of continuous improvement involving performance metrics and other training and leading key performance indicators. However, SSR also recognises that the system is only as effective as the organisational culture and the degree to which the system is adopted by its members as common practice. Accordingly, there is also recognition that the behaviour of leaders at the mine has a substantial impact on the mine's operational culture. As such, the mine emphasises culture assessment and enhancement through leadership development.

18 CAPITAL AND OPERATING COSTS

This section summarises the costs used by OreWin to validate the economics of the Mineral Reserve estimate for the SGO. The cost estimate was prepared by the SSR technical department at both the SGO site and Saskatoon office. OreWin reviewed the assumptions, parameters, and methods used to prepare the cost estimate and is of the opinion that they are sufficient for the purposes of validating the economics of the Mineral Reserve.

The cost estimates were completed in C$ and converted to US$ at an exchange rate of C$1.26:US$1.00.

Cash costs and all-in sustaining costs (AISC) per payable ounce of gold sold are non-GAAP financial measures. Please see "Cautionary Note Regarding Forward-Looking Statements" in this Seabee21TRS.

18.1 Capital Costs

The estimated capital costs required to achieve the Mineral Reserve LOM are summarised in Table 18.1. The capital costs were estimated from historical construction costs and equipment purchase prices, actual development costs, as well as results from study work completed by OreWin and third-party consulting firms. Where costs were not available for some minor components, an experience-based allowance was included.

Table 18.2 represents the categorised capital costs estimated as of the beginning of 2022. A contingency of 10% was included for capital costs outside of mine development from 2023 onwards.

The sustaining capital costs include:

- Surface infrastructure construction such as upgrades to the camp and kitchen, IT upgrades, and asset integrity costs.
- Mill improvements and replacement of major components.
- Tailings management facility construction costs.
- Mobile equipment such as new and replacement purchases and major rebuilds.

Table 18.1 Capital Costs Estimate

Cost Component	$ M
Capital Development	85
Sustaining Capital	71
Capital Cost Before Contingency	**156**
Contingency	6
Total Capital Cost	**162**

18.2 Operating Costs

The operating costs were estimated based on the actual operating expenditures at the SGO in 2021. The costs were estimated by process / activity with fixed and variable components.

The operating expenses estimated to validate the positive cash flow for the Mineral Reserve LOM are summarised in Table 18.2. The mining expense includes all labour, supplies / consumables, and equipment maintenance to complete mining related processes / activities, less exploration diamond drilling and capital excavations and construction. The milling expense includes all labour and supplies / consumables to complete milling related processes / activities. The administrative expense includes all labour, supplies / consumables, and equipment maintenance to complete administrative, finance, human resources, environmental, safety, supply chain, site services, camp and kitchen, and travel related processes / activities.

Table 18.2 LOM Average Operating Expense Estimate

Cost Component	$/t milled
Mining	46
Surface Haulage	6
Milling (incl. Fixed Plant)	35
G&A	68
Total Operating Expense	**155**

Sum of individual values may not match total due to rounding

The estimated total cash costs for the first two years of production is $538 per payable ounce of gold, with a LOM average of $735. The all-in sustaining cost (AISC), which includes infrastructure capital and capital development, is $868 per payable ounce of gold for the first two years of production, with a LOM average of $1,021.

19 ECONOMIC ANALYSIS

19.1 Economic Assumptions

The modelling and taxation assumptions used in the Seabee21TRS are discussed in detail below.

All monetary figures expressed in this report are in US Dollars ($) unless otherwise stated. The SGO financial model is presented in 2021 constant US dollars, cash flows are assumed to occur evenly during each year and a mid-year discounting approach is taken.

19.1.1 Pricing and Discount Rate Assumptions

The gold prices used for the economic analysis are shown in Table 19.1. Gold provides the only revenue included in the analysis.

Table 19.1 Seabee21TRS Economic Analysis Gold Price Assumptions

Metal Price	Unit	2022	2023	2024	2025	Long- Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600

Other key assumptions in the economic modelling relating to product pricing are tabulated in Table 19.2. A discount rate of 5% is used for calculating net present value (NPV).

Table 19.2 Seabee21TRS Key Economic Assumptions

Model Assumption	Unit	Value
Refinery Charge	$/oz gold	0.45
Gold Payability	%	99.5
Tax Rate	%	25.9

The estimates of cash flows have been prepared on a real basis as 1 January 2022 and a mid-year discounting is used to calculate NPV.

In the analysis, carry balances such as tax and working capital calculations are based on nominal dollars and outputs are then deflated for use in the integrated cash flow calculation.

19.2 Overview and Results

The projected financial results include:

- After-tax NPV at a 5% real discount rate is $249M.
- Mine life of six years.

As SGO is an existing operation with a forecast of positive cash flows, internal rate of return, and payback calculations were not required.

The estimated total cash costs for the first two years of production is $538 per payable ounce of gold, with a LOM average of $735. AISC, which includes infrastructure capital and capital development, is $868 per payable ounce of gold for the first two years of production, with a LOM average of $1,021.

There are no credits from metals other than gold included in the cash cost.

The key results of the Seabee21TRS are summarised in Table 19.3.

Table 19.3 Seabee21TRS Results Summary

Description	Unit	Seabee21TRS
Gold Feed – Tonnes Processed		
Quantity Gold Tonnes Treated	kt	2,684
Au Feed Grade	g/t	6.72
Gold Recovery	%	98.0
Metal Produced		
Gold	koz	568
Key Cost Results		
Site Operating Costs	$/t milled	155
Mine Site Cash Cost	$/oz payable gold	734
Royalties and Refining	$/oz payable gold	0.5
Total Cash Costs (CC)	$/oz payable gold	735
All-in Sustaining Costs (AISC)	$/oz payable gold	1,021
Average Gold Price	$/oz payable gold	1,701
NPV	$M	249
Discount Rate	%	5
Project Life	years	6

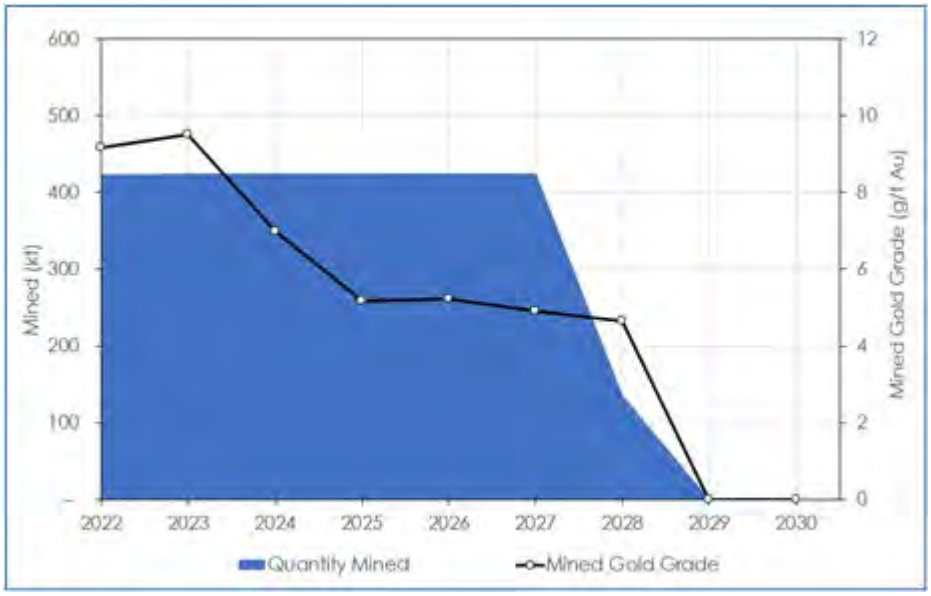
19.2.1 Production and Cost Summary

The process production forecasts are shown in Table 19.4 and forecast ore tonnes mined are shown in Figure 19.1. The processing tonnes and metal production are summarised in Figure 19.2 and Figure 19.3 respectively.

Table 19.4 Production Statistics

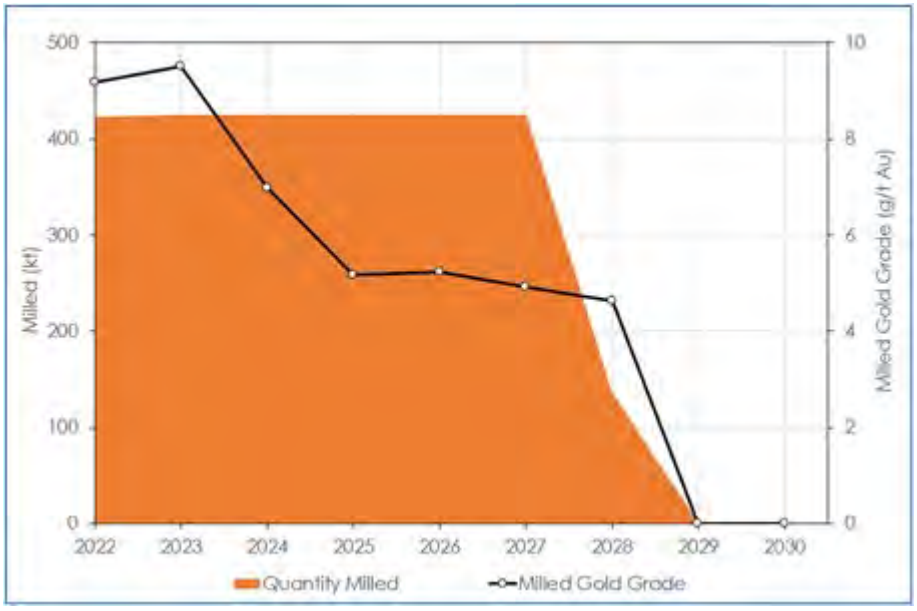
Item	Unit	Total LOM	2-Year Annual Average	LOM Annual Average
Gold Feed – Tonnes Processed				
Ore Tonnes Treated	kt	2,684	424	424
Au Feed Grade	g/t	6.72	9.34	6.72
Gold Recovery	%	98.0	98.0	98.0
Metal Produced				
Gold	koz	568	125	90

Figure 19.1 Production Plan Tonnage



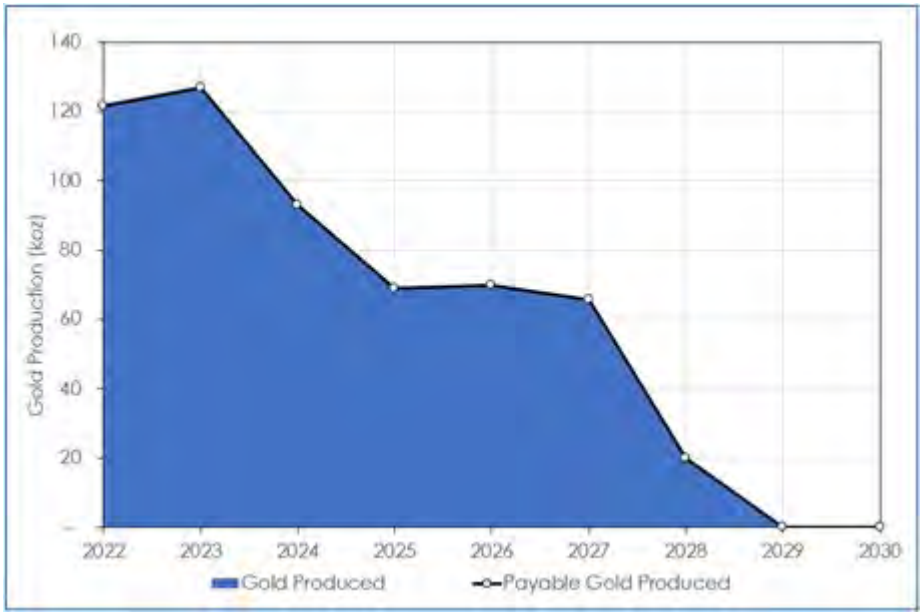
OreWin, 2021

Figure 19.2 Processing Schedule



OreWin, 2021

Figure 19.3 Production Plan Recovered Gold Ounces



OreWin, 2021

19.2.2 Project Financial Analysis

The estimated Mine Site Cash Cost is shown in Table 19.5. These estimated costs include only direct operating costs of the mine site, namely:

- Mining
- Processing
- Tailings
- General and administrative (G&A) costs
- Government fees and charges (excluding corporate taxation)

The projected financial results include:

- After-tax net present value (NPV) at an 5% real discount rate is $249M.
- Mine life of six years.

Table 19.5 Cash Costs

Description	2-Year Average ($/oz)	LOM Average ($/oz)
Mine Site Cash Cost	538	734
Royalties and Refining Charges	0.5	0.5
Total Cash Costs (CC)	538	735
All-in Sustaining Costs (AISC)	868	1,021

The estimated revenues and operating costs have been presented in Table 19.7, along with the estimated net sales revenue value attributable to each key period of operation. The gold prices used for the economic analysis are shown in Table 19.1. Gold provides the only revenue included in the analysis.

Table 19.6 Seabee21TRS Economic Analysis Gold Price Assumptions

Metal Price	Unit	2022	2023	2024	2025	Long- Term
Gold	$/oz	1,800	1,740	1,710	1,670	1,600

The metal prices used in this Seabee21TRS are based on an SSR internal assessment of recent market prices, long-term forward curve prices, and consensus amongst analysts regarding price estimates. The metal prices selected for SGO have taken into account the current project life. The estimated total Project direct capital costs are shown in Table 19.8.

Table 19.7 Operating Costs and Revenues

Description	Total ($M)	2-Year Average ($/t Milled)	LOM Average ($/t Milled)
Revenue			
Gross Sales Revenue	961	518	358
Less Realisation Costs			
Treatment and Refining Charges	0.3	0.1	0.1
Total Realisation Costs	0.3	0.1	0.1
Net Sales Revenue	961	518	358
Less Site Operating Costs			
Mining	124	49	46
Surface Haul	15	6	6
Milling (incl. Fixed Plant)	95	35	35
G&A	181	68	68
Total Operating Costs	415	157	155
Operating Margin	546	361	204

Table 19.8 Total Project Capital Cost

Item	Total ($M)
Mine Development	85
Sustaining	71
Capital Cost Before Contingency	156
Contingency – 10%	6
Capital Cost After Contingency	162

Capital includes only direct project costs and does not include non-cash shareholder interest, management payments, foreign exchange gains or losses, foreign exchange movements, tax pre-payments, or exploration phase expenditure

The projected financial results for undiscounted and discounted cash flows at a range of discount rates are shown in Table 19.9.

Table 19.9 Financial Results

Discount Rate	NPV ($M)	
	Before-Tax	After-Tax
Undiscounted	372	274
2.0%	358	263
5.0%	338	249
10.0%	309	228
12.0%	299	221
15.0%	285	211
18.0%	273	201
20.0%	265	196

The results of NPV sensitivity analysis to a range of changes in gold price and discount rates are shown in Table 19.10. NPV sensitivity analysis for changes to operating and capital costs are shown in Table 19.11. The estimated cumulative cash flow is depicted in Figure 19.4 and a complete cash flow is provided in Table 19.12.

Table 19.10 After-Tax NPV5% Sensitivity to Gold Price and Discount Rates

Discount Rate	Gold Price ($/oz)								
	–400	–300	–200	–100	–	+100	+200	+300	+400
Undiscounted	106	148	190	232	274	316	358	400	442
2%	104	144	184	224	263	303	343	383	422
5%	101	138	175	212	**249**	286	323	360	396
10%	96	129	162	195	228	261	294	327	359
12%	94	126	158	189	221	252	284	315	347

Table shows NPV5% $M

Table 19.11 After-Tax NPV5% Sensitivity to Operating and Capital Cost Changes

Item	Changes to Cost (%)								
	–30%	–20%	–10%	–5%	–	+5%	+10%	+20%	+30%
Operating Cost	328	302	275	262	249	236	223	196	169
Capital Cost	280	269	259	254	249	244	239	230	221

Table shows NPV5% $M

Figure 19.4 Cumulative Cash Flow

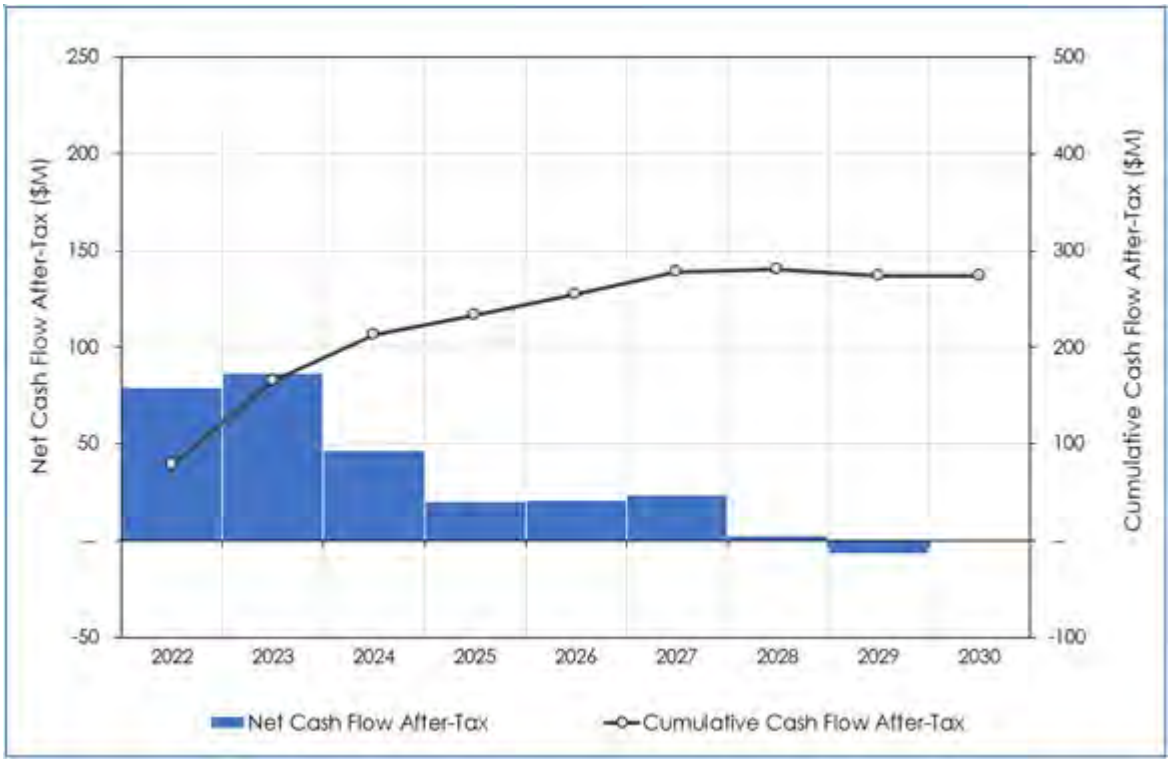


Table 19.12 Estimated Cash Flow

Description	Unit	Total	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Gross Revenue	$M	**961.4**	218.8	220.4	158.8	115.1	111.6	104.9	31.7	–	–
Total Realisation Costs	$M	**0.3**	0.1	0.1	0.0	0.0	0.0	0.0	0.0	–	–
Net Revenue	$M	**961.1**	218.7	220.4	158.8	115.1	111.6	104.8	31.7	–	–
Site Operating Costs											
Mining	$M	**123.9**	20.8	20.8	20.4	19.9	19.3	17.4	5.4	–	–
Milling (incl. Fixed Plant)	$M	**109.8**	17.3	17.4	17.4	17.4	17.4	17.4	5.7	–	–
G&A	$M	**181.3**	28.6	28.6	28.6	28.6	28.6	28.6	9.5	–	–
Total Operating Costs	$M	**415.0**	66.7	66.7	66.3	65.9	65.3	63.4	20.6	–	–
Operating Surplus / (Deficit)	$M	**546.2**	152.0	153.6	92.5	49.2	46.3	41.4	11.2	–	–
Capital Costs											
Mine Development	$M	**84.8**	25.3	23.8	17.3	7.8	8.2	2.4	–	–	–
Sustaining	$M	**83.0**	19.8	11.9	11.1	12.6	8.4	6.2	6.8	6.0	–
Contingency	$M	**6.1**	–	1.1	1.0	1.3	0.8	0.6	0.7	0.6	–
Total Capital	$M	**173.8**	45.1	36.9	29.4	21.6	17.4	9.3	7.5	6.6	–
Pre-tax Cash flow	$M	**372.4**	106.9	116.8	63.1	27.6	28.8	32.2	3.6	–6.6	–
Tax Payable	$M	**98.3**	27.7	30.3	16.3	7.1	7.5	8.3	0.9	–	–
After-tax Cash Flow	$M	**274.1**	79.2	86.5	46.7	20.4	21.3	23.8	2.7	–6.6	–

20 ADJACENT PROPERTIES

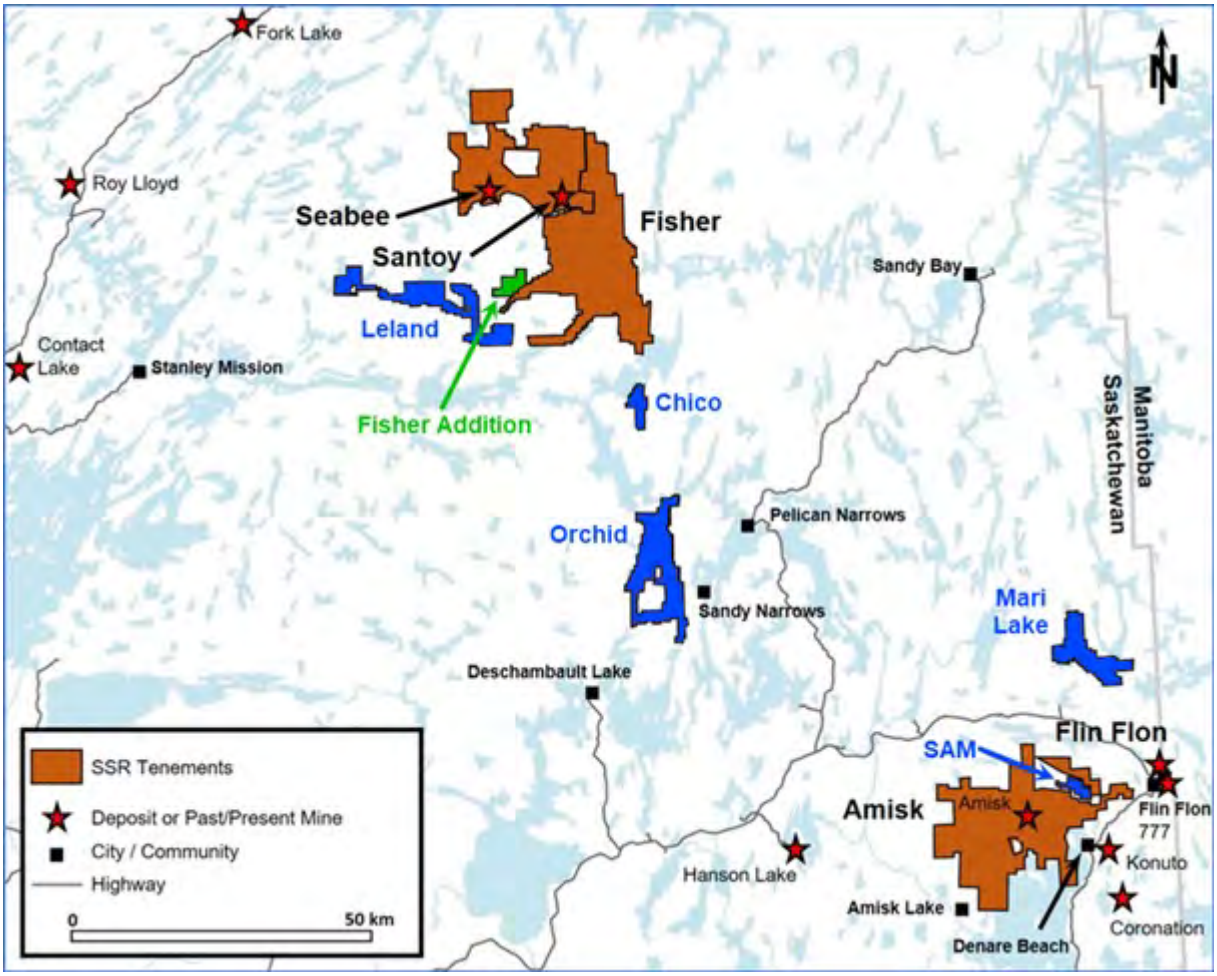
On 2 December 2021, SSR announced the proposed acquisition of Taiga Gold Corp. for $21M ("Taiga") for C$0.265 per Taiga share, implying an equity value of $21M. The transaction consolidated a 100% interest in the Fisher property contiguous to the SGO, eliminated an existing 2.5% net smelter return (NSR) royalty on the Fisher property, and added five new properties covering 30,480 ha to complement SSR's existing exploration platform in the underexplored and highly geologically prospective Province of Saskatchewan. The transaction, which is subject to Taiga shareholder approval, court and regulatory approvals, and customary closing conditions, is expected to close in the first half of 2022.

Since optioning the Fisher Property in 2016, SSR has fulfilled all the minimum work and payment requirements to trigger the current 80/20 joint venture. During this time, SSR has completed extensive systematic exploration including prospecting, soil geochemical sampling, detailed geological mapping, geophysical surveys and 36,897 m of diamond drilling in 95 holes. SSR expenditure to date on the Fisher property totals more than $11M. In addition, SSR has made cash payments to Taiga and predecessor Eagle Plains Resources of more than $2.9M as outlined in the original option agreement.

The acquisition of Taiga would provide SSR with 100% ownership of the Fisher property (33,171 ha) as well as an additional five new properties (34,569 ha) providing new exploration targets south from the SGO to SSR's 100%-owned Amisk property (Figure 20.1). The deal would also unencumber the Fisher property through the elimination of a 2.5% NSR royalty covering much of the Fisher property.

Based on the technical work completed to-date, the Fisher property appears integral to the future life of mine plan at the SGO. Drilling completed over the past four years indicates strong exploration potential across the Fisher property with several large target areas yet to be tested. Initial due-diligence work completed for the additional five properties also indicates high exploration potential evidenced by excellent historical results that have yet to be properly tested using modern exploration techniques in a robust gold-price environment..

Figure 20.1 Location of the Six Properties included in the Taiga Gold Transaction with Respect to the Seabee Gold Operation



SSR, 2022

21 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information.

22 INTERPRETATION AND CONCLUSIONS

22.1 Mineral Resources

Mineral Resources in the Seabee21TRS are reported in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300).

Areas of uncertainty that may materially impact the Mineral Resource estimates include:

- Assumptions used to generate the data for consideration of reasonable prospects of eventual economic extraction.
    - Gap Hangingwall (GHW) mining recovery could be lower, and dilution increased. Early stoping in GHW should be used to confirm mining method parameters for the GHW zone in terms of costs, dilution, and mining recovery. Early development will also provide access to data and metallurgical samples at a bulk scale that cannot be collected at the scale of a drill sample.
- Commodity prices and exchange rates.
- Cut-off grades.

22.2 Mineral Reserves Estimation

Mineral Reserves in the Seabee21TRS are reported in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300).

Areas of uncertainty that may impact the Mineral Reserve estimate include:

- Any changes to the resource model as a result of further definition drilling at the site.
- Changes to mining conditions that have an impact to operating costs, production rates or mining recovery factors.
- Commodity prices and exchange rates.

23 RECOMMENDATIONS

OreWin is not aware of any significant risks and uncertainties that could be expected to affect the reliability or confidence in the information discussed herein.

23.1 Further Assessment

The key areas for further studies/work are:

- Ongoing drilling to expand the Mineral Resource aimed to increase mine life and grade in years 2024 and beyond, as SGO has managed to do for many years.
- On-going geotechnical drilling and logging will be required to increase the confidence in geotechnical data as the project develops.
- Ongoing geotechnical mapping should take place at regular intervals in the planned developments to verify the rock mass conditions determined and to assess the rock mass quality where there is currently little information. This will also allow for the identification of localised weak zones and potentially unstable wedges which should be appropriately supported.

- While the structural analysis provides an impression of the major joint sets across the project area, further geotechnical scanline mapping should be conducted regularly as mining commences to allow for the identification of low angle joints in the hanging wall, localised joint sets and for potential wedges and instabilities.
- Update the Santoy geotechnical model to include the expanded GHW mining zone.
- Early stoping in GHW should be used to confirm mining method parameters for the GHW zone in terms of costs, dilution, and mining recovery. Early development will also provide access to data and metallurgical samples at a bulk scale that cannot be collected at the scale of a drill sample.
- Update site standard operating procedures to include a more transparent Mineral Resource and Mineral Reserve process, clearly documenting the key input parameters applied, and an audit trail of approvals for each phase of the work performed.
- Implementation of Operational Excellence projects identified based on SSR's recent operational review may present incremental improvements to production and operating costs.
- Continue with on-going review of capital and operating cost estimates and performance and productivity tracking.

24 REFERENCES

Ash, C. and Alldrick, D., 1996. Au-quartz Veins; in Lefebure, D.V. and Hõy, T. (eds.) Selected British Columbia Mineral Deposit Profiles Volume 2 – Metallic Deposits, British Columbia Ministry of Employment and Investment, Open File 1996-13, pp. 57–58.

Beak Associates Consulting Ltd., 1990. Seabee Project: Environmental Impact Statement. Prepared for Claude Resources Inc.

Bell, K. and Macdonald, R., 1982. Geochronological Calibration of the Precambrian Shield in Saskatchewan; in Summary of Investigations. Saskatchewan Geological Survey, Saskatchewan Energy and mines Miscellaneous Report 82-4, pp. 17–22.

Bickford, M.E., Collerson, K.D., Lewry, J.F., Van Schmus, W.R., and Chiarenzelli, J.R., 1990. Proterozoic Collisional Tectonism in the Trans-Hudson Orogen, Saskatchewan; Geology, v. 18, pp. 17–22.

CanNorth Environmental Services, 2016a. Silver Standard Resources Inc. Seabee Gold Operations Tailings Management Facility Expansion and Rock Quarry Heritage Resources Impact Assessment.

CanNorth Environmental Services, 2016b. Vegetation Inventory Studies for the Silver Standard Seabee Gold Operations' Triangle Lake Tailings Management Facility Expansion.

Chauvel, C., Arndt, N.T., Kielinzcuk, S., and Thom, A. 1987. Formation of Canadian 1.9 Gold Continental Crust. I: Nd Isotopic Data; Canadian Journal of Earth Science, v. 24, pp. 14–18.

Chiarenzelli, J.R., Lewry, J.F., and Landon, M., 1987. Bedrock Geology, Iskwatikan Lake Area: Evidence for Hudsonian Juxtaposition of Proterozoic and Archean Rocks along a Ductile Detachment Surface; In Summary of Investigations 1987, Saskatchewan Geological Survey, Saskatchewan Energy and Mines, Miscellaneous Report 87-4, pp. 46–51.

Corrigan, D., Galley, A.G., Pehrsson, S., 2007. Tectonic evolution and metallogeny of the southwestern Trans-Hudson Orogen; in Goodfellow, W.D. (ed.), Mineral Deposits of Canada: A Synthesis of Major Deposit-Types, District Metallogeny, the Evolution of Geological Provinces, and Exploration Methods: Geological Association of Canada, Mineral Deposit Division, Special Publication No. 5, pp. 881–902.

Claude Resources Inc., 2013. Mineral Resource and Mineral Reserve Estimate Seabee Gold Operation Saskatchewan, Canada; 2012 Year End NI 43-101 Technical Report.

Craig, L., 1989. Geology of the Pelican Narrows Area of East Central Saskatchewan; Unpublished Ph.D. thesis, University of Saskatchewan.

Delaney, G.D., 1992. Gold in the Glennie Domain; Saskatchewan Energy and Mines, Miscellaneous report 92-5, 71 pp.

Goldak Airborne Surveys., 2007. Technical Report on a Fixed Wing Gradiometer Survey, Seabee Block Central Saskatchewan; Internal report prepared for Claude Resources Inc.

Golder Associates Ltd., 2009. Environmental Impact Statement for the Proposed Santoy 8 Satellite Mine at Seabee Gold Mine, Saskatchewan.

Herget, G., 1988. Stresses in rock. Rotterdam: Balkema.

KHS Environmental Management Group Ltd., 2001. Seabee Mine Tailings Management Facility Expansion Environmental Impact Statement.

KHS Environmental Management Group Ltd, 2001. Seabee Mine, Tailings Management Facility Expansion – EIS SGO-1700, December 2001.

Konst, R., 2016a. Project Clydesdale Analytical Precision. Internal report prepared for Silver Standard Resources Inc.

Konst, R. 2016b. Project Clydesdale Screen Fire Assays. Internal report prepared for Silver Standard Resources Inc.

Konst, R., 2016c. Seabee Mine Site Drilling and Assay Audit; Internal report prepared for Silver Standard Resources Inc.

Konst, R., 2016d. Seabee Exploration Program 2016 Sampling, Preparation, and Analytical Quality Assurance. Internal report prepared for Silver Standard Resources Inc.

Konst, R., 2017. Seabee Mine Analytical Precision; Internal report prepared for Silver Standard Resources Inc.

Lewry, J.F., Sibbald, T.I.I., 1977. Variation in Lithology and Tectonometamorphic Relationships in the Precambrian Basement of Northern Saskatchewan; Canadian Journal of Earth Sciences, v. 14, pp. 1453–1467.

Lewry, J.F., Thomas, D.J., Macdonald, R., and Chiarenzelli, J., 1990. Structural relations in accreted terranes of the Trans-Hudson Orogen, Saskatchewan: telescoping in a collisional regime?; in Lewry, J.F. and Stauffer, M.R. (eds.), The Early Proterozoic Trans-Hudson Orogen of North America, Geological Association of Canada, Special Paper 37, pp. 75–94.

Macdonald, R., 1987. Update on the Precambrian Geology and Domainal Classification of Northern Saskatchewan; in Summary of Investigations. Saskatchewan Geological Survey, Saskatchewan Energy and Mines, Miscellaneous Report 87-4, pp. 87–104.

Ministry of Environment, 2020. Acceptance of Decommissioning and Reclamation Plan and Update to Financial Assurance, Letter from Government of Saskatchewan Ministry of Environment, 2 July 2020.

NewFields, 2019. Independent Technical Review Seabee Mine – Triangle Lake TMF Expansion, Northern Saskatchewan No. 680.0002.000, January 2019.

North Rock Mining Solutions, 2018. Santoy Mine – 2018 Ramp Inspection and Related Mining Geotechnics, November 2018.

North Rock Mining Solutions, 2020. Q4 Mining-Geotechnical Site Visit Summary Notes, September 2020.

Pakalnis & Associates, 2017. Report on site visit – Santoy mine, Seabee gold operation silver standard SGM-01/17, June 2017.

Precision GeoSurveys Inc., 2016. Airborne Geophysical Survey Report, Seabee Block; Internal report prepared for Silver Standard Resources Inc.

Quantec Geoscience Ltd., 2013. Titan-24 DC/IP and MT Survey Geophysical Report (Santoy Gap), Seabee Gold Project, La Ronge, Saskatchewan, Canada; Internal report prepared for Claude Resources Inc.

Silver Standard Resources Inc., 2017a. Silver Standard Seabee Gold Operations 2017 Life of Mine Plan.

Silver Standard Resources Inc., 2017b. Silver Standard Annual Information Form.

SGO Mining Inc., 2021. Seabee Gold Operation, Ground Control Analysis – GHW Mining GCA-20200225, June 2021.

[SMOE] Saskatchewan Ministry of Environment, 2003. Amisk-Atik Integrated Forest Land Use Plan.

[SMOE] Saskatchewan Ministry of Environment, 2008. Guidelines for northern mine decommissioning and reclamation, version 6. Saskatchewan Ministry of Environment, Industrial, Uranium and Hardrock Mining Unit, EPB 381.

[SMOE] Saskatchewan Ministry of Environment, 2010. Seabee Surface Lease Agreement.

[SMOE] Saskatchewan Ministry of Environment, 2016. Approval to Operate a Pollutant Control Facilities Approval No. Po16-002.

SRK Consulting (Cananda) Inc., 2017. Seabee Mine, Tailings Alternatives Assessment (Draft) ICC042.006, March 2016

SRK Consulting (Canada) Inc., 2016. Annual Geotechnical, Inspection of Tailings Facilities and Water Management Ponds ICC042.013, March 2017.

SRK Consulting (Canada) Inc., 2018. Triangle Lake TMF Expansion Detailed Design ICC042.025, July 2018.

SRK Consulting (Canada) Inc., 2018 Annual Geotechnical Inspection of Tailings Facilities and Water Management Ponds ICC042.025, July 2018.

SRK Consulting (Canada) Inc., 2018. Triangle Lake and East Lake Tailings Management Facilities – Dam Breach Analysis – DRAFT ICC042.029.500, August 2019.

SRK Consulting (Canada) Inc., 2019. Triangle Lake and East Lake Tailings Management Facilities – Dam Breach Analysis – DRAFT ICC042.029.500, August 2019.

SRK Consulting (Canada) Inc., 2009. Structural Interpretation of Aeromagnetic Data. Seabee Gold Project Saskatchewan, Canada. Internal report prepared for Claude Resources Inc.

SRK Consulting (Canada) Inc., 2016a. Seabee Mine Quarry Rock ML/ARD Assessment. SRK Consulting (Canada) Inc. 2016b. Seabee Mine Tailings Alternatives Assessment. Claude Resources Inc.

SRK Consulting (Canada) Inc., 2020. Seabee Tailings Operation, Maintenance and Surveillance (OSM) Manual.

SRK Consulting (Canada) Inc., 2017b. Seabee Gold Operation Preliminary Decommissioning and Reclamation Plan, 2016 Update – Final.

SRK Consulting (Canada) Inc., 2017. NI 43-101 Technical Report for the Seabee Gold Operation, Saskatchewan, Canada, 5CS010.001, October 2017. (SGOTR17)

SSR Mining Inc., 2021. Seabee Gold Operation, Standards and Guidelines - Ground Control SGO-1700, May 2021.

Stantec Mining, 2015. Geomechanical Overview of Stope and Pillar Stability for the Santoy Gap Orebody Project no. 169514558, March 2015.

Stauffer, M.R., 1984. Manikewan: and early Proterozoic ocean in central Canada, its igneous history and orogenic closure; Precambrian Research, v. 25, pp. 257–281.

The Mines Regulations, 2003. Chapter 0-1.1 Reg 2 (effective July 16, 2003).

White, D.J., Lucas, S.D., Hajnal, A., Green, A.G., Lewry, J.F., Weber, W., Bailes, A.H., Syme, E.C., and Ashton, K., 1994. Paleo-Proterozoic Thick-Skinned Tectonics: Lithoprobe Seismic Reflection Results from the Eastern Trans-Hudson Orogen; Canadian Journal of Earth Sciences, v. 31, pp. 458–469.

Wood, C.R., 2016. Structural study of the auriferous Santoy shear zone, northeastern Glennie domain, Saskatchewan; Unpublished masters thesis, University of Regina, Regina, Saskatchewan.

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

OreWin has relied on the following information provided by SSR in preparing the findings and conclusions in this Technical Report Summary regarding the following aspects of modifying factors:

- Macroeconomic trends, data, and assumptions, and interest rates.
  - This has been used in Section 19
- Marketing information and plans within the control of the registrant.
  - This has been used in Sections 16 and 19
- Legal matters outside the expertise of the qualified person, such as statutory and regulatory interpretations affecting the mine plan.
  - This has been used in Sections 3 and 17
- Environmental matters outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17
- Accommodations the registrant commits or plans to provide to local individuals or groups in connection with its mine plans.
  - This has been used in Sections 3 and 17
- Governmental factors outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17

OreWin considers it reasonable to rely on SSR because SSR employs professionals and other personnel with responsibility in these areas and these personnel have the best understanding of these areas. OreWin is not qualified to provide advice on legal, permitting and ownership matters.

OreWin
Independent Mining Consultants

SSR Mining Inc.

Puna 2021
Technical Report Summary

February 2022

Job No. 21015

IMPORTANT NOTICE

This notice is an integral component of the Puna 2021 Technical Report Summary (Puna21TRS) and should be read in its entirety and must accompany every copy made of the report. The Puna21TRS has been prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Puna21TRS has been prepared for SSR Mining Inc. (SSR) by OreWin Pty Ltd (OreWin). The TRS is based on information and data supplied to OreWin by SSR and other parties and where necessary OreWin has assumed that the supplied data and information are accurate and complete.

This report is a Feasibility Study (FS) that represents forward-looking information. The forward-looking information includes metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and other assumptions used in the FS. Readers are cautioned that actual results may vary from those presented. The factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially are presented in the body of this report under each relevant section.

The conclusions and estimates stated in the Puna21TRS are to the accuracy stated in the Puna21TRS only and rely on assumptions stated in the Puna21TRS. The results of further work may indicate that the conclusions, estimates and assumptions in the Puna21TRS need to be revised or reviewed.

OreWin has used its experience and industry expertise to produce the estimates and approximations in the Puna21TRS. Where OreWin has made those estimates and approximations, it does not warrant the accuracy of those amounts and it should also be noted that all estimates and approximations contained in the Puna21TRS will be prone to fluctuations with time and changing industry circumstances.

The Puna21TRS should be construed in light of the methods, procedures, and techniques used to prepare the Puna21TRS. Sections or parts of the Puna21TRS should not be read or removed from their original context.

The Puna21TRS is intended to be used by SSR, subject to the terms and conditions of its contract with OreWin. Recognising that SSR has legal and regulatory obligations, OreWin has consented to the filing of the Puna21TRS with US SEC. Except for the purposes legislated, any other use of this report by any third party is at that party's sole risk.

Title Page

Project Name:	Puna Operations
Title:	Puna 2021 Technical Report Summary
Location:	Jujuy, Argentina
Effective Date of Technical Report Summary:	31 December 2021
Effective Date of Mineral Resources:	31 December 2021
Effective Date of Mineral Reserves:	31 December 2021

Qualified Persons:

- Gregory Gibson , BSc (Mining Engineering), MSc (Mining & Earth Systems Engineering), SME Registered Member (4134135), employed by SSR Mining Inc. as Vice President of Operations - Americas, was responsible for the preparation of Sections 1 to 25.
- The Puna21TRS was prepared by appropriately experienced technical professionals employed by OreWin Pty Ltd, an independent mining consultancy. OreWin is responsible for the Mineral Resources and Mineral Reserves reported in the Puna21TRS and for Sections 1 to 25 of the Puna21TRS.
- Bernard Peters, BEng (Mining), FAusIMM (201743), employed by OreWin Pty Ltd as Technical Director - Mining, was responsible for the overall preparation , the Mineral Reserve estimates, and Sections 1 to 5; Sections 10; Section 12 to 25.
- Sharron Sylvester, BSc (Geol), RPGeo AIG (10125), employed by OreWin Pty Ltd as Technical Director - Geology, was responsible for the preparation of the Mineral Resources, Sections 1 to 3; Section 6 to 9; Section 11; Sections 22 to 25.

Signature Page

Project Name:	Puna Operations
Title:	Puna 2021 Technical Report Summary
Location:	Jujuy, Argentina
Date of Signing:	23 February 2022
Effective Date of TRS:	31 December 2021

/s/ Gregory Gibson

Gregory Gibson, Vice President Operations - Americas, SSR Mining Inc., BSc (Mining Engineering), MSc (Mining & Earth Systems Engineering), SME Registered Member (4134135)

/s/ Bernard Peters

Bernard Peters, Technical Director – Mining, OreWin Pty Ltd, BEng (Mining), FAusIMM (201743)

/s/ Sharron Sylvester

Sharron Sylvester, Technical Director – Geology, OreWin Pty Ltd, BSc (Geol), RPGeo AIG (10125)

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 15

1.1 Introduction 15

1.2 Property Description and Location 15

1.2.1 Property Description and Location – Chinchillas 15

1.3 Land Tenure and Ownership 16

1.3.1 Property Description and Location – Pirquitas 16

1.4 Geological Setting and Mineralisation 16

1.4.1 Geological Setting and Mineralisation – Chinchillas 16

1.4.2 Geological Setting and Mineralisation – Pirquitas 17

1.5 Exploration and Drilling 17

1.5.1 Exploration and Drilling – Chinchillas 17

1.5.2 Exploration and Drilling – Pirquitas 18

1.6 Sample Preparation, Analyses and Security 18

1.7 Data Verification 18

1.8 Mineral Resource and Mineral Reserve Estimates 18

1.8.1 Mineral Resource Estimate – Chinchillas Property 18

1.8.2 Mineral Resource Estimate – Pirquitas Deposit 20

1.9 Mineral Reserve Estimate – Chinchillas 22

1.10 Metallurgy and Processing 24

1.11 Environment, Communities, and Permitting 24

1.12 Production 25

1.13 Capital and Operating Costs 27

1.14 Economic Analysis 27

1.15 Interpretation and Conclusions 31

1.15.1 Mineral Resources 31

1.15.2 Mineral Reserves 32
1.15.3 Further Assessment 32
2 INTRODUCTION 33
2.1 Introduction and Terms of Reference 33
2.2 Qualified Persons and Property Inspections 33
2.3 Units and Currency 33
3 PROPERTY DESCRIPTION 34
3.1 Chinchillas Property 34
3.1.1 Location 34
3.2 Ownership 35
3.3 Chinchillas Land Tenure 36
3.4 Chinchillas Surface Rights 37
3.5 Chinchillas Permitting 38
3.6 Chinchillas Environmental Liabilities 38
3.7 Chinchillas Factors and Risks 38
3.8 Pirquitas Property 38
3.9 Pirquitas Operation Surface Rights 38
3.10 Pirquitas Exploitation Concessions 38
3.11 Pirquitas Operation Permitting 39
4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY 41
4.1 Accessibility 41
4.2 Physiography, Climate, and Vegetation 42
4.3 Local Resources and Infrastructure 43
4.3.1 Chinchillas Infrastructure 44
4.3.2 Pirquitas Infrastructure 45

5 HISTORY 46
5.1 Chinchillas 46
5.2 Pirquitas 47
6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT 48
6.1 Regional Geology 48
6.1.1 The Sub-Andean Belt 48
6.1.2 The Eastern Cordillera 48
6.1.3 Puna Belt 49
6.2 District Geology 51
6.3 Chinchillas Geology 51
6.3.1 Chinchillas Alteration 57
6.3.2 Chinchillas Mineralisation 59
6.3.3 Chinchillas Resource Expansion Opportunities 62
6.4 Pirquitas Geology 62
6.4.1 Pirquitas Alteration 67
6.4.2 Pirquitas Mineralisation 68
6.5 Deposit Types 68
7 EXPLORATION 71
7.1 Drilling 71
7.1.1 Chinchillas Summary 71
7.1.2 Pirquitas Summary 72
7.2 Drill Core Handling Protocol 74
8 SAMPLE PREPARATION, ANALYSES, AND SECURITY 75
8.1 Chinchillas 75
8.1.1 Sampling Method – Chinchillas 75
8.1.2 Sample Custody and Security – Chinchillas 75

8.1.3 Sample Preparation – Chinchillas 75
8.1.4 Sample Analysis – Chinchillas 75
8.1.5 Density – Chinchillas 76
8.1.6 Quality Assurance and Quality Control – Chinchillas 76
8.1.7 Conclusions and Recommendations – Chinchillas 82
8.2 Pirquitas 82
8.2.1 Sampling Method – Pirquitas 83
8.2.2 Sample Custody and Security – Pirquitas 83
8.2.3 Sample Preparation – Pirquitas 84
8.2.4 Sample Analysis – Pirquitas 84
8.2.5 Density – Pirquitas 85
8.2.6 Quality Assurance and Quality Control – Pirquitas 85
9 DATA VERIFICATION 87
9.1 Database Validation 87
9.1.1 Collar Coordinate Validation 87
Downhole Survey Validation 87
9.1.2 Assay Verification 88
9.2 QA/QC Protocol 89
9.3 Geological Data Verification and Interpretation 89
9.4 Assay Database Verification 89
9.5 Conclusion 89
10 MINERAL PROCESSING AND METALLURGICAL TESTING 90
10.1 Chinchillas 90
10.1.1 Initial Testwork 2013 90
10.1.2 Second Phase Testwork 2014 90
10.1.3 Third Phase Testwork 2016 91

10.2 Socavon / Chinchilla 95
10.2.1 Testwork 2018 95
10.3 Metallurgical Performance Estimates 96
10.4 Recommendations for Additional Testwork 97
11 MINERAL RESOURCE ESTIMATES 98
11.1 Chinchillas 98
11.1.1 Available Data – Chinchillas 98
11.1.2 Compositing – Chinchillas 99
11.1.3 Exploratory Data Analysis – Chinchillas 99
11.1.4 Evaluation of Outlier Grades – Chinchillas 101
11.1.5 Geological Model – Chinchillas 101
11.1.6 Grade Estimation – Chinchillas 107
11.1.7 Density – Chinchillas 108
11.1.8 Validation – Chinchillas 108
11.1.9 Classification – Chinchillas 110
11.1.10 Mineral Resource Estimate – Chinchillas 111
11.1.11 Comparison with Previous Estimates – Chinchillas 113
11.1.12 Recommendations 113
11.2 Pirquitas 113
11.2.1 Available Data – Pirquitas 113
11.2.2 Exploratory Data Analysis – Pirquitas 114
11.2.3 Domain Interpretations – Pirquitas 115
11.2.4 Compositing – Pirquitas 119
11.2.5 Evaluation of Outlier Grades – Pirquitas 119
11.2.6 Continuity Analysis – Pirquitas 120
11.2.7 Grades Estimation – Pirquitas 120

11.2.8 Mineral Resources – Pirquitas 124

11.2.9 Comparison with Previous Estimates – Pirquitas 126

11.3 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 126

12 MINERAL RESERVE ESTIMATES 127

12.1 Summary 127

12.2 Mineral Reserves Statement 127

12.3 Factors that Affect the Mineral Reserves Estimates 128

12.4 Comparison of 2021 Mineral Reserves to 2020 Mineral Reserves 129

12.5 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects 129

13 MINING METHODS 130

13.1 Geotechnical Review 130

13.1.1 Knight Piesold 2015 Site Investigation 130

13.1.2 Knight Piesold PFS Pit Slope Design 133

13.1.3 2021 Pit Design Slope Criteria 134

13.1.4 Knight Piesold Hydrogeologic Conceptual Model and Preliminary Pit Inflow Estimates 135

13.1.5 NI 43-101 Technical Report 135

13.1.6 Summary of Geotechnical Studies Review 136

13.2 Mining 137

13.3 Mine Design 137

13.4 Rock Storage Facilities 139

13.5 Mining Equipment and Personnel 139

13.6 Production Scheduling 140

13.7 General Mine Site Layout 140

14 PROCESSING AND RECOVERY METHODS 142

14.1 Process Overview for Chinchillas 142
14.1.1 Stockpiling and Crushing 143
14.1.2 Grinding 143
14.1.3 Lead / Silver Flotation 144
14.1.4 Zinc Flotation 144
14.1.5 Concentrate Handling 145
14.1.6 Tailings Handling 145
14.2 Process Plant Performance 146
15 INFRASTRUCTURE 147
15.1 Ore Haulage 147
15.2 Gas Pipeline and Power Supply 148
15.3 Water Supply 149
15.4 Tailings 149
15.5 Communications Systems 150
15.6 Camp, Office, and Chinchillas Infrastructure 150
15.7 Mine Short Term/Long Term Ore Stockpiles 151
15.8 Rock Storage Facilities 151
15.9 Other Pirquitas Infrastructure 152
16 MARKET STUDIES 153
16.1 Metal Prices 153
16.2 Concentrate Terms 153
17 ENVIRONMENTAL STUDIES, PERMITTING AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS 155
17.1 Mina Chinchillas 155
17.1.1 Surface Hydrology and Water Quality 155
17.1.2 Hydrogeology 156

17.1.3 Geochemistry 158
17.1.4 Water Management 160
17.1.5 Flora and Fauna 162
17.1.6 Protected Areas 165
17.2 Social and Community Engagement 166
17.2.1 Local Communities 166
17.2.2 Archaeology 167
17.3 Project Permitting 168
17.4 Mine Closure 169
17.4.1 Closure Activities 169
17.5 Pirquitas Mine 170
17.5.1 In-Pit Tailings Disposal 170
17.5.2 Pirquitas Pit 170
17.5.3 Environmental and Social description and Closure 171
17.5.4 Closure 174
18 CAPITAL AND OPERATING COSTS 175
18.1 Capital Costs 175
18.2 Operating Costs 175
19 ECONOMIC ANALYSIS 177
19.1 Economic Assumptions 177
19.1.1 Pricing and Discount Rate Assumptions 177
19.2 Overview and Results 178
19.2.1 Production and Cost Summary 180
20 ADJACENT PROPERTIES 187
21 OTHER RELEVANT DATA AND INFORMATION 188
22 INTERPRETATION AND CONCLUSIONS 189

23 RECOMMENDATIONS 190

24 REFERENCES 191

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT 194

TABLES

Table 1.1 Summary of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc 19

Table 1.2 Summary of Metallurgical Recoveries and Cut-off Values of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc 20

Table 1.3 Summary of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc 21

Table 1.4 Summary of Metallurgical Recoveries and Ownership of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc 22

Table 1.5 Summary of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc 23

Table 1.6 Summary of Metallurgical Recoveries of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc 23

Table 1.7 Silver / Lead Concentrate Relationships 24

Table 1.8 Zinc Concentrate Relationships 24

Table 1.9 Mining Production Statistics 25

Table 1.10 Operating Cost Summary 27

Table 1.11 Puna21TRS Results Summary 29

Table 1.12 Financial Results 30

Table 1.13 Metal Prices 30

Table 1.14 After-Tax NPV5% Sensitivity to Silver Price and Discount Rates 30

Table 3.1 Chinchillas Exploitation Concessions 36

Table 3.2 Pirquitas Operation Surface Rights 39

Table 7.1 Drill Programmes Completed at the Chinchillas Property 71

Table 7.2 Drill Programmes Completed at the Pirquitas Property 74

Table 8.1 Summary of QA/QC Samples – Chinchillas 77

Table 10.1 Bond Ball Mill Work Index Test Results 94

Table 10.2 Preliminary Socavon Recovery Relationships 96

Table 10.3 Silver / Lead Concentrate Relationships 97

Table 10.4 Zinc Concentrate Relationships 97

Table 11.1 Estimation Domain Statistics 100

Table 11.2 Estimation Domain Capping 101

Table 11.3 Cell Model Limits – Chinchillas 107

Table 11.4 Classification Parameters – Chinchillas 110

Table 11.5 Summary of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc 112

Table 11.6 Summary of Metallurgical Recoveries and Ownership of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc 112

Table 11.7 Statistical Summary of Raw Assay Data Used in 2013 Modelling – Pirquitas 115

Table 11.8 Pirquitas Mineralisation Domain Codes 117

Table 11.9 Cell Model Limits – Pirquitas 120

Table 11.10 Pirquitas 2013 Resource Classification Results, Valid at a Cut-off of 65 g/t AgEq 124

Table 11.11 Summary of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10 Lead and $1.30/lb Zinc 125

Table 11.12 Summary of Metallurgical Recoveries and Ownership of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc 125

Table 12.1 Summary of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc 127
Table 12.2 Summary of Metallurgical Recoveries of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc 128
Table 13.1 Recommended Inter-ramp Angles (Assuming Quadruple Benching) 134
Table 13.2 Mine Design Criteria 134
Table 13.3 Production Schedule for Chinchillas Project 140
Table 14.1 Mill Production Summary 2018 to 2021 146
Table 16.1 Metal Price Assumptions 153
Table 16.2 Concentrate Marketing Terms and Charges 154
Table 18.1 Summary of Capital Expenditures 175
Table 18.2 Operating Costs 176
Table 19.1 Metal Prices 177
Table 19.2 Key Economic Assumptions 177
Table 19.3 Puna21TRS Results Summary 179
Table 19.4 Production Forecast 180
Table 19.5 Cash Costs 183
Table 19.6 Operating Costs and Revenues 183
Table 19.7 Total Project Capital Costs 184
Table 19.8 Financial Results 185
Table 19.9 After-Tax NPV Sensitivity to Silver Price and Discount Rates 185
Table 19.10 After-Tax NPV5% Sensitivity to Operating and Capital Cost Changes 185
Table 19.11 Estimated Cash Flow 186

FIGURES

Figure 1.1 Mining Production Profile 26

Figure 1.2 Process Feed Profile 26

Figure 1.3 Silver Production 27

Figure 1.4 After Tax Annual and Cumulative Cash Flow 31

Figure 3.1 Puna Operation Location 34

Figure 3.2 Puna Corporate Structure 35

Figure 3.3 Property Map Showing Chinchilla, Chinchilla I and Chinchilla II Concessions 37

Figure 3.4 Property Map Showing Pirquitas Concessions 40

Figure 4.1 Location Map with Access Routes to the Project Area 42

Figure 4.2 Chinchillas and Pirquitas Access Route 44

Figure 6.1 Oligocene-Miocene Volcanic Arc. Subvolcanic Intrusions: solid dots 11–15 My 50

Figure 6.2 Map Showing Tertiary Volcanism from Mega Caldera Complexes Near the Chinchillas Deposit 52

Figure 6.3 View of the Chinchillas Deposit, Looking East 53

Figure 6.4 Chinchillas Geology Map 54

Figure 6.5 Interbedded Sequence of Marine Sandstone and Pelite with Near-Vertical Dip at Chinchillas 55

Figure 6.6 Brecciated Basement Sediments with Fine Volcanic Matrix Near Contact Between Pyroclastic Sequence and Basement Sediments 56

Figure 6.7 Typical Chinchillas Medium Grained Pyroclastic Breccia 57

Figure 6.8 Silver Mantos and Mantos Basement Zones with Drillhole Locations and Mineralised Zones Projected to Surface 61

Figure 6.9 East–West Cross-Section with Deep Manto Mineralisation 62

Figure 6.10 Pirquitas Geology Map 63

Figure 6.11 Anticline Developed in Interbedded Sandstone, Siltstone and Shale of the Ordovician Acoite Formation, Pircas River Valley, Pirquitas Mine Area 64

Figure 6.12 Chevron Fold and High Angle Thrust Fault in the Acoite Formation Host Rocks. North Wall San Miguel Open Pit. 65

Figure 6.13 Map of the Pircas Valley showing Main Ag-Sn-Zn Vein Systems 67

Figure 6.14 Bolivian Tin-Silver-Zinc Belt with Major Deposits 69

Figure 6.15 Schematic Geological Model on West–East Cross-Section showing Chinchillas Deposit 70

Figure 7.1 Location of Drillhole Collars at the Chinchillas Deposit 72

Figure 8.1 Ag Values for the Two Types of Duplicates – Chinchillas 78

Figure 8.2 Ag Values from CRM 1-CH and 2-CH – Chinchillas 79

Figure 8.3 Ag Values from CRM 3-CH – Chinchillas 80

Figure 8.4 Pb Values from CRM 1-CH, 2-CH and 3-CH – Chinchillas 80

Figure 8.5 Zn Values from CRM 1-CH and 3-CH – Chinchillas 81

Figure 8.6 Zn Values from CRM 2-CH – Chinchillas 81

Figure 8.7 Comparison of Ag, Pb, and Zn Results between Lab Duplicates – Chinchillas 82

Figure 9.1 Vein model with Exploration Drillhole AR-315 Outside of the Vein 88

Figure 10.1 Drillhole CGA, Variation in Ag Grade and Fe/S Ratio Downhole 92

Figure 10.2 Metallurgical Sample Locations within the Two Pit Shells (Mining Phases) 93

Figure 11.1 Isometric View showing the Chinchillas Drillhole Database used in Resource Modelling 99

Figure 11.2 Cross-Section Showing Rock Types and Silver Grades in Drilling 102

Figure 11.3 Isometric View of Simplified Lithology Model 103

Figure 11.4 Bedding Attitudes Represented as Disks Mapped on Topographic DTM 104

Figure 11.5 K-means Four-Cluster Multi-Element Geochemistry Model 105

Figure 11.6 Volumes with >30% Probability of Exceeding 15 g/t Ag 106

Figure 11.7 Estimation Domains based on K-means Clusters of Multi-Element Geochemistry 107

Figure 11.8 Chinchillas Grade Tonnage Comparison within Pit 3 Volume – Ag, Zn, and Pb 109

Figure 11.9 Chinchillas Cross-Section at 7,512,400 mN showing Ag Composites and Estimates 110

Figure 11.10 Isometric View showing the Pirquitas Drillhole Database used in Resource Modelling 114

Figure 11.11 Pirquitas Plan showing Drillholes Coded using Wireframe Vein Models 116

Figure 11.12 Plan showing Grade Control Bench Assays Colour Coded for Ag (ppm) 117

Figure 11.13 Isometric View of Final Pirquitas Wireframe Vein Models – 2013 Resource Model 118

Figure 11.14 Pirquitas Plan showing Drillholes Coded using Wireframe Vein Models 119

Figure 11.15 Pirquitas Cross-section showing Two Distinct Oploca Vein Sets 121

Figure 13.1 Overview of Knight Piesold Site Investigation 131

Figure 13.2 Surface Mapping and orientated data from borehole GCA-209-G 132

Figure 13.3 Chinchillas 2021 Ultimate Pit Design 138

Figure 13.4 Long Section of the 2021 Pit Design 139

Figure 13.5 Chinchillas General Mine Site Layout 141

Figure 14.1 Chinchillas Processing Flow Sheet Overview 142

Figure 14.2 Chinchillas Crushing Circuit 143

Figure 14.3 Grinding and Lead / Silver Recovery Circuits for Chinchillas 144

Figure 14.4 Zinc Recovery Circuit for Chinchillas 145

Figure 15.1 Access Road for the Project and Proposed Modifications 148

Figure 15.2 Alignment and Gradient of the Tailings Line for In-pit Disposal 150

Figure 16.1 Concentrate Production 154

Figure 17.1 Response Test Hydraulic Conductivity by Lithology 157

Figure 17.2 Project General Arrangement and Water Management Features 161

Figure 17.3 Grassland Steppes on the Western Edge of the Project Area 162

Figure 17.4 Shrub Land on the Northern Edge of the Project Area 163

Figure 17.5 Vega Habitat 164

Figure 17.6 Laguna de los Pozuelos Buffer Zones 166
Figure 19.1 Mining Production Profile 181
Figure 19.2 Process Feed Profile 181
Figure 19.3 Silver Production 182
Figure 19.4 After Tax Annual and Cumulative Cash Flow 184

1 EXECUTIVE SUMMARY

1.1 Introduction

This Puna 2021 Technical Report Summary (Puna21TRS) has been in prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

The Puna project (Puna or the Project) comprises the Chinchillas property and the Pirquitas property, both of which are located the Jujuy Province in far north Argentina.

Puna is directly owned (100%) by SSR Mining Inc. (SSR) through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries owns Mina Pirquitas S.A. (MPSA). MPSA operates the project.

Ore from the Chinchillas mine is transported to the Pirquitas plant for processing. The Chinchillas mine is located approximately 45 km from the Pirquitas plant. The open pit mine at Pirquitas has been completed.

SSR is a gold mining company with four producing assets located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

This Puna21TRS was prepared by appropriately experienced technical professionals employed by OreWin Pty Ltd (OreWin), an independent mining consultancy based in South Australia, with input and assistance from SSR personnel.

1.2 Property Description and Location

1.2.1 Property Description and Location – Chinchillas

The Chinchillas Property is located in the Puna region of north-western Argentina, in the province of Jujuy, department of Rinconada, approximately 290 km north-west of San Salvador de Jujuy, the capital of Jujuy Province. The property is centred at approximately 3,473,150E and 7,512,360N (Gauss Kruger, Argentina, Posgar Zone 3; 22°30′13″ S, 66°15′39″ W) at elevations ranging from 4,000–4,200 masl.

Access to the Chinchillas Property is by paved road to the town of Abra Pampa via National Route No. 9 and then 66 km west across public gravel roads, through the village of Santo Domingo. Santo Domingo is equipped with electricity, and water services. Abra Pampa has a hospital, and, along with San Salvador, provides other supplies necessary for exploration. Access between the Pirquitas Operation and the Chinchillas Property is via National Route No. 40 that leads to Provincial Route No. 70.

1.3 Land Tenure and Ownership

The Chinchillas Concession or Project is composed of three contiguous claims, totalling 2,041 ha, and the Pirquitas property includes surface rights covering an area of approximately 7,500 ha, which is used for purposes such as housing, infrastructure facilities, processing facilities, tailings facility and other facilities to support mining operations for the Project.

1.3.1 Property Description and Location – Pirquitas

The Pirquitas Property is also located in the Rinconada Department in the Province of Jujuy, approximately 45 km south-west of the Chinchillas Property and approximately 335 km north-west of San Salvador. Activities at the Property are centred at 22°42′ south latitude and 66°30′ west longitude at elevations of between 4,000–4,450 masl.

1.4 Geological Setting and Mineralisation

The Chinchillas and Pirquitas properties are within the Bolivian tin-silver–zinc belt that extends from the San Rafael tin-copper deposit in southern Peru into the Puna region of Jujuy. Deposits with similar environments and styles of mineralisation include San Cristóbal, Potosí, and Pulacayo.

These deposits are generally associated with intrusion of dacite dome complexes. Mineralisation is hosted in shear zones and breccias within the dacite domes and/or shear zones and breccias within the host rocks. More rarely, as in the case of the Chinchillas Property and San Cristóbal, the deposits also contain flat-lying manto bodies within sedimentary and pyroclastic rocks that are cut by 'feeder' shear zones. All the deposits have large vertical extents.

The Chinchillas and Pirquitas properties are within the Puna geological belt. Stratigraphy in the belt includes metamorphosed Proterozoic sedimentary rocks in the basement, Paleozoic marine back arc sedimentary rocks, and younger volcanic and continental sedimentary rocks. In the Jujuy Province, the Puna terrane is an important host for mineral deposits, including mesothermal quartz veins with native gold and base metals; polymetallic quartz-sulfide veins with base and precious metals; gold, tin and copper placer deposits; SEDEX deposits with lead zinc–silver; and Bolivian-type tin silver sulfide veins related to intrusive stocks.

1.4.1 Geological Setting and Mineralisation – Chinchillas

The Chinchillas deposit is within a dacitic volcanic centre. The deposit was controlled by a dilational jog on a regional scale east–west trending fault where a magmas intruded through marine meta-sedimentary basement rocks. The explosive volcanic eruption resulted in an elliptical shaped topographic depression approximately two kilometres long by 1.6 km wide, subsequently infilled with pyroclastic rocks including breccias and tuffs. At the contact between pyroclastic volcanic rocks and basement metasedimentary rock, a wide zone of hydraulic fracturing and brecciation formed. Dacitic lavas, flow domes and subvolcanic intrusions occur on the southern margin of the basin at the contact between metasedimentary and pyroclastic rocks.

Significant silver-lead-zinc mineralisation occurs in four main areas at Chinchillas: the Silver Mantos and Mantos Basement zones in the west part of the Project, and the Socavon del Diablo and Socavon Basement zones in the east part.

1.4.2 Geological Setting and Mineralisation – Pirquitas

The Pirquitas deposit is hosted by the Ordovician Acoite Formation, a strongly folded package of low-grade metamorphosed marine sandstone, siltstone, and minor shale beds. These rocks crop out within fault-bounded and likely uplifted structural blocks that occur southwest and east of the mine area. Late Ordovician to Early Devonian compressional tectonism resulted infolding of the Paleozoic sedimentary rocks and development of well-defined axial planar cleavage. High-angle thrust faults were also generated during this event. In the mine area, axial planes of folds strike north to north–north-east and are sub-vertical to moderately inclined.

Sulphide-rich veins cut the axial planes of the folds and the related axial planar cleavage at high angles. Four main vein sets are recognised on the Pirquitas Property.

Bolivian-type Ag-Sn deposits generally consist of sulphide and quartz-sulphide vein systems typically containing cassiterite and a diverse suite of base and trace metals, including silver, in a complex assemblage of sulphide and sulfosalt minerals. The vein systems are generally spatially and likely genetically associated with epizonal (subvolcanic) quartz-bearing peraluminous intrusions one to two kilometres in diameter but may be entirely hosted by the country rocks into which the intrusive stocks were emplaced.

1.5 Exploration and Drilling

1.5.1 Exploration and Drilling – Chinchillas

At Chinchillas, surface exploration programmes included detailed mapping with emphasis on structure, rock chip sampling, trenching, soil sampling and talus sampling. These programmes identified major structural zones, the strong east–west control on basin formation, and new mineralised target areas. Geophysical surveys were also conducted, including Induced Polarisation/Resistivity (IP), Controlled-Source Audio-Magnetotelluric Technique (CSAMT), and Magnetics.

Prior to SSR, Golden Arrow completed five drilling programmes (~50,000 m of drilling) that contributed to the initial resource database.

1.5.2 Exploration and Drilling – Pirquitas

Prior to SSR, the Sunshine Mining and Refining Company (Sunshine) completed comprehensive mineral exploration on the property, including geological mapping, geophysical surveying (44 line-kilometres of ground magnetics and 19.2 line-kilometres of induced polarisation surveying), underground rock sampling and multiple programmes of RC and diamond drilling. In May 2004, SSR fully acquired Sunshine's ownership in the property and continued to advance the project through detailed drilling, underground resource definition, and mining.

1.6 Sample Preparation, Analyses and Security

All drilling was completed by professional drilling companies using standard industry methods.

Sample and assay procedures applied in the drilling programme are consistent with generally accepted industry best practices. The statistical analysis of quality control data shows good accuracy and precision with no significant contamination.

1.7 Data Verification

No material sample bias was identified during the review of the drill data and assays. SSR has identified an issue with some pre-2009 drillhole collar locations in the Pirquitas drilling and has made a reasonable attempt at rectifying the issue. This issue is not expected to have a material effect on the quantity and quality of the Mineral Resource inventory and should be able to be managed operationally.

Data collection procedures are in accordance with generally accepted industry best practices and the resultant data is suitable for use in mineral resource estimation.

1.8 Mineral Resource and Mineral Reserve Estimates

1.8.1 Mineral Resource Estimate – Chinchillas Property

The Mineral Resource has been estimated for the Chinchillas Property is in conformity with generally accepted guidelines and reported in accordance with S-K 1300. The Chinchillas resource model presented in this Puna21TRS was completed on 28 August 2020.

The Mineral Resource estimate has been generated for the Mantos Deposit from drillhole sample assay results and the interpretation of a geological model which relates to the spatial distribution of silver, lead, and zinc. Interpolation characteristics were defined based on the geology, drillhole spacing, and geostatistical analysis of the data.

Estimations were made from 3D cell models based on geostatistical applications using commercial software. The model uses a cell size of 8 m L x 8 m W x 5 m H.

The Mineral Resource was classified according to proximity to sample data locations.

Table 1.1 and Table 1.2 summarise the estimate of Mineral Resource for the Chinchillas project effective as of 31 December 2021. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The quantity and grade of reported Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these Inferred Mineral Resources as Indicated or Measured Mineral Resources. It cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.

In determining the cut-off grade, the reasonable prospects for eventual economic extraction requirement generally implies that the quantity and grade estimates meet certain economic thresholds taking into account an open pit extraction scenario with road transport and processing at the Pirquitas Operation. This includes consideration of the technical and economic parameters listed above, but also includes additional operating costs, estimated at $12/t, related to the handling and transportation of ore from the Chinchillas Property to the Pirquitas Operation.

1.8.1.1 Socavon Deposit

A review of the pit optimisation work for the Socavon deposit was undertaken using the NSR and other assumptions used for the Mantos Deposit. The review concluded that there was no suitable pit shell produced to meet the standard of reasonable prospects for extraction. Therefore, the Socavon Mineral Resource that was previously reported by SSR has not been included in the 2021 Puna Mineral Resource.

Table 1.1 Summary of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Contained Metal		
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (koz)	Lead (klb)	Zinc (klb)
Measured	1,110	99.2	0.86	0.31	3,540	21,040	7,584
Indicated	4,904	101.1	0.88	0.19	15,943	95,630	20,454
Measured + Indicated	6,013	100.8	0.88	0.21	19,483	116,670	28,038
Inferred	165	101.9	0.48	0.16	540	1,750	580

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. The Mineral Resource is contained within a pit shell generated using an NSR cut-off of $33.20/t.
3. The Mineral Resource estimate is based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. Metallurgical recoveries vary with grade and average recoveries are, 98% silver, 95% lead and 63% for zinc.
5. The point of reference for Mineral Resources is the point of feed into the processing facility.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

Table 1.2 Summary of Metallurgical Recoveries and Cut-off Values of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Metallurgical Recovery			Cut-off NSR ($/t)
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	Zinc (%)	
Measured	1,110	99.2	0.86	0.31	98	95	63	33.20
Indicated	4,904	101.1	0.88	0.19	98	95	63	33.20
Measured + Indicated	6,013	100.8	0.88	0.21	98	95	63	33.20
Inferred	165	101.9	0.48	0.16	98	95	63	33.20

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. The Mineral Resource is contained within a pit shell generated using an NSR cut-off of $33.20/t.
3. The Mineral Resource estimate is based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. Metallurgical recoveries vary with grade and average recoveries are, 98% silver, 95% lead and 63% for zinc.
5. The point of reference for Mineral Resources is the point of feed into the processing facility.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

1.8.2 Mineral Resource Estimate – Pirquitas Deposit

The Mineral Resource has been estimated for the Pirquitas Property in conformity with generally accepted guidelines and reported in accordance with S-K 1300. The Pirquitas resource model presented in this Puna21TRS was completed on 30 September 2013 and the reasonable prospects of the underground mining scenario was completed on 24 January 2018.

The Mineral Resource estimate has been generated for the Mining Area veins from drillhole sample assay results and the interpretation of a geological model which relates to the spatial distribution of silver and zinc. Interpolation characteristics were defined based on the geology, drillhole spacing, and geostatistical analysis of the data.

Estimations were made from 3D cell models based on geostatistical applications using commercial software. The model uses a cell size of 4 m x 4 m x 8 m cells to be compatible with the grade control model.

The Mineral Resource was classified according to proximity to sample data locations.

Table 1.3 and Table 1.4 summarise the estimate of Mineral Resource for the Pirquitas project effective as of 31 December 2021. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The quantity and grade of reported Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these Inferred Mineral Resources as Indicated or Measured Mineral Resources. It cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration.

In determining the cut-off grade, the reasonable prospects for eventual economic extraction requirement generally implies that the quantity and grade estimates meet certain economic thresholds, taking into account an underground mining extraction scenario.

Table 1.3 Summary of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Contained Metal		
	(kt)	Ag (g/t)	Pb (%)	Ag (g/t)	Silver (koz)	Lead (Mlb)	Zinc (Mlb)
Measured	79	444.5	0.20	1.17	1,129	0.4	2
Indicated	2,555	287.7	0.20	4.56	23,627	1.0	257
Measured + Indicated	**2,634**	**292.4**	**0.20**	**4.46**	**24,756**	**1.5**	**259**
Inferred	1,080	206.9	0.00	7.45	7,185	0.1	177

1. The Mineral Resource estimate is contained within underground mining shapes based on $90/t to $100/t NSR cut-off.
2. The Mineral Resource estimate is based on metal price assumptions of $20.00/oz silver, $1.30/lb zinc, and $1.10/lb lead.
3. Metallurgical recoveries vary with grade and on average are, 87% silver and 85% for zinc and 50% for lead.
4. The point of reference for Mineral Resources is the point of feed into the processing facility
5. Mineral Resources are reported exclusive of Mineral Reserves.
6. SSR has 100% ownership of the Project.
7. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
8. Totals may vary due to rounding.

Table 1.4 Summary of Metallurgical Recoveries and Ownership of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Metallurgical Recovery			Cut-off NSR ($/t)
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	Zinc (%)	
Measured	79	444.5	0.20	1.17	87	50	85	100
Indicated	2,555	287.7	0.20	4.56	87	50	85	100
Measured + Indicated	**2,634**	**292.4**	**0.20**	**4.46**	**87**	**50**	**85**	**100**
Inferred	1,080	206.9	0.00	7.45	87	50	85	100

1. The Mineral Resource estimate is contained within underground mining shapes based on $90/t to $100/t NSR cut-off.
2. The Mineral Resource estimate is based on metal price assumptions of $20.00/oz silver, $1.30/lb zinc, and $1.10/lb lead.
3. Metallurgical recoveries vary with grade and on average are, 87% silver and 85% for zinc and 50% for lead.
4. The point of reference for Mineral Resources is the point of feed into the processing facility

5. Mineral Resources are reported exclusive of Mineral Reserves.
6. SSR has 100% ownership of the Project.
7. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
8. Totals may vary due to rounding.

1.9 Mineral Reserve Estimate – Chinchillas

Open pit mining is carried out by MPSA as an owner mining operation with ore hauled from Chinchillas pit to the Pirquitas plant. The Mineral Reserves were developed based on mine planning work completed in 2021 that included pit optimisation and redesign of the pit phases. Table 1.5 and Table 1.6 summarise the Mineral Reserve for Chinchillas. The Chinchillas Mineral Reserve estimate has been generated for the Mantos Deposit based on the following inputs: metal prices, resource model, geotechnical information, operating costs, mineral processing recoveries, concentrate transport, off site costs and charges. Costs for all areas of the operation are estimated from actual costs. These were used to calculate an NSR and $44.11/t NSR was used for the Mineral Reserve cut-off.

Metal prices for the Mineral Reserve cut-off were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The prices selected were then reduced from the average long-term prices to take a conservative view of the long-term price. The long-term prices for the cut-off were assumed to apply from the start of 2026. The metal prices are representative of the range of price estimates publicly reported for Mineral Reserve cut-offs.

Table 1.5 Summary of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc

Mineral Reserve Classification	Tonnage	Grade			Contained Metal		
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (koz)	Lead (klb)	Zinc (klb)
Proven	2,379	168.9	1.33	0.34	12,918	69,747	17,830
Probable	5,041	155.3	1.29	0.25	25,174	143,364	27,784
Probable Stockpiles	187	141.0	1.33	0.50	846	5,483	2,061
Proven + Probable	**7,606**	**159.2**	**1.30**	**0.28**	**38,938**	**218,595**	**47,675**

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves estimate is based on metal price assumptions of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc.
3. The Mineral Reserves estimate is reported at a cut-off grade of $44.11/t NSR.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $21.00/oz silver, $0.90/lb lead, and $1.20/lb zinc
5. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 95% for lead and approximately 63% for zinc.
6. Metals shown in this table are the contained metals in ore mined and processed.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. SSR has 100% ownership of the Project.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 1.6 Summary of Metallurgical Recoveries of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc

Mineral Reserve Classification	Tonnage (kt)	Grades			Metallurgical Recovery		
		Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	
Proven	2,379	168.9	1.33	0.34	98	95	63
Probable	5,041	155.3	1.29	0.25	98	95	63
Probable Stockpiles	187	141.0	1.33	0.50	98	95	63
Proven + Probable	**7,606**	**159.2**	**1.30**	**0.28**	**98**	**95**	**63**

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves estimate is based on metal price assumptions of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc.
3. The Mineral Reserves estimate is reported at a cut-off grade of $44.11/t NSR.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $21.00/oz silver, $0.90/lb lead, and $1.20/lb zinc
5. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 95% for lead and approximately 63% for zinc.
6. Metals shown in this table are the contained metals in ore mined and processed.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. SSR has 100% ownership of the Project.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

1.10 Metallurgy and Processing

The metallurgical testing of Chinchillas ore types commenced in 2013 and continued until 2016. The first testwork was focused on silver recovery by both leaching and flotation methods with flotation proving to be superior at this early stage. The second programme continued process development of flotation into separate lead/silver and zinc concentrates. The third testwork campaign was designed to advance the flotation process and test specifically these ore types in the Pirquitas mill flow sheet.

The Pirquitas process plant operating performance since commencement on Chinchillas ores is used to provide the concentrate grade recovery and mass pull relationships, Table 1.7 and Table 1.8.

Table 1.7 Silver / Lead Concentrate Relationships

Variable	Variable Formula
Ag Recovery	(–0.0631 x Pb recovery2) + (11.655 x Pb recovery) -447.4
Pb Recovery	(–2.6303x Pb Feed2) + (12.329 x Pb Feed) + 80.654
Zn Recovery	(-5.2817 x Zn Feed2)+(Zn Feed x –6.31) + 20.546
Mass Pull	(–0.0024 x Pb Feed2) + (0.0164 x Pb Feed)+-0.0007

Table 1.8 Zinc Concentrate Relationships

Variable	Variable Formula
Ag recovery	(–3.4843 x Zn feed2) + (7.2499 x Zn feed)+0.8295
Pb recovery	(0.024 x (Pb feed/Zn feed)2) + (-0.5988 x (Pb feed/Zn feed)+ 3.1292
Zn recovery	(–195921 x (mass pull Zn)2 + (5620.3 x mass pull Zn)+28.709
Zn recovery	
Mass Pull	(0.007 x Zn feed2) + (0.0041 x Zn feed+0.0011

1.11 Environment, Communities, and Permitting

There are seven communities located in the project's area of influence. and are included in management plans for training and capacity building.

The Project does not intrude upon any protected areas. Water quality in the surface waters draining the Project area is typical of a mineralised zone, including some observed elevated metals parameters, but with generally neutral pH. The waste rock is expected to be largely non-acid generating, with a small portion that may be weakly acid generating under certain oxidising conditions. The waste rock with potential for acid production will be placed so any drainage will report to the pit and avoid introduction to the environment.

Although there is no specific mine closure legislation nor bonding requirements in Argentina, a conceptual closure plan has been developed for the Project. Closure costs are estimated at $30.6M. MPSA is also responsible for the closure costs associated with the Pirquitas pit.

An Environmental and Social Impact Assessment (ESIA) was completed for the Chinchillas project and submitted to the regulatory authorities of the province of Jujuy for review, with the license obtained in December 2017. The biannual update of the ESIA was submitted in due time and form, being pending approval by the regulatory authorities of the province of Jujuy. In addition, an addendum to the ESIA for the Pirquitas mine was obtained from MPSA to use the Pirquitas pit for tailings deposition at the Pirquitas Operation, and this authorization must be renewed.

1.12 Production

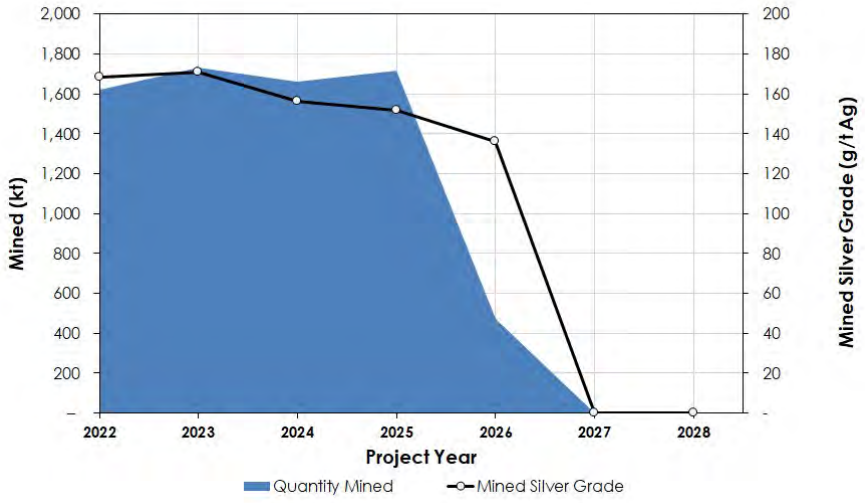
Future proposed mine production has been scheduled to optimise the mine output and meet the plant capacity. The mining production forecasts are shown in Table 1.9. Mine, process, and metal production are shown in Figure 1.1 to Figure 1.3.

Table 1.9 Mining Production Statistics

Item	Unit	Total LOM
Ore Processed		
Processed	kt	7,352
Ag Feed Grade	g/t	160
Pb Feed grade	%	1.32
Zn Feed grade	%	0.29
Silver Recovery	%	95.5
Concentrate Produced		
Lead Concentrate – in Stockpile	kt	4
Zinc Concentrate – in Stockpile	kt	1
Lead Concentrate – Produced	kt	135
Zinc Concentrate – Produced	kt	27
Lead Concentrate - Total	kt	139
Zinc Concentrate - Total	kt	28
Metal Produced		
Silver	koz	37,210
Lead	Mlb	204
Zinc	Mlb	29

Metal produced includes current concentrate stockpiles containing 242 koz silver and 5 Mlb lead.

Figure 1.1 Mining Production Profile

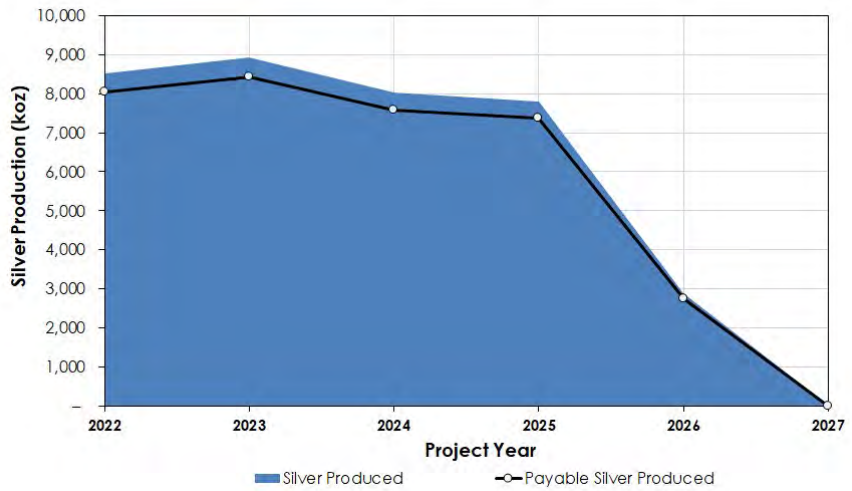


OreWin, 2021

Figure 1.2 Process Feed Profile

OreWin, 2021

Figure 1.3 Silver Production



OreWin, 2021

1.13 Capital and Operating Costs

The cost estimate was prepared by the SSR technical department at site. OreWin reviewed the assumptions, parameters, and methods used to prepare the cost estimate and is of the opinion that they are sufficient for the purposes of validating the economics of the Mineral Reserve. Total capital expenditure is estimated to be $99M.

The life of mine operating costs are approximately $52.67/t of ore milled, as summarised in Table 1.10.

Table 1.10 Operating Cost Summary

Description	Amount ($M)	LOM Average ($/t milled)
Mining Costs	110	15.01
Processing Costs	183	24.95
G&A Costs	93	12.71
Total	387	52.67

1.14 Economic Analysis

The estimates of cash flows have been prepared on a real basis as at 1 January 2022 and a mid-year discounting is used to calculate NPV.

The projected financial results include:

- After-tax NPV at an 5% real discount rate is $228M.
- Mine life of five years.

The estimated total cash costs for the LOM is $11.63/oz payable silver. AISC for the LOM, which includes infrastructure capital, capital development and reclamation, averages $13.57/oz payable silver. Unit costs include concentrate in stockpile. Silver provides the primary revenue for the analysis, with contributions from lead and zinc. Credits from lead and zinc are included in the cash cost.

The key results of the Puna21TRS are summarised in Table 1.11. The projected financial results for undiscounted and discounted cash flows and before and after tax, at a range of discount rates are shown in Table 1.12.

Metal price assumptions are shown in Table 1.13. The results of NPV5% sensitivity analysis to a range of changes in silver price (primary commodity) and discount rates is shown in Table 1.14.

A chart of the cumulative cash flow is shown in Figure 1.4.

Table 1.11 Puna21TRS Results Summary

Description	Unit	Total LOM
Processed		
Processed	kt	7,352
Ag Feed grade	g/t	160
Pb Feed grade	%	1.32
Zn Feed grade	%	0.29
Silver Recovery	%	95.5
Concentrates		
Lead Concentrate – in Stockpile	kt	4
Zinc Concentrate – in Stockpile	kt	1
Lead Concentrate – Produced	kt	135
Zinc Concentrate – Produced	kt	27
Lead Concentrate - Total	kt	139
Zinc Concentrate - Total	kt	28
Metal Produced		
Silver	koz	37,210
Lead	Mlb	204
Zinc	Mlb	29
Key Financial Results		
Mine Site Cash Cost	$/oz payable Silver	11.61
Royalties and Refining Costs[1]	$/oz payable Silver	6.10
Credits	$/oz payable Silver	-6.08
Total Cash Costs (after credits)[1]	$/oz payable Silver	11.63
AISC	$/oz payable Silver	13.57
Site Operating Costs	$/t milled	52.67
Average Silver Price	$/oz	22.38
NPV[1]	$M	228
Discount Rate	%	5
Mine Life	years	5

Metal produced includes current concentrate stockpiles containing 242 koz silver and 5 Mlb lead.

Table 1.12 Financial Results

Discount Rate	NPV ($M)	
	Before-tax	After-tax
Undiscounted	279	253
2.0%	268	242
5.0%	253	228
10.0%	231	206
12.0%	223	199
15.0%	212	188
18.0%	202	179
20.0%	195	173

Note: NPV includes concentrate in stockpile

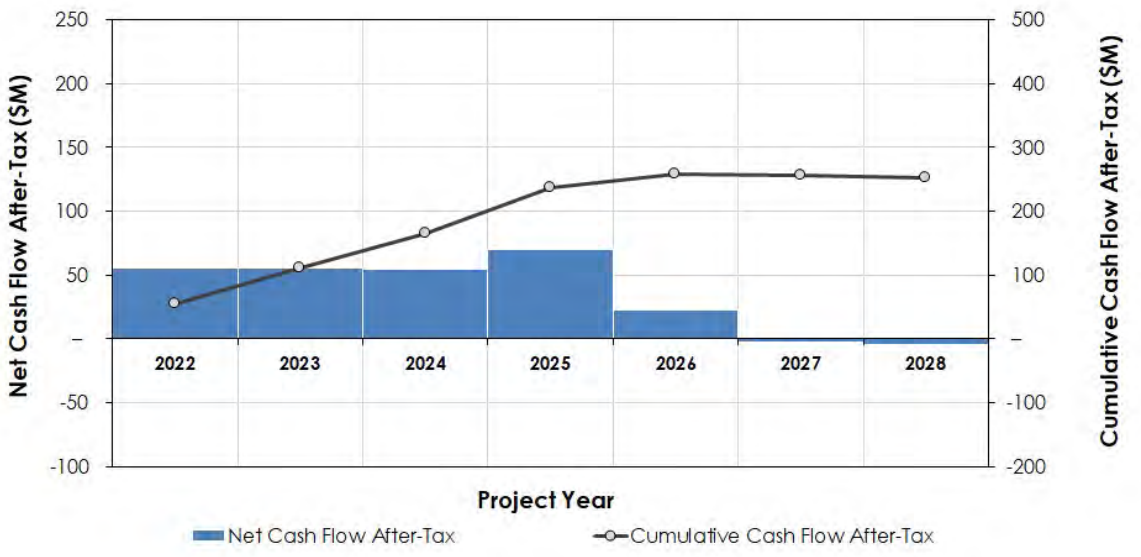
Table 1.13 Metal Prices

Commodity	Unit	2022	2023	2024	2025	Long-Term
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Lead	$/lb	1.00	0.95	0.93	0.92	0.90
Zinc	$/lb	1.30	1.20	1.20	1.20	1.20

Table 1.14 After-Tax NPV5% Sensitivity to Silver Price and Discount Rates

After Tax NPV	Long-term Silver Price ($/oz)								
	10.00	15.00	18.50	19.00	21.00	22.00	24.00	27.00	30.00
Discount Rate	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**
Undiscounted	-17	105	192	204	253	278	327	401	474
2%	-17	101	183	195	242	266	313	384	454
5%	-16	95	172	183	**228**	250	294	360	427
10%	-14	86	156	166	206	226	266	327	387
12%	-14	83	150	160	199	218	257	315	373

Figure 1.4 After Tax Annual and Cumulative Cash Flow



OreWin, 2021

1.15 Interpretation and Conclusions

1.15.1 Mineral Resources

Mineral Resources for the Puna21TRS are reported in accordance with the US SEC Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

Areas of uncertainty that may materially impact the Mineral Resource estimates include:

- Assumptions used to generate the data for consideration of reasonable prospects of eventual economic extraction for the Puna deposit.
- Environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
- Commodity prices and exchange rates.
- Cut-off grades.

1.15.1.1 Chinchillas

The resource model developed for the Chinchillas deposit uses accepted modelling and grade estimation methods. The model is a reasonable reflection of deposit geology. The approach used to generate the cell model is in accordance with accepted industry standards. OreWin has checked the data and methods used to develop the resource model and has validated the resource models. The methods used for the estimate of Mineral Resources and Mineral Reserves is in accordance with S-K 1300.

1.15.1.2 Pirquitas

The resource model developed for the Pirquitas deposit uses accepted modelling and grade estimation methods. The model is a reasonable reflection of deposit geology. The approach used to generate the cell model is in accordance with accepted industry standards. OreWin has checked the data and methods used to develop the resource model and has validated the resource models. The methods used for the estimate of Mineral Resources and Mineral Reserves is in accordance with S-K 1300.

1.15.2 Mineral Reserves

Mineral Reserves for the Puna21TRS are reported in accordance with the US SEC Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300).

Areas of uncertainty that may impact the Mineral Reserve estimate include:

- Any changes to the resource model as a result of further definition drilling at the site.
- Changes to mining conditions that have an impact to operating costs, production rates or mining recovery factors.
- Commodity prices and exchange rates

1.15.3 Further Assessment

The key areas for further studies/work are:

- Potential remains to expand the current Mineral Resource, and to define new Mineral Resources on the property.
- Optimisation of metal prices and cost input parameters.

- More detailed planning and design for rock storage and the general site layout
- Additional metallurgical laboratory testwork as detailed in Section 10.4.
- Update site standard operating procedures to include a transparent Mineral Resource and Mineral Reserve process, clearly documenting the key input parameters applied, and an audit trail of approvals for each phase of the work performed.
- Continue with on-going review of capital and operating cost estimates and performance and productivity tracking.

2 INTRODUCTION

2.1 Introduction and Terms of Reference

The Puna21TRS has been in prepared in accordance with the U.S. Securities and Exchange Commission (US SEC) Regulation S-K subpart 1300 rules for Property Disclosures for Mining Registrants (S-K 1300). This is the first Technical Report Summary for the Puna project.

The Puna project (Puna or the Project) comprises Chinchillas and the Pirquitas property, both of which are located the Jujuy Province in far north Argentina. Ore from the Chinchillas mine is transported to the Pirquitas plant for processing. The Chinchillas mine is located approximately 45 km from the Pirquitas plant. The open pit mine at Pirquitas has been completed.

Puna is directly owned (100%) by SSR Mining Inc. (SSR) through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries owns Mina Pirquitas S.A. (MPSA). MPSA operates the project.

SSR is a gold mining company with four producing assets located in the USA, Turkey, Canada, and Argentina, and with development and exploration assets in the USA, Turkey, Mexico, Peru, and Canada. SSR is listed on the NASDAQ Capital Markets (NASDAQ:SSRM), the Toronto Stock Exchange (TSX:SSRM), and on the Australian Stock Exchange (ASX:SSR).

The purpose of this Puna21TRS is to report the Mineral Resources and Mineral Reserves for the project.

The primary source of data for the Puna21TRS is the Puna 2021 Project Update Report.

2.2 Qualified Persons and Property Inspections

Gregory Gibson visited the project 17 June to 1 July 2021 and 28 January to 9 February 2022. The site visits included briefings on geology, mine operations, processing, environmental, permitting, and site inspections of current mining and plant and infrastructure. In addition, Gregory has weekly calls with site leadership regarding the day to day operations and quarterly reviews of the operation performance.

Bernard Peters has not visited the site due to travel restrictions.

Sharron Sylvester has not visited the site due to travel restrictions.

2.3 Units and Currency

Unless otherwise stated, all units in this Puna21TRS are metric and all currency values are expressed in US dollars.

3 PROPERTY DESCRIPTION

3.1 Chinchillas Property

3.1.1 Location

The Chinchillas Property is located in the Puna region of north-western Argentina, in the province of Jujuy, department of Rinconada, approximately 290 km from the provincial capital of San Salvador de Jujuy (Figure 3.1). The property is centred at approximately at 3,473,150E and 7,512,360N (Gauss Kruger, Argentina, Posgar Zone 3; 22^{0}30'13" S, 66°15'39" W) at elevations ranging from 4,000–4,200 masl.

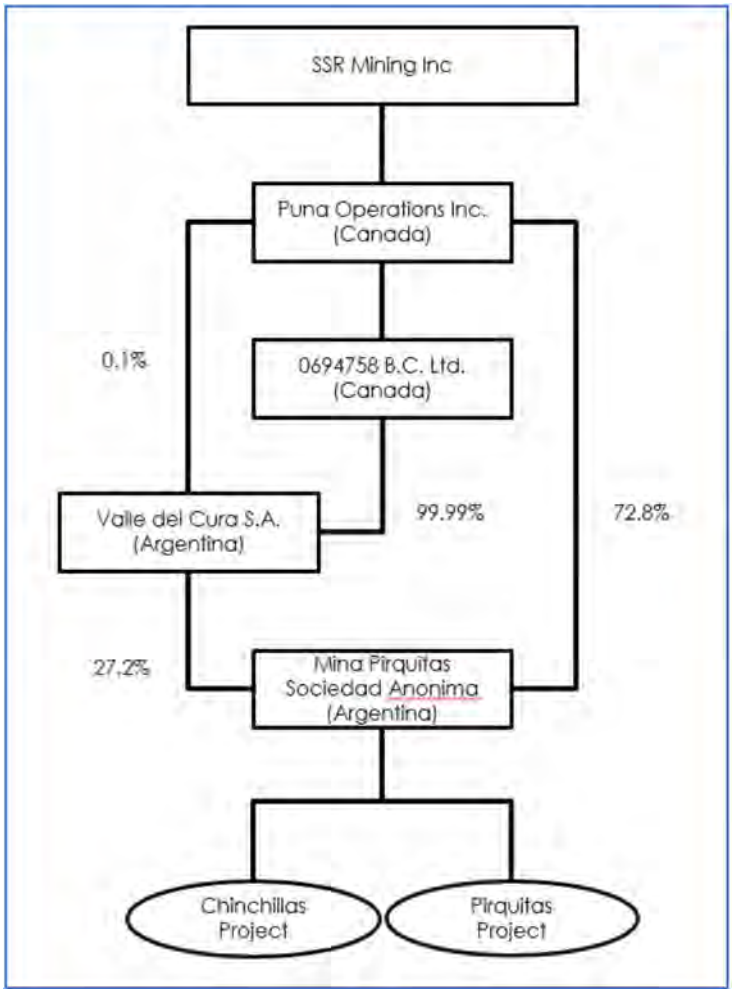
Figure 3.1 Puna Operation Location

SSR, 2021

3.2 Ownership

SSR has 100% ownership of the Puna project is. The corporate structure that links the Puna project and SSR is shown in Figure 3.2. Puna is directly owned (100%) by SSR Mining Inc. (SSR) through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries owns Mina Pirquitas S.A. (MPSA). MPSA operates the project.

Figure 3.2 Puna Corporate Structure



SSR, 2021

3.3 Chinchillas Land Tenure

Exploitation concessions in Argentina are called 'Minas'. Minas are defined by the following categories:

- First Category Minas include substances such as gold, silver, platinum, iron, lead, copper, zinc, aluminium, lithium, potassium, etc. and
- Second Category Minas comprise substances such as precious stones in riverbeds, any metal not included in the first category and others.

The Mina is comprised of one or more 'pertenencias', which are units of mining properties. Pertenencias must be rectangular in shape.

In disseminated deposits, such as Chinchillas, the pertenencias can encompass up to 100 ha. The mining property fee or 'canon' for a Mina is charged every year. It is currently ARS$320 per pertenencia per year (article 215 Mining Code).

Individuals are entitled to explore for, exploit, and dispose of Minas as owners by means of a legal licence or legal concession granted by the competent authority under the provisions of the Argentine Mining Code. The legal concessions granted for the exploitation of Minas are valid for an undetermined period of time and are considered 'real property' giving the concessionaire the right to recover metals from the subsurface vertically underneath the concession, provided that the title holder complies with the obligations set out in the Argentine Mining Code.

The Chinchillas Property consists of three contiguous First Category Minas that cover an area of approximately 2,042.56 ha, as set out in Table 3.1 (see also Figure 3.3).

Table 3.1 Chinchillas Exploitation Concessions

Concession	File No	Area (hectares)
Chinchilla	469-M-56	329
Chinchilla I	079-D-96	830.98
Chinchilla II	1943-V-2013	882.58

The Chinchilla Mina is broken down into four pertenencias, while the Chinchilla I Mina has 9 pertenencias and Chinchilla II has 9 pertenencias.

By July 2015, Valle Del Cura S.A. (VDC) completed option payments to earn a 100% interest in the Chinchilla and Chinchilla I properties, to a total of $1,866,000 paid.

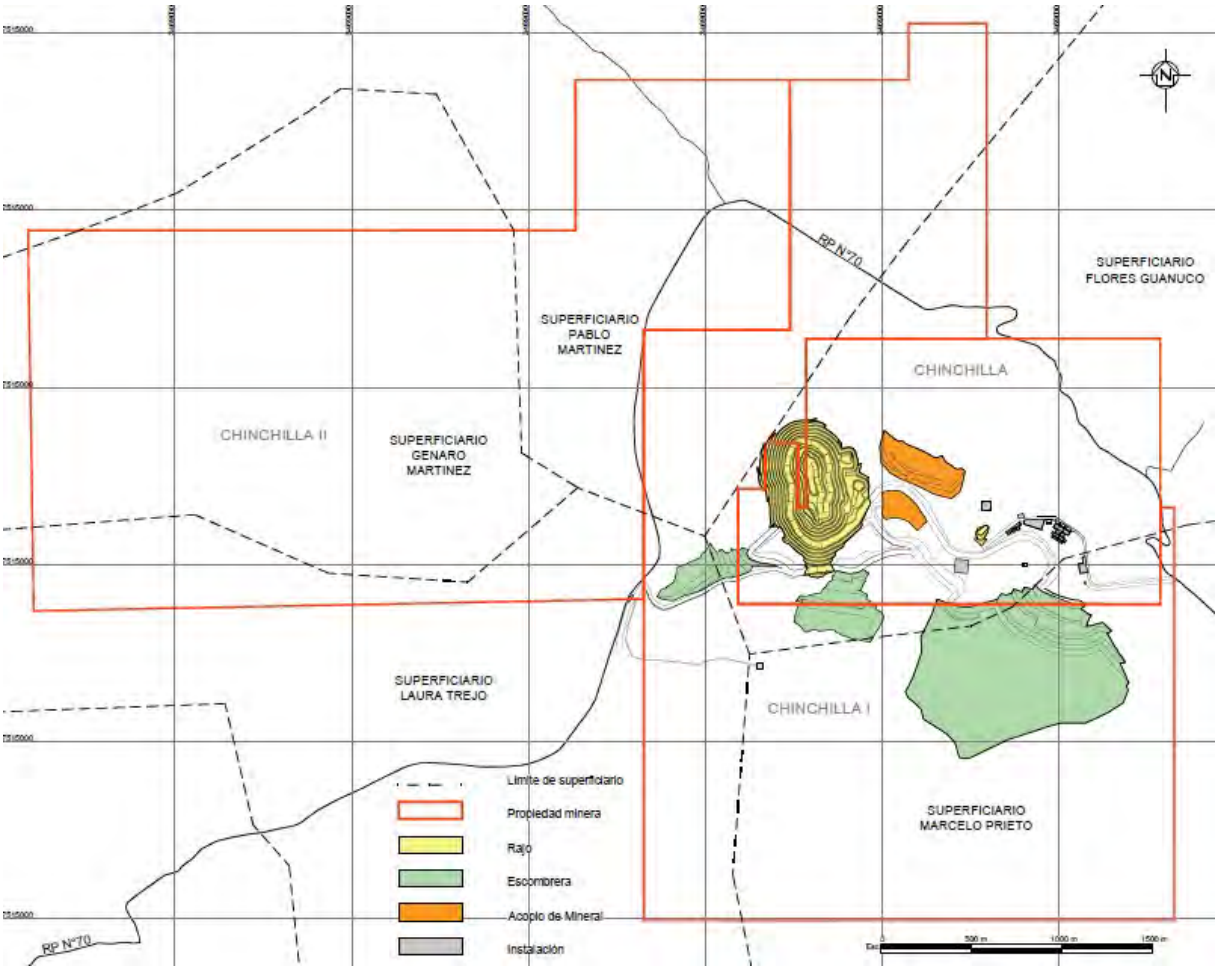
Subsequently, Mina Pirquitas S.A., upon commencement to build a mine on these two properties paid $1,200,000 to the vendors.

The Chinchilla II Mina was acquired directly by VDC and is not subject to option payments. All Minas are valid and in good standing.

Concentrates produced at the Project are subject to a maximum 3% 'mouth of mine value' royalty that is payable to the Province of Jujuy. This royalty payment is based on the net recoverable value of the contained metals less certain operating costs.

MPSA and SSR have advised that all necessary permits and titles are in place for the current operations. Additional permitting updates may be required but MPSA advise that these are expected to be approved.

Figure 3.3 Property Map Showing Chinchilla, Chinchilla I and Chinchilla II Concessions



SSR, 2021

3.4 Chinchillas Surface Rights

MPSA entered into agreements with occupants and owners of the land on which Mina Chinchilla, Mina Chinchilla I and Mina Chinchilla II are located to acquire the rights to carry out the Project. All of the Minas comprising the Chinchillas Property, which provide exploration and exploitation rights, are valid and in good standing.

3.5 Chinchillas Permitting

According to the biannual Environmental Impact Study renewal, MPSA also submitted the second Update of Chinchillas Mine in October 2021. This report is currently being reviewed by Mining Authorities.

3.6 Chinchillas Environmental Liabilities

Prior to initiating work on the Chinchilla Mina, an inspection was performed by the mining and environmental authorities regarding potential pre-existing environmental liabilities. There are remnants of historic mining activities in the Project area, such as small buildings, small areas of workings excavated in the 1960`s, historic drilling platforms, trenches and holes. All of these liabilities were declared as pre-existing in Golden Arrow's ESIA for the Chinchilla Mina, there were no findings and/or requests by the environmental authorities, and the Chinchilla ESIA report was approved.

3.7 Chinchillas Factors and Risks

Except as set out herein, to the extent known, there are no additional factors or risks that may affect the access, title, right or ability to perform work on the Chinchillas Property.

3.8 Pirquitas Property

The Pirquitas Operation is also located in the Rinconada Department in the Province of Jujuy. The property is centred at 22°42′ south latitude and 66°30′ minutes west longitude. The city of San Salvador de Jujuy, (Jujuy) the provincial capital, is located approximately 335 km southeast of the property (Figure 1.2). The property is characterized by sparsely vegetated, mountainous terrain at elevations of between 4,000–4,450 masl.

MPSA and SSR have advised that all necessary permits and titles are in place for the current operations. Additional permitting updates may be required but MPSA advise that these are expected to be approved.

3.9 Pirquitas Operation Surface Rights

The Pirquitas Operation includes the surface rights to a group of nine contiguous land parcels covering an area of approximately 7,500 ha, as set out in Table 3.2 and shown in Figure 3.4. This area corresponds to the surface property owned by MPSA, the area of the mining concession is larger.

3.10 Pirquitas Exploitation Concessions

Mina Pirquitas comprises 54 mining properties (concessions) that cover an area of approximately 9,742 ha shown in Figure 3.4.

Table 3.2 Pirquitas Operation Surface Rights

Parcel No.	Registration No.	Area (ha)
531	L-1111	1,000.1
532	L-1112	1,000.0
533	L-1113	750.0
534	L-1114	749.6
535	L-1115	1,000.0
536	L-1116	1,000.0
537	L-1117	1,005.0
538	L-1118	496.0
539	L-1119	500.1

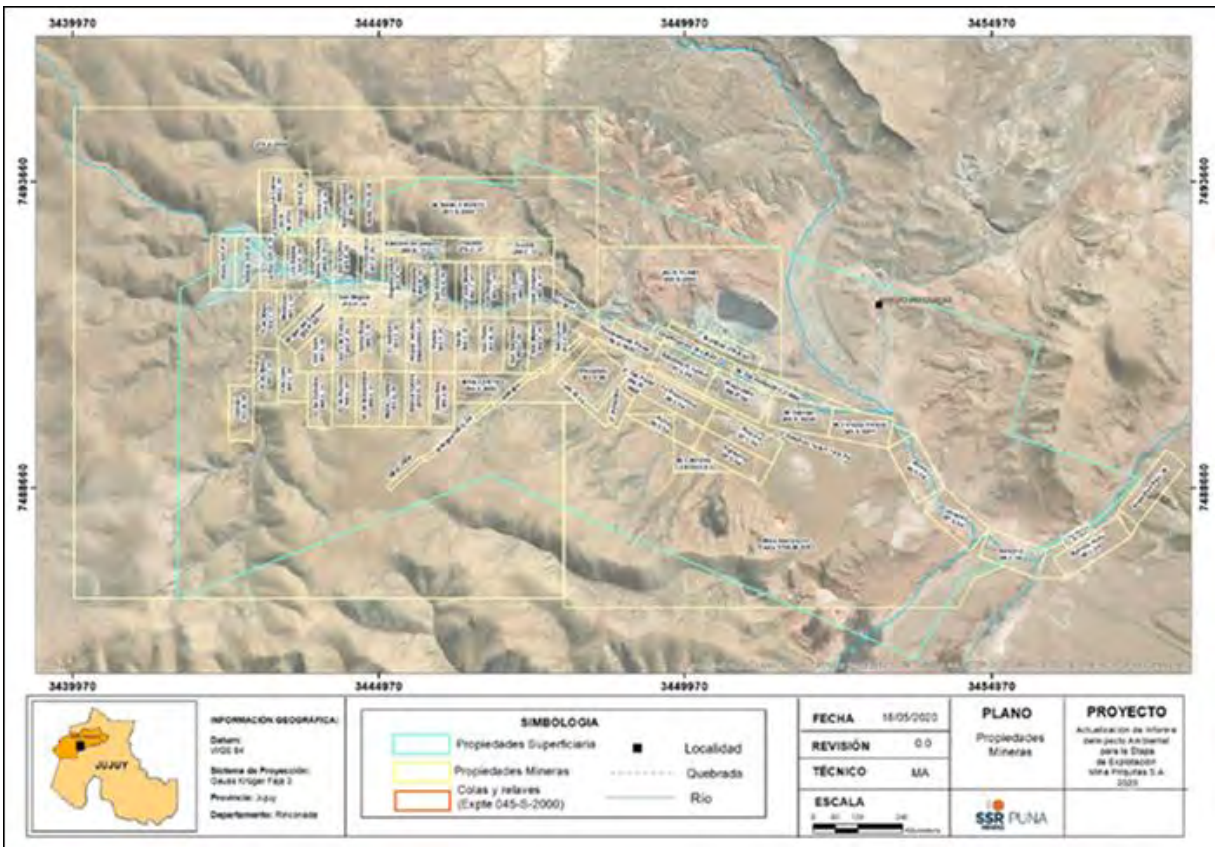
These parcels were used for purposes such as housing, infrastructure, processing, and tailings facilities. MPSA is the freehold title holder of the area covered by such surface rights.

3.11 Pirquitas Operation Permitting

The capacity of the current tailings facility at Pirquitas has been exhausted and to maintain mining and processing production disposal of tailings has been into the Pirquitas pit. Mining at the Pirquitas pit was completed in January 2017, a number of upgrades have been undertaken to allow tailings to be transported from the Chinchillas Project to a portion of the Pirquitas pit. These upgrades included constructing a pipeline for in-pit disposal, and construction of the discharge system from the tailings transport pipeline, an in-pit water reclaim system, and a pipeline from the Pirquitas pit to the Pirquitas plant to return water for reuse. These upgrades have allowed for additional tailings capacity for the processing of Chinchillas ore.

The use of the Pirquitas pit for tailings deposition at the Pirquitas Operation is a modification to the mining activities not contemplated in MPSA's ESIA for the Pirquitas mine until 2016. On August 2017 MPSA issued to Mining Authorities an Addendum of the 2016 ESIA Update that included the upgrades to conduct the tailings to the pit of Mina Pirquitas. The permit was obtained on September the 24th, 2018 by Resolution N° 056/2018. Since then, MPSA has submitted to Mining Authorities the ESIA Update for Mina Pirquitas on September 2020 which document is being reviewed.

Figure 3.4 Property Map Showing Pirquitas Concessions



4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Ore from the Chinchillas mine is transported to the Pirquitas plant for processing. The Chinchillas mine is located approximately 45 km from the Pirquitas plant.

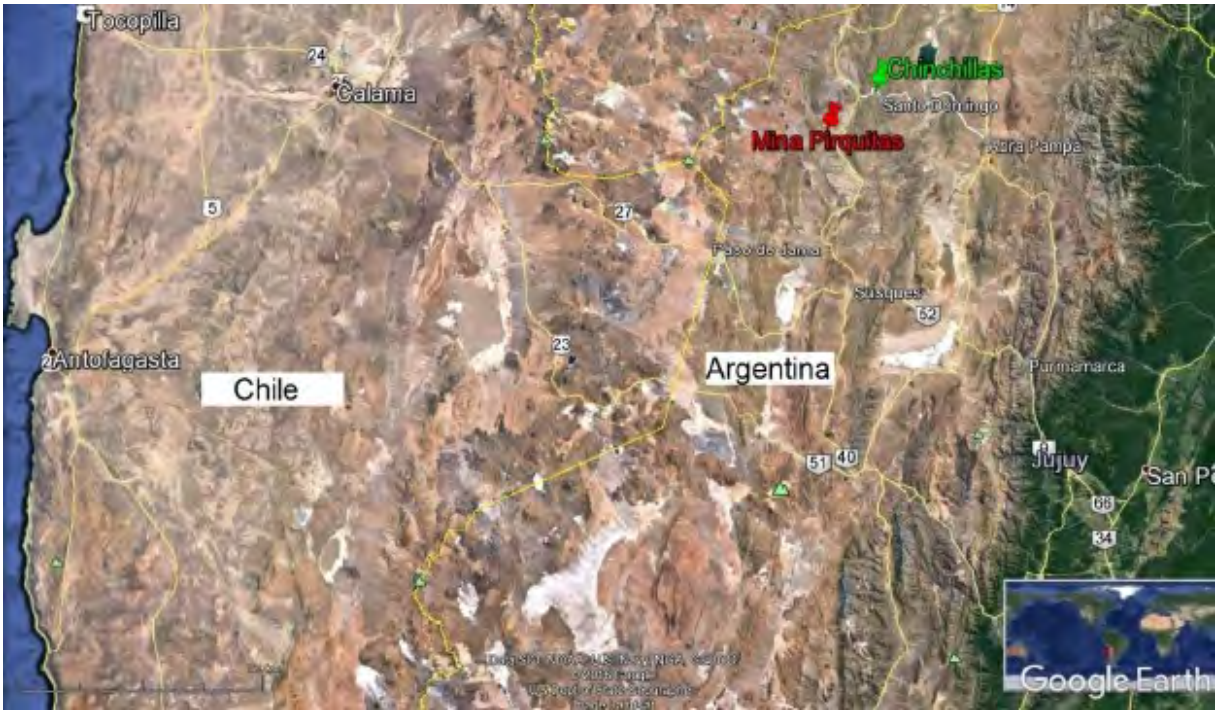
4.1 Accessibility

The Chinchillas Property is accessed most directly from the provincial capital of San Salvador de Jujuy via National Route No. 9, northwards along the Humahuaca River to the town of Abra Pampa. The route continues along Provincial Route No. 7 westward for 66 km, through the village of Santo Domingo. The roads are maintained by the Province and are accessible year round. Several temporary rivers cross the route so four wheel drive vehicles are recommended in the rainy season.

The other route to the Chinchillas Property and to the Pirquitas Operation follows National Route No. 9 northwards from San Salvador de Jujuy to Purmamarca, then turns north-west on paved road No. 52 to the town of Susques. From there, National Route No. 40 heads to Provincial Route No. 70 that leads to Chinchillas at the Fundiciones mountain pass. This route is more appropriate for heavy transport vehicles and is used by traffic to the Pirquitas mine and mill, located approximately 45 km to the south-west of Chinchillas along the route. (Figure 4.1).

Concentrate shipments from Pirquitas are currently trucked to Susques, Jujuy from Pirquitas via Route 77, and from there to Buenos Aires via Route 9. At arrival to the terminal, the material is directly dispatched from the port facilities to the concentrate buyers.

Figure 4.1 Location Map with Access Routes to the Project Area



SSR, 2021

4.2 Physiography, Climate, and Vegetation

The Chinchillas deposit terrain has an elliptical, caldera-like shape with steep rolling hills surrounding the caldera depression. It is located near the Fundiciones mountain pass, with the Rinconada and Carahuasi ranges extending from north–south. Elevations range from about 4,000–4,200 masl. The highest elevation in the area is Cerro Granada at 5,696 masl, 28 km to the south-west. The Uquillayoc river runs through the Project area and is fed by many small tributaries.

At Pirquitas, elevations on the property range from 4,000–4,450 masl. The processing plant, tailings impoundment and main workers camp are located in the eastern third of the Pirquitas property in an area of relatively open ground that lies at an elevation of 4,100 masl, and the Pirquitas pit, which ceased mining operations in January 2017, is situated about seven kilometres west of the mill at a slightly higher elevation.

The regional climate is similar at both Chinchillas and Pirquitas and is arid to semi-arid, tropical-subtropical influenced by high desert (Blasco, 2011). Rain is scarce and mainly occurs during the rainy season (November to March), with a mean annual precipitation of 300 mm. The annual mean temperature is 18°C, however during the winter it ranges down to –7.7 °C to 7.5 °C. Dry and windy conditions often prevail in the area.

Natural vegetation is patchy to sparse and consists of xerophilous and steppe bushes like iro (Festuca ortophylia), and coirón (Stipachrysophylla). Acantoliphia haustata is the predominant species with the Yareta (Azorella compacta), less frequent. The tola (Parastrepia ssp) and small trees like the queñoa (Polylepis tomentella) can be found in depressions (Blasco, 2011).

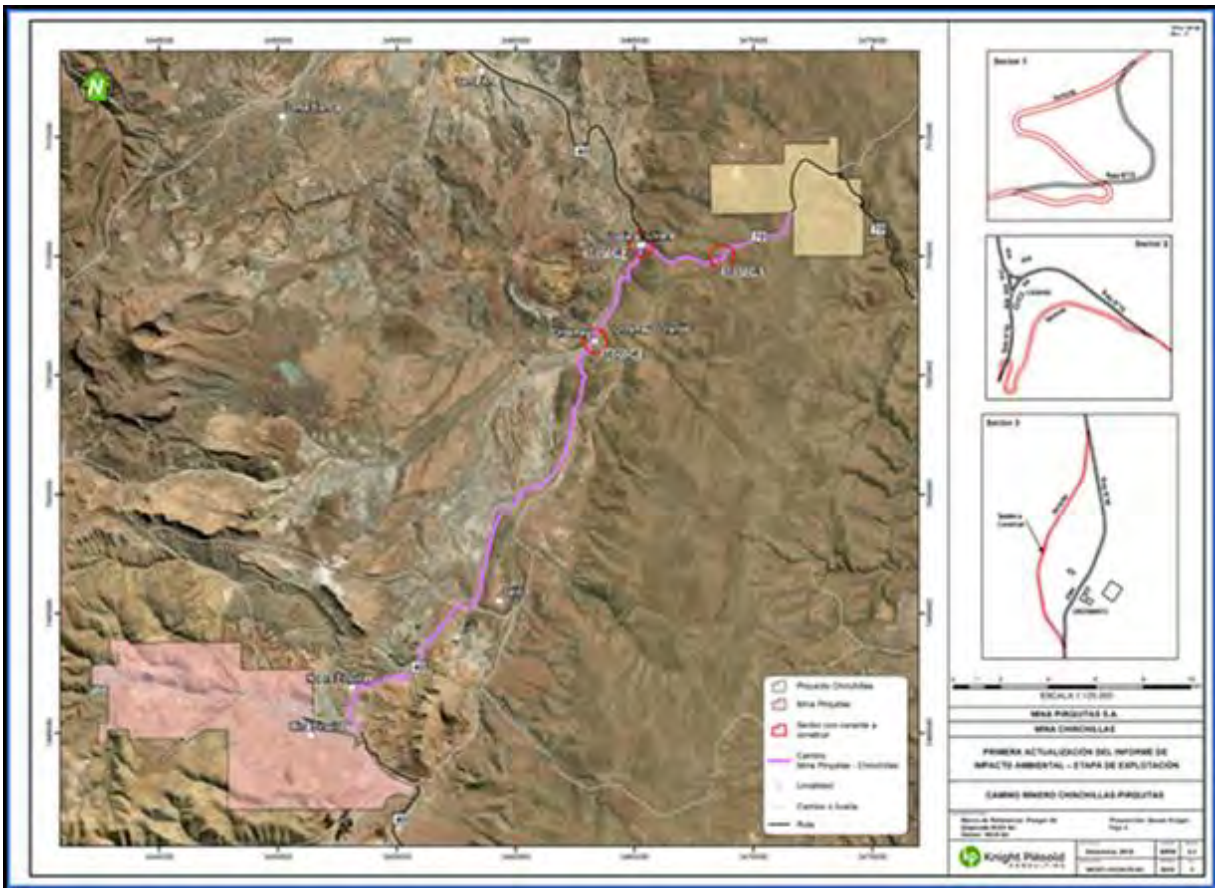
Animal species found in the area include mammals such as llamas, puna foxes and vizcachas, as well as several mice species, chinchillas and ferrets. Other fauna in the area include lizards, and birds such as small rheas, owls, ducks, condors and falcons (Blasco, 2011).

4.3 Local Resources and Infrastructure

Chinchillas and Pirquitas are located in the rural zone of Rinconada Department, with an approximate population of 2,500 people. It covers an area of 6,407 km^2, includes over twenty small communities, and has basic public services including a police department and health centre. The nearest community to Chinchillas is the village of Santo Domingo, and nearest to Pirquitas is the village of Nuevo Pirquitas. Historically, the local population was mainly employed in ranching, however the operation at Pirquitas has created a significant local trained mining workforce. Basic amenities are supplied from Susques and Abra Pampa, while supplies for mining are obtained through the provincial capital of San Salvador de Jujuy, which has an airport with daily commercial air service to Buenos Aires.

The nearest hospital is located in Abra Pampa, 66 km east of Chinchillas.

Figure 4.2 Chinchillas and Pirquitas Access Route



MPSA, 2021

4.3.1 Chinchillas Infrastructure

The Chinchillas site has offices, workshops, a lunchroom, change room, explosives magazines, security and first aid buildings, solid waste storage facility, open pit, and waste dumps at the site. Existing exploration infrastructure includes two office containers, a core logging facility, a core cutting machine, two storage tents, two cisterns for diesel fuel (1,500 and 10,000 litres) and six warehouses of 144 m2 each, for the storage of the core boxes.

To generate electricity the Pirquitas Operation uses natural gas to power three Wärtsila generator sets, each with a capacity of five megawatts (MW) of power. In addition, the same electrical plant has three diesel-powered Cummins generators, each yielding 1.1 MW. There is 6.7 km of gas pipeline on the Pirquitas property. The pipeline is 152 mm diameter, constructed of API5L Grade B steel with 4.8 mm wall thickness in normal applications and 7.1-mm wall thickness at river or drainage crossings.

Power for the Chinchillas mine site supplied along existing power lines from the natural gas powered generators at Pirquitas. EJESA is the local power authority that owns the lines. The power line from Pirquitas that goes directly past the rural EJESA line at the town of Nuevo Pirquitas (approximately five kilometres from Pirquitas). The rural power line then goes from Nuevo Pirquitas to all villages along Route No. 40 and Route No. 70 and directly to Santo Domingo. This line is able to carry the 1MW load for Chinchillas, with a small spur line (approximately four kilometres in length) to take power into the mine.

No ore processing is done at Chinchillas therefore power requirements are minimal. In the event of power loss at Pirquitas. Back-up power from the EJESA grid that amounts to 100 kVa can be drawn. This back-up power is designated for critical telecommunications systems and the first aid building.

4.3.2 Pirquitas Infrastructure

Pirquitas has been a permitted commercial mine operated by SSR since December 2009, with existing infrastructure that includes:

- A processing plant;
- A permitted tailings facility;
- A fully serviced workers camp sufficient for approximately 670 personnel;
- A communications system including cellular and intranet access;
- Fully serviced office buildings; and
- Wastewater treatment facilities, organic waste landfill and a recycling centre

The Pirquitas processing plant consists of primary, secondary and tertiary crushing operations which deliver ore to a stockpile. The crushing circuit throughput is 6,000 tpd. Ore is transferred from the crushed ore stockpile to a ball mill and after that a differential flotation circuit to obtain Lead-Silver and Zinc concentrates.

The Pirquitas plant uses a tailings thickener to improve water recovery. Post thickened tailings are deposited in the tailings storage facility and secondary water recovery is achieved using barge mounted reclaim pumps.

MPSA has the surface rights covering the Pirquitas Operation. Electricity is produced from natural gas and diesel generators at the Pirquitas site.

Water supply is from a San Marcos which is located within the property a short distance downstream from where the Pirquitas River drains into the Collahuaima River. Domestic water is pumped from a diversion upstream of the open pit for use at the camp. Potable water is supplied by MPSA from bottled water.

Pirquitas has a trained workforce for the processing plant and open pit mining operations, including local workers, operators, supervision, management and senior staff.

5 HISTORY

5.1 Chinchillas

Chinchillas was first prospected and mined in small scale in the eighteenth century by Jesuit missionaries. Relics of furnaces used to melt lead and silver can still be found at the Chinchillas Property (Kulemeyer, 2011). In 1956, Mr. Antonio Mercado requested a concession based on the discovery of galena veins in the basement rock. In 1968, the mine was sold to Ing. Pichetti who later formed the Sociedad Pirquihuasi Company together with the Pirquitas Company, and some adits and tunnels were opened for small scale production. In 1982, the mine licence expired and the mine was acquired by Shell CAPSA S.A. From December 1982 to 1989, a consulting geologist for Shell, Jorge Daroca, carried out exploration work and, after Shell dropped the property, Mr. Daroca requested it for himself, convinced of the good potential of the area (Daroca, undated). Roads, remnants of infrastructure, and minor underground workings remain from this activity but no records of this work are available.

In 1994, Aranlee Resources conducted surface sampling and drilled seven reverse circulation drillholes for a total of approximately 780 m. Assay results from this work are available, but there are no samples for re-analysis or quality control information, therefore the data have not been incorporated into the Mineral Resource estimate. In 2004 Silex, a subsidiary of Apex Silver, conducted preliminary reconnaissance work including trenching, pitting and surface sampling, with a total of 165 samples taken. Between October 2007 and July 2008, 40 manual pits and nine trenches were sampled. Surface mapping was also completed at different scales across the Chinchillas property, and a total of 1,036 surface samples were collected. At the beginning of 2008, Quantec Geoscience Argentina S.A. (Quantec) performed a 16 km IP resistivity survey, comprising nine sections. The pole-dipole interval was 50 m with 300 m depth readings. The objective of the programme was to detect and delineate sulfides related to an intermediate to high-sulfidation epithermal system, however the mineralised zones at Chinchillas do not appear to be related to chargeability. Nevertheless, there is a strong resistivity contrast between volcanic units and basement schists and the resistivity data have been an effective tool for imaging the volcanic diatreme shape (Quantec, 2008). Silex subsequently drilled 2,220 m in seven diamond drillholes with drillhole samples taken at one or two metre intervals. Silex had planned to drill 22 holes but cut the programme short during the 2008–2009 global financial crisis. In early 2009 Apex entered Chapter 11 bankruptcy protection, and with a payment due on the property, opted to drop Chinchillas in favour of its more advanced El Quevar project. The core from the Silex drill programme remains at Chinchillas (Silex, 2008 and Caranza and Carlson, 2012).

In 2011, Golden Arrow acquired the property, completed five phases of drilling over the subsequent five years and outlined mineral resources which are summarised in six technical reports and preliminary economic assessments (Davis and Howie 2013, Davis et al., 2014, Davis et al., 2015, Davis et al., 2016, Kuchling et al., 2014, Kuchling et al., 2015). In October 2015 Golden Arrow announced that it had entered into the Agreement with SSR to form a joint venture comprising of the Chinchillas Property, the Pirquitas pit and the Pirquitas Operation. The agreement included an 18-month pre-development period to advance Chinchillas, including the infill drilling, engineering and environmental studies, and permitting.

On September 18, 2019, the Company completed the acquisition of the remaining 25% interest in Puna from Golden Arrow Resources Corporation for aggregate consideration totalling approximately $32.4 million. The transaction allowed the Company to consolidate ownership in Puna and streamline its reporting.

5.2 Pirquitas

Between the 1930s and 1995, the area of the Pirquitas mine had multiple small mining operations to recover silver and tin from placer and vein deposits.

The Argentine branch of Sunshine Mining and Refining Company acquired the Pirquitas mining concessions in November 1995. In the years following its acquisition of Pirquitas, Sunshine Argentina carried out comprehensive mineral exploration on the property, including underground rock sampling and multiple programmes of revere circulation and diamond drilling. These culminated in a feasibility study in February of 2000.

In May 2002, Silver Standard acquired 43.4% of Sunshine Argentina, Inc. (Sunshine Argentina) from Stonehill Capital Management of New York and in October 2004. Silver Standard acquired the remaining 56.6% of Sunshine Argentina from Elliott International L.P., The Liverpool Limited Partnership and Highwood Partners, L.P. Silver Standard operated the Pirquitas mine property as Sunshine Argentina until it changed the company name to Mina Pirquitas, Inc. in May 2008, and further changed the name to MPLLC in December 2014. In August 2018, Mina Pirquitas LLC. changed its name to Mina Pirquitas S.A.(MPSA).

On 24 November 2015, MPSA was incorporated as 1056353 B.C. Ltd., and changed its name to Puna Operations Inc. on 2 May 2017.

Silver Standard approved the start of the Pirquitas mine in October 2006 commenced construction in 2007. The Pirquitas processing plant has been in continuous operation since such date.

The Pirquitas plant has not been expanded since start up; however, minor changes in the flotation flow sheets have occurred to optimise performance. Since 2010, no tin concentrate production has occurred.

Historical records for metal production from the Pirquitas property between 1933 and 1989 indicate that approximately 777,600 kg of silver, or about 25 Moz, along with 18,200 t of tin were recovered by previous operators. An additional 9,100 t of tin was reportedly recovered from the placer deposits found downstream from the lode deposits.

6 GEOLOGICAL SETTING, MINERALISATION, AND DEPOSIT

6.1 Regional Geology

North-western Argentina consists of three main geological belts or terranes that together trend north–north-east. These are, from east to west, the Sub-Andean Range (*Sierras Subandinas*), the Eastern Cordillera (*Cordillera Oriental*), and the Argentine Altiplano or *Puna* belt.

These belts are distinguished by their basement lithology complexes, tectonic histories, magmatism, metallogeny and geomorphological features. The Pirquitas and Chinchillas deposits are located in the Puna belt.

6.1.1 The Sub-Andean Belt

The Sub-Andean belt comprises multiple north to northwest trending, low mountain ranges separated by broad flatlands. Elevations range from about 300 masl to a maximum of 2,500 masl. An Early Cambrian to Middle Ordovician carbonate platform, which defines a passive continental margin, dominates this belt. Middle to Upper Ordovician clastic marine rocks cover the carbonate platform in the eastern and central sectors. Paleozoic sedimentary successions display regional-scale open folds. Large intrusions and volcanic complexes related to Andean tectonism are not present in this belt. Mineral deposits of economic significance are rare, although natural gas fields are exploited in the eastern lowlands.

6.1.2 The Eastern Cordillera

The Eastern Cordillera is a 70 to 130 km wide fold and thrust belt with elevations ranging from 1,300–6,200 masl. Proterozoic basement consisting of medium grade metamorphosed sedimentary rocks are unconformably overlain by Paleozoic sedimentary rocks deposited in a back arc basin. The back arc sequence is composed of Early Cambrian to Middle Ordovician clastic marine sedimentary rocks, which in turn are unconformably overlain by Silurian to Devonian sedimentary rocks (Ramos, 2000). The Paleozoic successions are locally covered by Cretaceous sedimentary rocks belonging to the Salta Group.

Late Ordovician to Devonian collision of the composite Arequipa-Antofalla metamorphic basement terrane with the Pampian terrane, which forms the crustal basement in of the majority of northwestern Argentina, resulted in folding and faulting of the Paleozoic rocks at Pirquitas (Ramos, 2000). The faults and axial planes related to the large-scale folds formed during this event strike north to northeast. Uplift of structural blocks has exposed elongate, Ordovician-age batholithic granitoid intrusions.

The metallogeny of the Eastern Cordillera is relatively simple. The most important mineral deposit in the belt is the Ordovician age Aguilar Sedimentary Exhalative (SEDEX) type Pb-Zn(-Ag) deposit, located about 50 km south of Abra Pampa.

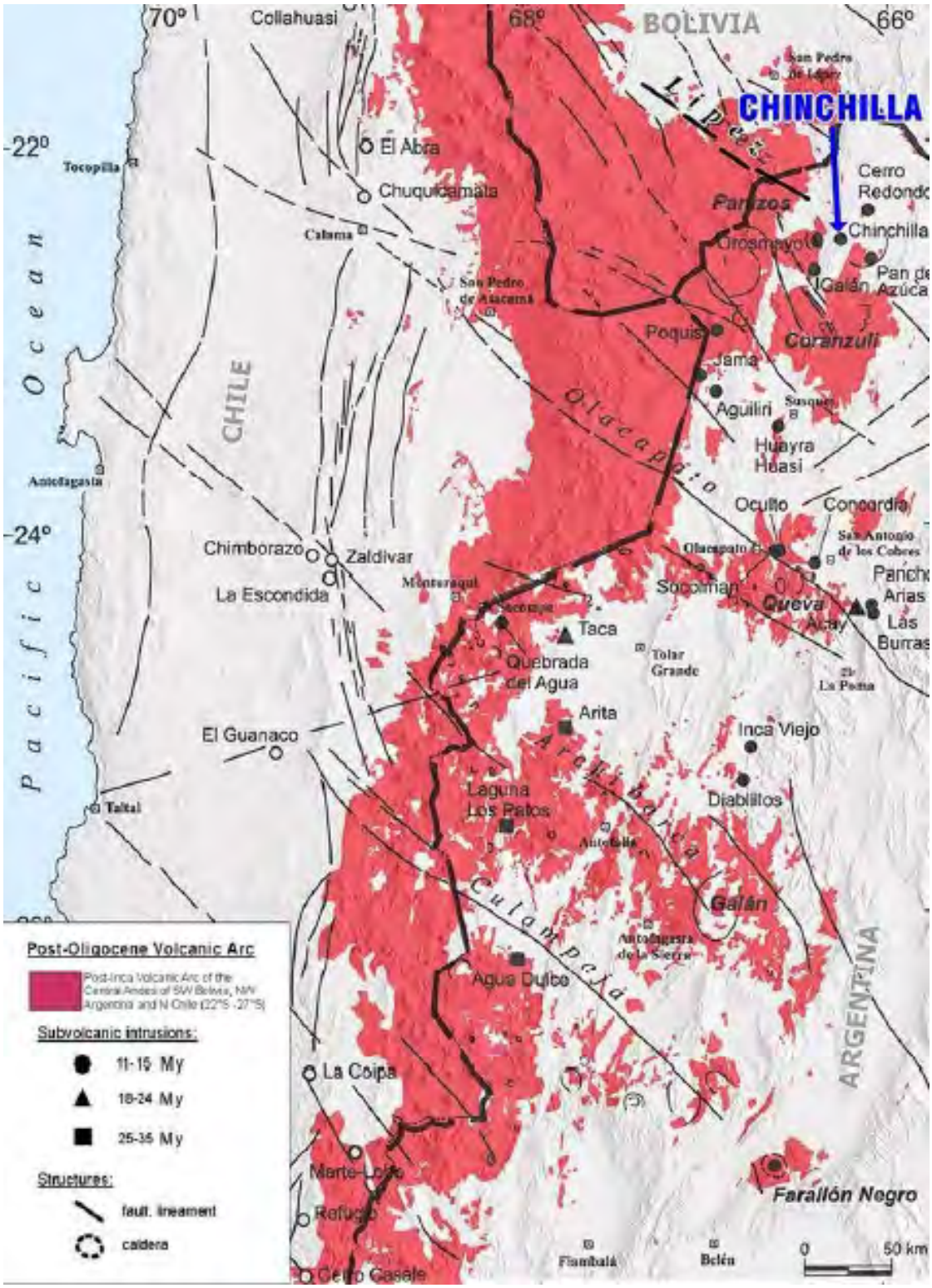
6.1.3 Puna Belt

To the west of the Eastern Cordillera, at elevations of 3,900–6,700 masl, is the Puna belt. The Puna belt consists of nearly the same sedimentary sequences that occur in the Eastern Cordillera. Late Ordovician to Early Devonian compressive tectonism also affected the Paleozoic rocks in the Puna belt, but to a lesser degree than in the Eastern Cordillera. A Paleogene compressive event related to Andean-style tectonics resulted in minor folding and thrust-faulting. By the late Miocene the tectonic regime transitioned to extension, resulting in basin and range geomorphology. Thinning of the upper crust resulted in the upwelling of magma and the development of andesitic to dacitic stratovolcanoes as well as multiple very large calderas (Figure 6.2). Large volumes of regionally extensive ignimbrite sheets erupted from the calderas, with approximately 1,800–1,200 km3 of material ejected from the Valdema caldera alone (Soler et al., 2007). Subaerial volcanism continued into the Pleistocene. This volcanic activity, and associated mineral deposits, was concentrated along corridors defined by lineaments such as Coranzuli Lipez, El Toro Olacapato and Arizaro (Figure 6.1) (Ramos, 1999, Coira et al., 2004, Gorustovich et al., 2011).

Younger rocks include basaltic lavas, continental sedimentary rocks, and the formation of high-altitude salt flats. In terms of mineral deposit endowment, the Puna belt is by far the most important of the three terranes in Jujuy Province. Below are the main deposit types documented in the Puna belt:

- Devonian mesothermal quartz veins and saddle reefs containing native gold, minor base metals and accessory gangue minerals of ankerite and chlorite, with the Rinconada district being the most important for this type of mineralisation.
- Polymetallic quartz-sulphide veins related to eroded Neogene volcanic centers, with the veins containing variable amounts of Pb, Zn, Sb, As, Ag, and Au.
- Bolivian-type Sn-Ag sulphide-rich veins related to Middle to Late Miocene subvolcanic intrusive stocks.
- Pleistocene to recent placer deposits of Au (Rinconada), Sn (Pirquitas) and Au-Cu (Eureka).

Figure 6.1 Oligocene-Miocene Volcanic Arc. Subvolcanic Intrusions: solid dots 11–15 My



SSR, 2022

6.2 District Geology

6.3 Chinchillas Geology

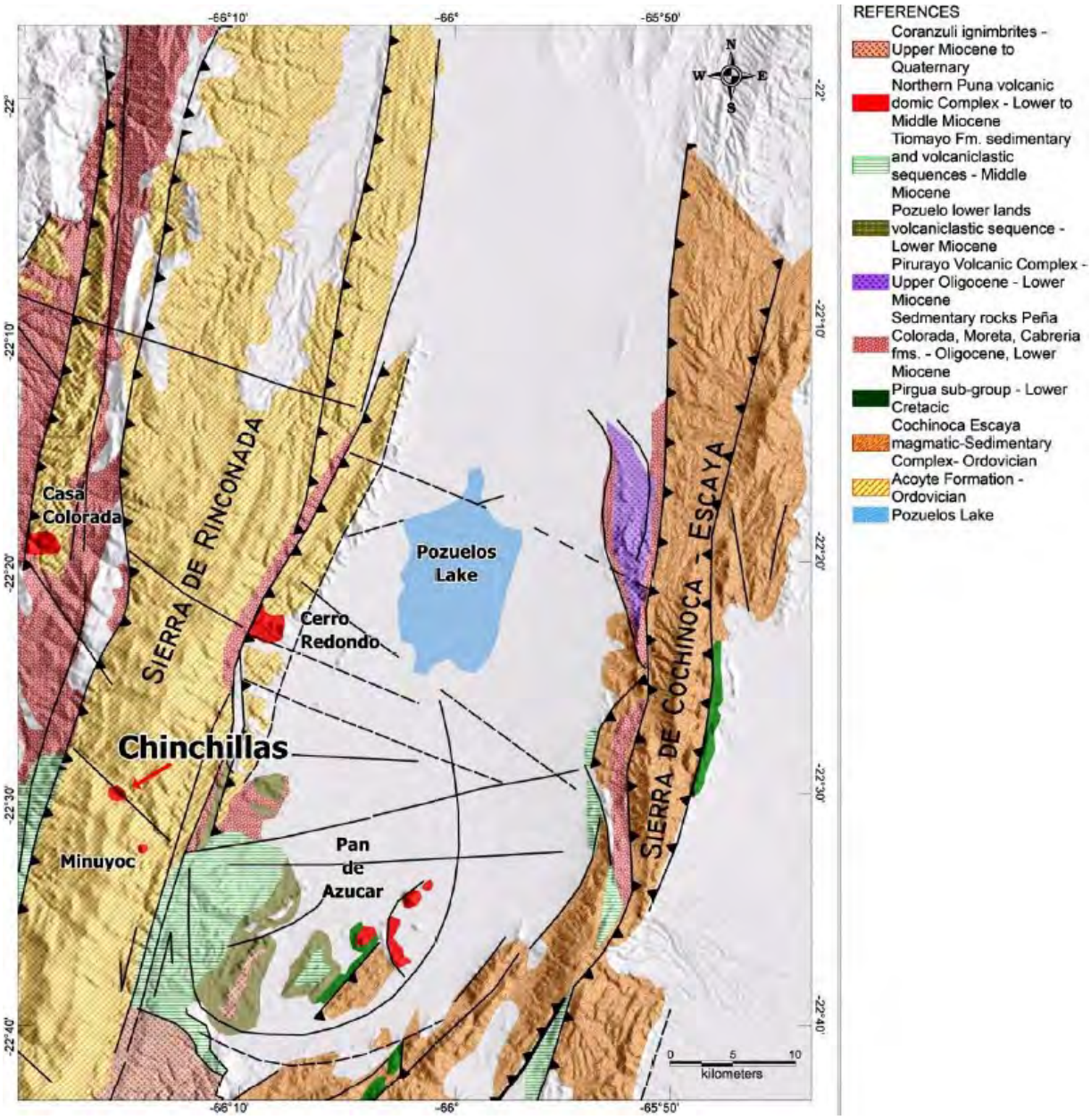
The Chinchillas silver lead zinc deposit is in the north–northeast trending Puna belt in the western half of Jujuy province and southern part of the Rinconada Range (Figure 6.2). The range has a regional north–northeast trend and is delimited by thrust faults to the west and east. Miocene-age volcanic dome complexes and associated hydrothermal alteration are present in the area, including Cerro Redondo, Pan de Azucar, Rachaite, and the Chinchillas dome complex. High angle faulting and folding also characterise the area. Chinchillas is located within a structural window at the intersection of northwest fracturing associated with the Lipez-Coranzuli regional lineament, the east–west controlling structure, and lesser northeast trending structures.

The Chinchillas deposit is hosted by the Ordovician Acoite Formation and Miocene dacite. The Acoite Formation, described by Board et. al., (2011), is a strongly folded package of low-grade metamorphosed marine sandstone, siltstone and minor shale beds. Deformation of these sedimentary rock occurred during the Ocloyic Phase (Coira et al., 2004) of late the Ordovician.the Acoite Formation is unconformably overlain by Cretaceous marine clastic sedimentary rocks. The Cretaceous sedimentary rocks are overlain by Oligocene to middle Miocene dacite tuff, continental sedimentary rocks, and volcaniclastic lithologies. The dacitic volcanic centre has an age of 13±1 Ma (Caffe and Coira, 2008) and is a product of a phreatomagmatic diatreme. The resulting topographic depression is elliptical in shape, approximately two kilometres long by 1.6 km wide, and infilled with pyroclastic rocks (breccias and tuffs). At the contact between pyroclastic volcanic rocks and basement metasedimentary rocks is a zone of hydraulic fracturing and brecciation up to 150 m wide which is the main host of basement mineralisation. Dacitic lavas, flow domes and subvolcanic intrusions occur on the southern margin of the basin at the contact between metasedimentary and pyroclastic rocks (Figure 6.3).

Pyroclastic breccias and tuffs erupted from the volcanic centre and filled in the resulting depression, contouring the vent walls. This most likely occurred via airfall deposition and flows of ignimbrites as there is no observed evidence of water-lain deposits or sediments. The breccias and tuffs are mainly matrix-supported and rarely are clast-supported. The clasts are sub-rounded to angular and vary from fine grained to large metre-scale blocks. The clasts are predominantly fragments of re-worked pyroclastic tuffs, lava, dacite, and basement pelite and sandstone. Most of the volcanic clasts and matrix are altered by intense hydrothermal activity, whereas the sedimentary basement clasts are generally better preserved (Figure 6.7).

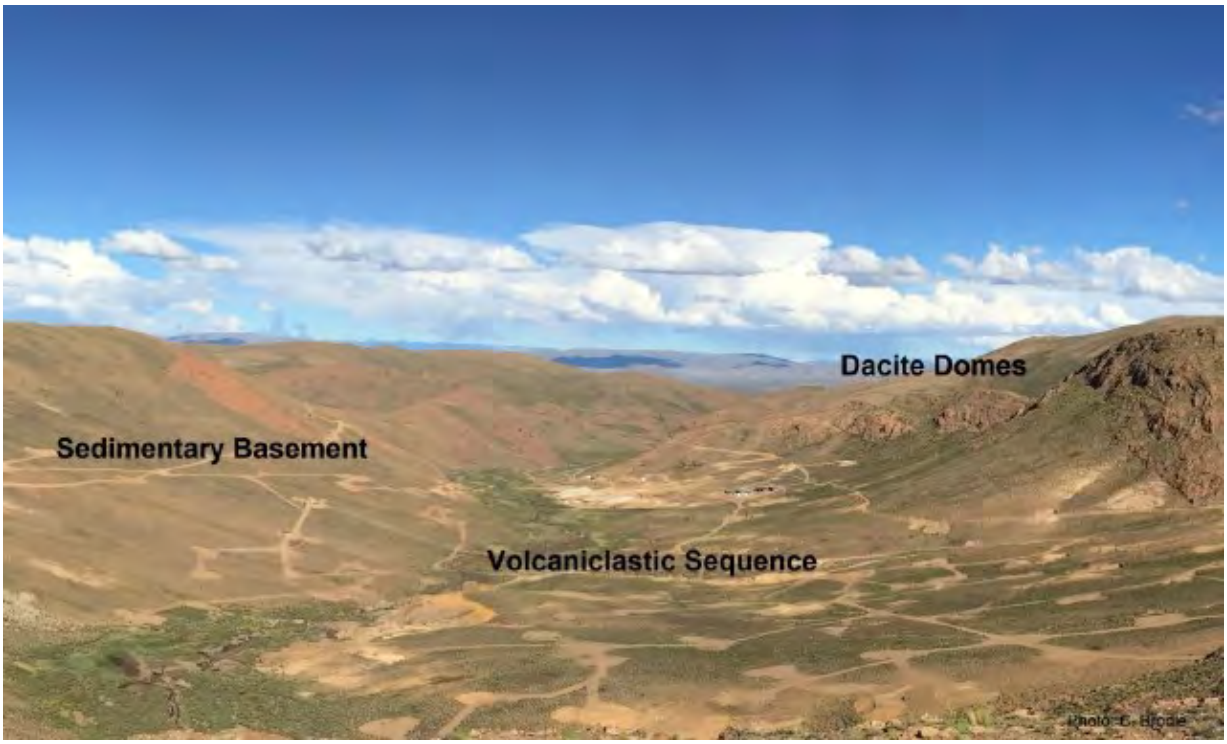
Three main dacite domes outcrop along the south-east edge of the Chinchillas basin between the pyroclastic breccias and basement contact. The domes have a medium to fine grained porphyrytic texture with phenocrysts of quartz, (35% to 45%) plagioclase, biotite and minor sanidine (Caffe and Coira, 2008). The dacite domes are generally massive with limited flow banding and some flow brecciation along the margins. Drilling confirms that the dacite outcrops are part of larger bodies below the Socavon del Diablo area. At surface they lie horizontally above tuff breccias (Figure 6.9).

Figure 6.2 Map Showing Tertiary Volcanism from Mega Caldera Complexes Near the Chinchillas Deposit



Note the location of the Chinchillas deposit relative to major faults Modified from Caffe 2002

Figure 6.3 View of the Chinchillas Deposit, Looking East



Note outcrop of the sedimentary basement rocks, the volcaniclastic sequence infilling the depression, and the dacite domes flanking the southern border of the deposit.

Figure 6.4 Chinchillas Geology Map

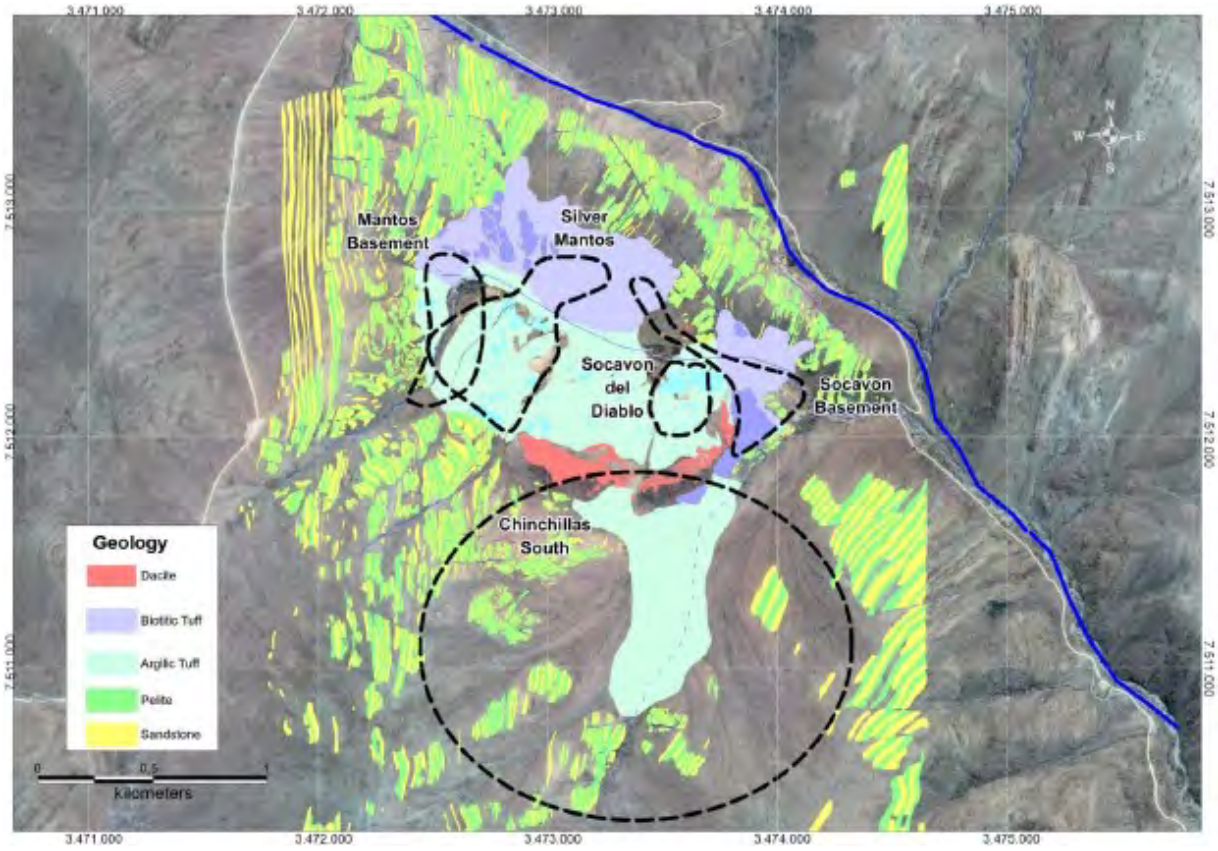
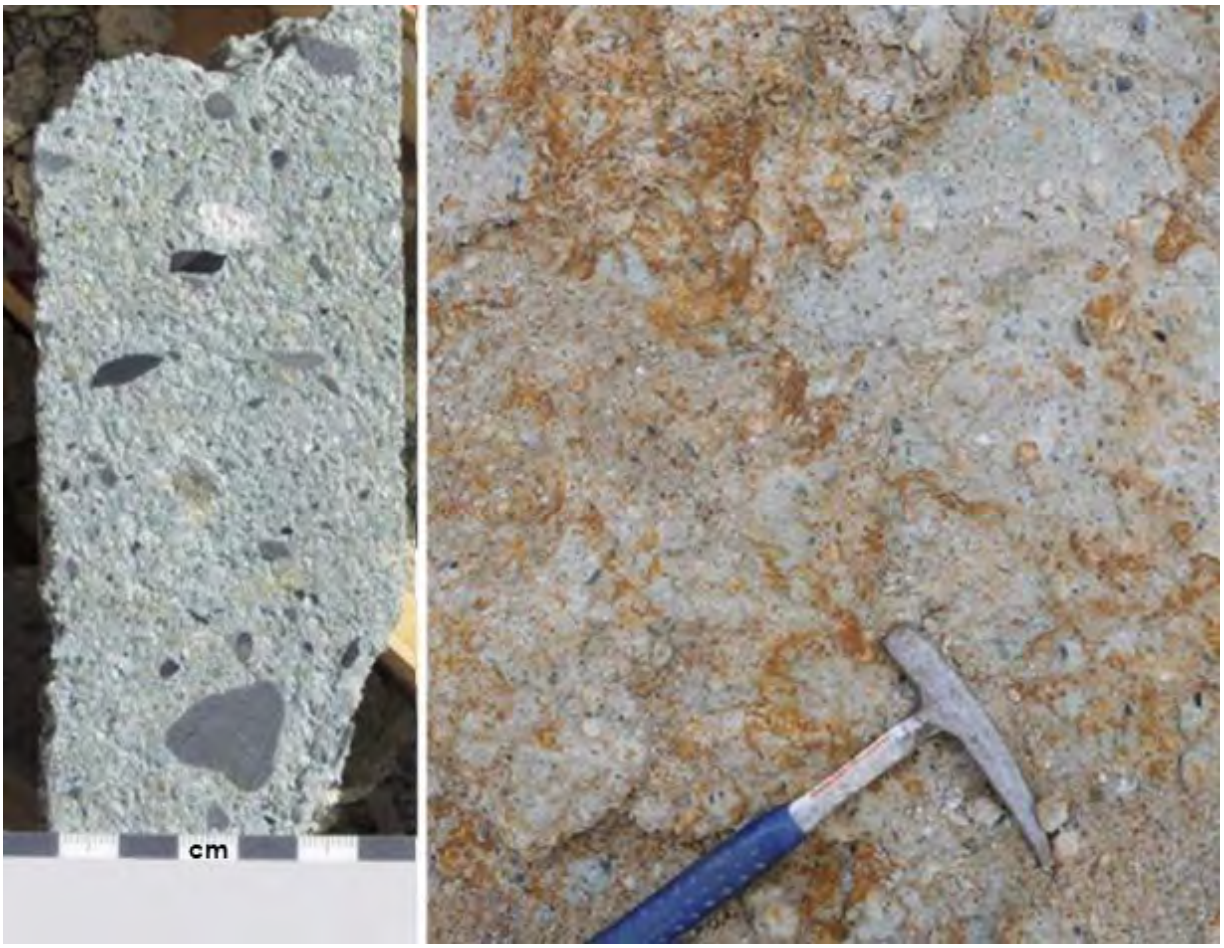


Figure 6.5 Interbedded Sequence of Marine Sandstone and Pelite with Near-Vertical Dip at Chinchillas

Figure 6.6 Brecciated Basement Sediments with Fine Volcanic Matrix Near Contact Between Pyroclastic Sequence and Basement Sediments

Figure 6.7 Typical Chinchillas Medium Grained Pyroclastic Breccia



With Dacitic Volcanic Clasts Dominant and Secondary Dark Grey Clasts of Basement Sandstone and Pelite

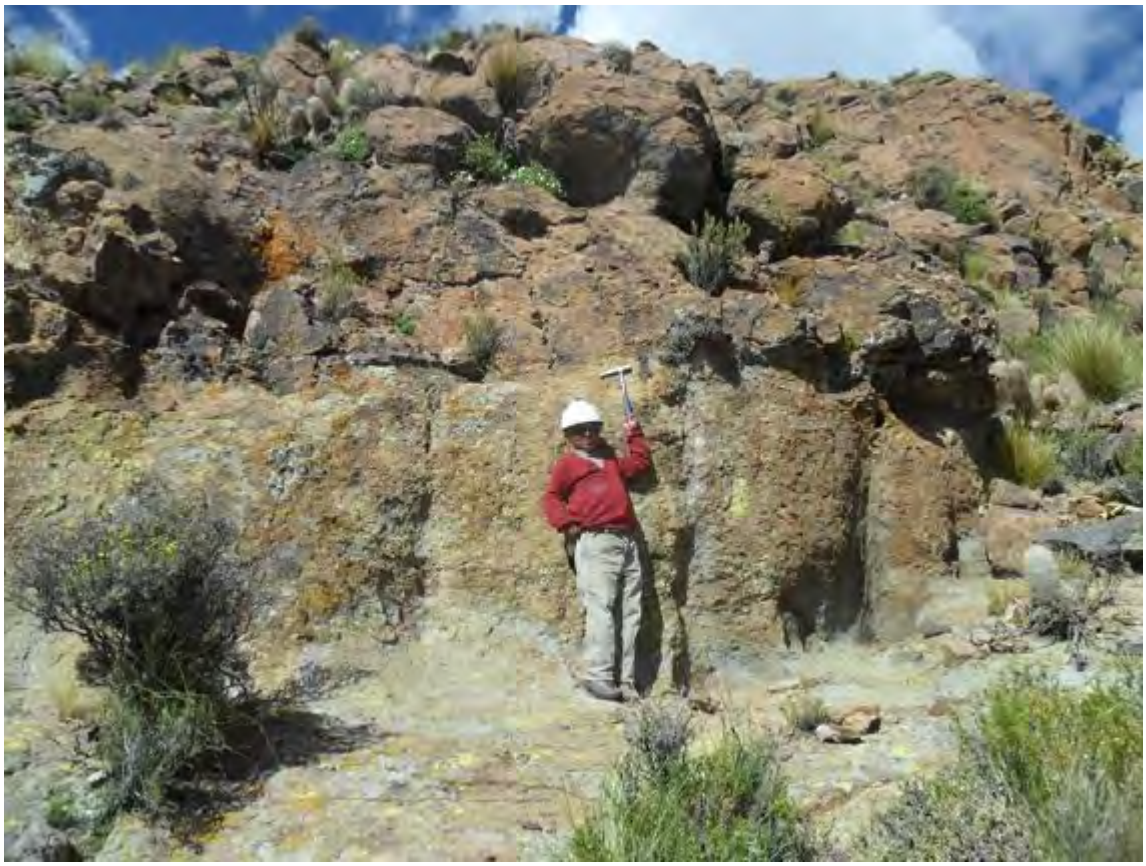
6.3.1 Chinchillas Alteration

Typical hydrothermal alteration is described below for basement sedimentary sequences, pyroclastic volcanic rocks and dacite flows.

6.3.1.1 Alteration in the Marine Sedimentary Basement

In the basement sedimentary sequence mineralisation is restricted to breccias, fracture filling, and veinlets with variable frequency and intensity. Alteration of the host pelite or sandstone is typically very weak, typified by carbonate, clay and chlorite alteration proximal to sheared structures. Abundant siderite with lesser iron and manganese oxides are observed on fractures. Disseminated diagenetic pyrite is abundant in sedimentary rocks.

Figure 6.9 Contact Between Dacite Flow Overlaying the Tuff Breccias



6.3.1.2 Alteration in Pyroclastic Tuffs and Breccias

Pyroclastic tuffs and breccias have undergone several different types of alteration, including clay alteration, sericitisation, silicification, and carbonate alteration primarily as siderite. Clay alteration is most extensive with feldspar, silica and pumiceous fragments altered to various assemblages including quartz–adularia–sericite, illite–quartz-sulfide, and siderite-sphalerite-pyrite. Biotite is commonly altered to sericite-kaolinite-quartz (Caffe, 2013). Extensive fine-grained silicification within the suite of rocks is also documented. Clay alteration, sericitisation and silicification are observed to overprint each other, indicating the alteration event was prolonged and the result of a range of temperature and pressure. Carbonate alteration is locally pervasive and appears late in the paragenesis based on thin section analysis(Marshall and Mustard, 2012). Plagioclase feldspar is commonly replaced by siderite and illite (Caffe, 2013).

6.3.1.3 Alteration in the Dacitic Domes

Porphyritic dacite rocks were hydrothermally altered to sericite and siderite with minor silicification. Alteration is more developed in the matrix and in the plagioclases crystals (Caffe, 2013).

6.3.2 Chinchillas Mineralisation

Mineralisation at Chinchillas is dominated by silver with lesser amounts of lead and zinc. Mineralisation occurs as disseminated sulfides, matrix infilling within the volcanic tuffs, and as matrix and fracture filling in breccias within the basement metasediments. Dacite volcanic rocks are rarely mineralised in shear zones, veinlets or vein-like structures. Within the basement lithologies shear zones and faults are more commonly mineralised. Depth of oxidation is a few metres within the volcanic rocks and is insignificant within the basement rocks. Silver, lead, and zinc-bearing minerals include silver sulfosalts, freibergite, boulangerite, tetrahedrite, schalenblende, sphalerite, and galena. Associated mineral associations include chalcopyrite, quartz, pyrite, siderite, limonites, manganese oxides, cerusite, smithsonite, anglesite and malachite (Marshall and Mustard, 2012 and Coira et al., 1993).

The geological model for the Chinchillas deposit includes significant silver-lead-zinc mineralisation in the Silver Mantos and Mantos Basement zones in the western part of the Project (Figure 6.8 and Figure 6.9). Similar mineralisation is present at the adjacent Socavon deposit. A recent review of the Socavon deposit has resulted in its removal from Mineral Resource inventory in 2022.

The main structural elements controlling the location of mineralisation are the contact between basement sediments and overlying volcanic rocks and the dominant east–west and subordinate north-west, north, and north–north-east trending structures that control the Chinchillas volcanic centre. The phreatomagmatic explosion that produced the diatreme generated a symmetrical cylindrical shaped caldera, with mineralised brecciated basement rocks along the contacts and disseminated mineralisation in sub-horizontal tuff layers.

6.3.2.1 Silver Mantos Mineralisation

Mineralisation is disseminated in several shallow (± 5^0) dipping layers hosted within clay altered pyroclastic tuffs and breccias. The mineralisation occurs between surface and 100 m depth in sub-horizontal mantos that range between two and 60 m thick, averaging greater than 20 m in thickness. These layers are open for expansion to the east.

6.3.2.2 Mantos Basement Mineralisation

Located below the Silver Mantos, the Mantos Basement comprises an area 600 m wide and up to 210 m thick, with an average thickness of 80 m, dipping at approximately 40° to the east (Figure 6.80). The zone has been traced down dip approximately 350 m. The Mantos Basement is hosted entirely within basement pelites and sandstones and is comprised predominantly of breccias, crackle breccias with minor small veinlets, and fracture fill.

6.3.2.3 Socavon del Diablo Mineralisation

The Socavon del Diablo zone (Socavon) is located in the eastern area of the deposit (Figure 6.8). Mineralisation is dominated by manto-style disseminated sulfides within favourable shallow dipping volcanic tuff horizons.

Mineral occurrences, textures, alteration and ore types within the volcaniclastic lithologies are similar to those described for the Silver Mantos target but the mineralisation is thought to be related to a different fluid event based on compositional differences. There may have been a different vent source within the volcanic centre as the Socavon del Diablo mineralisation is generally lower in silver and higher in zinc content.

A recent review of the economics of the Socavon deposit has resulted in its removal from Mineral Resource inventory in 2022.

6.3.2.4 Socavon Basement Mineralisation

The Socavon Basement zone is mainly hosted within the Ordovician interbedded pelite and sandstone basement. The east limit of the Socavon del Diablo zone is a dacitic dome intruded in the tuff units and flowed over the tuff at surface (Figure 6.9). Immediately to the east of the dacite dome, biotitic sub-horizontal tuff layers of up to 80 m thick cover the Socavon Basement zone. Here, the mineralisation is hosted inbreccias filled with argentiferous galena and a stockwork of sphalerite-siderite-galena within a halo of low-grade zinc up to 320 m thick.

The most significant mineralisation in this target is located at more than 150 m depth from surface. The mineralised fluids may have precipitated sulfide minerals as a result of interaction with the water table or decrease in pressure.

A recent review of the economics of the Socavon deposit has resulted in its removal from Mineral Resource inventory in 2022.

Figure 6.8 Silver Mantos and Mantos Basement Zones with Drillhole Locations and Mineralised Zones Projected to Surface

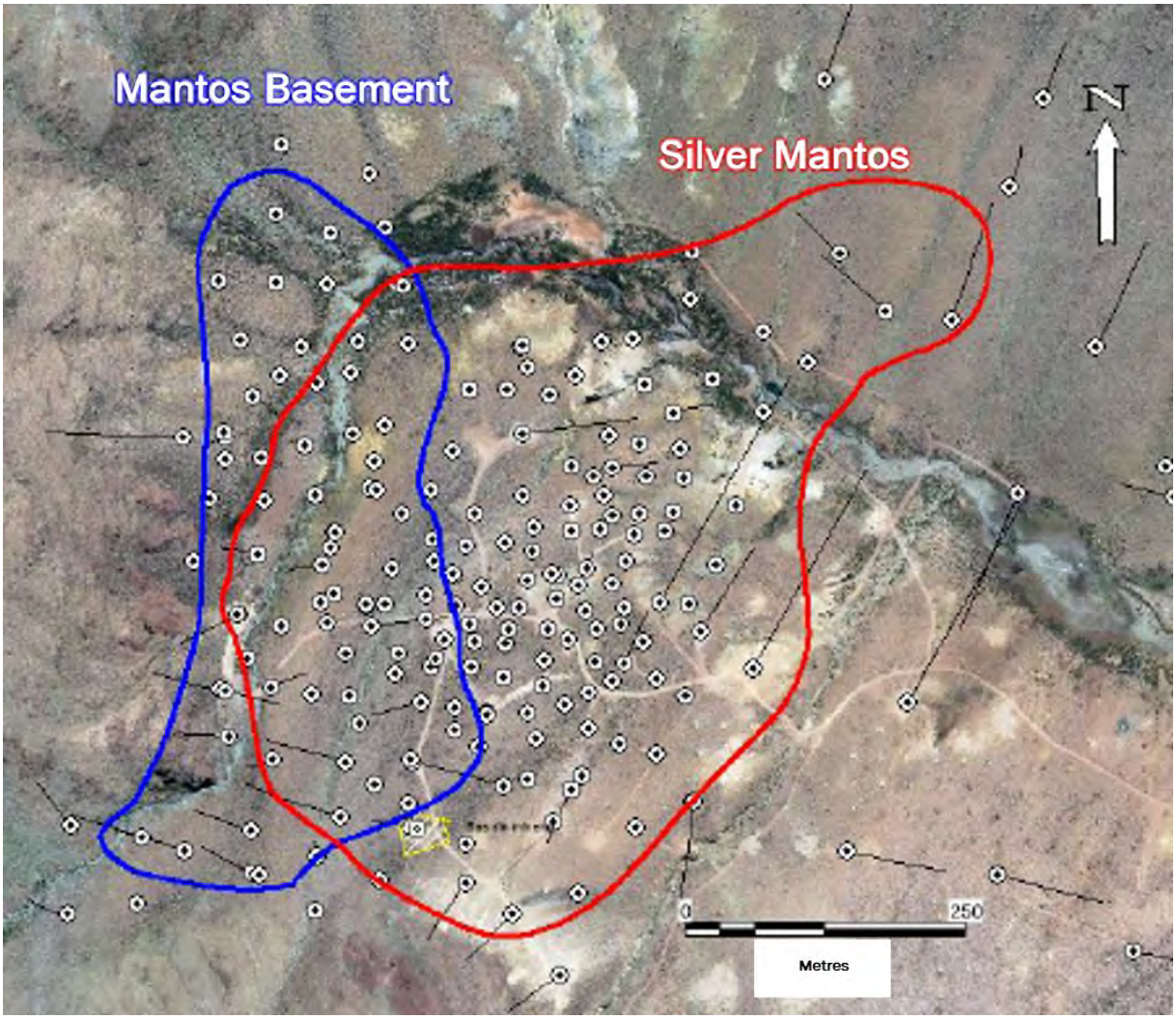
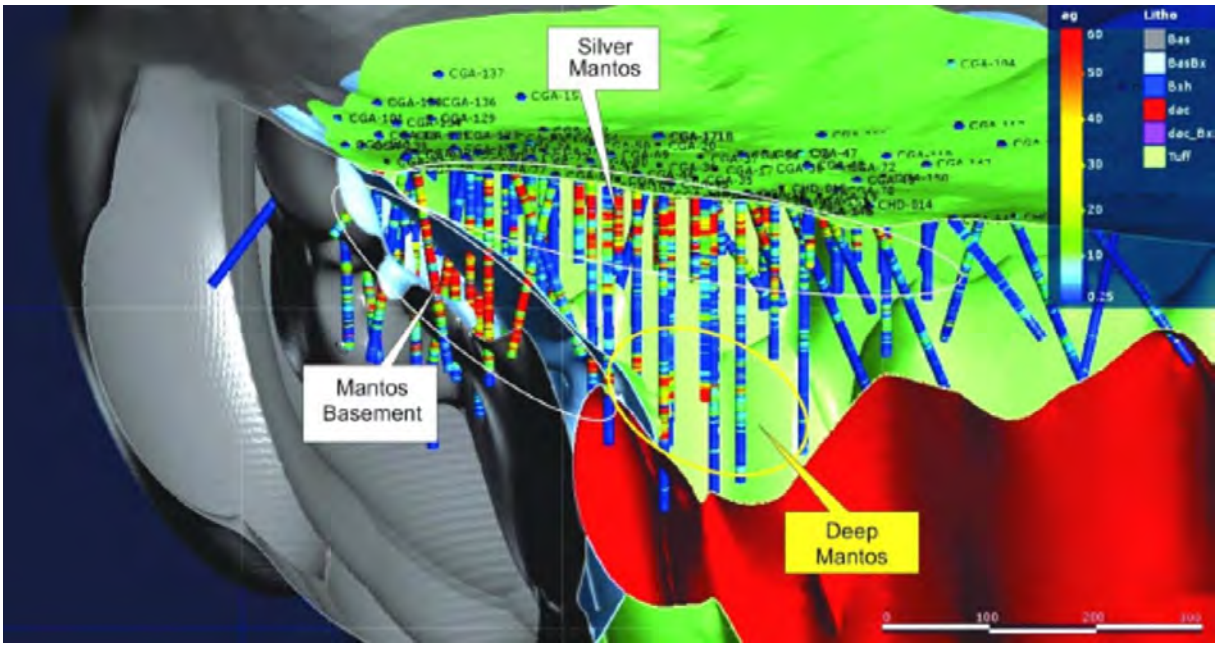


Figure 6.9 East–West Cross-Section with Deep Manto Mineralisation



6.3.3 Chinchillas Resource Expansion Opportunities

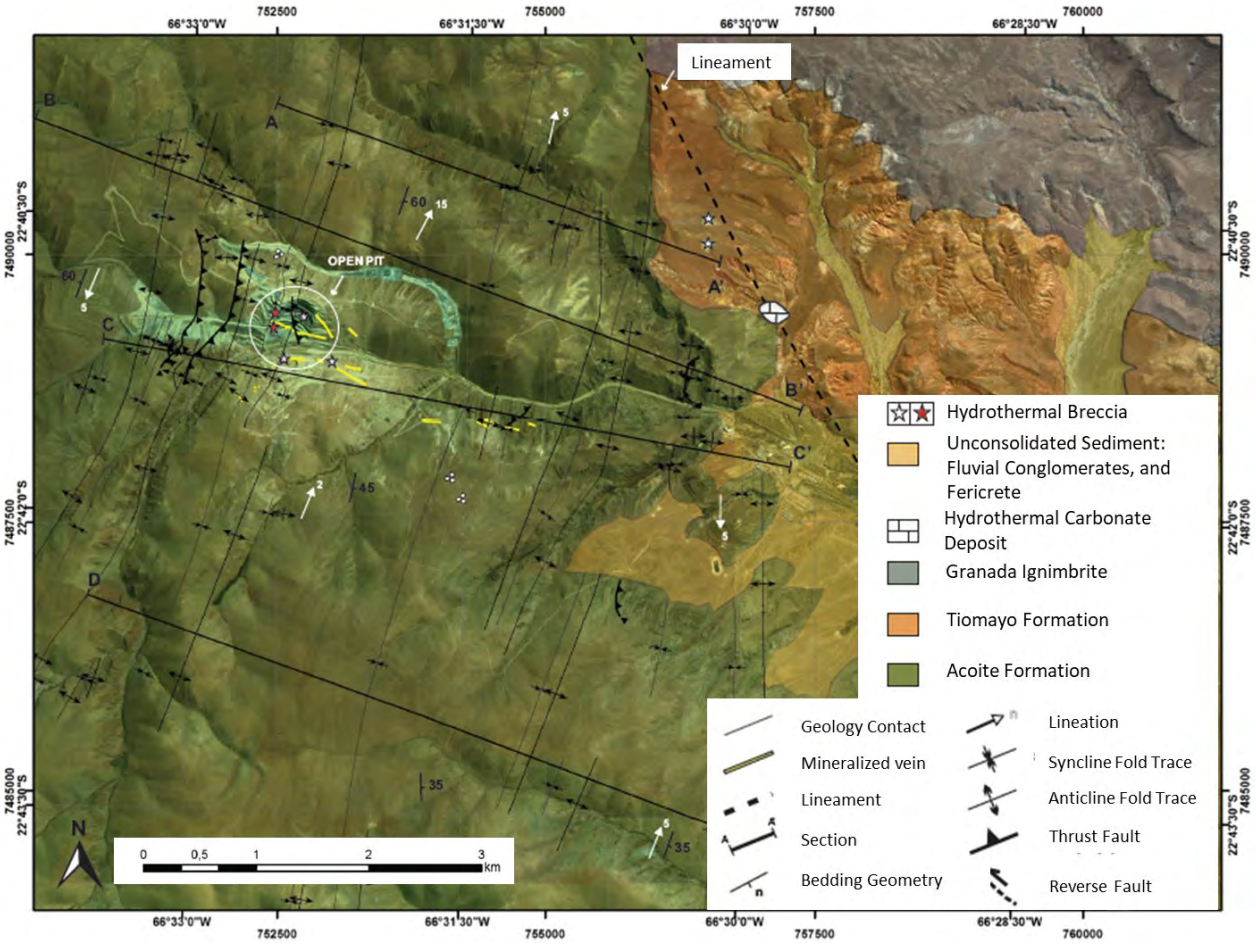
Mineralisation at Chinchillas in the Silver Mantos, Mantos Basement, Socavon Basement, and Socavon del Diablo are still open to expansion, particularly the deeper zones of Silver Mantos and Socavon Basement. Other targets include: the northern slope of the basin; the area between the Silver Mantos and Socavon zones; and the dacite domes.

A recent review of the economics of the Socavon deposit has resulted in its removal from Mineral Resource inventory in 2022.

6.4 Pirquitas Geology

The majority of the Pirquitas property covers intensely folded Ordovician Acoite Formation marine sedimentary rocks (Figure 6.10). Well exposed along the length of the Pircas River valley, this formation is composed of interbeds fine to medium grained lithic wacke tens of centimetres to a few meters thick, greywacke siltstone, and less abundant black shale that range in thickness from a few centimetres up to several metres. Underlying the north-eastern sector of the property is a sequence of continental sedimentary rocks, mainly hematite-stained arkosic sandstone intercalated with thin polymictic conglomerate beds and cream-coloured reworked dacitic tuff units. This sequence is inferred to belong to the shallow east-northeast dipping Tiomayo Formation of Early to Middle Miocene age. Several kilometres east of the property a medium-grained granodiorite intrusion forms the small mountain of Cerro Galan, which represents the only substantial intrusive rock body proximal to the mine area.

Figure 6.10 Pirquitas Geology Map

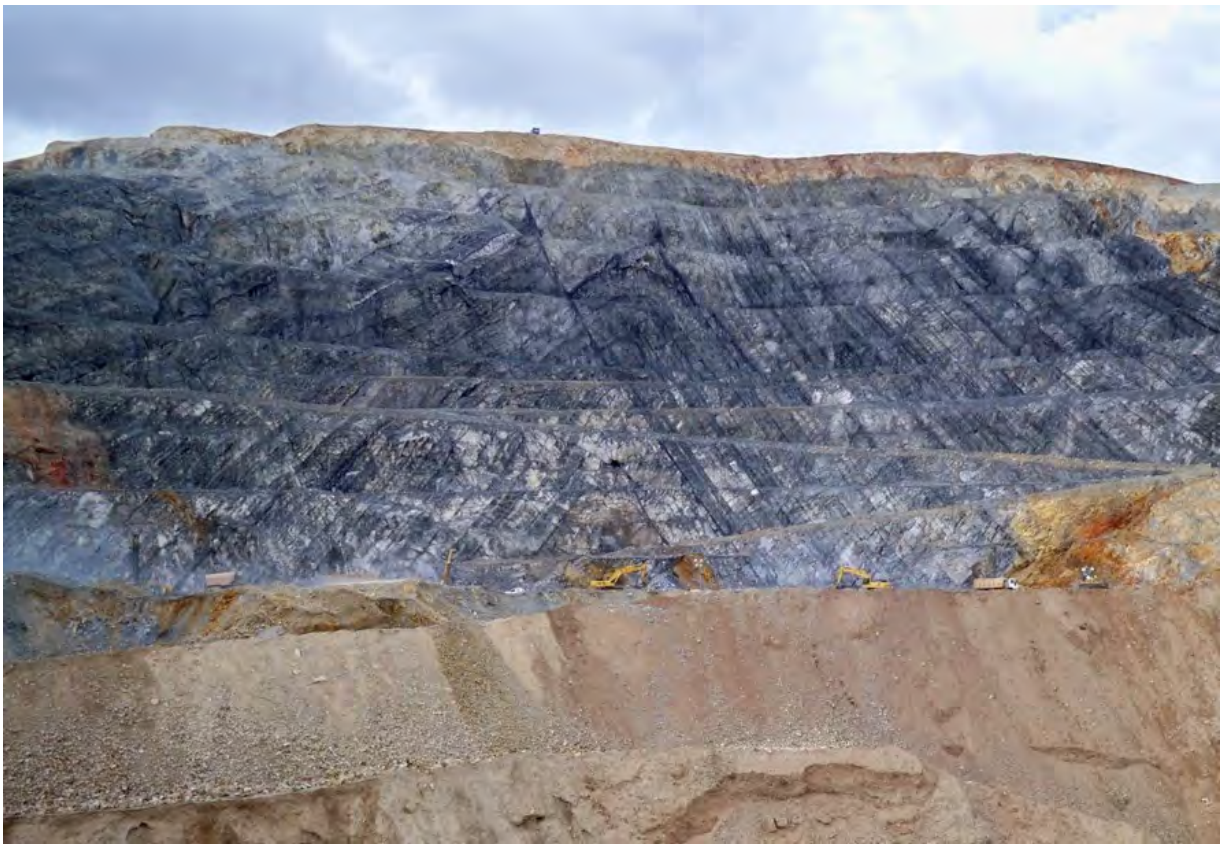


Folds with shallow-plunging hinge lines and amplitudes ranging from tens of metres to several hundred metres crop out in this area (Figure 6.11). Mining on the north face of the San Miguel open pit has exposed a 'textbook' example of a chevron-style anticline (Figure 6.12). High-angle, mostly reverse faults cut the folds, displacing fold limbs by metres to tens of metres.

Axial planar cleavage is well developed in the Paleozoic rocks, especially in the siltstone and shale beds. The well-formed cleavage does not appear to have acted as a receptive structural fabric for quartz-hosted Ag-bearing Fe-Zn-Sn-Pb sulphide veins, although a minor amount of weakly-auriferous quartz veins were deposited along cleavage planes.

Figure 6.11 Anticline Developed in Interbedded Sandstone, Siltstone and Shale of the Ordovician Acoite Formation, Pircas River Valley, Pirquitas Mine Area

Figure 6.12 Chevron Fold and High Angle Thrust Fault in the Acoite Formation Host Rocks. North Wall San Miguel Open Pit.



The Pirquitas Mine open pit exploits previously un-mined portions of the Potosí, San Miguel and Chocoya vein systems. Sheeted sulphide veins and associated disseminated mineralization of the San Miguel system occur in a swarm that is 160 m wide in the north-south direction and a maximum of 400 m along strike in the east–west direction. The Potosí Vein is located on the northern margin of the current pit; the Chocaya Vein system is located on the southern margin and the uppermost part of the Oploca system, known as the Oploca breccia, was exploited by the southern edge of the open pit.

A major system of sulphide-rich veins cut the axial surfaces of the folds and the related cleavage fabric at high angles. Three main and one minor vein sets are recognised at the Pirquitas Mine:

Vein Set 1

In the dominant orientation veins strike close to 290° and are generally subvertical. Veins with this orientation include the majority of those in the Potosí, San Miguel, Chocaya, and Oploca areas (Figure 6.13). The Potosí Vein is the largest known single vein on the property, with a strike length of approximately 500 m and maximum thickness of 2.5–3.0 m. Other veins of this orientation typically have a strike length between 100 and 500 m, with average widths of 30–50 cm. The larger of these veins include localised matrix-supported breccias with angular clasts of quartz-sericite altered wallrock in a matrix of Fe and Zn +/- Sn-Ag-Cu sulphides.

Vein Set 2

The secondary vein set is represented by the Veta Blanca and Colquechaca, veins and narrow (50 cm to 2 m) veins in the Oploca area. The veins are steeply to moderately south dipping and strike close to 310°.

Vein Set 3

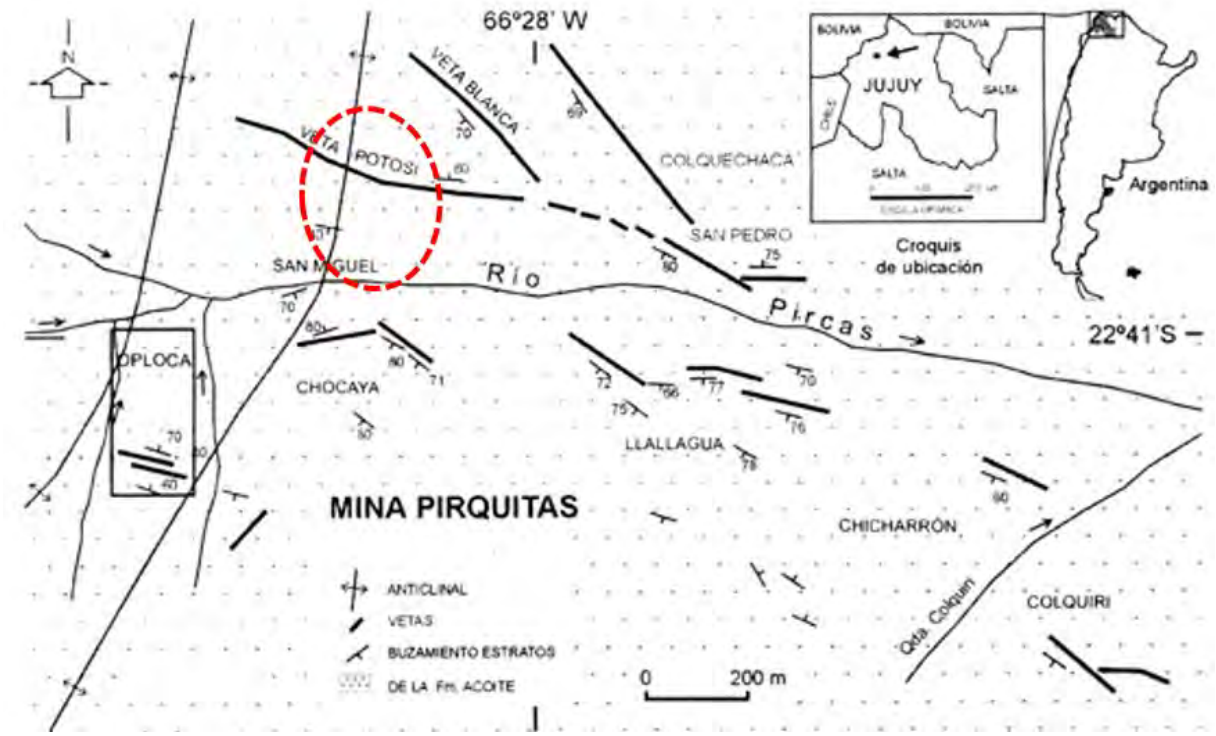
The Crucero vein is a series of saddle reefs that follow the axial plane of the antiform in the middle of the Pirquitas pit. Sulphide Mineralisation within the Crucero vein is irregularly developed along fractures within white crystalline syn-deformational quartz.

Vein Set 4

At approximately 200 m below surface to the south of the pit is a 4 m thick, 100 x 200 m vein that dips 30° to the north-east and strikes close to 320°. In addition to the veins, zinc-rich mineralisation is hosted within pipe-like breccia bodies that are interpreted to be breccia diatremes.

The Pirquitas open pit exploited previously un-mined portions of the Potosí and San Miguel veins in addition to a set of sheeted sulphide veinlets with associated disseminated mineralisation. The sheeted veins occur in a swarm that is 120–140 m wide in the north–south direction and a maximum of 300 m along strike in the east–west direction. The Potosí Vein is in the northern margin of the current pit; the Chocaya Vein system is south of the open pit (Figure 6.13)

Figure 6.13 Map of the Pircas Valley showing Main Ag-Sn-Zn Vein Systems



Red outline represents approximate limits of San Miguel open pit
SSR, 2022

6.4.1 Pirquitas Alteration

Hydrothermal alteration is not particularly well-developed in the host rocks of the Pirquitas deposit (Board et. al., 2011). An assemblage of sericite + quartz + disseminated pyrite replaces original wallrock minerals along the margins of the larger veins, thus forming thin bleached *halos* to the veins. This sericite-quartz-pyrite alteration is also recognised in wallrock clasts within vein breccia. Disseminated subhedral pyrite is widespread in the deposit, generally constituting less than a few percent of the wallrock by volume; it tends to be more abundant in shale and siltstone beds.

6.4.2 Pirquitas Mineralisation

The fracture and breccia-hosted mineralisation at the Pirquitas Mine consists of Fe and Zn sulphides with accessory cassiterite (Sn oxide) and a large variety of Ag-Sn-Zn (-Pb-Sb-As-Cu-Bi) sulphides and sulfosalts. Crystalline quartz, along with chalcedony in the upper levels of the system, and kaolinite are the main gangue minerals in the veins and mineralised breccias. The main sulphides, specifically pyrite, pyrrhotite, sphalerite and wurtzite, form colloform bands parallel to vein margins, which together with crustiform and drusy vein textures suggest that the mineralisation is epithermal in origin. The vein textures imply that the mineralisation was deposited from relatively low temperature hydrothermal fluids within about 500 m of the paleosurface. However, mineralogical evidence suggests that the initial temperature of the mineralising fluids was possibly greater than 400°C. A detailed study by L. Malvicini (1978) provides relationships between 26 sulphide and sulphosalt mineral phases.

6.5 Deposit Types

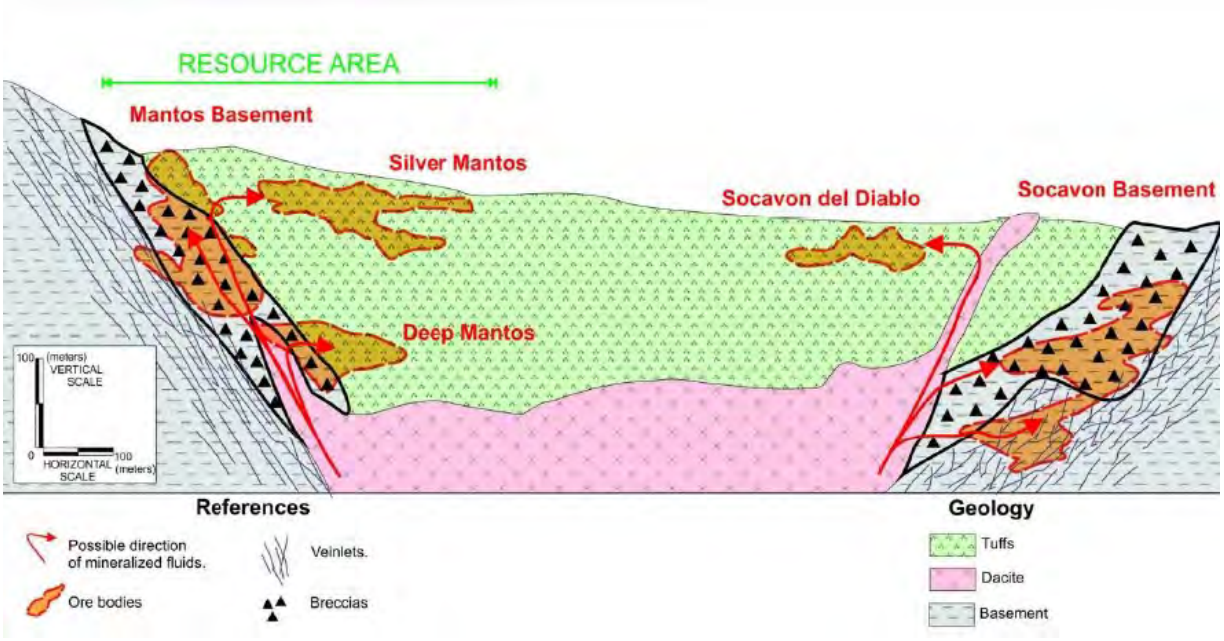
The Chinchillas and Pirquitas deposits are within the Bolivian tin-silver-zinc belt which occupies the back-arc portion of the central Andes and extends from the San Rafael tin-copper deposit in southern Peru to northern Argentina (Figure 6.14). The Bolivian tin-silver deposits are typically associated with felsic volcanic domes of broadly rhyodacitic composition (Cunningham et al., 1991). Bolivian-type Ag-Sn deposits generally consist of sulphide and quartz-sulphide vein systems typically containing cassiterite and a diverse suite of base and trace metals, including Ag in a complex assemblage of sulphide and sulfosalt minerals. The vein systems are generally spatially and likely genetically associated with epizonal (subvolcanic) quartz-bearing peraluminous intrusions one to two kilometres in diameter, although the mineralisation may be entirely hosted by the country rocks into which the intrusive stocks were emplaced. The Chinchillas deposit is modelled as a Tertiary-aged diatreme volcanic centre that has intruded Paleozoic sedimentary basement rocks. The mineralisation occurs mostly as disseminations, veinlets, and matrix fill (Figure 6.15).

Most of these deposits depicted in Figure 6.14 are characterised by the intrusion of dacite dome complexes with mineralisation hosted in shear zones and breccia within the dacite domes and/or within shear zonesand breccia within the host rocks. At Pulacayo, Potosí and San Cristóbal, where associated domes are present, there is significant mineralisation within the domes. More rarely, as in the case of Chinchillas and San Cristóbal, the deposits include disseminated mineralisation in flat lying manto bodies within sedimentary and pyroclastic rocks. Chinchillas demonstrates phreatomagmatic diatreme morphology associated with a dome structure.

Figure 6.14 Bolivian Tin-Silver-Zinc Belt with Major Deposits

Golden Arrow, 2013

Figure 6.15 Schematic Geological Model on West–East Cross-Section showing Chinchillas Deposit



Golden Arrow, 2015

7 EXPLORATION

The most comprehensive exploration programme was completed by Golden Arrow between 2011 and 2017 at Chinchillas and included detailed mapping, sampling, and geophysics. Emphasis was placed on mapping lithologies, alteration and structures to understand the controls of the mineralisation. In the basement rocks bedding, foliation and brecciation were recorded. A handheld X-ray Fluorescence (XRF) analyser was used to measure approximate silver, lead, and zinc values in all prospective outcrops.

A 2013 geophysical surveys (IP/Resistivity, CSAMT, Magnetics), together with the re-interpretation of the 2008 IP survey, was used to target the Chinchillas South area, detecting deep structure and defining the contact between the tuff unit and basement rocks. The methods used to explore the Chinchillas Property are in accordance with industry standards and there are no indications of sample biases.

SSR's exploration at Pirquitas has predominantly involved RC and diamond core drilling. Sunshine Argentina completed detailed geological mapping on the property and commissioned approximately 44 line-kilometres of ground magnetics surveying and 19.2 line-kilometres of induced polarisation surveying centred on what is now the San Miguel open pit. Sunshine Argentina's drilling programmes ended in September 1998, after which the parent company completed an internal Pre-Feasibility Study of the project. Since fully acquiring the project in 2005, the Company has carried out additional geophysical programmes, including in 2012 a 14.4 line-kilometre Quantec Titan-24 DC-IP survey, a ground gravity and differential GPS survey, and in 2018 a Drone Airborne magnetic survey. Between 2008 and 2021 numerous prospecting and geological mapping surveys evaluated the mineral potential of the property.

7.1 Drilling

7.1.1 Chinchillas Summary

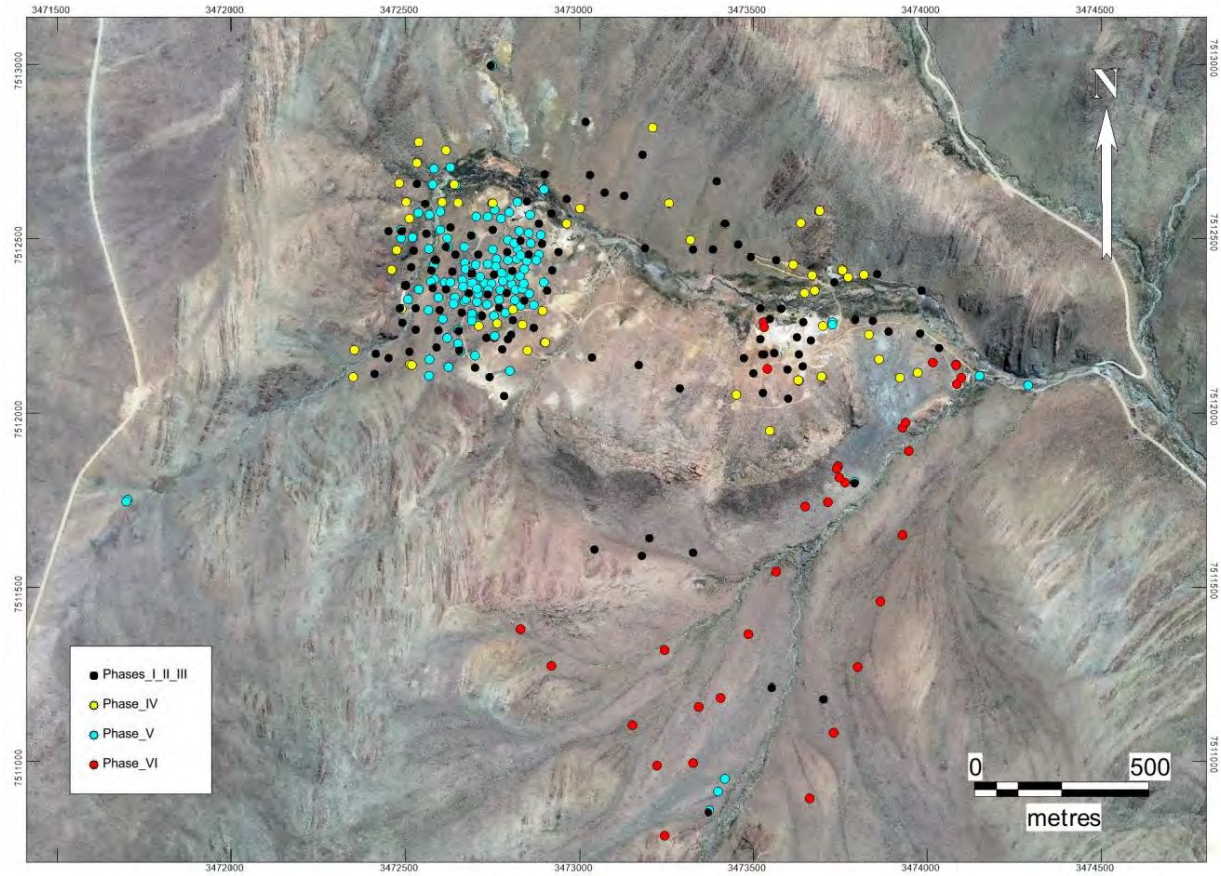
The historical drilling programmes at Chinchillas are summarised in Table 7.1. Aranlee Resources completed the first programme in 1994, which comprised seven reverse circulation holes. The results from the Aranlee holes were not used in any Mineral Resource modelling as there is no quality control data.

Table 7.1 Drill Programmes Completed at the Chinchillas Property

Company	BHIDs Sequence	Count	Year	Metres drilled
Aranlee Resources	CH-1–7	7	1994	782
Silex Argentina S.A.	CHD-010–016	7	2007–2008	2,220
Golden Arrow (Phase 1-V)	CGA-017–297	284	2012–2015	45,803
Golden Arrow / SSR (Phase VI – VII)	CGA-212W + CGA-298–340	44	2016	8,945

The average recovery from the 45,803 m of Golden Arrow drilling used in the 2017 Mineral Resource was 94%, including the first six metres where recovery was commonly less than 50%. Figure 7.1 shows the location of the Golden Arrow drilling separated into six different phases. For details on Chinchillas historical drilling refer to the 2017 technical report (Kuchling et. al., 2017).

Figure 7.1 Location of Drillhole Collars at the Chinchillas Deposit



Golden Arrow, 2016

7.1.2 Pirquitas Summary

Initial drilling on the Pirquitas Property was conducted by Sunshine Argentina and included a total of 51,863.62 m in 241 drillholes (Table 7.2).

The 2005 drilling programme was designed to test targets in the Oploca, Llallagua, and Colquechaca areas (Table 7.2). The 2007 and 2008 drilling programmes included exploration drilling, resource definition drilling, drilling for metallurgical testing, and condemnation drilling. All drilling was conducted from surface, with the majority completed by RC methods (approximately 84% of the total metreage drilled). Diamond drillholes were generally drilled HQ-size, sequentially reducing to NQ then BQ at depth, as needed.

Diamond core drilling was conducted between July 2010 and September 2011. The majority of this drilling was for resource definition in and around the existing open pit (approximately 89% of the drillholes), with the remainder consisting of exploration drillholes targeting the Cortaderas Breccia Zone (aprroximately6% of the drillholes) and other exploration targets (e.g. Veta Blanca).

In 2012, diamond core drilling was conducted between March and November. Most of the drilling was for resource definition in the Cortaderas Breccia Zone (approximately 89% of the drillholes), with the remaining drillholes being exploration drillholes at the pit margins.

The main objective of the 2018 Potosí drilling programme was to determine if the vein extends eastwards, and to study whether the vein crosses the proposed descending ramp that would access the Cortaderas vein breccia located 500 m to the north. While the main 2–3 m wide Potosi vein does not project into the area, there is a thin and commonly less than 1 m vein intersected in select drill holes.

In 2019–2020, the objective of the deep Granada drill programme was to test the theorised intersection between the southwest dipping Cortaderas vein breccia and the steeply north-dipping Potosi vein beneath the San Miguel pit. Three HQ holes were completed between 6 October 2019 and 31 January 2020 for a total length drilled of 3,430.40 m. Holes from the Granada programme intersected two different mineral compositions that correspond with historically described veins. Mineralisation commonly fills open spaces related to fracturing, brecciation, and faulting, usually as massive or semi-massive veins or veinlets. These veins and veinlets typically range in width from 5–30 cm but may locally approach 3.5 m. The Granada target was not encountered at the anticipated depth, but the programme did identify significant intersections of gold values below the elevation of previous mining within the San Miguel open pit (~4,000 m). The gold grades are commonly associated with elevated concentrations of Ag, As, Bi, Cu, and Sn. The most encouraging broad, low-grade interval from this programme was intersected in GR-396.

As a result of the elevated gold results encountered in the deep drilling in the 2019–2020 Granada drilling programme, select reject and pulp material from historic Cortaderas drilling programmes were re-analysed in 2021 using fire assay gold and multi-element ICP. There were no gold analyses included for any of the original Cortaderas drilling programmes. Two phases of sampling were completed with the first phase including samples from 13 drillholes. The intervals were selected to test a range of high-grade Ag, Zn, and/or Sn intercepts and addition to multiple elevations ranging from the upper portion of the vein (elevation 4,100–4,200 m) to deeper in the breccia system (elevation 3,850-4,000 m). Gold demonstrates a positive correlation between Sb, Cu, Ag, Bi, Mn, and Zn. As a result of the anomalous results, a more-detailed Phase 2 sampling programme was completed that included re-analysis of samples from two drillholes, DDH-214 and DDH-230. An additional198 rejects were submitted for evaluation and represent continuous intervals (DDH-214: 150 m; DDH-230: 219 m). These results further support an elevation control to the gold mineralisation, with higher grades in the lowermost section of the deposit.

Table 7.2 Drill Programmes Completed at the Pirquitas Property

Company	Programme Description	Count	Year	Metres drilled
Sunshine Argentina	San Miguel Deposit (DD)	46	Pre-2004	12,645.72
	Underground (DD)	25	Pre-2004	4,284.50
	San Miguel Deposit (RC)	170	Pre-2004	34,933.40
SSR	Oploca (4), Llallagua (6), Colquechaca (4)	14 *	2005	3,299.65
	San Miguel (24), Cortaderas (6), San Miguel (4), Potosí (1)	35 *	2007	7,723.45
	San Miguel (115), Potosí (52), Oploca (32), Cortaderas (12), Pircas (4), Médanos (10)	225 *	2008	41,112
	San Miguel (38), Oploca (17), Veta Blanca (2), Cortaderas (4)	61 *	2010–2011	12,665.40
	San Miguel (69), Cortaderas (5), Other Targets (5)	79 *	2011	17,549.95
	Cortaderas (126), Médanos (1), West of Pit (9), South of Pit (4), North of Pit (2)	142 *	2012	52,804.30
	Pirquitas Property	17	2013	6,923.00
	Pirquitas Surface (16) and underground (2)	18	2014	3,553.00
	Pirquitas Underground	44	2015	10,961.00
	Potosi – East Extension	15	2018	2,399.30
	Deep Granada	3	2019–2020	3,430.40

* Drillholes used in the 2013 resource modelling

7.2 Drill Core Handling Protocol

The diamond drill core is extracted from the core tube and placed in appropriate boxes marked with drill hole number and the hole depth in metres. The boxes are transported, by pickup truck, from the drill site to the core shack at the end of each shift by trained personnel. The drill contractor used a single shot Reflex survey instrument to measure the down hole deviation. Following completion of the hole, a PVC tube is cemented at the drill collar with hole number, depth, and azimuth inscribed on a metal ticket.

Measurements of core recovery and geotechnical measurements (fracture frequencies and rock quality designation (RQD)) are recorded. The core boxes are then photographed and select intervals are temporarily removed for specific gravity measurements. Geological descriptions are recorded and the samples for analysis are marked at one metre intervals in mineralised zones and two metre intervals in areas with no expected mineralisation. The drill core is split using an electric diamond core saw and sampled according to the marked intervals.

8 SAMPLE PREPARATION, ANALYSES, AND SECURITY

8.1 Chinchillas

The following summarises the sample preparation, analysis and security details used by Golden Arrow and SSR in their drill campaigns at Chinchillas and remains unchanged from the most-recent Technical Report (Davis et al, 2016). For details of methodologies used by Silex in the earlier drill campaign, the reader is referred to the penultimate Technical Report (Davis and Howie, 2013).

8.1.1 Sampling Method – Chinchillas

Following the splitting of core, half the core is returned to the box while the other half is bagged. Corresponding tags are inserted, one in the plastic sample bag and the second in the core box. Quality control samples are inserted in sample bags and allocated in order for the laboratory to have a control sample in every batch.

8.1.2 Sample Custody and Security – Chinchillas

Samples bags are placed in larger sacks (between six and ten samples per sack) and are sealed. Sealing numbers are recorded in the Chain of Custody database. The sacks were shipped by private truck to the Alex Stewart (Assayers) Argentina S.A. laboratory in Mendoza, (Alex Stewart) where the sample preparation and analysis are performed.

Samples are received by the laboratory and the reception is reported to Golden Arrow. No damage or missing samples were ever reported during transportation.

8.1.3 Sample Preparation – Chinchillas

Samples are prepared by method 'P-5', which includes drying the samples at 90°C, crushing the entire sample up to 80% passing 10 mesh, splitting 1,000 g with a Jones riffle splitter and pulverising to 95% passing 140 mesh. The pulverised material or pulp is then sampled and 200 g of pulp is sent to the laboratory.

8.1.4 Sample Analysis – Chinchillas

Alex Stewart was the primary laboratory and ALS in Peru (ALS) was used as the secondary laboratory for check samples (see Section 8.1.6.4 for details). All samples are tested for a suite of 39 elements including silver, lead, and zinc by a four-acid digestion method and analysis by Inductively Coupled Plasma atomic emission spectroscopy (ICP) (method ICP-MA-39). Silver greater than 200 ppm is assayed by fire assay using a 50 g sample with gravimetric finish (method Ag4A-50). Lead and zinc greater than 10,000 ppm are re-assayed by an oxidising acid digestion for ore grade material and reading by ICP (method ICP-ORE).

In order to speed the reception of assay results, ALS acted as the primary laboratory for one batch of 876 samples in the Phase V programme. Quality control procedures were applied in the same manner as with the rest of the samples.

Alex Stewart is an international laboratory certified under ISO 9001:2008, ISO 17025:2008 and ISO 14001: 2004. Alex Stewart is independent from Golden Arrow and SSR.

8.1.5 Density – Chinchillas

To determine density, samples of drill core measuring about ten centimetres in length, at approximately fifteen metre intervals are collected. Samples are dried for two hours at 90°C in an electric oven. After cooling, the samples are sealed with plastic (cellophane) film. The weight of the plastic is ignored in the calculations since the volume is insignificant (less than 1 g of plastic film compared with the 900 g average weight of each sample). The samples are weighed in air and then weighed again while submerged in water. The formula used to calculate density values is as follows:

Density = (Weight in air) / (Weight in water)

A total of 2,586 samples of drill core were tested for density from Phases II, III, IV and V drilling. The results averaged 2.59 t/m^3 for the basement rocks, 2.40 t/m^3 for the dacites and 2.08 t/m^3 for the tuffs, with an overall average of 2.31 t/m^3.

8.1.6 Quality Assurance and Quality Control – Chinchillas

Golden Arrow established a Quality Assurance and Quality Control (QA/QC) system for its drilling programmes. The system specified the procedures for handling and sampling of drill core including, logging procedures, the frequency of inclusion of QA/QC samples and the procedure for the chain of custody between the drill and the assay lab. QA/QC samples, including blanks and certified reference materials (CRM) are inserted in each batch in the field to check the precision and accuracy of the laboratory. This section reports the results from the Phase V programme. Results from prior phases of drilling are detailed in the previous Technical Reports (Davis & Howie, 2013; Davis et al., 2014, Davis et al., 2015). The QC results from previous drilling programmes indicate the samples from those programmes are of sufficient quality to support Mineral Resource estimation.

A total of 1,792 quality control samples were inserted as shown in Table 8.1.

Table 8.1 Summary of QA/QC Samples – Chinchillas

Type of Sample	Number of Samples	Percentage of Total (%)
Core samples	10,468	85.4
Coarse Blanks	369	3.0
Fine Blanks	377	3.1
Coarse Duplicates Lab 1	185	1.5
Fine Duplicates Lab 1	191	1.6
Fine Duplicates Lab 2	293	2.4
Reference Material	377	3.1
Total	12,260	100

8.1.6.1 Blanks – Chinchillas

Coarse and fine blanks were used to detect contamination problems and cross labelling in the process. The blank used was not a certified material from a vendor. The coarse blank, named BL-CH-1G, was made from a tuff breccia with no silver mineralisation and low-grade base metals values. It was sampled by Golden Arrow personnel and assayed by Alex Stewart Assayers.

The blank material used for QC purposes was not certified by a round robin process at several accredited laboratories; however, assay QC results indicate the material appears to be sufficiently homogeneous to detect sample contamination. The acceptance values were three times the reference value. In the case of the Ag the acceptance value was three times the detection limit (1.5 ppm Ag).

From the 369 coarse blank samples, all Ag, Pb, and Zn values are under the Acceptance Limit except for one sample with 221 ppm Pb, just above the limit of 198 ppm Pb.

The fine blanks were made from the fine rejects of coarse blanks of the previous drilling phase. They were named BL-CH-2F, BL-CH-2aF and BL-CH-3F. The original assays were averaged and internal reports were produced. The acceptance values were three times the reference value. During the Phase V drilling programme, a total of 377 fine blanks were inserted in the batches as part of the QC programme. Ag values were always below the acceptance limit of 1.5 ppm Ag. Lead and zinc values were also below the acceptance limit except for two outliers in Pb and Zn. These outliers might reflect some contamination in the laboratory but the absolute values, even above the acceptance limit, are not considered significant.

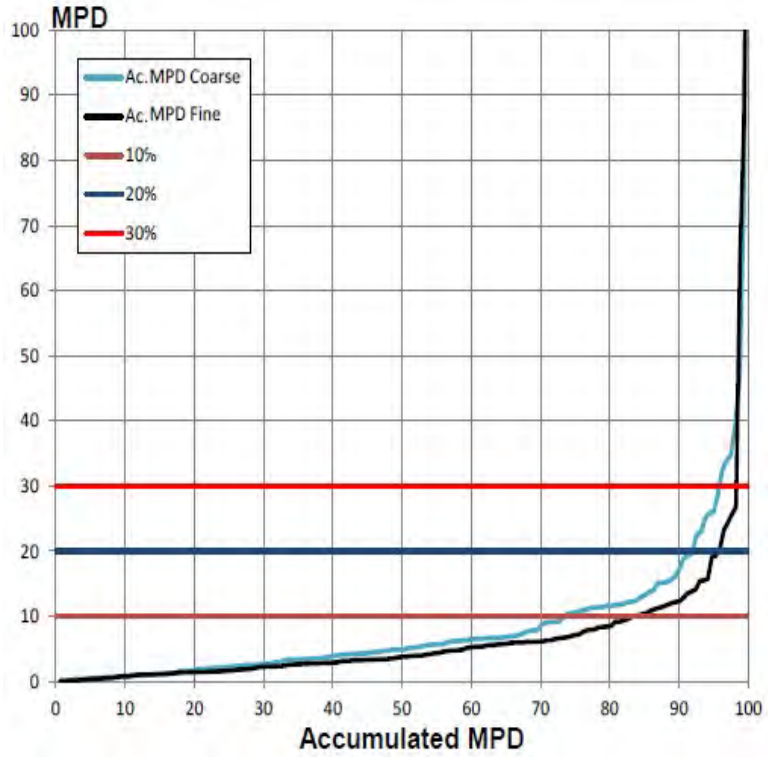
8.1.6.2 Coarse and Fine Duplicates – Chinchillas

During the Phase V drill programme coarse and fine duplicates were incorporated in the quality control process. A total of 185 of the coarse rejects (at 10 mesh) were re-labelled with a new number, re-assayed at Alex Stewart and considered as coarse duplicates. The same procedure was applied to 191 fine rejects (pulps) and these were considered as fine duplicates. Assay of the fine duplicates is not intended to validate the assay process since each part of the duplicate pair was assayed in the same laboratory. Pairs of values below 3 ppm Ag were removed due to the poor precision of results. Figure 8.1 shows a summary of the coarse and fine duplicates for Ag comparing the Mean Percentage Difference (MPD) to the Accumulated MPD. The MPD is calculated as the percentage of Ix1-x2I / (x1+x2)/2.

Curves for Pb and Zn show similar tendency as for Ag.

Field duplicates were not taken during the Phase V drill programme. As shown in previous phases, the comparison between ¼ core versus ½ core had low representativeness and usefulness.

Figure 8.1 Ag Values for the Two Types of Duplicates – Chinchillas



8.1.6.3 Certified Reference Materials – Chinchillas

A set of Certified Reference Materials (CRM) standards was used to check the accuracy and precision of the laboratory. The same three CRMs used during Phases III and IV were used during the Phase V programme, referred to as 1-CH, 2-CH and 3-CH. These standards were originally prepared by ACME-Mendoza, at the request of Golden Arrow, from rejects of previous drill core from the Chinchillas Property. CRMs 1-CH and 2-CH have low (41 ppm) and intermediate (146 ppm) Ag grades and were packaged in 30 g envelopes because they do not require fire assay. Standard 3-CH has higher silver content (862 ppm) and, therefore, was packaged in 120 g envelopes to accommodate the larger sample requirements of the fire assay testing.

A total of 148 CRM of 1-CH, 157 of 2-CH and 72 of 3-CH were inserted along the Phase V drilling. The assay results from the 1-CH all fall within three standard deviations (SD)of the accepted value (Figure 8.2). In the case of the 2-CH, only one value is above three SD of the accepted value. The results of 3-CH, shown in Figure 8.3, show that all assay results are within two SD of the accepted value.

Figure 8.2 Ag Values from CRM 1-CH and 2-CH – Chinchillas

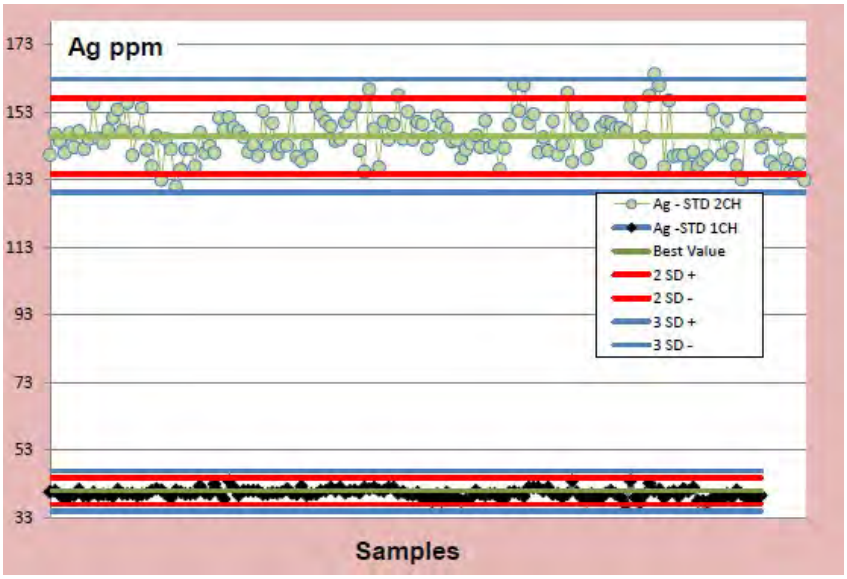
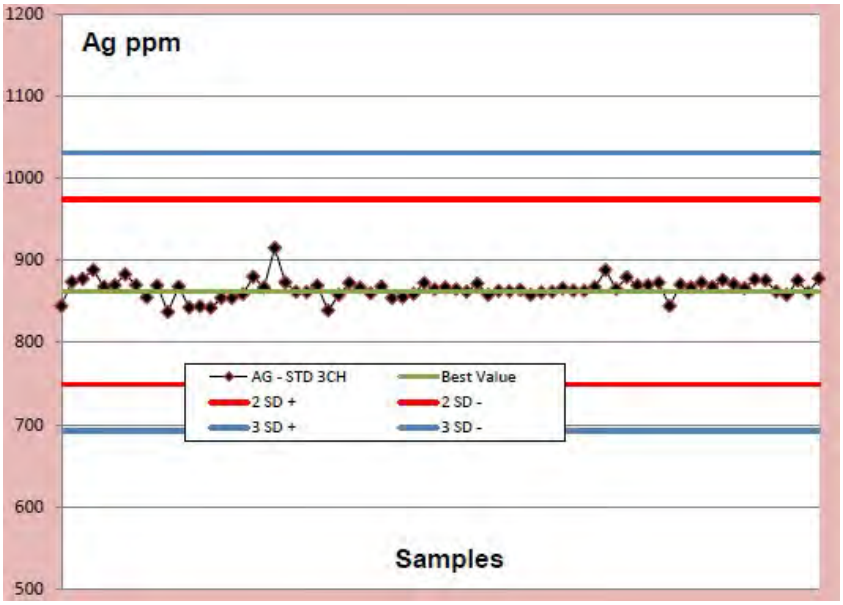
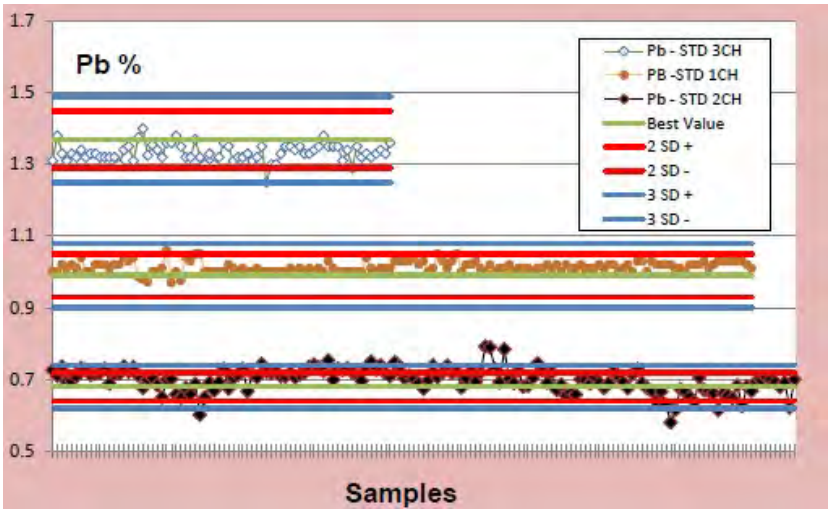


Figure 8.3 Ag Values from CRM 3-CH – Chinchillas



The results for lead, in Figure 8.4, shows some outliers in standard 2-CH. Samples immediately before and after this potentially suspect standard result were re-assayed and no significant difference was detected from the original assays.

Figure 8.4 Pb Values from CRM 1-CH, 2-CH and 3-CH – Chinchillas



In the case of zinc, reference materials 2-CH and 3-CH were assayed by method ICP-MA and all values are within +/- two SD, except for one sample that is less than three SD from the accepted value (Figure 8.5 and Figure 8.6).

Figure 8.5 Zn Values from CRM 1-CH and 3-CH – Chinchillas

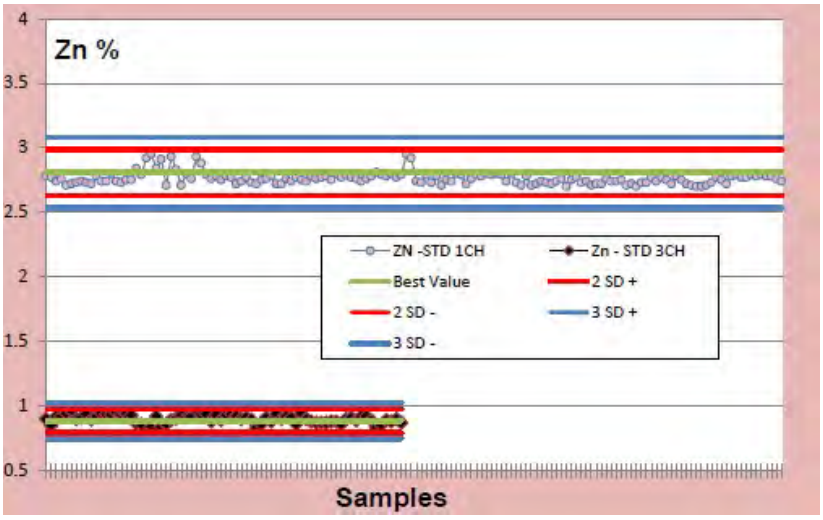
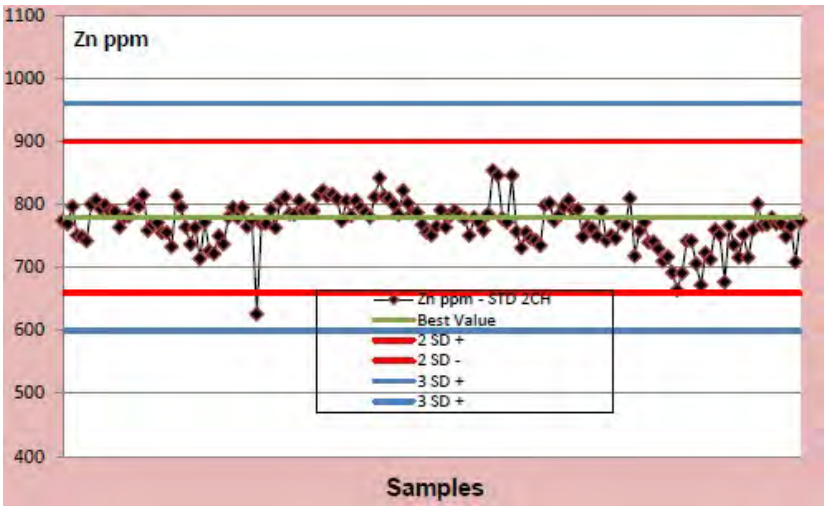


Figure 8.6 Zn Values from CRM 2-CH – Chinchillas



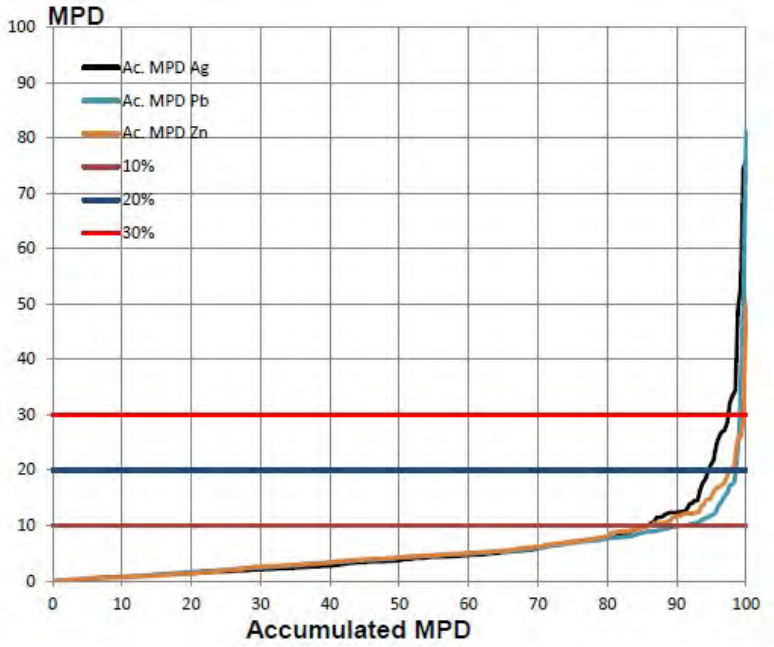
8.1.6.4 Secondary Laboratory for Checks – Chinchillas

ALS was used as secondary laboratory. A total of 293 pulps were sent to ALS to be tested by method ME-ICP61 based on a four-acid digestion and reading by ICP. Samples greater than 1% Pb or 1% Zn were re-tested using ore grade method Pb-OG62 and Zn-OG62. Samples greater than 100 ppm Ag were re-assayed by fire assay with gravimetric finish (method Ag-GRA22). ALS is part of an international laboratory system and has ISO 9001:2008 and 17025:2005 certifications. ALS is independent from Golden Arrow and SSR.

As with the field/coarse duplicates, the lab duplicate pairs with values close to the lower limit of detection were removed due to the poor precision of results, leaving only the greater than three ppm silver values.

Figure 8.7 shows the mean percentage difference of the Ag, Pb, and Zn values in check samples between the primary and secondary laboratory.

Figure 8.7 Comparison of Ag, Pb, and Zn Results between Lab Duplicates – Chinchillas



8.1.7 Conclusions and Recommendations – Chinchillas

The authors believe that the sample preparation, security, and analytical procedures meet or exceed industry standards for data quality and integrity. There are no factors related to sampling or sample preparation that would materially impact the accuracy or reliability of the samples or the assay results. The outcomes of the QA/QC procedures indicate that the assay results are within acceptable levels of accuracy and precision and the resulting database is sufficient to support the estimation of Mineral Resources.

8.2 Pirquitas

The following summarises the sample preparation, analysis and security details used by Sunshine Argentina and SSR in their drill campaigns at Pirquitas and remains unchanged from the most-recent Technical Report (Board et al, 2011).

8.2.1 Sampling Method – Pirquitas

8.2.1.1 Sunshine Argentina

RC drillhole cuttings were collected and split into 30–40 kg samples at the drill rig. A three-tier Jones-style splitter was used to split these samples. A 3–5 kg sample was sent to the relevant analytical laboratory for sample preparation and analysis.

Drillhole core (HQ and NQ) was marked for sampling and cut in half using a diamond saw. One half of the core was geologically logged and stored on site. The other half of the core was sent to the laboratory for sample preparation and analysis.

A total of 2,788 underground channel samples were collected over a total distance of 1,600 m from mineralised veins and sheeted vein systems in the main ore zone of the San Miguel zone, as well as from the Oploca, Potosí, Blanca, San Pedro, and Llallagua vein systems. Samples of approximately 2 kg per linear metre in weight were chiselled from channels.

8.2.1.2 SSR

Dry RC samples were split to approximately one-eighth (~12.5%) of the original sample size using a three-tier Jones-style splitter, then split to one-sixteenth using a one-tier Jones splitter. This sample was sent to the laboratory. Wet RC samples were initially halved using a wet splitter, with one half split again to one-eighth using a three-tier Jones splitter, then halved again to produce a one-sixteenth sample to be sent to the laboratory.

Drillhole core was marked for sampling and cut in half using a diamond saw. One half of the core was geologically logged and stored on site. The other half of the core was sent to the laboratory for sample preparation and analysis. All drillhole samples generated from the 2010–2011 drilling programmes were diamond drillhole core samples.

Following the splitting of core, half the core is returned to the box while the other half is bagged. Corresponding tags are inserted, one in the plastic sample bag and the second in the core box. Quality control samples are inserted in sample bags and allocated in order for the laboratory to have a control sample in every batch.

8.2.2 Sample Custody and Security – Pirquitas

The analytical laboratories took possession of the samples at the Pirquitas site and the samples were in their custody throughout the sample preparation and analysis steps, including sample transportation from site to the respective analytical laboratory.

SSRs sampling protocol included the labelling of sample bags and closing with a security seal. The samples were then sent to Jujuy by company truck.

8.2.3 Sample Preparation – Pirquitas

8.2.3.1 Sunshine Argentina

Sunshine Argentina's drilling programme was effectively conducted in two phases, with the transition being marked by a change in analytical laboratories from American Assay Laboratories (AAL) to the SGS Chile laboratory partway through its drilling programme. RC drillholes AR 001-AR 092 and diamond core drillholes DDH 001-DDH 042 were analysed by AAL, RC drillholes AR 093-AR 164 and diamond core drillholes DDH 043-DDH 069 were analysed by SGS Chile.

Sample preparation procedures were similar at both analytical laboratories:

- Samples were initially dried for two to three hours at 105°C.
- Dried samples were crushed to less than 18 mm in diameter using a jaw crusher, through to less than 2 mm to less than 0.18 mm in diameter using a roll crusher.
- A Jones-style riffle splitter was used to collect sample splits of approximately 250 g (AAL) and 400 g (SGS Chile).
- Sample splits were pulverised in ring/disk pulverisers to less than 0.10 mm in diameter, homogenised, and packaged for analysis.

All coarse rejects from the AAL prepared sample splits were stored on-site at Pirquitas; a minimum of 0.25 kg per sample was returned for on-site storage at Pirquitas by SGS Chile. A split of each sample pulp was also returned for on-site storage at Pirquitas.

8.2.3.2 SSR

RC and diamond drill core samples were shipped to the ALS Chemex analytical laboratory in Mendoza, Argentina. The following sample preparation was conducted by ALS Chemex:

- Samples were logged into the ALS Chemex Webtrieve sample tracking system (ALS Chemex procedure LOG-21), weighed (WEI-21), and then dried (DRY-21).
- Dried samples were crushed to between 70% and 80% passing a nominal –2 mm (CRU-31 or CRU-35), and split using a riffle splitter (SPL-21) to produce a representative 250-g split for pulverisation. The sample split was pulverised to better than 85% passing 75 µm (PUL-31 or PUL-32, depending on sample size).

8.2.4 Sample Analysis – Pirquitas

8.2.4.1 Sunshine Argentina

Sample pulps were digested in aqua regia and analysed for Ag using atomic absorption spectrometry (AAS). Samples with values higher than 500 ppm Ag were analysed a second time using fire assay methods. For Sn analyses, the sample pulps were fused with sodium peroxide and caustic pellets to ensure the Sn was completely dissolved before being analysed by AAS.

A total of six assay laboratories were used during Sunshine's two drilling phases:

- Phase I - After sample preparation, AAL sent the samples to the Laboratorio Quimíco Guayacan Ltda. analytical laboratory in La Serena, Chile for silver analysis, and to the AAL analytical laboratory in Santiago, Chile for tin analysis. Samples were also submitted to the Centro de Investigación Minera y Metalúrgica (CIMM) in Santiago, Chile for check assaying of Ag, and to the Instituto de Investigaciónes Minero-Metalúrgicas in Oruro, Bolivia for check assaying of Sn.
- Phase II – Prepared samples were sent to the SGS Chile analytical laboratory in Quilicura, Santiago, Chile for assaying, and to the Acme Labs in Santiago, Chile analytical laboratory for check assaying purposes. The analytical laboratories received 60 g pulps for Ag analyses and 20 g pulps for Sn analyses.

8.2.4.2 SSR

The analytical methodology changed during SSRs 2005–2008 drilling programme. Samples were initially analysed using the ICP mass spectrometry method, then aqua regia digestion followed by 36 element atomic emission ICP spectroscopy (ME-ICP41). Ag grades were found to be understated by both the ICP mass spectrometry method and, to a lesser degree, the ICP agua regia method. As a result of this SSR elected to switch to a third method: Four-acid 'near total' digestion followed by 34 element atomic emission ICP spectroscopy (ME-ICP61a, including Sn). Over limit Pb (>10%), Zn (>10%), and Ag (>200 ppm) grades were re-analysed using a four-acid digestion followed by AAS finish (Pb, Zn, or Ag-AA62 procedures). Ag grades still over limit (>1,500 ppm) were analysed by fire assay with a gravimetric finish (Ag-GRA21). Additional Sn analyses were conducted using AAS (Sn-AA82). All ICP mass spectrometry samples were re-assayed using this method by ALS Chemex.

Four-acid 'near total' digestion followed by 34 element atomic emission ICP spectroscopy (ME-ICP61a, including Sn) was the primary analytical technique used during the 2010-2011 drilling programme.

8.2.5 Density – Pirquitas

The method of density determination is not specifically discussed in historical documentation.

8.2.6 Quality Assurance and Quality Control – Pirquitas

8.2.6.1 Sunshine Argentina

Approximately 12% of the samples submitted for assays were QA/QC samples consisting of field standard, blank, and duplicate control samples. The QA/QC results showed that:

- Overall, Ag analyses of CRM and blank control samples were within acceptable limits.
- Field duplicate control samples of Ag were considered acceptable.
- Sn analyses were initially biased low, resulting in the re-assaying of 3,252 samples. No significant biases were noted in the Sn assay data for the Phase II drilling. Limited cross-contamination in Sn assay data was rectified through a programme of sample batch re-assaying. Sn data displayed a relatively high degree of inherent variability.

8.2.6.2 CRM

CRM standard, blank, and field duplicate control samples were inserted into the sample stream on a one-in-twenty basis. Approximately 5% of the total number of submitted samples was submitted to the third-party analytical laboratory for check assaying. QA/QC samples included six different reference CRMs covering a representative range of Ag, Sn, and Zn grades, blanks generated from barren sandstone, and field duplicates (prepared as discussed above).

The QA/QC results showed that:

- The control values of the CRMs were not initially correctly calibrated, resulting in extensive failures of the field standard control samples relative to no failures in the analytical laboratory standard control samples. Recalibration of these values indicates that the key assay data from the 2005 through 2008 drilling programmes are unbiased and accurate.
- Field blank control samples indicated that sample cross-contamination was generally not an issue during the analytical work conducted on SSRs 2005–2008 drilling data.
- Field duplicate control samples, whilst indicating a degree of variability in the assay data, were reported at acceptable levels of precision for Ag, Sn, and Zn, given the nugget effect (inherent variability) and the variability associated with quarter-core versus half-core samples.

9 DATA VERIFICATION

9.1 Database Validation

9.1.1 Collar Coordinate Validation

9.1.1.1 Chinchillas

Validation of collar elevation data at Chinchillas was done by comparing elevations from DGPS field surveys against the satellite photo digital elevation model (DEM). Precision of the DGPS is between 15–70 cm.

9.1.1.2 Pirquitas

Drillhole collar locations at Pirquitas were validated by an independent surveyor for the 2011 resource modelling study.

In the 2013 modelling study, it became apparent that there was a discrepancy in some pre-2009 holes in the form of displacement of mineralised vein intervals relative to the vein interpretation and grade control data. An example of this issue is shown for drillhole AR-315, which has a high-grade interval that falls outside of the Veta Blanca vein model (Figure 9.1). The vein model in this location has been informed by many grade control drillholes, causing the position of AR-315 to be called into question.

A thorough investigation was undertaken and similar issues were identified in 96 drillholes.

Efforts were made to identify the possible source of the issue and, if a transposition error, remedy those errors definitively, however the age of the data and the inability to re-survey the collars due to them having been mined made this unachievable.

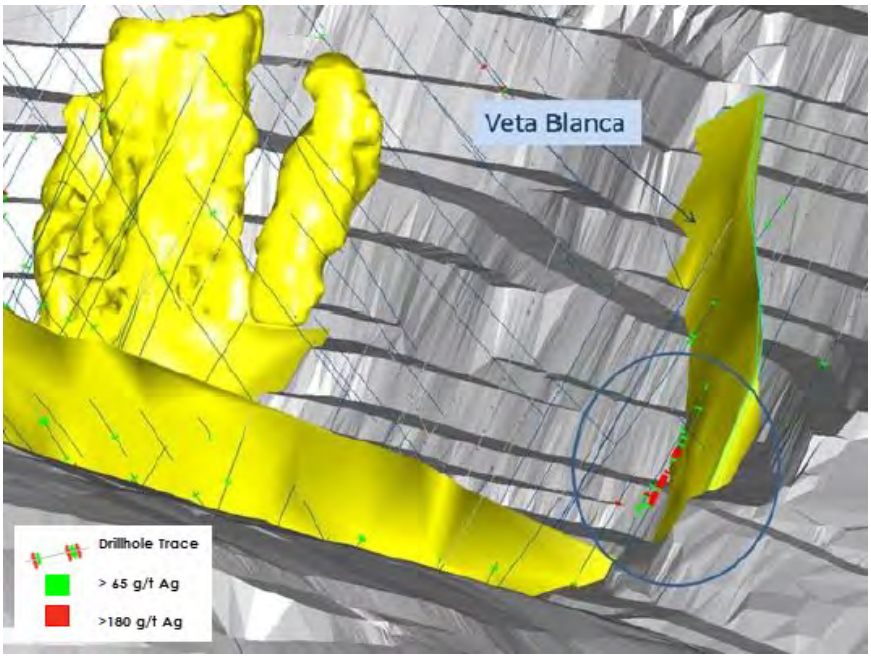
To remedy the issue in the modelling, the collar locations of the affected holes were adjusted to bring the vein intercept into expected location, making it concordant with observations in surrounding holes. While this is not an ideal situation, the intervals in question are likely to be captured by grade control at the time of mining, therefore it is not expected to cause a volumetric difference. However, further ongoing assessment would be required to definitively identify and remedy the incorrect historical data. Some new drilling should be considered to re-check vein locations in the areas afflicted by suspect holes.

Downhole Survey Validation

The down-hole survey data were validated by searching for large discrepancies between the dip and azimuth reading against the previous reading. No significant discrepancies were found.

Before the beginning of Phase III drilling at Chinchillas it was noted that the correction of the magnetic declination between true north and magnetic north was correct in angle but had the opposite direction. For this reason, all azimuths of drillholes of Phases I and II were corrected by 13° counter-clockwise. No other adjustments were necessary for the other drilling phases.

Figure 9.1 Vein model with Exploration Drillhole AR-315 Outside of the Vein



SSR, 2013

9.1.2 Assay Verification

To validate the Chinchillas data, the following checks were confirmed:

- The maximum depth of samples were checked against hole depth;
- The values of less than the detection limit were converted into a positive number one-half the detection limit;
- The highest Ag values and at least one random value from each drillhole were checked against the original assay certificate;
- The units were converted from ppm into percent (%) for Pb and Zn values;
- Silex drillhole assay data were validated as reported in a previous Mineral Resource Estimate (Davis et al, 2013).

For Pirquitas, approximately 10% of the pre-2010 drilling assay data set was checked and compared to the original assay certificates, to generate additional confidence in this data. Detailed checks of assay data from the 2010–2011 drilling programme was undertaken, with iterative corrections made for any anomalies (generally typographic errors, including mislabelled samples, and mislabelled sample intervals).

9.2 QA/QC Protocol

A review of the Chinchillas QA/QC protocols was conducted prior to drilling and formalised in a detailed QA/QC manual developed by Golden Arrow. Onsite reviews were conducted during all drilling phases by a QP. The procedures for core processing, the insertion of blanks and standards were examined and considered appropriate.

At Pirquitas, QA/QC information for all exploration drilling programmes was analysed. Review of real-time QA/QC data monitoring was undertaken by SSR, especially timing and effectiveness of remedial action taken with respect to failed batches

9.3 Geological Data Verification and Interpretation

While several geology variables were captured during core logging, only lithology was used to constrain the Chinchillas Mineral Resource estimation. Therefore, geology data verification was limited to determining that the lithology designation was correct in each sample interval. This included the following:

- FROM – TO intervals for gaps, overlaps and duplicated intervals;
- Collar and SampleID mismatches;
- Correct geology codes.

A geological legend was provided by Golden Arrow and compared to the values logged in the database. Data were examined on screen for discrepancies in logging.

9.4 Assay Database Verification

The assay data from 15 randomly selected drillholes, representing approximately 5% of the Chinchillas database, was manually compared to the original assay certificates. These holes contained a total of 1,890 individual samples, in which eight samples were found to have differences in the values of the second decimal value. Differences of this nature are not considered to be 'errors' as they have no measurable impact on the estimation of Mineral Resources. The results of this test indicate the database is sound and free of errors.

For Pirquitas, approximately 10% of the pre-2010 drilling assay data set was checked and compared to the original assay certificates. Detailed checks of assay data from the 2010–2011 drilling programme was undertaken.

9.5 Conclusion

No material sample bias was identified during the review of the drill data and assays. Observation of the drill core during the site visits and inspection and validation of the data collected indicate that the drill data is adequate for the estimation of Inferred and Indicated Mineral Resources.

10 MINERAL PROCESSING AND METALLURGICAL TESTING

10.1 Chinchillas

The metallurgical development of Chinchillas ore types commenced in 2013 and continued through 2016. The first testwork was focussed on silver recovery by both leaching and flotation methods, with flotation proving to be superior at the early stage. The second programme continued process development of flotation into separate lead/silver and zinc concentrates. The third testwork campaign was designed to advance the flotation process and test specifically these ore types to the Pirquitas mill flow sheet.

10.1.1 Initial Testwork 2013

A scoping metallurgical test programme was initiated in January 2013. This testwork was undertaken by Bureau Veritas Commodities Canada Ltd. All testing was bench-scale. Results from the early testwork stages are summarised in a previous Technical Report (Kuchling et al, 2014).

10.1.2 Second Phase Testwork 2014

The second testing programme was conducted on composite samples from the silver Mantos zone (MAN-2), the Socavon Del Diablo Zone (SOC-2) and the Mantos Basement zone (BAS-1). This programme included locked cycle testing and provided the most representative view of the overall metallurgical performance of the samples to date. The following summary is an excerpt from the final report titled "2014 Project Report on Metallurgical Testing on the Chinchillas Project" prepared by Bureau Veritas Commodities Canada Ltd, Inspectorate Metallurgical Division, (Chen and Redfearn, 2014):

> *"Seven core samples (received on October 15, 2013 weighing 102 kg), were air dried and separated into three composites. Each composite was individually crushed to 6 mesh, mixed and split into the required samples for testing. Silver contents range from 94.2–150.6 g/t and base metals include lead and zinc.*
>
> *In this testing programme, it was confirmed that Chinchillas samples are usually amenable to the conventional lead and zinc sequential flotation process. For most of the samples, the majority of silver was recovered in the lead circuit. Overall silver, lead, and zinc recoveries are above 95%. Most rougher concentrates responded well to the subsequent cleaner flotation stages. Upgrading of composites BAS-1, MAN-2, and SOC-2 generated lead final concentrates with grades ranging from 65% to 79% lead and zinc final concentrates with grades from 52% to 62% zinc."*

Locked cycle tests on three samples (BAS-1, MAN-2, and SOC-2) showed that high silver and lead recoveries in the lead circuit can be achieved along with good lead final concentrate grades. For composites BAS-1 and SOC-2, good final zinc concentrates grading 51.8% and 60.1% respectively were obtained.

To assist with future metallurgical development, mineralogical analysis was undertaken of the three ore types (BAS, MAN, SOC) and two flotation testwork concentrates (BAS lead second cleaner concentrate and lead scavenger concentrate generated during one of the flotation tests).

The report concluded:

> *"The three composites assayed 100–150 g/t silver and 0.6% to 2.2% lead. Freibergite was the dominant silver bearing mineral, constituting over 75% of the total feed silver. The remaining silver was contained in pyrargyrite, stephanite and tetrahedrite. The lead was mostly contained in galena.*

The three composites also assayed 70–300 g/t copper and 130–330 g/t arsenic. The copper was predominantly carried by freibergite and chalcopyrite.

The arsenic was mostly carried by arsenopyrite and krutovite."

The objective of this second phase flotation testwork was to produce sequential lead/silver and zinc concentrates. This was successful with high recoveries achieved of the target metals to marketable quality concentrates. The mineralogical analysis highlighted that the lead was contained in galena, and the silver was contained in the very typical series of silver sulfosalt minerals.

10.1.3 Third Phase Testwork 2016

The 2016 flotation testing programme was developed to determine the compatibility of Chinchillas mineralisation types to the Pirquitas process plant flow sheet and capacity. Testwork included comminution and focused on producing lead/silver and zinc concentrates by sequential flotation. In addition, a comparison between the flotation reagent scheme used in the historical testwork programmes and the current Pirquitas scheme was undertaken.

The testwork was completed at ALS Metallurgy, Kamloops, British Columbia, Canada.

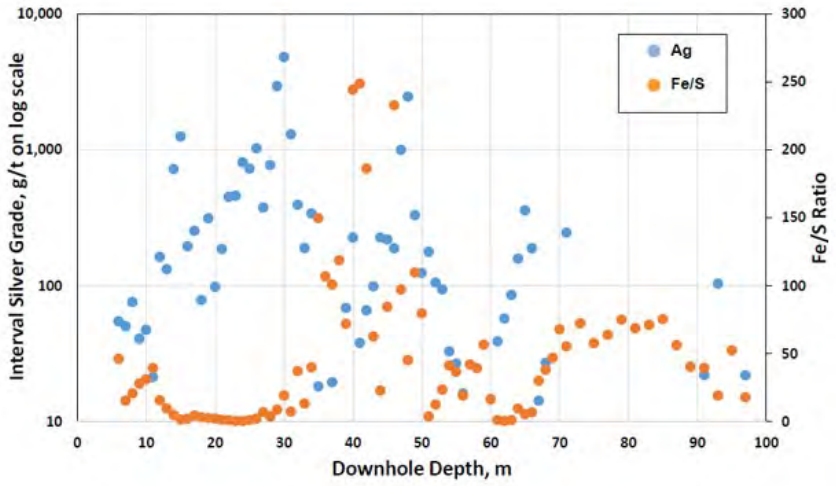
10.1.3.1 Selection of Drill Intervals for Testing

A review of the drill assay database assays was used to imply mineralogy; specifically iron to sulfur ratio (Fe/S, a proxy for pyrite content). It was suggested at the start of the testwork programme that silver might be partially associated with pyrite. A typical example of both silver content and Fe/S versus drillhole depth is shown for drillhole CGA-35 in Figure 10.1. However, the varying iron to sulfur ratio appeared to be independent of Ag grade – therefore, a poor association with pyrite.

The criteria for selection of individual core intervals for selection for metallurgical testing were:

- Within pit shell (excluding the SOC zone, not in the initial mine plan)
- Ag grades similar to mine plan grades
- Fe/S ratio into High and Low classes
- Lithology into either Manto or Basement

Figure 10.1 Drillhole CGA, Variation in Ag Grade and Fe/S Ratio Downhole



Nominally four separate drillhole intervals were identified for each of the four mineralisation types. These were named Manto Low and Manto High, and Basement Low and Basement High with the designations corresponding to Fe/S ranges of >15 or <5 respectively. Figure 10.2 shows the selected drill interval locations within the pit. The pit is planned in two mining phases, the first shown as the red pit shell and the second as the green pit shell.

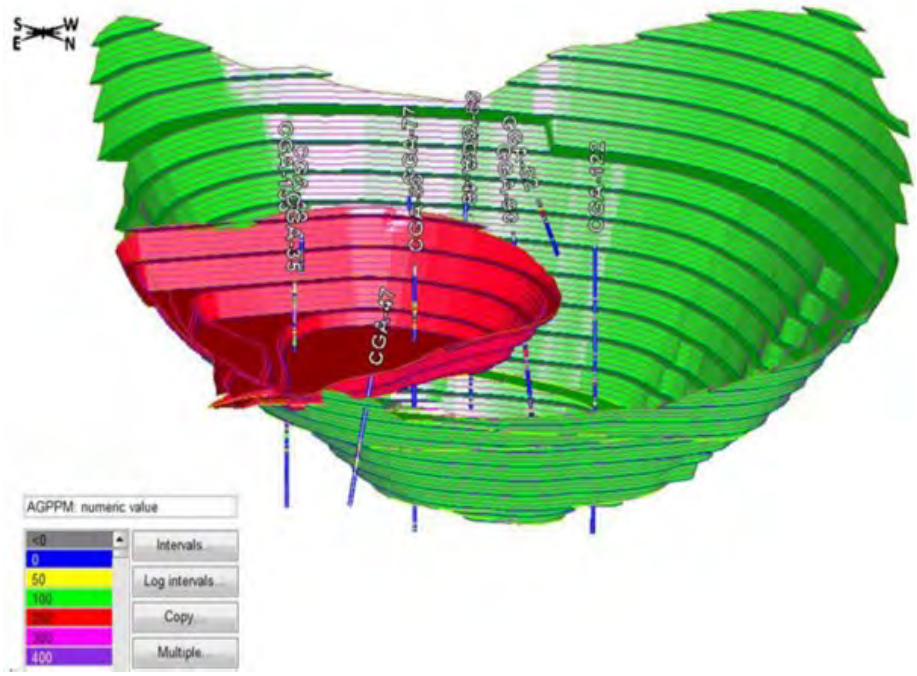
These identified intervals were recovered from the Chinchillas site drill core library and re-sawn into quarter core by Golden Arrow geological staff. Once securely bagged and labelled, approximately 350 kg of material was shipped directly to the laboratory in Kamloops, Canada.

In addition to the economic metals, additional analysis was completed for lead and zinc oxides, total and sulfide sulfur and silver (by both fire assay and three-acid ICP methods).

Observations included:

- Low amounts of lead and zinc oxide with no effect expected on flotation;
- High proportion of the total sulfur is present as sulfide i.e. limited sulfates;
- Variation of silver by the two methods is low which implies most silver is sulfide hosted.

Figure 10.2 Metallurgical Sample Locations within the Two Pit Shells (Mining Phases)



The Master composites ranged in grade between 154–238 g/t Ag, 0.31%–1.77% Pb and 0.16%–1.02% Zn. The Fe to S ratio ranged from 5–30. In terms of composite grades, the selection of samples was based on an initial mine plan. This initial plan had no mining in Socavon zones and therefore, no samples were selected from this Project area for the 2016 flotation testwork programme. Variability samples are selected to cover a range of grades above and below this mine plan.

Metallurgical testwork development followed a general plan of:

- comminution testing;
- reagent optimisation on the four Master composites;
- batch rougher/cleaner flotation on Master and Variability composites;
- locked cycle flotation on the four Master composites; and
- additional flotation tailings were generated for thickening tests and water chemistry.

10.1.3.2 Comminution

Two of the Master composites, Basement Low and Manto Low, and individual composite CGA-89 Manto High, were tested for Bond Work Index values. For comparison, the Pirquitas' plant design was 15.2 kWh/t (Table 10.1).

Table 10.1 Bond Ball Mill Work Index Test Results

Composite Sample	BWi, kWh/t
Basement Low	11.5
Manto Low	15.5
Manto High (CGA-89)	16.2

10.1.3.3 Master Composite Rougher Flotation

The previous metallurgical programme in 2013 utilised a flotation reagent scheme quite different from the standard Pirquitas flotation reagent scheme. The initial series of batch sequential rougher flotation tests were performed on the four Master composites testing these two alternate reagent schemes. Neither of these schemes utilised sodium cyanide for pyrite or sphalerite depression.

Primary grind was maintained in the target P_{80} size range of 120–160 µm, consistent with both previous testwork and Pirquitas operating experience on similar ore types.

The Pirquitas reagent scheme recovered more silver to the lead concentrate. For Basement Low and High samples, the increase in silver recovery to the lead/silver concentrates was 3.6% and 11.8%. For Manto Low and High, the increase in silver recovery to the lead/silver concentrates was 19.6% and 28.7%. Therefore, the Pirquitas reagent scheme was used for all subsequent flotation testing (both batch rougher/cleaner and locked cycle work).

10.1.3.4 Master Composite Rougher/Cleaner Flotation

For each of the four Master composites, a rougher/regrind/cleaner test was completed, yielding separate lead and zinc concentrates.

For all Master composites, a high Pb grade lead concentrate was produced, with the contained Ag grade varying directly with the lead to silver proportion in the heads. Open circuit cleaning recovery was good. For the very low zinc grade Manto High composite, no zinc flotation was attempted. The remaining three Master composites produced marketable zinc concentrates.

10.1.3.5 Variability Composite Rougher/Cleaner Flotation

For each of the Variability composites, a rougher/cleaner flotation test was completed to assess the effect of head grade variation on metal recoveries and cleaner concentrate grades.

Pirquitas' operating experience has demonstrated difficulty in achieving a marketable grade zinc concentrate when zinc feed grades are below 0.4% Zn. For the Chinchillas variability testwork, no zinc flotation was completed for any composite with a head grade below 0.2% Zn.

As with lead/silver flotation, there is generally consistent flotation performance between the Master and the Variability composites.

This reagent scheme employed at the Pirquitas plant, using $ZnSO_4$, lime, AP3418A and MIBC, avoids the use of cyanide in the lead flotation stage, thus eliminating any cyanide concerns with tailings effluent and the possible need for cyanide destruction.

10.2 Socavon / Chinchilla

10.2.1 Testwork 2018

In 2018, ALS Metallurgy, Argentina conducted preliminary metallurgical testwork on Socavon / Chinchilla and Pirquitas Manto / Basement composites.

The Socavon / Chinchillas composites were tested by flotation to determine if a lead / silver and a marketable zinc concentrate could be produced. Additionally to access the blend results of the Socavon / Chinchilla and Pirquitas Manto / Basement composites. Two metallurgical test composites were constructed representative of the Socavon zone of the Chinchillas deposit. The composites were identified as Socavon / Chinchillas Composite A and Socavon / Chinchillas Composite D. An additional composite was constructed for blend testing and was identified as Pirquitas Basement/Manto composite.

The primary objective of the test programme was to determine the effect of blending the Socavon / Chinchillas composites with a Pirquitas Manto / Basement composite. Lead feed grade measured 0.56% and 0.78% in Socavon / Chinchillas Composite A and D, respectively. The Pirquitas Basement / Manto composite measured the highest lead grade at 0.96%. Lead soluble in ammonium acetate digestion, indicative of lead in oxide form measured about 20% of the total lead in the Socavon / Chinchillas Composite A.

Zinc feed grade measured 0.56% and 1.78% for Socavon / Chinchillas Composite A and D, respectively. The Pirquitas Basement / Manto composite measured approximately 0.76% Zn. Zinc soluble in an ammonium acetate digestion measured 0.06% or less indicating a low percent of the zinc as non-sulphide minerals. Silver feed grade measured 16–34 g/t Ag for the Socavon / Chinchillas Composites A and D, respectively, and measured significantly higher in the Pirquitas Basement / Manto composite at 190 g/t Ag. Sulphur content in the samples ranged from 0.7%–4.4% S.

Initial cleaner testing on the Socavon / Chinchillas Composites A and D indicated that approximately 71% and 87% of the lead could be recovered to lead concentrates grading 55% and 30% respectively. Lower lead recoveries measured in the Socavon / Chinchillas Composite A test was likely due to the high percentage of the lead in the feed associated with lead oxide minerals. About 87% and 83% of the silver was also recovered to the respective lead concentrates. The low lead grade of the Composite D concentrate was due the high levels of zinc dilution in the lead concentrate. Optical microscope assessment of the lead concentrate indicated that the majority of the zinc minerals were well liberated and rejection should be possible with the correct flotation chemistry.

The Pirquitas Basement / Manto composite was tested using similar test conditions and recovered 94% of the lead and 92% of the silver to the lead cleaner concentrate which graded about 60% lead and 1.1g/t Ag. Zinc recovery to the lead concentrate was about 20%, similar to the Socavon / Chinchillas Composite A.

A series of blend tests were conducted using the Socavon / Chinchillas and Pirquitas composites. Results from these tests indicated that lead and silver recoveries to the lead concentrates typically decreased when higher ratios of the Socavon / Chinchillas composites were added to the various blends. The lead grade in the Socavon / Chinchillas Composite D blend tests decreased as more of the composite was used in the blends, as a result of increased zinc in the lead concentrate. This trend was also observed for zinc in the zinc circuit.

Measured lead and zinc recoveries in the blend tests were typically lower than the calculated recoveries of the various blend ratios. However, the measured concentrate grades for the blend tests were higher than the calculated concentrate grades and it is likely they exist on a similar grade recovery curves. Zinc recoveries to the lead concentrates were about 5% lower than calculated values. This suggests that there was room for improvement within the lead circuit in the baseline Socavon / Chinchillas tests.

Tests were conducted using MBS as a replacement for zinc sulphate and the results indicated that the addition of MBS at the dosages employed had no significant effect on depressing zinc in the lead circuit. Additionally, closed circuit testing would be beneficial for providing a better estimate of metallurgical performance in the zinc circuit.

Preliminary relationships, Table 10.2, of recovery and mass pull to produce a silver / lead concentrate and zinc concentrate for Socavon material have been derived.

Table 10.2 Preliminary Socavon Recovery Relationships

		Unit	Silver / Lead Concentrate	Zinc Concentrate
Recovery	Silver	%	90	2.5
	Lead	%	55 x Pb% feed + 45	1
	Zinc	%	(Pb/Zn feed x –46) + 56	Zn feed x 13.8 + 21.5
Mass Pull to concentrate	Concentrate	t conc./ t feed	Pb% feed x 0.055 - 0.02	Zn% feed x 0.004 + 0.001

Further optimisation flotation testwork is recommended including liberation testing, mineralogy and flotation reagent optimisation.

10.3 Metallurgical Performance Estimates

The Pirquitas process plant operating performance since commencement on Chinchillas ores is used to provide the concentrate grade recovery and mass pull relationships, Table 10.3 and Table 10.4.

Table 10.3 Silver / Lead Concentrate Relationships

Variable	Variable Formula
Ag Recovery	(–0.0631 x Pb recovery2) + (11.655 x Pb recovery) -447.4
Pb Recovery	(–2.6303x Pb Feed2) + (12.329 x Pb Feed) + 80.654
Zn Recovery	(-5.2817 x Zn Feed2)+(Zn Feed x –6.31) + 20.546
Mass Pull	(–0.0024 x Pb Feed2) + (0.0164 x Pb Feed)+-0.0007

Table 10.4 Zinc Concentrate Relationships

Variable	Variable Formula
Ag recovery	(–3.4843 x Zn feed2) + (7.2499 x Zn feed)+0.8295
Pb recovery	(0.024 x (Pb feed/Zn feed)2) + (-0.5988 x (Pb feed/Zn feed)+ 3.1292
Zn recovery	(–195921 x (mass pull Zn)2 + (5620.3 x mass pull Zn)+28.709
Zn recovery	
Mass Pull	(0.007 x Zn feed2) + (0.0041 x Zn feed+0.0011

10.4 Recommendations for Additional Testwork

It was identified that low zinc grade material would not generate a saleable zinc concentrate and the zinc circuit would be bypassed when Zn grade is less than 0.4%.

The Chinchillas mineralogy showed lead occurred predominantly as galena, silver as a series of sulfosalts and zinc as sphalerite.

Additional metallurgical laboratory testwork should include the following:

- Detailed geometallurgical study to understand the distribution of possible future smelter penalty elements (e.g. antimony for lead concentrate and silica for zinc concentrate).
- Additional Bond Work and Abrasion Index testing on samples throughout the deposit.

11 MINERAL RESOURCE ESTIMATES

11.1 Chinchillas

The Chinchillas Mineral Resource was developed in August 2020 by independent consultant company Red Pennant Geoscience. The Chinchillas Mineral Resource has been estimated in accordance with generally accepted industry guidelines and is reported in accordance with S-K 1300. Mineral Resources are not Mineral Reserves and they do not have demonstrated economic viability.

The effective date of the resource cell model is 28 August 2020. The effective date of the Mineral Resource is 31 December 2021 after accounting for depletion from mining from the August 2020 model.

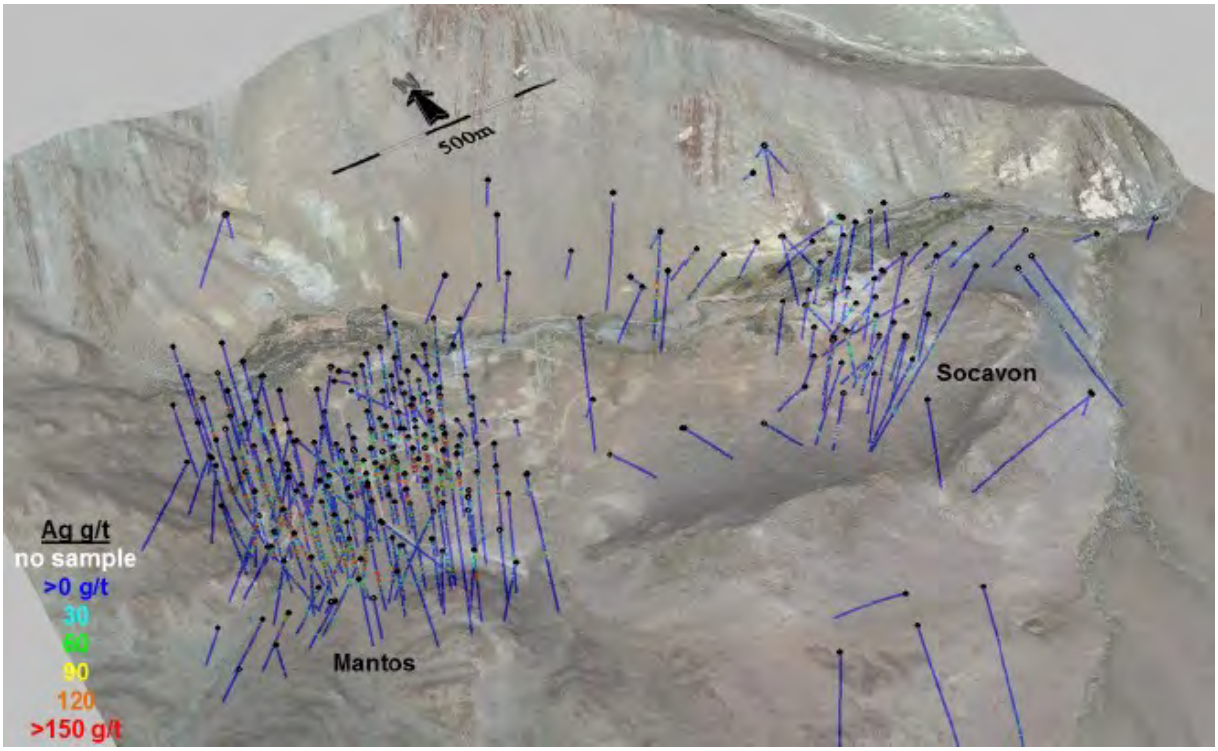
The previous Mineral Resource estimate for the Chinchillas Property had an effective date of 12 April 2016 and is described in the NI 43-101 Technical Report dated 27 May 2016 (Davis, et al., 2016).

11.1.1 Available Data – Chinchillas

The database available at the time of the resource modelling comprised a total of 335 diamond drill (DD) holes with 56,641 m of logged data and 55,905 m of assay data.

The spatial distribution of the drilling is shown in Figure 11.1.

Figure 11.1 Isometric View showing the Chinchillas Drillhole Database used in Resource Modelling



11.1.2 Compositing – Chinchillas

Raw sample lengths were generally up to 2 m in waste rock and 1 m or less in mineralized rock. A minimum sample length of 0.1 m was permitted on samples from highly mineralized structures such as veins, stockworks, and breccias.

A composite length of 5.0 m was considered most suitable for the Chinchillas drillhole data. Data were composited to the selected composite length within the interpreted wireframe solid. Residual lengths were retained.

11.1.3 Exploratory Data Analysis – Chinchillas

Exploratory data analysis was conducted to understand the distribution of the metals within the different lithological units and as well in different structural domains.

Five estimation domains were used to inform the estimation process, the lithological data along with the rock geochemistry informed these estimation domains. The raw and composited statistics for silver, lead and zinc are provided in Table 11.1.

Table 11.1 Estimation Domain Statistics

	Count	Mean	SD	CV	Min	Max
Domain 1						
Ag g/t	3,270	81.70	181.23	2.22	0.25	2,908.62
Pb%	3,270	0.79	1.63	2.07	–	29.64
Zn%	3,270	0.29	0.59	2.04	–	8.99
Domain 2						
Ag g/t	3,635	72.71	211.79	2.91	0.25	8,970.34
Pb%	3,635	0.69	1.37	1.98	–	28.00
Zn%	3,635	0.39	0.60	1.52	0.01	6.10
Domain 3						
Ag g/t	5,444	87.77	238.53	2.72	0.25	5,395.45
Pb%	5,444	0.62	1.02	1.66	–	15.38
Zn%	5,444	0.74	1.19	1.60	–	11.90
Domain 4						
Ag g/t	3,061	47.68	112.85	2.37	0.25	2,466.14
Pb%	3,061	0.34	0.72	2.14	–	12.44
Zn%	3,061	0.21	0.57	2.72	–	13.08
Domain LO						
Ag g/t	20,821	47.68	112.85	2.37	0.25	2,466.14
Pb%	20,821	0.07	0.15	2.10	–	10.90
Zn%	20,821	0.15	0.38	2.52	–	15.31

The majority of the samples were analysed by ICP for a suite of 39 elements. The silver, lead, zinc, and sulfur data was extracted from the main database for use in the development of the resource model.

The database contains a total of 2,586 samples that have been tested for density. These samples were obtained from core selected at approximately 15 m intervals down most drillholes giving a relatively consistent distribution of density data throughout the deposit areas.

Individual assay sample intervals ranged from 0.1–10 m and averaged 1.34 m in length. Some 72% of the samples were exactly 1 m in length and 25% of the samples are 2 m long. Values analysed below the detection limit (<DL) were assigned values equal to one half of the detection limit (½DL).

Diamond drill core recovery averages 96%. Recoveries do not vary significantly between rock types (average recoveries: Tuff 95%, Dacite 98%, Basement Breccia 97% and Basement 97%). There was no indication of a relationship between core recovery and grade.

11.1.4 Evaluation of Outlier Grades – Chinchillas

The 5m composited data were examined for outliers using cumulative probability plots and for loss metal of due to capping of higher-grade values. Multiple scenarios were run to understand the effect of capping and compared with the tonnes and grade within the mined out areas. The capping shown in Table 11.2 was used in the estimation domains.

Table 11.2 Estimation Domain Capping

	Domain 1	Domain 2	Domain 3	Domain 4	Domain LO
Ag g/t	900	1,000.00	1,300.00	843.50	12.60
Pb %	8	7.90	6.30	5.00	1.00
Zn %	3	2.50	5.00	2.50	1.50

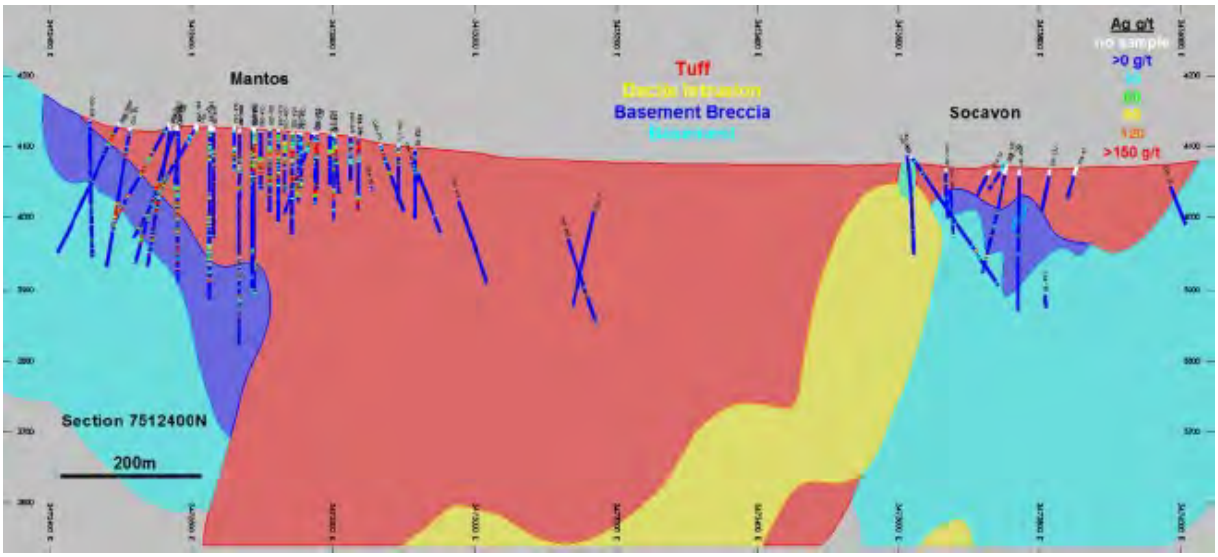
11.1.5 Geological Model – Chinchillas

As described in Section 6.5, the Chinchillas deposit is interpreted to be formed as a result of a Tertiary aged diatreme intrusion into a host of Paleozoic basement schists. Heat from the intrusion resulted in mineralisation in the form of disseminations, veinlets and matrix filling within the volcanic breccias and tuffs as well as within the original schists.

11.1.5.1 Lithological Model – Chinchillas

The general spatial distribution of the main lithological units at Chinchillas is shown in cross-section in Figure 11.2. The higher grade silver-lead-zinc mineralisation occurs predominantly in the tuffaceous phase of the intrusive rocks and also within the brecciated zone in the underlying basement schists. However, relatively high-grade mineralisation can be found in all rock types.

Figure 11.2 Cross-Section Showing Rock Types and Silver Grades in Drilling



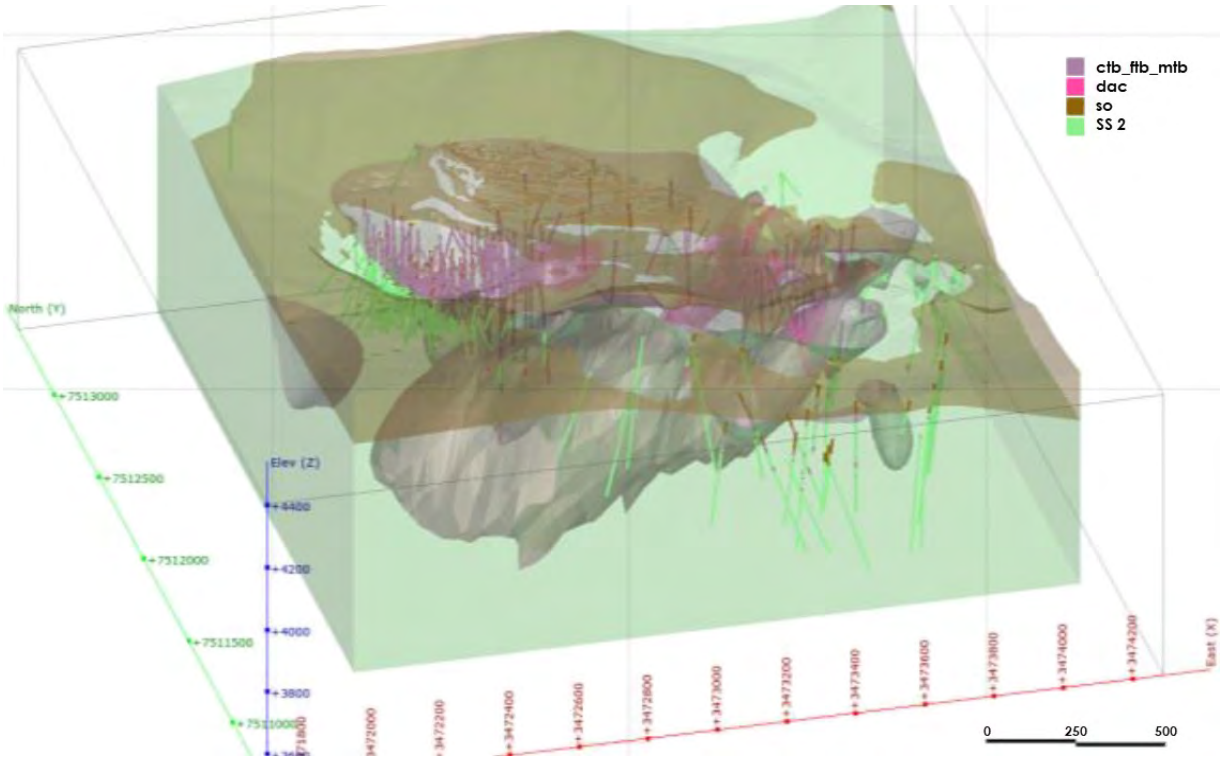
The mineralisation in the Mantos area of the deposit exhibits two general styles or trends; a more flat-lying mantos-style distribution which is more common in the tuffs and a second basement trend of mineralisation which tends to be sub-parallel to the basement / tuff contact.

The comprehensive logging of lithological types (20) and alteration style (6) and intensity (5) results in the potential for 600 combinations. The lithological and alteration codes were rationalised into a small number of units for practical purposes.

A simplified 3D implicit model was created of the key lithological units (Figure 11.3):

- 'so' (surficial materials),
- 'dac' (dacite intrusive), and
- combined 'ctb', 'ftb' and 'mtb' tuff and breccia units.
- Ss2 basement

Figure 11.3 Isometric View of Simplified Lithology Model

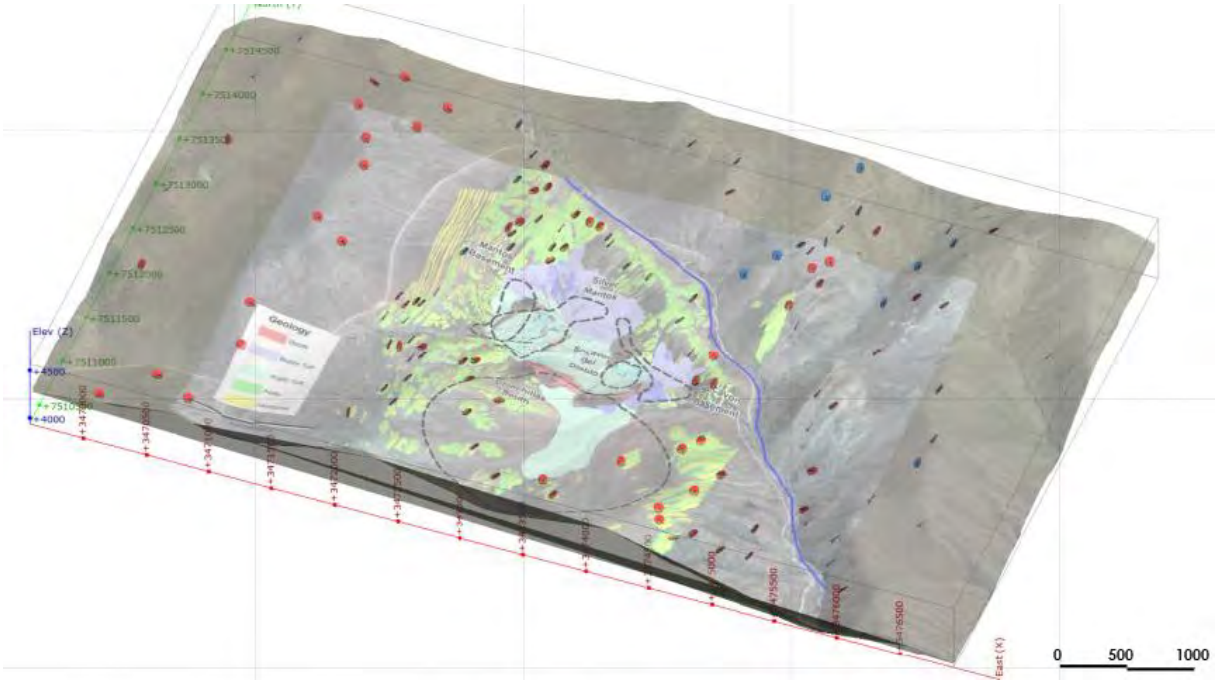


SSR, 2020

11.1.5.2 Structural Model – Chinchillas

High resolution satellite imagery and SRTM and client-supplied topography data were combined into a 3D model. As the outcrop patterns are not obscured by vegetation, it was possible to carry out a 'virtual' field mapping exercise to measure the strike and dip of the locality (Figure 11.4). These measurements were used to develop a structural model in the form of structural surfaces to aid interpretation of the morphology and depth extension of the diatreme.

Figure 11.4 Bedding Attitudes Represented as Disks Mapped on Topographic DTM



SSR, 2020

11.1.5.3 Multi-Element Geochemistry Model – Chinchillas

An implicit geochemistry-based model was constructed using K-means clusters defined by assay statistics.

A clustering algorithm was used to partition the assay dataset into distinct, exclusive clusters so that the data points within each group show as little variability as possible. The reduction in variability within each of the clusters should help to minimise the coefficient of variation and improve geostatistical estimation within each domain by improving the likelihood of geostatistical stationarity. The advantage of the clustering process is that the variability can be automatically and quantifiably assessed by a computer algorithm much more efficiently than by human visual processing.

The elements used for the clustering exercise were: Ag, Al, As, Ba, Ca, Co, Cr, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, S, Sr, Ti, V, Y, Zn, and Zr.

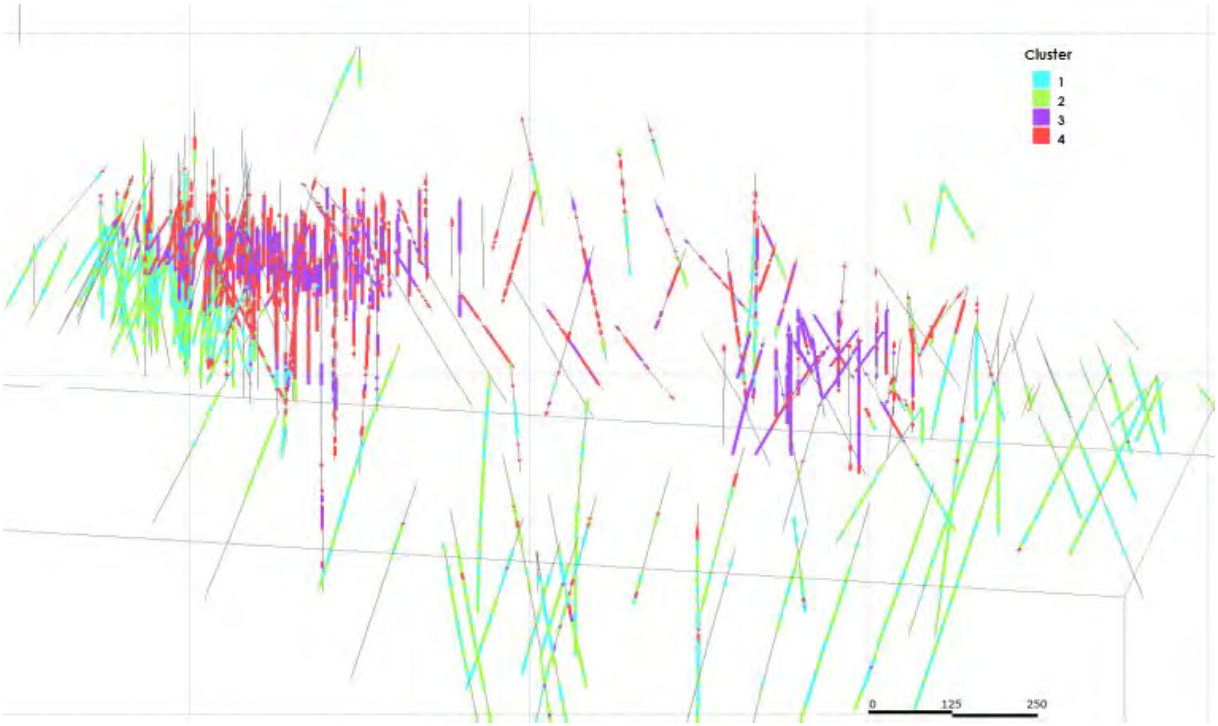
Generally, the way K-means algorithms proceeds via an iterative refinement process, as follows:

- Each data point is randomly assigned to a cluster (number of clusters is pre-determined),
- The centroid of each cluster (the mean within the cluster) is calculated in n-dimensional space, and
- Each data point is assigned to its nearest centroid (iteratively to minimise the within-cluster variation).

Two cluster cases were assessed: four-cluster and seven-cluster solutions. The seven-cluster solution was geometrically complex and was not pursued further.

The pattern of the four-cluster solution was simpler than the seven-cluster solution, conformed to the general geometry of known geological features, and provided only 14% more variability. Consequently, it was decided to proceed with the simpler four-cluster solution. The cluster allocation was coded onto the drill data (Figure 11.5). A 3D model was made of the four-cluster geochemical model using known geometry, including the trends of the diatreme and associated lithological units. Clusters 1 and 2 were largely confined to the exterior of the diatreme, while clusters 3 and 4 show a flatter geometry interior to the steep west-plunging diatreme.

Figure 11.5 K-means Four-Cluster Multi-Element Geochemistry Model



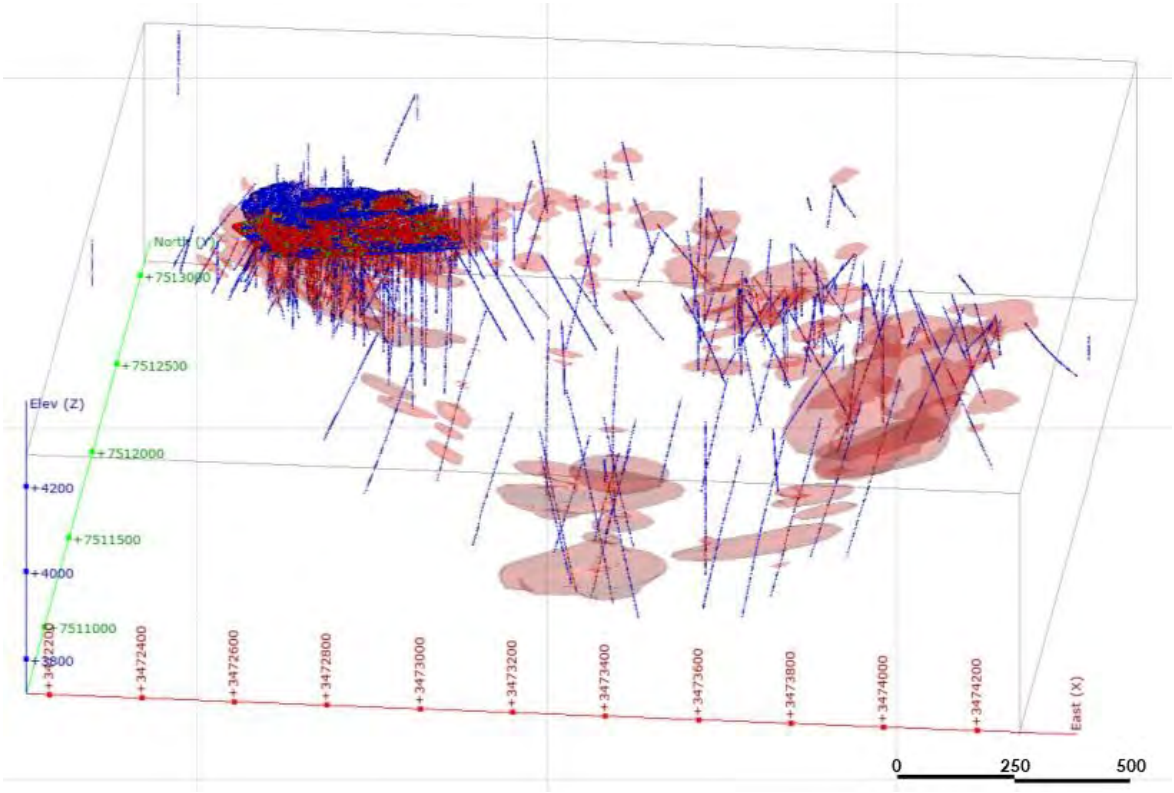
11.1.5.4 Indicator Probability Constraint – Chinchillas

To provide a limit to estimation and to partly fulfil the requirement of 'reasonable prospects of eventual economic extraction', an indicator interpolant was created. Based on experimentation, a 15 g/t Ag value and a 30% probability were used to provide the limiting probability shell. Experimental indicator variograms were modelled and used in the indicator estimation.

The resulting indicator shells conformed to the geometry of the mineralised zones and were used to restrict the four-cluster domains to better mineralised regions (Figure 11.6).

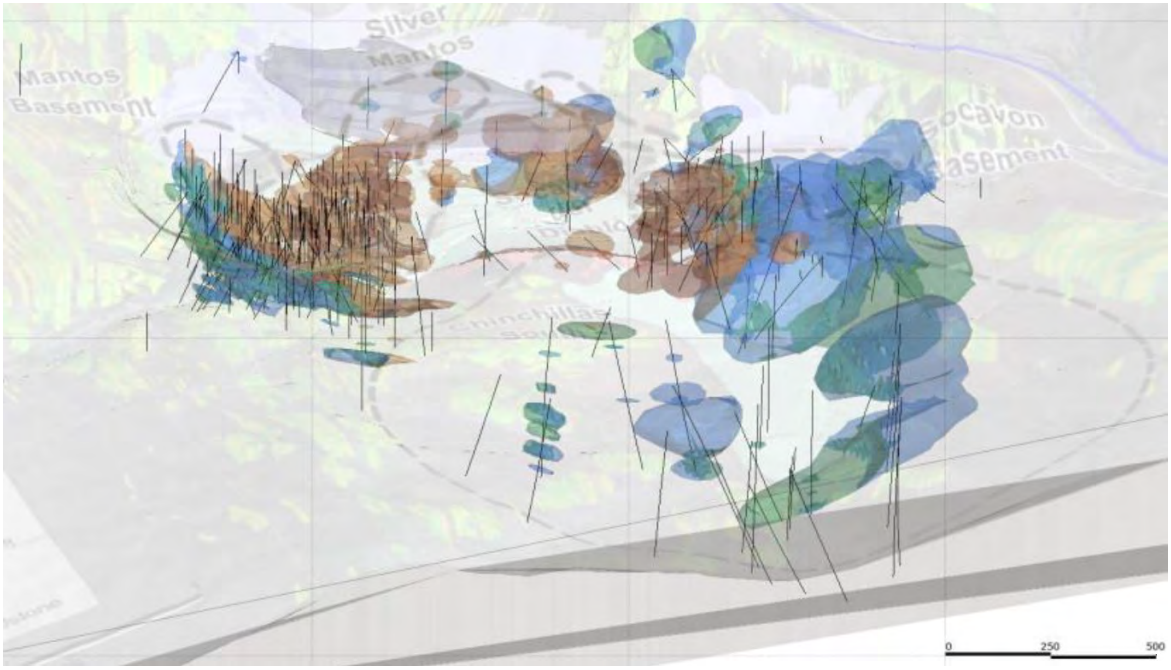
The cluster model combined with the probability shell provided the final estimation domain framework (Figure 11.7).

Figure 11.6 Volumes with >30% Probability of Exceeding 15 g/t Ag



SSR, 2020

Figure 11.7 Estimation Domains based on K-means Clusters of Multi-Element Geochemistry



SSR, 2020

11.1.6 Grade Estimation – Chinchillas

Estimation was carried out within a cell model with 16 m x 16 m x 10 m cells (Table 11.3). Sub-cells of 4 m x 4 m x 5 m were permitted to improve boundary resolution. The model is not rotated.

The cell model was subsequently split down into 8 m x 8 m x 5 m cell sizes for mine planning purposes.

Table 11.3 Cell Model Limits – Chinchillas

Direction	Minimum	Maximum	Cell Size (m)	Number of Cells
East	3,472,100	3,474,404	8	288
North	7,510,644	7,512,996	8	294
Elevation	3,750	4,300	5	110

Cells in the model were coded on a majority basis with the various domains.

The proportion of cells that occur below the topographic surface are also calculated and stored in the model as individual percentage items. These values are used as weighting factors when determining the in situ Mineral Resource for the deposit.

Estimation was undertaken within the four-cluster domains as well as outside of those domains, with only like-coded samples permitted to inform the estimates. Grades within peripheral unestimated blocks and the rock dumps were set to zero.

Three methods were used to populate Ag, Pb, Zn, and S estimates into the cell model:

- Nearest neighbour (NN)
- Inverse distance to the power of two (ID2), and
- Ordinary kriging (OK).

Normal scores variography was modelled and a locally varying orientation was used for both the ID2 and OK estimates. The varying directions follow the generally centrally dipping pattern seen in the geological modelling of the flat Mantos and steep Socavon marginal zones.

The OK grade estimates are regarded as definitive, while the ID2 and NN estimates were used for validation purposes.

11.1.7 Density – Chinchillas

Density was estimated from the previous PFS model using a nearest neighbour approach.

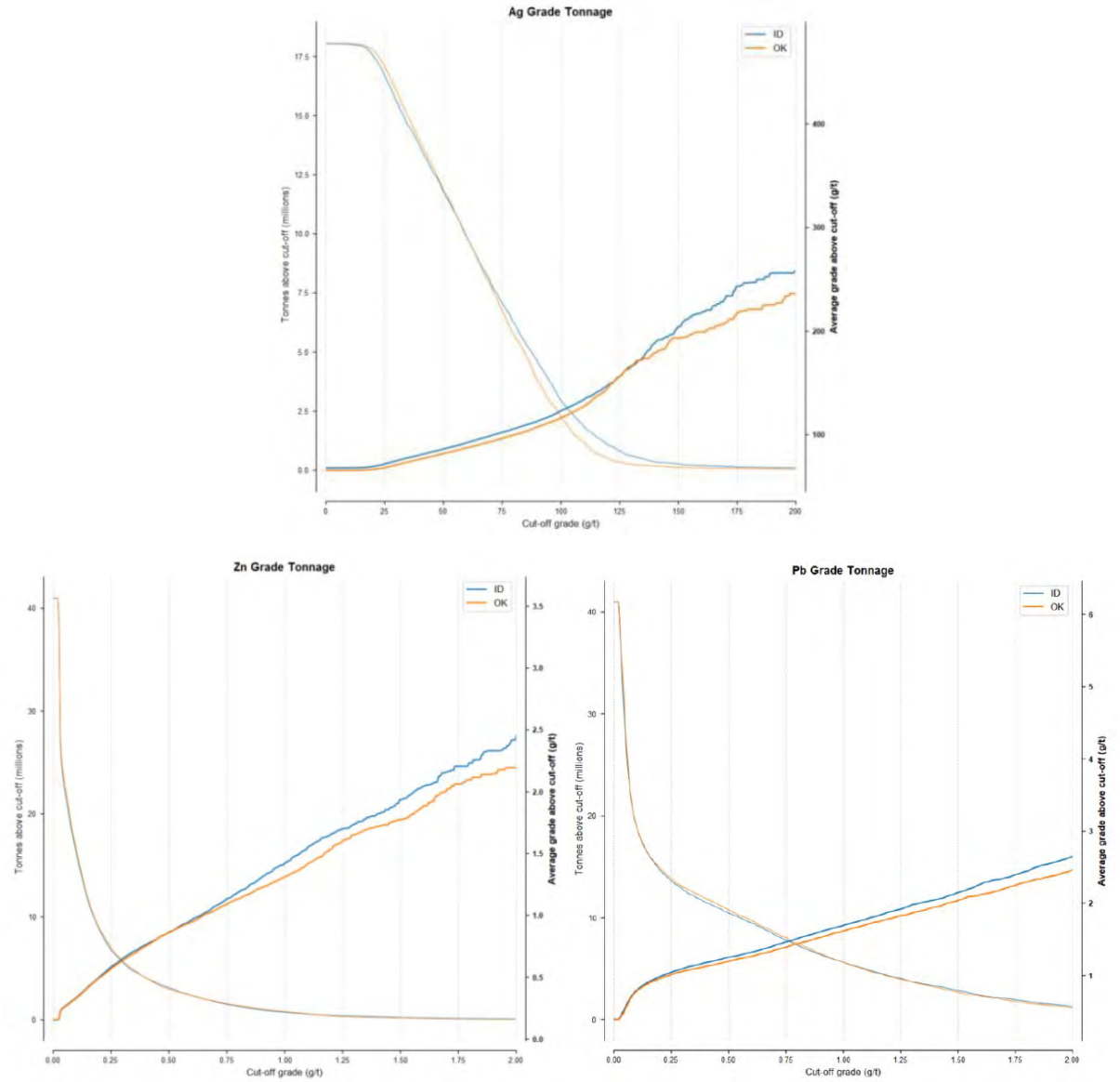
Density was estimated in the 2016 using the ID2 method. Densities are estimated with a maximum of two composites per drillhole and a maximum of six composites in total. The lithology domains provide hard boundary conditions during estimation and samples below 1.75 t/m^3 excluded as these are considered to be anomalous.

11.1.8 Validation – Chinchillas

Grade-tonnage comparisons of the ID2 vs. OK estimates were undertaken to validate the estimates (see Figure 11.8). In general, the ID2 and OK results are similar.

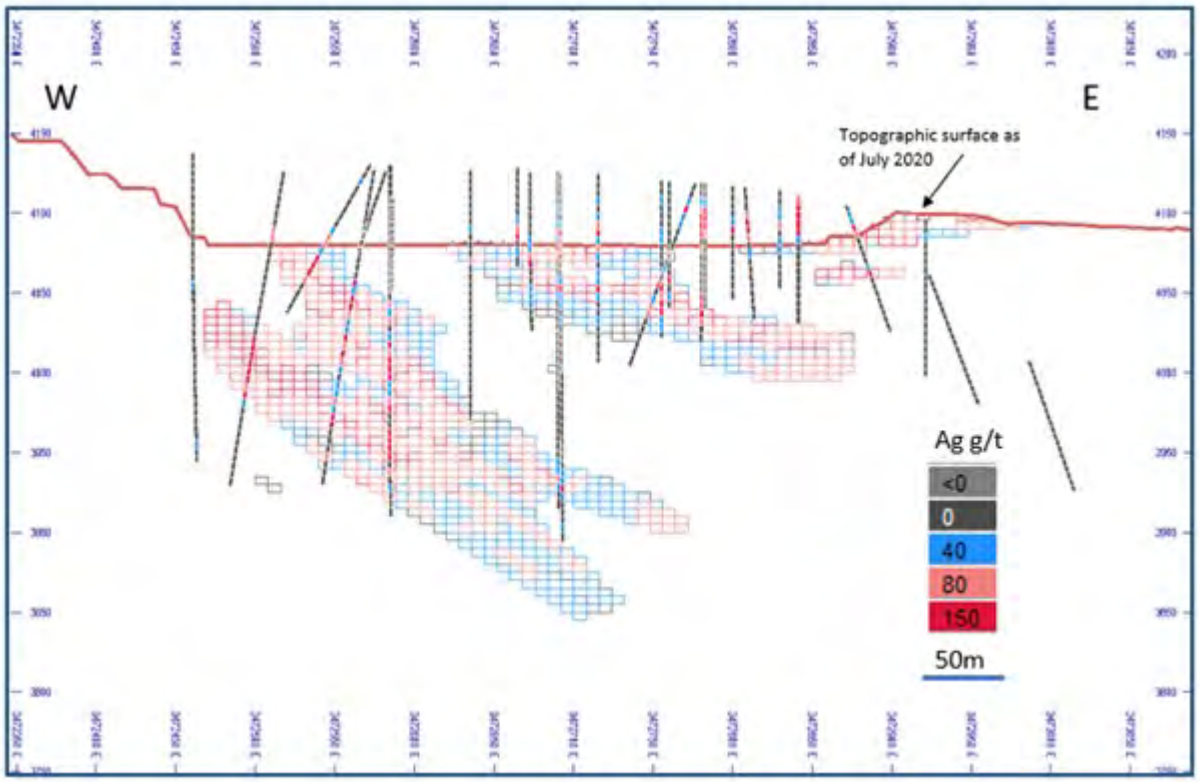
A cross-section showing the conformity between exploration drillhole data and the model estimates is shown in Figure 11.9.

Figure 11.8 Chinchillas Grade Tonnage Comparison within Pit 3 Volume – Ag, Zn, and Pb



SSR, 2020

Figure 11.9 Chinchillas Cross-Section at 7,512,400 mN showing Ag Composites and Estimates



SSR, 2020

11.1.9 Classification – Chinchillas

Classification was undertaking in accordance with the same method used in the 2016 resource model; that being minimum and maximum distance from drillhole data. The classification criteria used are shown in Table 11.4. Model cells that sit within the economic pit shell and meet the classification criteria are reported as Mineral Resource.

Table 11.4 Classification Parameters – Chinchillas

Class Description	Class Number	Average Distance to Assay from Three Drillholes	
		Minimum	Maximum
Measured	1	0	25
Indicated	2	25	50
Inferred	3	50	75

11.1.10 Mineral Resource Estimate – Chinchillas

The Chinchillas Mineral Resource estimate is contained within a pit shell generated using an NSR cut-off of $33.20/t that is based on metal prices of $22.00/oz for silver. $0.90/lb lead and $1.15/lb for zinc.

Metal prices for the Mineral Resource cut-off were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The prices selected were then reduced from the average long-term prices to take a conservative view of the long-term price. The long-term prices for the cut-off were assumed to apply from the start of 2026. The metal prices are representative of the range of price estimates publicly reported for Mineral Resource cut-offs. The Chinchillas Mineral Resource is assumed to be mined by open pit.

In determining the cut-off grade, the reasonable prospects for eventual economic extraction requirement generally implies that the quantity and grade estimates meet certain economic thresholds taking into account an open pit extraction scenario with road transport and processing at the Pirquitas plant. This includes consideration of the technical and economic parameters listed above, but also includes additional operating costs, estimated at $12/t, related to the handling and transportation of ore from the Chinchillas Property to the Pirquitas plant. Using this operating scenario, the cut-off grade is estimated to be 60 g/t silver-equivalent. It should be noted that this determination considers site operating costs and ignores the pay factors for any concentrate generated and sold to a smelter.

MPSA have advised that there are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the Mineral Resource. Mineral Resources do not have demonstrated economic viability. The quantity and grade of Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these as Indicated or Measured, but it is reasonably expected that a majority of the reported Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Mineral Resources are exclusive of Mineral Reserves.

The Chinchillas Mineral Resource by classification is summarised in Table 11.5 and shown with recovery and ownership detail in Table 11.6.

Table 11.5 Summary of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc

Mineral Resource Classification	Tonnage (kt)	Grades			Contained Metal		
		Ag (g/t)	Pb (%)	Zn (%)	Silver (koz)	Lead (klb)	Zinc (klb)
Measured	1,110	99.2	0.86	0.31	3,540	21,040	7,584
Indicated	4,904	101.1	0.88	0.19	15,943	95,630	20,454
Measured + Indicated	6,013	100.8	0.88	0.21	19,483	116,670	28,038
Inferred	165	101.9	0.48	0.16	540	1,750	580

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. The Mineral Resource is contained within a pit shell generated using an NSR cut-off of $33.20/t.
3. The Mineral Resource estimate is based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. Metallurgical recoveries vary with grade and average recoveries are, 98% silver, 95% lead and 63% for zinc.
5. The point of reference for Mineral Resources is the point of feed into the processing facility.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

Table 11.6 Summary of Metallurgical Recoveries and Ownership of Chinchillas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $22.00/oz Silver, $0.95/lb Lead, and $1.15/lb Zinc

Mineral Resource Classification	Tonnage (kt)	Grades			Metallurgical Recovery			Cut-off NSR ($/t)
		Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	Zinc (%)	
Measured	1,110	99.2	0.86	33.20	98	95	63	33.20
Indicated	4,904	101.1	0.88	33.20	98	95	63	33.20
Measured + Indicated	6,013	100.8	0.88	33.20	98	95	63	33.20
Inferred	165	101.9	0.48	33.20	98	95	63	33.20

1. Mineral Resources are reported based on 31 December 2021 topography surface.
2. The Mineral Resource is contained within a pit shell generated using an NSR cut-off of $33.20/t.
3. The Mineral Resource estimate is based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. Metallurgical recoveries vary with grade and average recoveries are, 98% silver, 95% lead and 63% for zinc.
5. The point of reference for Mineral Resources is the point of feed into the processing facility.
6. Mineral Resources are reported exclusive of Mineral Reserves.
7. SSR has 100% ownership of the Project.
8. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
9. Totals may vary due to rounding.

11.1.11 Comparison with Previous Estimates – Chinchillas

The Mineral Resources have been compared to the previous Mineral Resource which was based on the EOY 2020 pit surface.

Key changes in the Mineral Resource have resulted from:

Socavon

A review of the pit optimisation work for the Socavon deposit was undertaken using the NSR and other assumptions used for the Mantos Deposit. The review concluded that there was no suitable pit shell produced to meet the standard of reasonable prospects for extraction. Therefore, the Socavon Mineral Resource that was previously reported by SSR has not been included in the 2021 Puna Mineral Resource. This represented approximately 26% of the contained metal in the Mineral Resource.

Updated Resource Pit Shell

Updating the Resource Pit Shell reduced the contained metal by 14%

Depletion

Mining depletion is the remaining source of change in the Mineral Resource and was approximately 6% of contained metal.

11.1.12 Recommendations

It is recommended that MPSA examine advanced grade control (using reverse circulation drilling) at a grid spacing of 20 m, to determine if it will improve prediction particularly where the grade trends are horizontal.

The shallow eastward dip of high grades should be carefully managed by pit mapping and advanced grade control drilling to provide appropriate levels of confidence to manage risk.

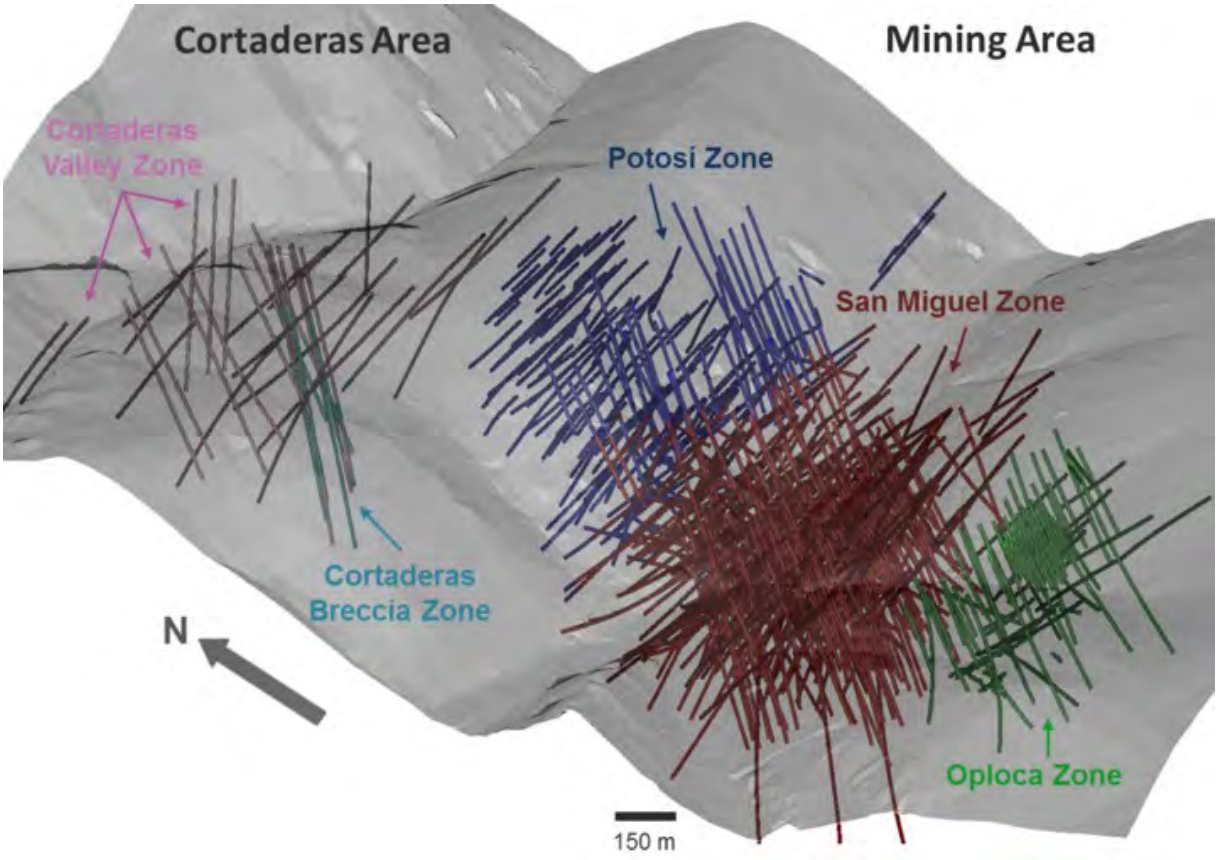
11.2 Pirquitas

11.2.1 Available Data – Pirquitas

The 2011 Mineral Resource estimate database contains assay data derived from diamond core drillholes and RC drillholes. The finalised valid drillhole database used as input for the modelling contains 551 collar (326 DDH and 225 RC).

The spatial distribution of the drilling completed to date at Pirquitas is shown in Figure 11.1.

Figure 11.10 Isometric View showing the Pirquitas Drillhole Database used in Resource Modelling



SSR, 2011

11.2.2 Exploratory Data Analysis – Pirquitas

The 2013 modelling dataset contains 14,246 downhole survey, and 88,220 sample records, of which 88,788 have associated Ag assay data (for a total metreage of 108,815.6 m of Ag assays).

The majority of the samples were analysed by four-acid 'near total' digestion followed by 34 element atomic emission ICP spectroscopy (ME-ICP61a, including Sn).

Individual assay sample intervals in the database ranged from 0.001–5.0 m and averaged 1.31 m in length. Values analysed below the detection limit (<DL) were assigned values equal

to one half of the detection limit (½DL). The basic statistical summary of the assay sample data used in the 2013 resource modelling at Pirquitas is shown in Table 11.7.

Table 11.7 Statistical Summary of Raw Assay Data Used in 2013 Modelling – Pirquitas

Element	No. of Samples	Total Length (m)	Min.	Max.	Mean	Standard Deviation	Coeff. of Variation
Ag (g/t)	82,788	108,815.6	0.10	41,330	43.45	341.09	7.85
Zn (%)	82,787	108,814.6	0.001	36.6	0.93	2.34	2.51

Drilling recovery generally ranged between 95% and 100% for diamond core drillholes, and generally between 80% and 100% for RC drillholes, except where drillholes intersected old underground workings.

11.2.3 Domain Interpretations – Pirquitas

SSR considers the Pirquitas deposit as comprising the Mining Area, which includes the San Miguel, Potosi, and Oploca Vein zone, and the Cortaderas area, which consists of the Cortaderas Breccia zone and the Cortaderas Valley zone (see Figure 11.10). It is the Mining Area that is the subject area for the 2013 resource modelling.

From July to October 2013, wireframes of the majority of mapable veins within the San Miguel, Potosi, and Oploca areas were created in MineSight software using a 65 ppm silver-equivalent (AgEq) cut-off to define vein margins. The AgEq is calculated using the following formula:

$$AgEq = Ag\ (ppm) + 14 \times Zn\%$$

Visual analysis of colour-coded uncomposited grade control bench assay data was conducted to assess the general orientation of the veins within the domains. Figure 11.12 shows the available grade control data, colour coded for AgEq. Clear trends of veins are obvious at this scale, the 010° trend follows the orientation of an anticline hinge where there is a concentration of mineralisation where it is intersected by the more common north-west trending veins.

For the majority of veins the process of wireframe construction began with the snapping of points on what were determined to be hangingwall and footwall pierce points of veins on the exploration drillholes. This was done in 3D space on a vein by vein basis. A different methodology was applied to the central part of the Crucero vein where it crosses the San Miguel pit, the Potosi Breccia and Mr Blobby. For these models, bench polygons were made around >65 g/t AgEq grade intercepts and then linked to form wireframes.

The wireframes were trimmed at surface where they were not controlled by exploration drilling to ensure that they did not extend above topography or overburden material. They were also intersected where one vein crossed or touched another in order to reduce the possibility of coding errors.

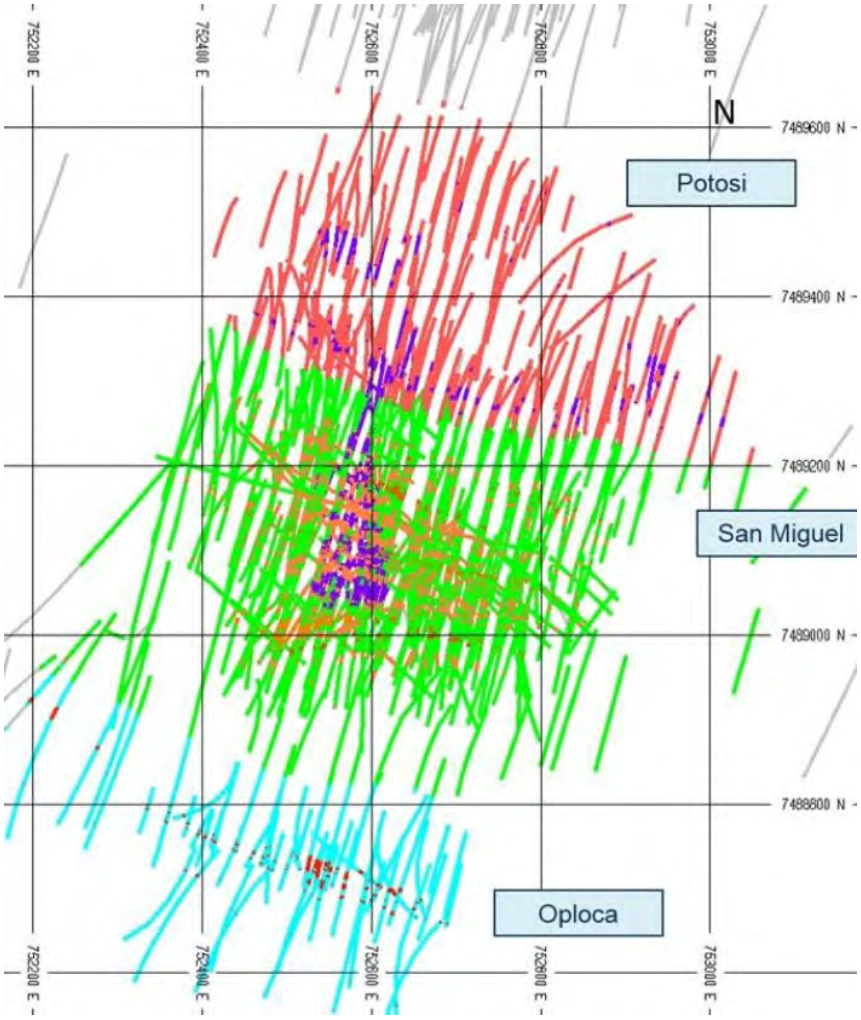
The result of this process was that the Mining Area was broadly sub-domained into three zones:

- Central San Miguel zone – characterised in the field by essentially sub-vertical veins and vein stockworks.
- Northern Potosí zone – characterised in the field by veins and vein stockworks steeply dipping toward the north.

- Southern Oploca Vein zone – characterised in the field by veins steeply dipping toward the south.

Details of the domain coding used in the generation of the 2013 model are shown in Figure 11.11.

Figure 11.11 Pirquitas Plan showing Drillholes Coded using Wireframe Vein Models



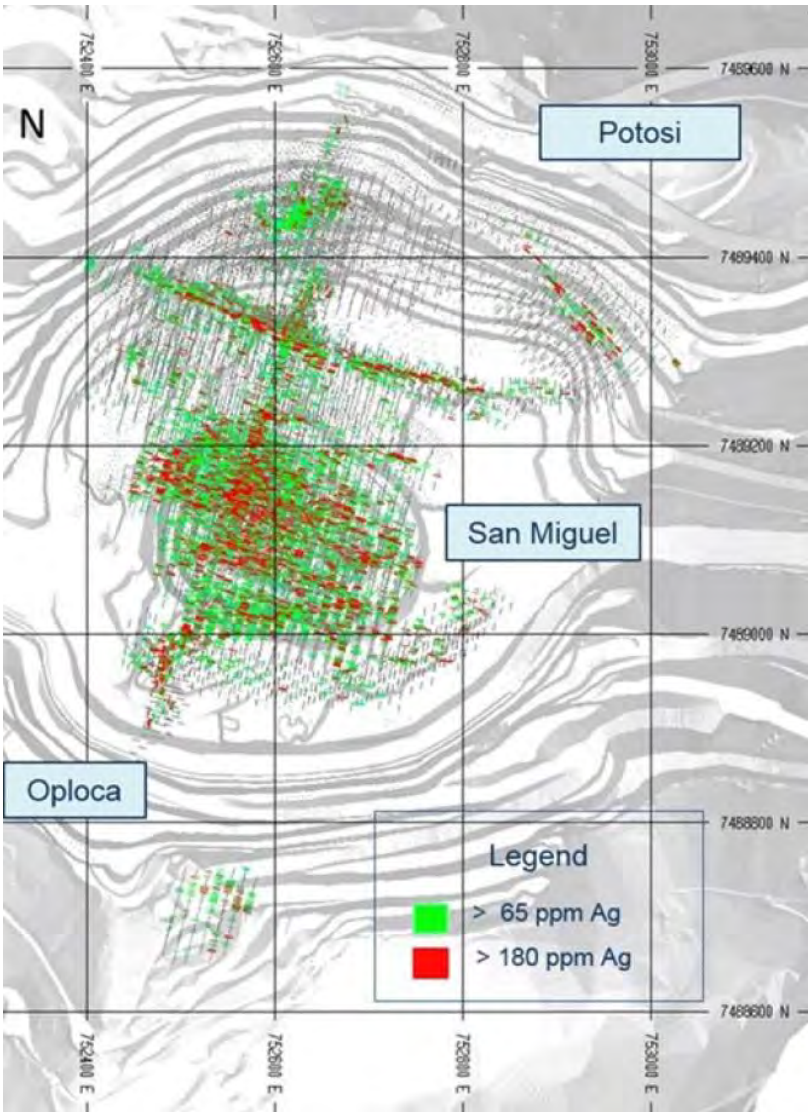
SSR, 2013

.

Table 11.8 Pirquitas Mineralisation Domain Codes

Location	Zone	Mineralisation Domain Code
Mining Area	San Miguel	10
	Potosí	20
	Oploca	30

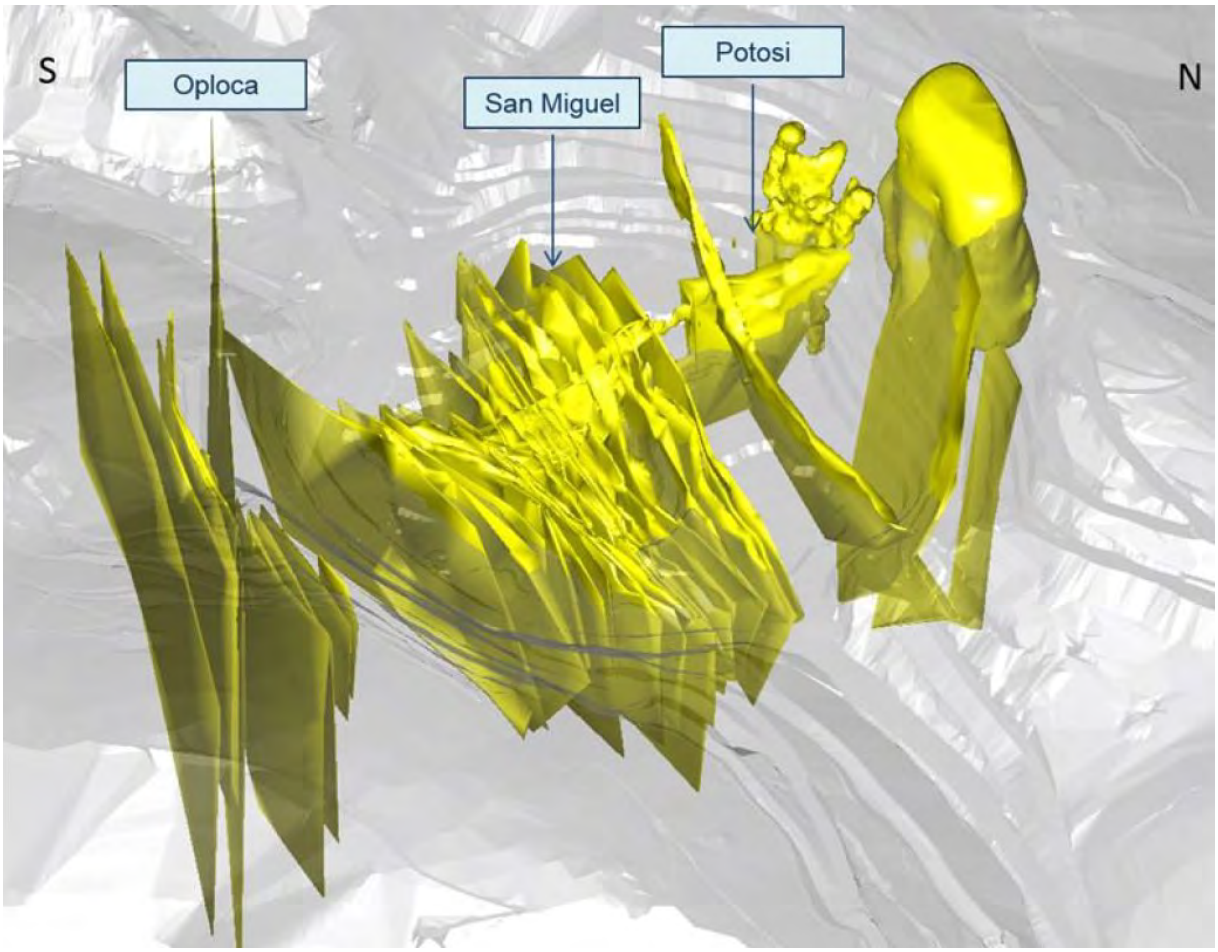
Figure 11.12 Plan showing Grade Control Bench Assays Colour Coded for Ag (ppm)



SSR, 2013

Wireframe models for Pirquitas are presented as an isometric view inside the September 2013 EOM survey pickup and 2013 designed pit in Figure 4.3.

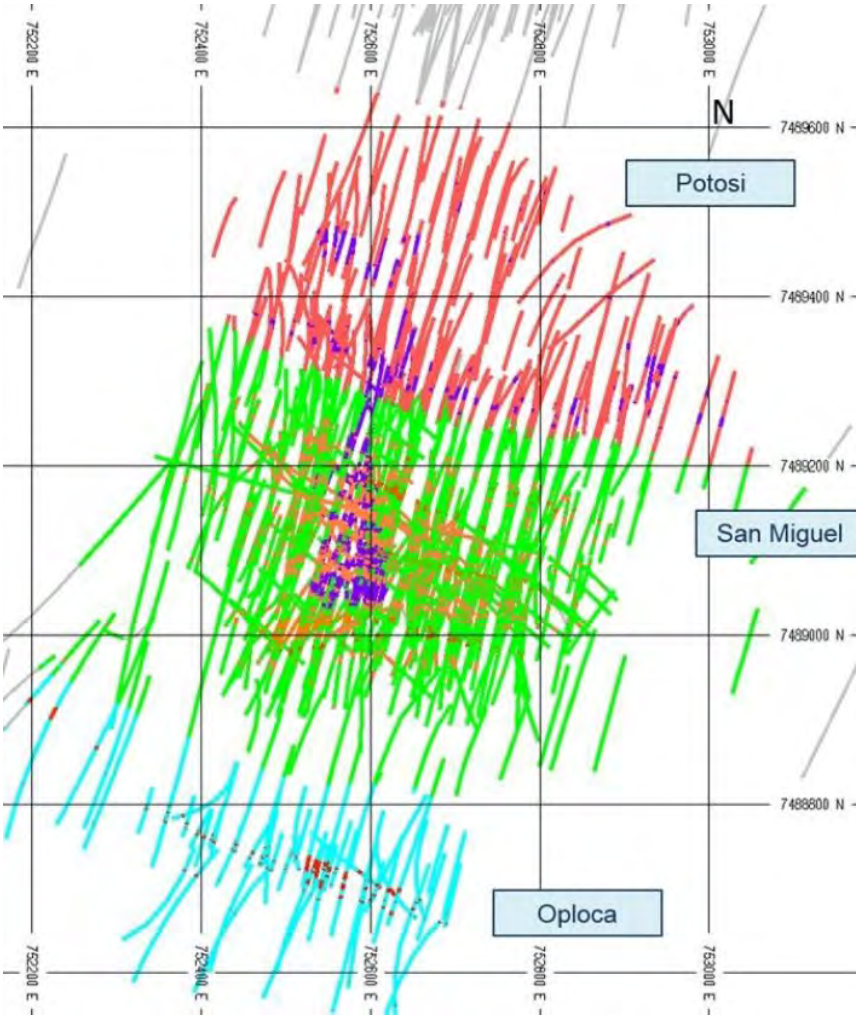
Figure 11.13 Isometric View of Final Pirquitas Wireframe Vein Models – 2013 Resource Model



SSR, 2013

After the wireframes were created the 'LITHO' field in the drillhole file was coded for the domains and vein wireframes. Each intercept on different veins was given a unique identifier representing a 'material type'. This assignment of material type codes by vein allowed for the control of grade estimation within the veins. The drillhole traces back-coded for vein material types are shown in Figure 11.14

Figure 11.14 Pirquitas Plan showing Drillholes Coded using Wireframe Vein Models



SSR, 2013

11.2.4 Compositing – Pirquitas

Raw sample lengths were generally up to 2 m in waste rock and 1 m or less in mineralized rock. A minimum sample length of 0.1 m was permitted on samples from highly mineralized structures such as veins, stockworks, and breccias.

A composite length of 2.0 m was considered most suitable for the Pirquitas drillhole data. Data were composited to the selected composite length within the interpreted wireframe solid. Residual lengths were retained.

11.2.5 Evaluation of Outlier Grades – Pirquitas

Top cut analyses were conducted on all finalized domain-coded drillhole composite data to assess the potential impact of extreme values during grade estimation.

The process of assessing the need for top cuts was an iterative one and included the analysis of statistics including lognormal probability distribution plots and the reconciliation of estimated parent cell grades to grade control. Ultimately, the best reconciliation to grade control was obtained by applying a 9,000 g/t Ag upper cut 20% Zn upper cut.

11.2.6 Continuity Analysis – Pirquitas

A variographic analysis was undertaken to help define the continuity characteristics of the domained data.

Three dimensional variography analysis (pairwise relative) was undertaken on 2 m composite intervals for Ag and Zn. Downhole variograms (omni-directional) were used to determine the nugget effect.

Due to the low amount of data within each vein wireframe the general orientation and shape of the veins or groups of veins (San Miguel and Oploca) was used to determine the orientation and dimensions of the search parameters for grade interpolation. Thus the variogram parameters from the variogram model, that is the nugget, first, and second structure were the same for all kriging interpolations for both Ag and Zn, the search ellipse orientation and dimensions.

11.2.7 Grades Estimation – Pirquitas

Estimation was carried out within a cell model with 4 m x 4 m x 8 m cells to be compatible with the grade control model. The Cell model limits are shown in Table 11.9. The model is not rotated.

Table 11.9 Cell Model Limits – Pirquitas

Direction	Minimum	Maximum	Cell Size (m)	Number of Cells
East	751,900	753,340	4	360
North	7,488,300	7,490,340	4	510
Elevation	3,838	4,510	8	84

Cells in the model were coded on a majority basis with the various domains.

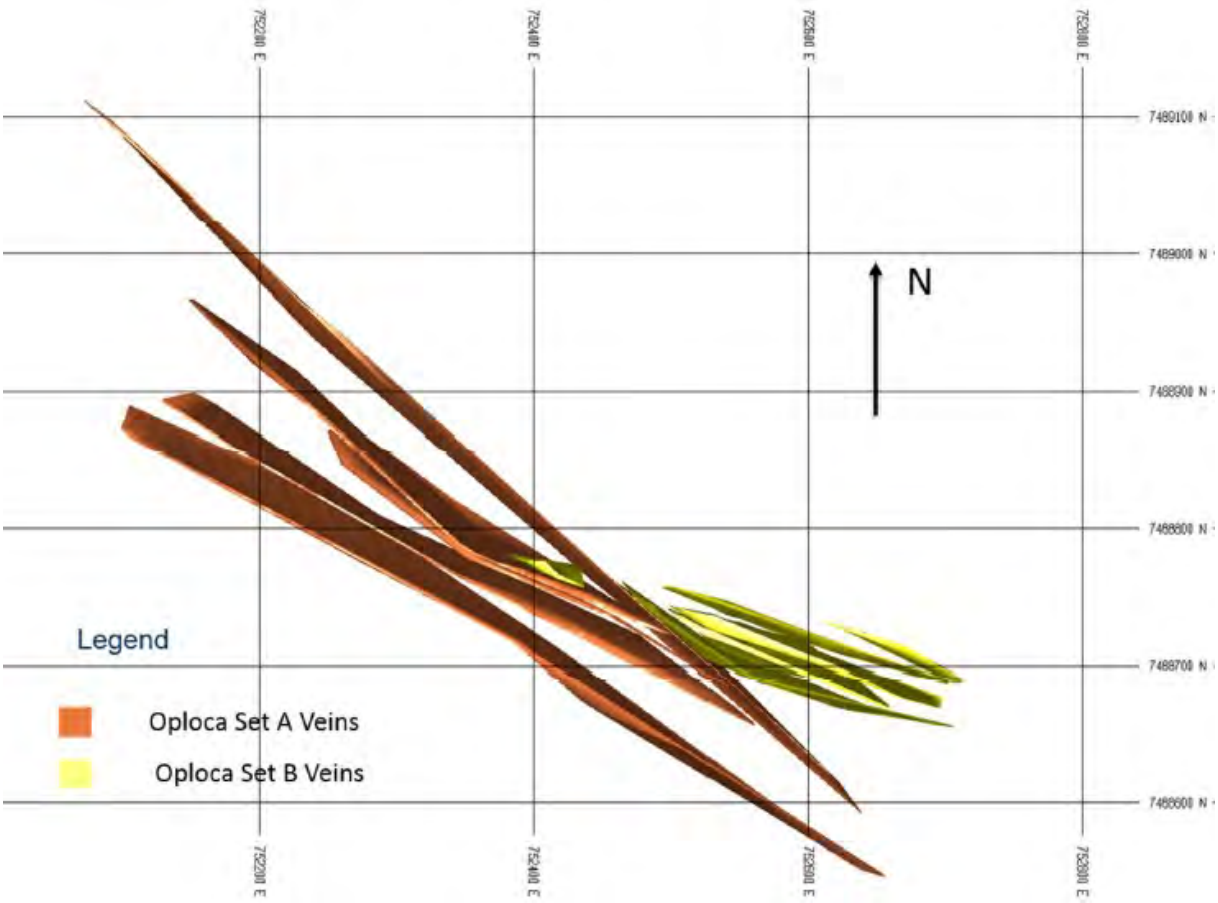
The wireframe surfaces and solids representing topography, oxide surface, overburden, and vein interpretation were used to code each cell with the proportion of its volume relative to these features.

11.2.7.1 Grades Estimation – Pirquitas Mining Area

Ag and Zn grades were estimated into Domains 10, 20, and 30 in the cell model using ordinary kriging (OK). The vein boundaries were treated as hard boundaries such that the composites within the vein interpretations were only permitted to inform estimates in cells that fall within the veins (this estimate is stored in a field called 'AGPV' for Ag and 'ZN%V' for the Zn estimates), and likewise composites outside the veins were only permitted to inform estimates in cells that have some proportion outside of the veins (this estimate is stored in a field called 'AGPVD' for Ag estimates and 'ZNPVD' for Zn estimates).

Veins in the San Miguel and Oploca areas were estimated separately. The veins in the Oploca area were separated into two sets for estimation: Oploca Set A and Set B veins have generally different orientations these are shown in Figure 11.15

Figure 11.15 Pirquitas Cross-section showing Two Distinct Oploca Vein Sets



SSR, 2013

Whole cell grades were calculated after estimation completed into fields called 'AGP' for silver and 'ZN%' for zinc. The calculation takes into account the proportion of the cell that is inside/outside the vein by calculating the weighted average based on stored volume information.

11.2.7.2 Density – Pirquitas

An analysis of density data was undertaken. It was determined that density could be estimated satisfactorily using a formula underpinned by Ag grade as follows:

agp = agpv * veinp / 100 + agpvd * (100 - veinp) / 100

temp = 0.39 * (ALOG (agp + 10) / ALOG (10)-1) + 2.64 * (1 - oxide) + 1.8 * oxide

bulk density = temp * (1 - void% / 100)

Where:

AGPV = estimated Ag grade from sample inside a vein

VEINP = proportion of the cell that falls inside a vein wireframe

AGPVD = estimated Ag grade from sample outside the veins

OXIDE = proportion of cell in oxide material

VOID% = proportion of cell not in rock (i.e. in underground workings)

2.64 = the average density of fresh waste rock

1.8 = the average density of oxidised rock

11.2.7.3 Validation – Pirquitas

Validation was conducted at the end of each model preparation step, as well as of the completion of the process. Model validation included visual validation in plan and section, and statistical validation by domain, of cell model codes. Additional validation was conducted on cells coded with UGVOID% values of greater than 0.001% to ensure that the in situ volume estimate was correctly discounted for previously-mined material.

In addition to the ongoing and iterative validation steps conducted throughout the modelling process, the resultant model that forms the basis of the Mineral Resource was subjected to the following validation steps:

- Visual comparison of estimated grades for Ag and Zn against the input drillhole data on a series of plan views and oblique cross-sections through the model. This was reviewed at numerous times during model generation to ensure that the modelled grades and grade distribution closely reflected that of the input data.
- Comparison of average grades for each grade variable in each domain between the input drillhole data and model estimates, to assess for potential global estimation bias in the model.
- Comparison of average grades for each grade variable in each domain between the input drillhole data and the cell model along northing, easting, and elevation swathes to assess potential spatial bias in the model.
- Grade-tonnage data were reported using different software to ensure validity of final grade-tonnage reports.
- Reconciliation of the cell model to grade control and production data on a bench-by-bench basis in the mined-out part of the deposit.

Results of the various detailed model validation steps summarised above indicate that the 2013 grade estimates are honour the input geological and drillhole data both globally and locally and have an acceptable level of smoothing for the cell size selected.

11.2.7.4 Classification – Pirquitas

Following an assessment to determine suitability, the resource confidence classification method for the 2013 model used the same method described in the 2011 Technical Report. The following is a description of the 2011 analysis.

Mineral Resource classification was conducted using a combination of drillhole spacing, search volume, and distance from underground workings, mineralisation continuity considerations, comparisons in locations of high-grade vein and stockwork structures between the model and open-pit observations, reconciliation between the model and grade control and production data, and discussions with mine-based geological staff. Resource confidence classification was focussed on the Ag variable, being the economically most important constituent at the Pirquitas deposit, however, prior to finalisation, the classification was reviewed with respect to Zn and Sn to ensure that there were no anomalies. Care was taken to ensure that coherent zones of high-confidence (Measured Mineral Resources) and reasonably good confidence (Indicated Mineral Resources) estimates were modelled to avoid a scattered resource classification. To this end the various model classification criteria discussed above were incorporated in the generation of wireframe solids for the classification of the Mineral Resource into Measured Mineral Resources and Indicated Mineral Resources.

The Mineral Resource confidence classification scheme can be broadly simplified as follows:

- All estimates informed by the third search pass in the Mining Area (Domains 10, 20, and 30) were classified as Inferred Mineral Resource.
- All estimates informed by sufficient samples from drillholes spaced closer than effectively 40 m (generally 20–35 m), in areas where there is reasonably good confidence in the modelled location of the mineralised veins and for which there is reasonably good confidence in the modelled location of the underground workings, were classified as Indicated Mineral Resource.
- Estimates classified as Measured Mineral Resource were informed by sufficient samples from drillholes spaced closer than effectively 25 m (generally less than 15 m), in areas for which there is high confidence in the modelled location of the mineralised veins and for which there is high confidence in the modelled location of the underground workings.

The wireframes used for classification in 2011 were added to the 2013 cell model. The ranges of distance to the cell centroid from the nearest composite, number of holes and number of composites relative to the 2011 resource cell model are given in Table 8.1.

Table 11.10 Pirquitas 2013 Resource Classification Results, Valid at a Cut-off of 65 g/t AgEq

Resource Class	Average Distance	Average No. of Holes	Average No. Comps
Measured	17.44	7	21
Indicated	29.70	6	6
Inferred	51.85	2	4

11.2.8 Mineral Resources – Pirquitas

The Pirquitas Mineral Resource estimate is contained within underground mining shapes using an NSR cut-off of $100/t that is based on metal prices of $20.00/oz for silver, $1.10 for lead and $1.30/lb for zinc. The NSR cut-off grade selected for the Pirquitas Mineral Resource assumes underground mining will be used for extraction, that the processing facility could be used for processing. It is recommended that the Mineral Resource estimate be re-evaluated and assessed with a study to determine the development horizon available prior to the completion of the Chinchillas open pit and the impact of the current operation on the Pirquitas Mineral Resource.

Metal prices for the Mineral Resource cut-off were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The prices selected were then reduced from the average long-term prices to take a conservative view of the long-term price. The long-term prices for the cut-off were assumed to apply from the start of 2026. The metal prices are representative of the range of price estimates publicly reported for Mineral Resource cut-offs.

The Pirquitas Mineral Resource by classification is summarised in Table 11.11 and shown with recovery and ownership detail in Table 11.11.

SSR has advised that there are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the Mineral Resource. Mineral Resources do not have demonstrated economic viability. The quantity and grade of Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these as Indicated or Measured, but it is reasonably expected that a majority of the reported Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Mineral Resources are exclusive of Mineral Reserves.

Table 11.11 Summary of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Contained Metal		
	(kt)	Ag (g/t)	Pb (%)	Ag (g/t)	Silver (koz)	Lead (Mlb)	Zinc (Mlb)
Measured	79	444.5	0.20	1.17	1,129	0.4	2
Indicated	2,555	287.7	0.20	4.56	23,627	1.0	257
Measured + Indicated	**2,634**	**292.4**	**0.20**	**4.46**	**24,756**	**1.5**	**259**
Inferred	1,080	206.9	0.00	7.45	7,185	0.1	177

1. The Mineral Resource estimate is contained within underground mining shapes based on $90/t to $100/t NSR cut-off.
2. The Mineral Resource estimate is based on metal price assumptions of $20.00/oz silver, $1.30/lb zinc, and $1.10/lb lead.
3. Metallurgical recoveries vary with grade and on average are, 87% silver and 85% for zinc and 50% for lead.
4. The point of reference for Mineral Resources is the point of feed into the processing facility
5. Mineral Resources are reported exclusive of Mineral Reserves.
6. SSR has 100% ownership of the Project.
7. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
8. Totals may vary due to rounding.

Table 11.12 Summary of Metallurgical Recoveries and Ownership of Pirquitas Mineral Resource Estimate Exclusive of Mineral Reserve (as at 31 December 2021) Based on $20.00/oz Silver, $1.10/lb Lead and $1.30/lb Zinc

Mineral Resource Classification	Tonnage	Grades			Metallurgical Recovery			Cut-off NSR ($/t)
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	Zinc (%)	
Measured	79	444.5	0.20	1.17	87	50	85	100
Indicated	2,555	287.7	0.20	4.56	87	50	85	100
Measured + Indicated	**2,634**	**292.4**	**0.20**	**4.46**	**87**	**50**	**85**	**100**
Inferred	1,080	206.9	0.00	7.45	87	50	85	100

1. The Mineral Resource estimate is contained within underground mining shapes based on $90/t to $100/t NSR cut-off.
2. The Mineral Resource estimate is based on metal price assumptions of $20.00/oz silver, $1.30/lb zinc, and $1.10/lb lead.
3. Metallurgical recoveries vary with grade and on average are, 87% silver and 85% for zinc and 50% for lead.
4. The point of reference for Mineral Resources is the point of feed into the processing facility
5. Mineral Resources are reported exclusive of Mineral Reserves.
6. SSR has 100% ownership of the Project.
7. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
8. Totals may vary due to rounding.

11.2.9 Comparison with Previous Estimates – Pirquitas

The new Mineral Resource estimate is compared to the previous Mineral Resource estimate dated 2011 and supported by the Technical Report dated 27 May 2016 (Davis et al., 2016). The Mineral Resources estimated in 2011 are based on metal prices of $11/oz silver $0.70/lb lead and $0.70/lb for zinc and $5.00/ln Sn and an NSR cut-off of $15.00/t NSR.

There was no change since EOY 2020 as there was no updated work on the Mineral Resource.

11.3 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Resources reported in the Puna21TRS are suitable for reporting as Mineral Resources using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

12 MINERAL RESERVE ESTIMATES

12.1 Summary

Open pit mining is carried out by MPSA as an owner mining operation with ore hauled from Chinchillas pit to the Pirquitas plant. The Mineral Reserves were developed based on mine planning work completed in 2021 that included pit optimisation and redesign of the pit phases. Table 12.1and Table 12.2 summarise the Mineral Reserve for Chinchillas. The Chinchillas Mineral Reserve estimate has been generated for the Mantos Deposit based on the following inputs: metal prices, resource model, geotechnical information, operating costs, mineral processing recoveries, concentrate transport, off site costs and charges. Costs for all areas of the operation are estimated from actual costs. These were used to calculate an NSR of $44.11/t NSR used for the Mineral Reserve cut-off.

Metal prices for the Mineral Reserve cut-off were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The prices selected were then reduced from the average long-term prices to take a conservative view of the long-term price. The long-term prices for the cut-off were assumed to apply from the start of 2026. The metal prices are representative of the range of price estimates publicly reported for Mineral Reserve cut-offs.

12.2 Mineral Reserves Statement

Table 12.1 summarises the Mineral Reserves statement for the Puna Operations.

Table 12.1 Summary of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc

Mineral Reserve Classification	Tonnage	Grade			Contained Metal		
	(kt)	Ag (g/t)	Pb (%)	Zn (%)	Silver (koz)	Lead (klb)	Zinc (klb)
Proven	2,379	168.9	1.33	0.34	12,918	69,747	17,830
Probable	5,041	155.3	1.29	0.25	25,174	143,364	27,784
Probable Stockpiles	187	141.0	1.33	0.50	846	5,483	2,061
Proven + Probable	**7,606**	**159.2**	**1.30**	**0.28**	**38,938**	**218,595**	**47,675**

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves estimate is based on metal price assumptions of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc.
3. The Mineral Reserves estimate is reported at a cut-off grade of $44.11/t NSR.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $21.00/oz silver, $0.90/lb lead, and $1.20/lb zinc
5. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 95% for lead and approximately 63% for zinc.
6. Metals shown in this table are the contained metals in ore mined and processed.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. SSR has 100% ownership of the Project.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

Table 12.2 Summary of Metallurgical Recoveries of Chinchillas Mineral Reserve Estimate (as at 31 December 2021) Based on $18.50/oz Silver, $0.90/lb Lead, and $1.05/lb Zinc

Mineral Reserve Classification	Tonnage (kt)	Grades			Metallurgical Recovery		
		Ag (g/t)	Pb (%)	Zn (%)	Silver (%)	Lead (%)	Zinc (%)
Proven	2,379	168.9	1.33	0.34	98	95	63
Probable	5,041	155.3	1.29	0.25	98	95	63
Probable Stockpiles	187	141.0	1.33	0.50	98	95	63
Proven + Probable	**7,606**	**159.2**	**1.30**	**0.28**	**98**	**95**	**63**

1. Mineral Reserves are reported based on 31 December 2021 topography surface.
2. The Mineral Reserves estimate is based on metal price assumptions of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc.
3. The Mineral Reserves estimate is reported at a cut-off grade of $44.11/t NSR.
4. Economic analysis for the Mineral Reserve has been prepared using long-term metal prices of $21.00/oz silver, $0.90/lb lead, and $1.20/lb zinc
5. Processing recoveries vary based on the feed grade. The average recovery is estimated to be 98% for silver, 95% for lead and approximately 63% for zinc.
6. Metals shown in this table are the contained metals in ore mined and processed.
7. The point of reference for Mineral Resources is the point of feed into the processing facility.
8. SSR has 100% ownership of the Project.
9. All ounces reported represent troy ounces, and g/t represents grams per metric tonne.
10. Totals may vary due to rounding.

12.3 Factors that Affect the Mineral Reserves Estimates

Factors that affect the Mineral Reserve estimates include but are not limited to dilution; metal prices; off-site costs; metallurgical recoveries, pit slope designs; capital and operating cost estimates; and the effectiveness of managing environmental impacts. The main factors that affect the Mineral Reserve estimations reported in this section are:

- Commodity prices, particularly silver price
- Processing recoveries
- The effectiveness of managing environmental impacts for waste rock and downstream water flows
- Pit slope design criteria

The Mineral Reserves estimate has taken into account all known legal, political, environmental or other risks that could materially affect the potential development of the Mineral Reserves, as discussed in various sections of this Puna21TRS.

12.4 Comparison of 2021 Mineral Reserves to 2020 Mineral Reserves

The Mineral Reserves have been compared to the previous Mineral Resource which was based on the EOY 2020 pit surface. Comparison of the 2021 Mineral Reserve with the 2020 Mineral Reserve shows a net decrease in contained silver of 4.07 Moz (-9%). Mining depletion (-16%)occurred but there was an increase in Mineral Reserves (+5%) due to model updates, pit design changes and a small impact from increased metal prices.

12.5 Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

The Mineral Reserves reported in the Puna21TRS are suitable for reporting as Mineral Reserves using the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101).

13 MINING METHODS

13.1 Geotechnical Review

A review of the geotechnical reports provided by MPSA was carried out. The following reports were provided and form the basis of this review:

- Knight Piesold, 2016. 2015 Geotechnical Site Investigation Report
- Knight Piesold, 2016. Pre-Feasibility Pit Slope Design VA201-439/3-2 Rev0
- Knight Piesold, 2016. Hydrogeologic Conceptual Model and Preliminary Pit Inflow Estimates
- Puna Operations Inc, 2016. NI 43-101 Technical Report

It is important to note, the Knight Piesold - 2015 Site Investigations report suggested a study regarding waste rock dumps but have not been sourced or reviewed. SSR report that the review has not been undertaken. Knight Piesold (KP) prepared a report in 2020 after an inspection of the pit. OreWin did not review this report as it was not available during the Puna21TRS preparation.

13.1.1 Knight Piesold 2015 Site Investigation

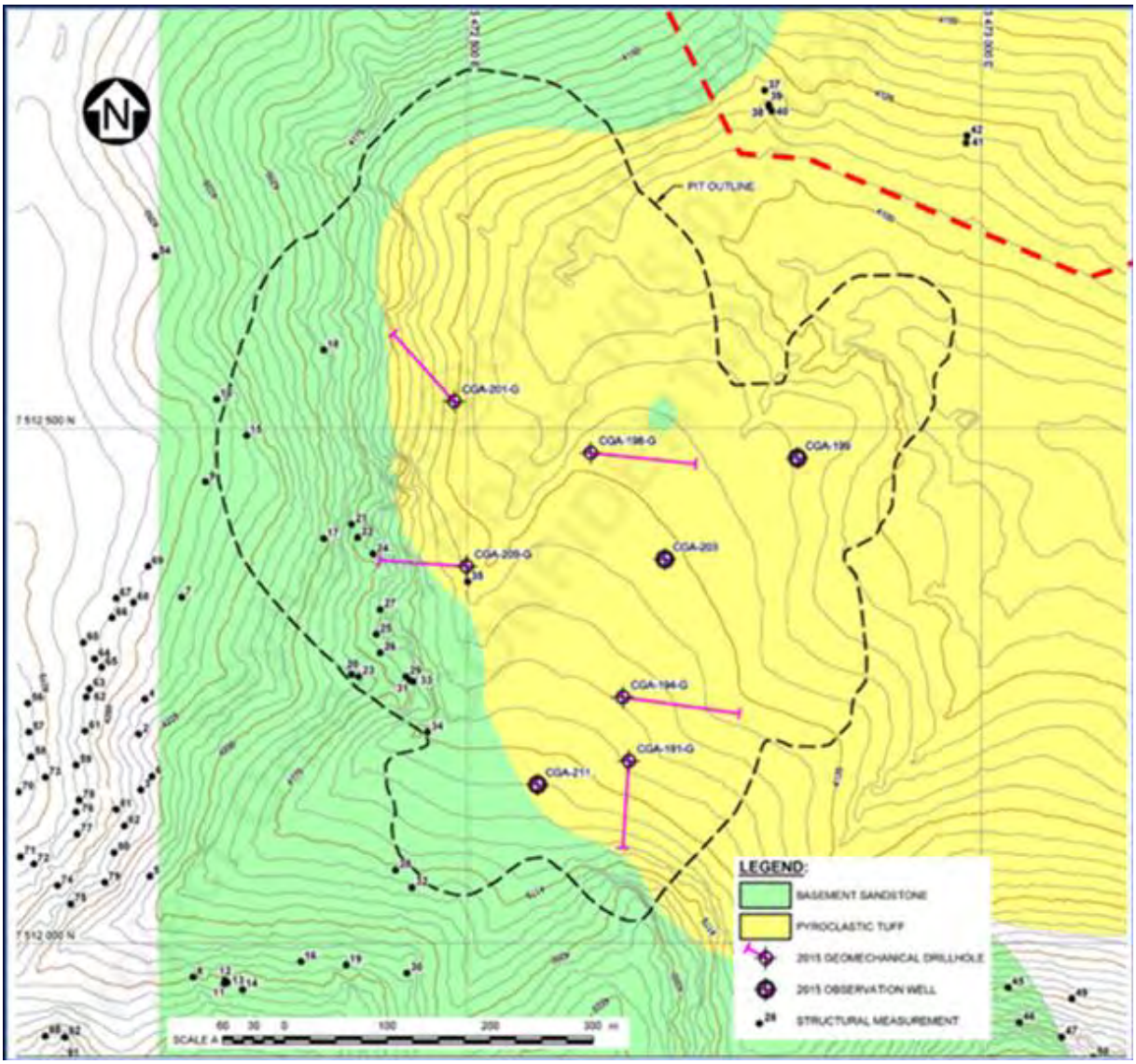
The Knight Piesold 2015 site investigations were addressed in a report issued in February 2016. The report and the data therein provided the key source of information for additional Knight Piesold Geotechnical studies.

Figure 13.1 provides an overview of the extent of the Knight Piesold site investigations of which comprised:

- Five cored boreholes, geotechnically logged and with oriented core utilised in defining orientation of defects where possible.
- Packer testing was conducted in two boreholes and falling head testing in the other three boreholes.
- Observation wells in three vertical exploration boreholes and with slug testing therein.

Of particular note, Knight Piesold utilised mapping data of exposures carried out by GAR during exploration, Figure 13.1.

Figure 13.1 Overview of Knight Piesold Site Investigation



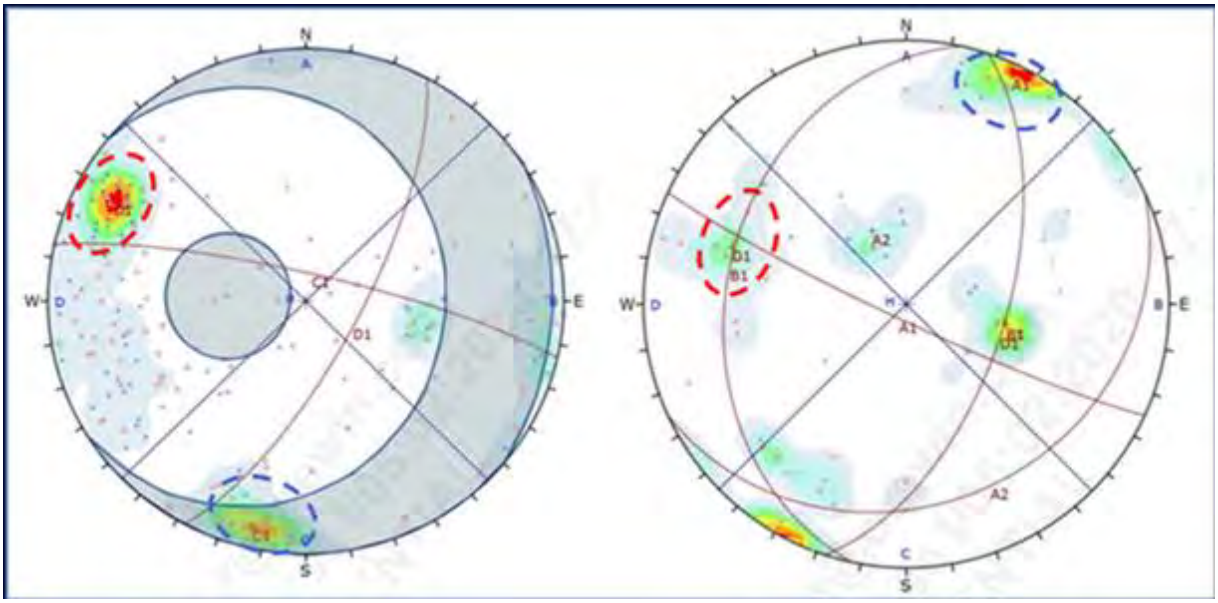
KP, 2015

The extent of studies is considered appropriate. Key aspects of note from the studies include the following:

- Two key lithologies are present, Metasediments (basement sandstone) which has been overlain by a pyroclastic Tuff, Figure 13.1.
- Metasediments are steeply dipping to the west. Intact strength is potentially underestimated from laboratory testing (average UCS of 30MPa).
- Pyroclastic Tuff has shallow bedding and has low intact strength due to alteration and with UCS of 10MPa.
- The available orientated data in the Pyroclastic Tuff (from two boreholes) is limited. There are 33 data points which indicate widely spaced defects.

- The available orientated data in the Metasediments (from four boreholes) is significant. Nearly 700 data points, which indicate a more jointed rock mass but with a lack of orientation of any faulting. Review of the logging and core photos suggest such faulting is present and the absence of understanding of orientation is considered as a significant gap in the studies.
- Comparison of the surface mapping (mostly in Metasediments) and orientated data from borehole CGA-209-G (in closest proximity to mapping and entirely in Metasediments) shown in Figure 13.2, indicates very good comparison. Of note is the good match between defect sets D1 (looped in red) and sets C1 and A1(looped in blue). Of note is slightly flatter dip of set D1 in the surface mapping. The oriented data indicates the bedding (diamond symbols in set D1) is steeply dipping south to east. The variance from the broader interpretation noted above is owing to rotation introduced by intrusion of an underlying diatreme. However, the bedding noted in the surface mapping is moderately dipping to the southwest (set A2) and also moderately dipping to the west (set B1). This is at odds with the provided geological overview where bedding is steeply dipping in the Metasediment and shallow dipping in the pyroclastic Tuffs. The bedding has the potential to significantly control stability of the overall slopes, therefore this discrepancy needs to be resolved.
- Other oriented boreholes in the Metasediments provide somewhat poorer comparison with mapping as this is a function of the blind zones impacting on the other boreholes.

Figure 13.2 Surface Mapping and orientated data from borehole GCA-209-G



Knight Piesold, 2016. Note: Defect sets annotated by OreWin. The blind zone (grey shading), where defects will be underrepresented in oriented core

13.1.2 Knight Piesold PFS Pit Slope Design

The Knight Piesold 2016 Pre-Feasibility Pit Slope Design VA201-439/3-2 Rev0 report provides the pit slope recommendations for PFS studies. The following comments are based on a review of this report:

- The kinematic assessment, which has been largely utilised to provide batter angles is considered appropriate for the Metasediments. However, owing to the lack of knowledge on faults, there is a degree of uncertainty on inter-ramp scale stability.
- Overall pit wall stability has been addressed through limit equilibrium stability analyses. The analyses utilised the Hoek & Brown (HB) rock mass strength criterion. The inputs of the analysis are considered largely appropriate based on the 2015 Geotechnical Site Investigation Report , however caution of the following three aspects.
  - Knight Piesold have assumed a Disturbance Factor (D value) of 0.85. This value may be appropriate near created slope faces where blast damage may be present but is not considered appropriate for the rock mass within the pit slope.
  - Knight Piesold have adopted an Ru value of 0.2 in the analyses, which nominally equates to a slope where the phreatic surface aligns with the mined surface and groundwater conditions are nominally 50% hydrostatic. This level of depressurisation is considered optimistic at the PFS stage.
  - The HB criterion is poorly suited for rocks of low intact strength such as the Pyroclastic Tuff. As such, the inter-ramp slope angle in the Tuff is considered marginally high and an overall angle in the order of 37° is considered more appropriate.
- The Knight Piesold design parameters are provided in Table 13.1 and maintain similar berm widths in all areas and with variation in batter angle. An alternative would be to utilise 70° batter angles in all areas and utilise 10 m wide berms in the southwest and northwest (IRA of 49° maintained), 14 m wide berms in the south (IRA of 43° maintained) and 17 m wide berms in the east (IRA of 39°). A haulroad would reduce the overall angle in the east wall but depending on placement may require revision of berm widths.
- Knight Piesold recommend that for the west wall, the un-interrupted IRA not exceed 150m in height and with a wider bench or haul ramp of the order of 20 to 30m to limit overall angle to 46 to 47°. In practice, with the ramp location unknown, would suggest placement of a wider berm in the southwest and northwest at nominally mid-height of the overall slope.

Table 13.1 Recommended Inter-ramp Angles (Assuming Quadruple Benching)

Pit Design Sector	Geotechnical Unit	Bench Face Angle (°)	Bench Height (m)	Bench Width (m)	Inter-ramp Angle (°)
East	Pyroclastic	60	20	10	43
South	Basement Sandstone & Pyroclastic	60	20	10	43
South-west	Basement Sandstone	70	20	10	49
North-west	Basement Sandstone	70	20	10	49

13.1.3 2021 Pit Design Slope Criteria

SSR prepared new pit designs in 2021, the interpretation of the slope design recommendations used by SSR in the 2021 designs is shown in Table 13.2. The pit slope angles for both pit and dumps were based on those recommended by Knight Piesold but subject to some alteration by SSR. The 2021 pit designs have not been subjected to an independent geotechnical review and it is important that this review is carried out and the revised designs confirmed to meet the slope design criteria. This should be carried out as soon as possible in 2022.

Ore and waste are mined in five metre benches. Final wall 20 m benches are formed by joining four working benches together. Haulage roads are 30 m wide, which is sufficient for 2-way traffic of 100 t trucks, plus enough space to build a ditch and a safety berm. Inter-ramp angles for the west and east walls are 49 and 43 degrees, respectively. For every 150 m of slope height, either a 20 m geotechnical berm or a haulage road was added to the slope.

Table 13.2 Mine Design Criteria

Criteria	Unit	Value	Remarks
Bench height (final wall)	m	20	Ore and waste will be mined in 5 m benches
Bench face angle	degree	60 & 75	60° in East and South; the rest 75°
Catch bench width	m	11.4–13.3	On final walls
Geotechnical berm	m	20	For every 150 m height
Inter-Ramp angle	degree	40, 47 & 50	40° in East and South; 47° in the south-west; the rest 50°
Haulage road width	m	30	2-way roads, includes berm and ditch
Maximum road grade	%	10	
Rock dump face angle of repose	degree	35	25 m lifts and overall slope of 26°

13.1.4 Knight Piesold Hydrogeologic Conceptual Model and Preliminary Pit Inflow Estimates

The 2016 Hydrogeologic Conceptual Model and Preliminary Pit Inflow Estimates report has utilised the available knowledge to summarise hydrogeological parameters, provide a conceptual groundwater model and provide inflow estimates. This study is considered appropriate at a PFS level.

13.1.5 NI 43-101 Technical Report

The NI 43-101 Technical Report of December 2016 provides limited additional geotechnical value to that indicated in the previous Knight Piesold reports. The pit designs utilised overall angles 3° flatter than those indicated in Table 13.1. The flatter slope angle was to allow for haulage ramps (20m to 30m width) and a geotechnical berm every 150m of slope height as proposed by Knight Piesold (albeit this was only recommended for the west wall).

The haul road placement shown in the NI 43-101 Technical Report , and as provided by OreWin, transects the east wall and such that the overall angle of 37° is largely achieved.

The report places the ex-pit waste dump to the northeast of the pit, which is represented by a red dashed line in Figure 13.1, and where the topography suggests a somewhat uniform slope dipping to the south. The following information is inferred:

- The slope , dump footprint, has a dip of nominally 13°.
- The dump would be constructed in a bottom-up sequence.

The Waste rock dump (WRD) investigations in the 2015 Geotechnical Site Investigation Report utilised test pitting, indicated typically a shallow depth to rock in the dump footprint. Although no previous WRD geotechnical studies have been sourced for this review, it's anticipated with clearing of overburden from the footprint of the first dump lift there should be negligible risk of waste dump instability.

13.1.6 Summary of Geotechnical Studies Review

Following is an overview of comments for the geotechnical studies review for the Chinchillas Project:

- Review of the logging and core photos in the Metasediments suggest faulting is present. The absence of understanding of orientation is considered as a significant gap in the geotechnical studies. Owing to the lack of knowledge on faults, there is a degree of uncertainty on inter-ramp scale stability. It's recommended that Puna consider three boreholes in the western quadrant with use of televiewer (ATV) logging. ATV which uses scanning of the borehole wall is far more reliable in providing the orientation of major structures which are typically present in recovered core as rubble zones, broken core or highly jointed zones which invariably cannot be orientated in oriented core as used in the PFS investigations.
- Bedding in the surface mapping shown in Figure 13.2, is moderately dipping to the southwest (set A2) and moderately dipping to the west (set B1). This is at odds with the provided geological overview where bedding is steeply dipping in the Metasediment and shallow dipping in the Pyroclastic Tuffs. As bedding has the potential to significantly control stability of the overall slopes this discrepancy needs to be resolved.
- Overall pit wall stability was addressed in the PFS study through limit equilibrium stability analyses utilising the Hoek & Brown (HB) rock mass strength criterion. It's considered the inputs as largely appropriate. However, caution of the following three aspects is recommended.
- Knight Piesold have assumed a Disturbance Factor (D value) of 0.85. This value may be appropriate near created slope faces where blast damage may be present but is not considered appropriate for the rock mass within the pit slope.
- The level of depressurisation in the analyses is optimistic at PFS stage.
- The HB criterion is poorly suited for rocks of low intact strength such as the Pyroclastic Tuff. As such, the inter-ramp slope angle in the Tuff is considered marginally high and an overall angle in the order of 37° is considered more appropriate.
- The Knight Piesold design parameters are provided in Table 13.1 and maintain similar berm widths in all areas and with variation in batter angle. An alternative would be to utilise 70° batter angles in all areas and utilise 10 m wide berms in the southwest and northwest (IRA of 49° maintained), 14 m wide berms in the south (IRA of 43° maintained) and 17 m wide berms in the east (IRA of 39°). A haulroad would reduce the overall angle in the east wall but depending on placement may require revision of berm widths.
- The 2021 pit designs have not been subjected to an independent geotechnical review and it is important that this review is carried out and the revised designs confirmed to meet the slope design criteria. This should be carried out as soon as possible in 2022.

13.2 Mining

Open pit mining is carried out by MPSA as an owner mining operation with ore hauled from Chinchillas pit to the Pirquitas plant.

The Chinchillas deposit is located in the high lands of the Andes. The topography of the property consists of several mountains and hills on the sides of property with a small valley in the middle. The orebody is located mainly in the bottom of the valley with extensions stretching to the west on the hillside. The elevation varies from about 4,090 masl in the east side of the valley to 4,300 masl on the peaks in the west. There is a small creek in the middle of valley running from west to the east.

The Chinchillas deposit is mined as a conventional open pit operation. Most of the in-pit haulage for both ore and waste is carried out using 100 t haulage trucks. Ore is mined in five metre benches and stockpiled in a staging area close to the pit. From the staging area, ore is transported to the crusher at the Pirquitas Operation which is 42 km away from Chinchillas. Throughout the mining operation, low grade ore is stockpiled near the pit rim to be processed at the end of mine life. The mining operation is conducted by the owner. Ore haulage was changed to owner operated in 2021.

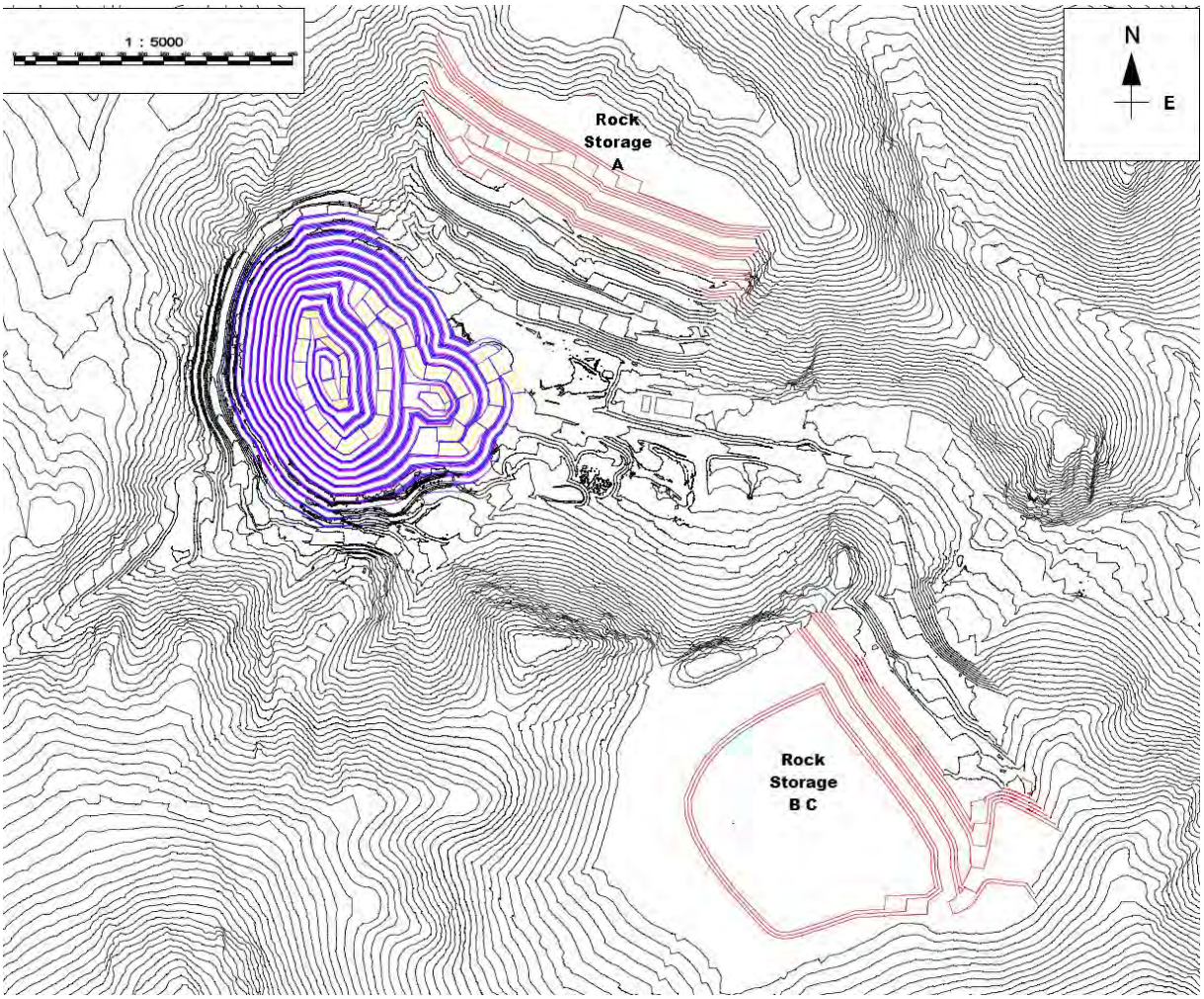
Waste rock is mined and hauled to two major on-site rock storage facilities based on geochemical characteristics.

For the mine planning work the NSR is calculated for each block. No dilution is included in the block model. Ore is placed in the ore staging area as it is mined from the pit. The ore is then loaded onto haul trucks and transferred to Pirquitas on a daily basis. Material that falls between the Resource cut-off and the Reserve cut-off is stockpiled separately as mineralised waste.

13.3 Mine Design

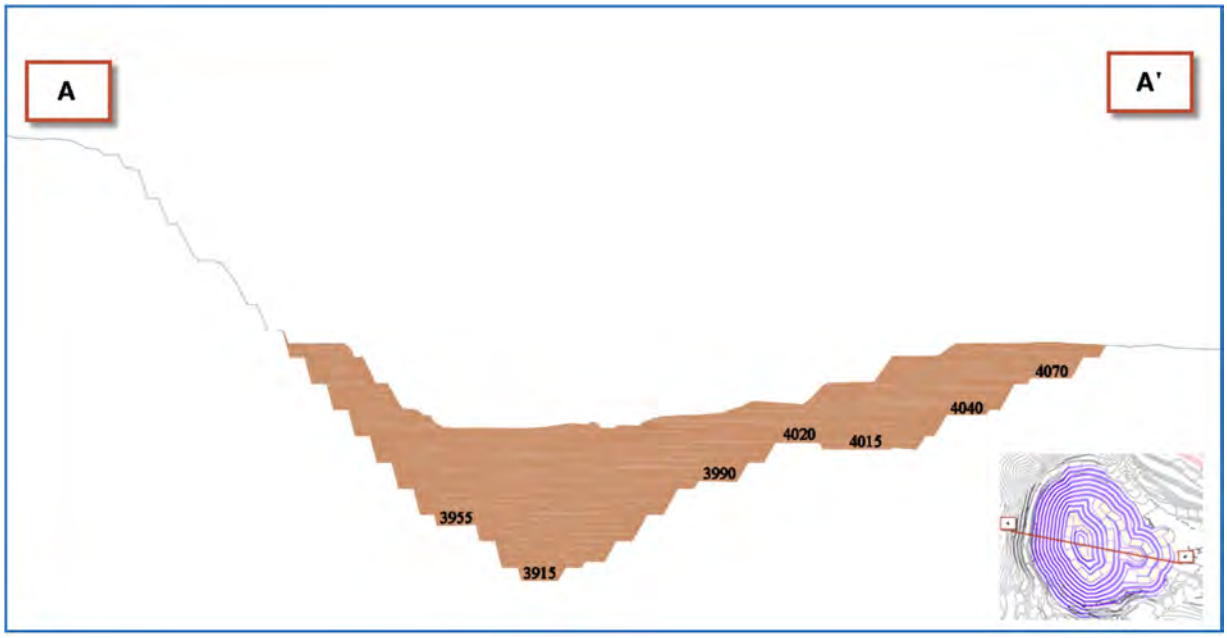
The Mineral Reserves were developed based on mine planning work completed in 2021 that included pit optimisation and redesign of the pit phases. The 2021 ultimate pit design and the waste dumps at Chinchillas are shown in Figure 13.3. Figure 13.4 shows a section of the main pit from east–west.

Figure 13.3 Chinchillas 2021 Ultimate Pit Design



SSR, 2020

Figure 13.4 Long Section of the 2021 Pit Design



13.4 Rock Storage Facilities

Some of the waste types have the potential to leach metals and are separated from the neutral waste material. Based on geochemical characteristics, waste is classified into three groups designated A, B and C. Type 'A' waste is stored close to the pit as it has the potential to leach metals. This is so that the drainage can be collected in the pit and if necessary be treated. Type B and C are stored together in the same location.

According to this classification, two waste rock storage facilities have been designed for Chinchillas to accommodate different rock types. These can be seen in the general site layout Figure 13.3.

Rock storage A is close to the pit, on a hill side to the north-east of the Chinchillas pit. The toe of this dump is 100 m offset from the pit rim. Rock storage B and C are located to the south-east of the active mining area on somewhat flatter terrain. Waste Rock Facilities are built with 25 m lifts and 15 m berms. The angle of repose for each lift is 35 degrees and the overall slope angle of dumps is 26°. Access to the dump is by 30 m wide haulage roads. The total height of the dumps are approximately 100 m.

13.5 Mining Equipment and Personnel

The mine operates 355 days a year with two 12-hour shifts per day. The amount of mining equipment required for the operation varies by the tonnages of material moved in each period.

The mining operation utilises 12 m^3 wheel loaders to load 100 t off-highway trucks. Two main drills and two smaller drills will be sufficient for the life of mine. D9 dozers and graders provide ancillary support. The graders are also used for maintaining the 42 km ore haulage road.

The mining personnel are grouped into three sections as operation, maintenance and management/technical.

13.6 Production Scheduling

Mining production is scheduled throughout the current mine life which is five years. Ore is classified into grade bins: low grade and high-grade ore. Milling cut-off grade is calculated to be $44.11/t NSR.

Table 13.3 Production Schedule for Chinchillas Project

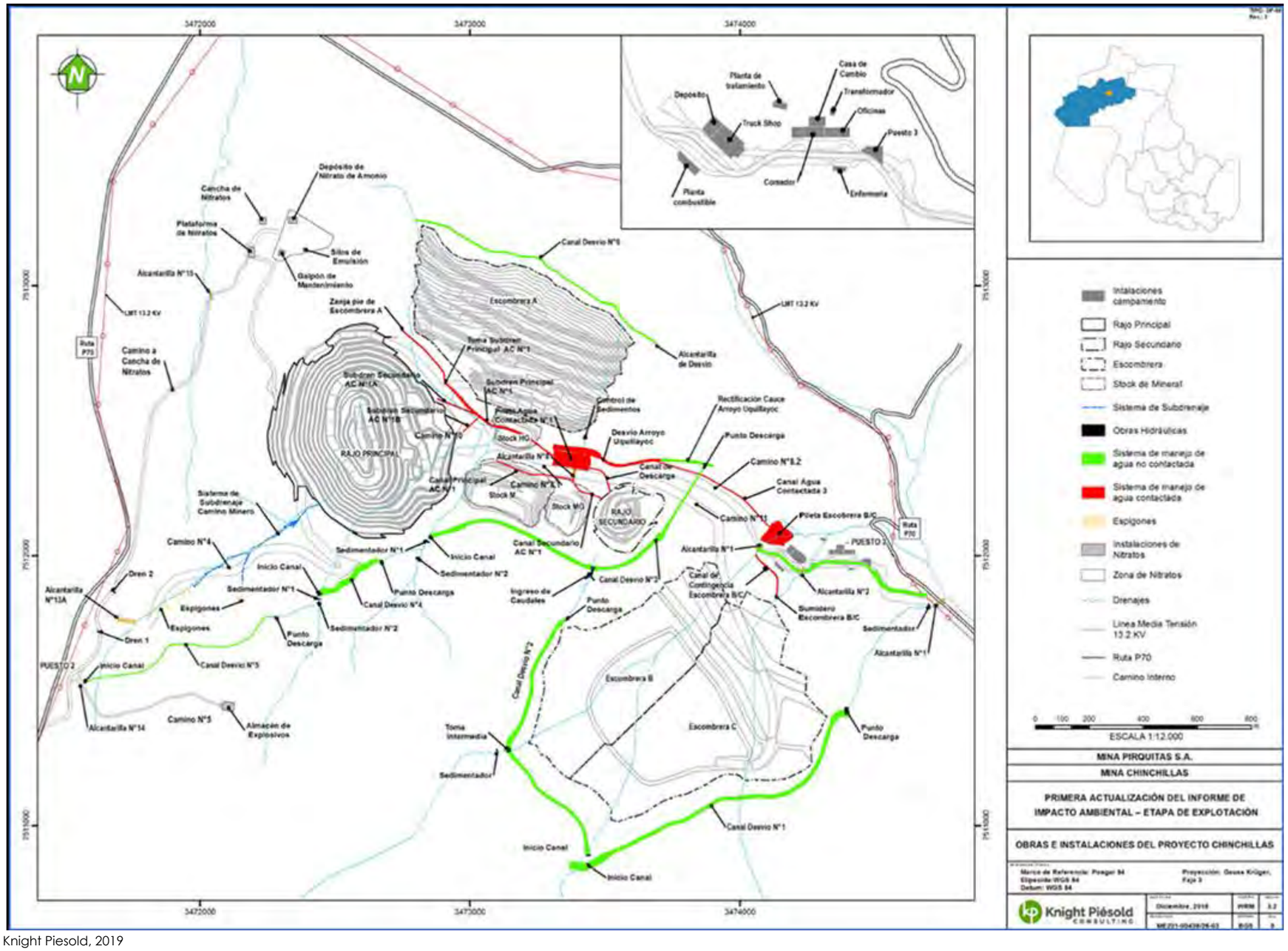
Description	Unit	Total	Project Year				
			2022	2023	2024	2025	2026
Total Movement	kt	29,671	10,652	9,168	5,316	3,725	809
Waste Mined	kt	22,469	9,033	7,437	3,655	2,008	336
Ore Mined	kt	7,202	1,619	1,732	1,661	1,717	473
Strip Ratio	kt	3.1	5.6	4.3	2.2	1.2	0.7
Processed	kt	7,352	1,643	1,643	1,647	1,647	773
Silver Feed grade	g/t Ag	160	168	176	158	158	123
Lead Feed grade	%	1.32	1.24	1.38	1.43	1.43	0.94
Zinc Feed grade	%	0.29	0.47	0.34	0.19	0.19	0.22
Ag Recovery	%	95.5	96.2	96.2	96.2	93.6	94.7
Ag Produced	koz	37,210	8,529	8,924	8,026	7,809	3,921
Payable Ag Produced	koz	35,135	8,051	8,427	7,581	7,375	3,701

Metal produced includes current concentrate stockpiles containing 242 koz silver and 5 Mlb lead.

13.7 General Mine Site Layout

Figure 13.5 shows the general site layout of Chinchillas mine.

Figure 13.5 Chinchillas General Mine Site Layout



Knight Piesold, 2019

14 PROCESSING AND RECOVERY METHODS

Chinchillas material is processed at a rate of up to 1.7 Mtpa through the existing Pirquitas Operation process plant. The Pirquitas plant was commissioned in 2009 and has since been in continuous operation.

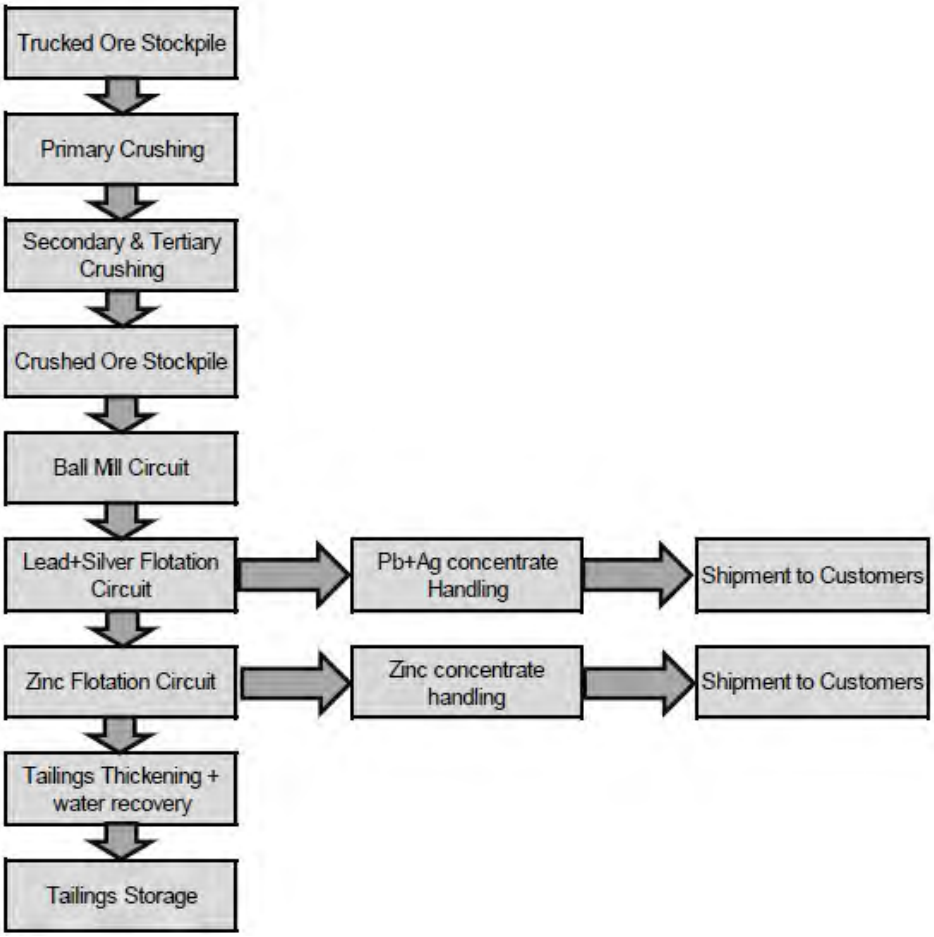
The plant has not been expanded since start-up; however, minor changes in the flotation flow sheets have occurred to optimise performance.

14.1 Process Overview for Chinchillas

The Pirquitas plant was upgraded in 2017 to process the Chinchillas ore types, producing a silver / lead concentrate and a zinc concentrate.

A schematic diagram of the Chinchillas process flow sheet is shown in Figure 14.1.

Figure 14.1 Chinchillas Processing Flow Sheet Overview



14.1.1 Stockpiling and Crushing

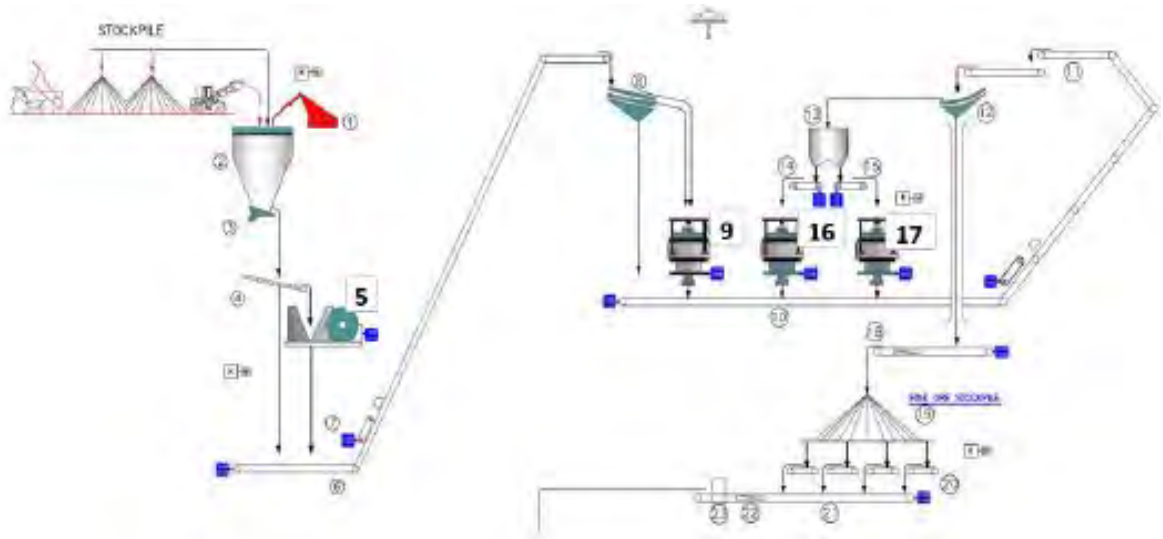
The trucked material is delivered to suitable stockpiles at the primary jaw crusher. The jaw crusher is fed directly via 35-42 t truck dumping or with a front-end loader. Mill operations decides daily feed blending from the ore stocked looking for steady head grade according to the production plan.

Secondary/tertiary crushing and screening operations will reduce this material to an 80% passing size of 9 mm. This material is discharged onto a crushed feed stockpile with four feeders located beneath the stockpile.

The crushing circuit was designed to process up to 6,000 tpd.

Figure 14.2 shows the crushing circuit flow sheet.

Figure 14.2 Chinchillas Crushing Circuit



MPSA, 2021

14.1.2 Grinding

The ball mill circuit grinds crushed ore to the optimum size at a rate of 4,500 tpd. The ball mill is 4.8 m in diameter by 6.25 m long with 2,400 kW of installed power. Mill discharge is pumped to a cyclone nest where the underflow is returned to milling operations and the overflow reports to flotation.

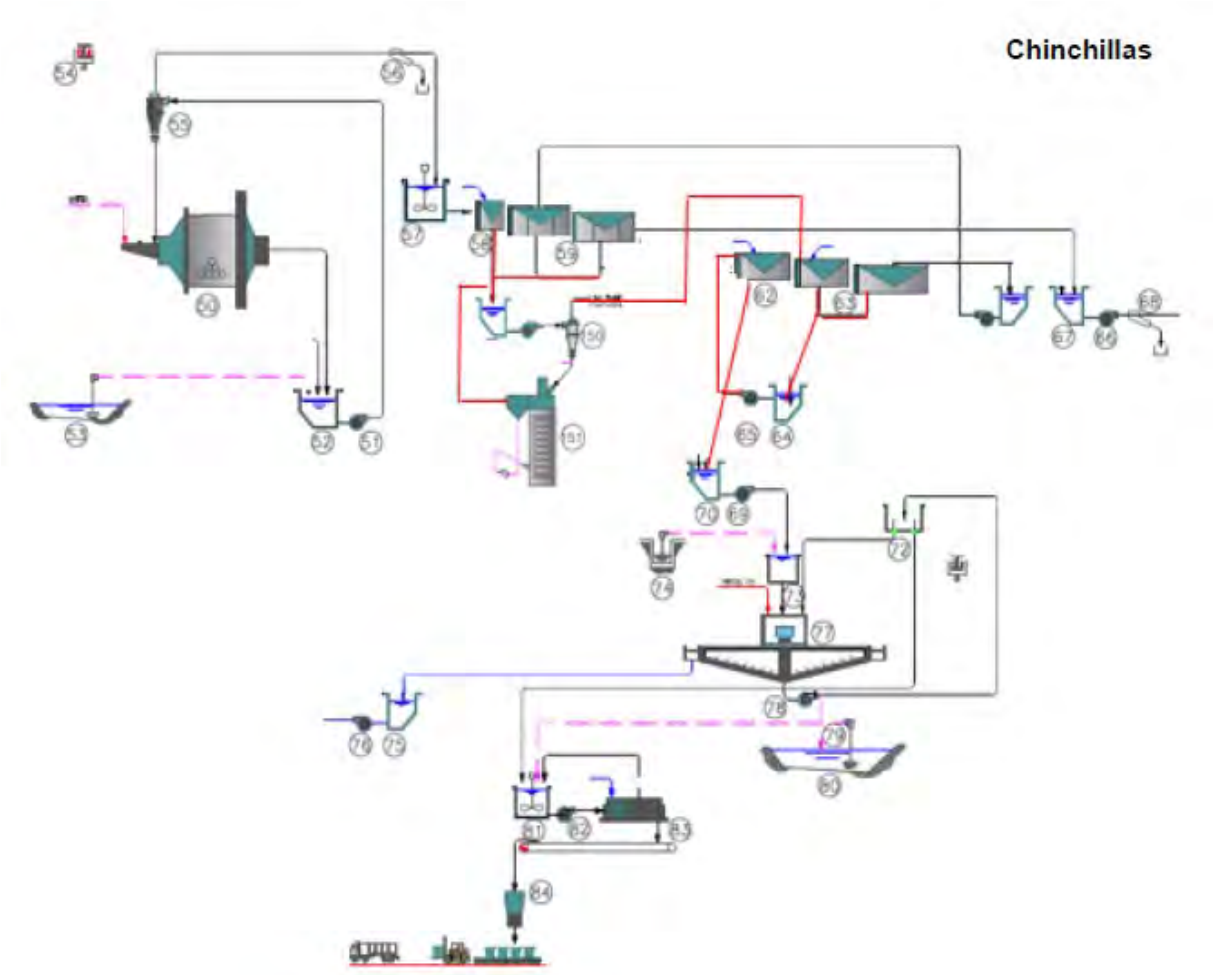
The addition of granular lime to the ball mill feed belt is done for flotation pH control. The pyrite/sphalerite depressant and frother are added into the mill. The lead/silver flotation collector and a reinforcement of frother are added to the cyclone overflow.

14.1.3 Lead / Silver Flotation

The lead/silver flotation section consists of rougher, and in the concentrate cleaning stage with a scavenger stage.

Figure 14.3 shows the lead/silver recovery circuit for Chinchillas ore.

Figure 14.3 Grinding and Lead / Silver Recovery Circuits for Chinchillas



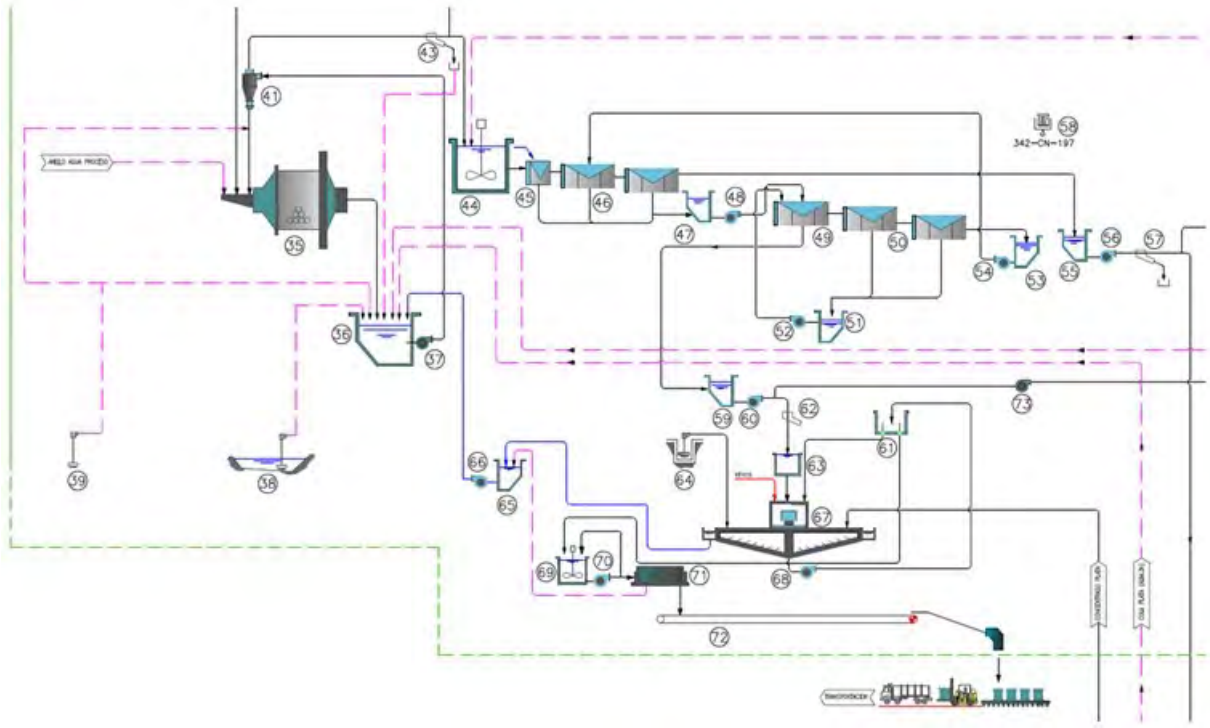
MPSA, 2021

14.1.4 Zinc Flotation

The zinc flotation circuit consists of rougher, and one stage of conventional cell concentrate cleaning followed by one stage of column cell cleaning.

Figure 14.4 shows the zinc recovery flow sheet for processing Chinchillas material.

Figure 14.4 Zinc Recovery Circuit for Chinchillas



SSR, 2021

14.1.5 Concentrate Handling

The Pirquitas silver / lead concentrate dewatering circuit consists of a thickener, holding tank and pressure filter. However, as higher lead feed grades are mined after the first few years of operation, the existing tin concentrate thickener will be recommissioned along with an additional new filter press to handle the higher lead/silver concentrate production.

The Pirquitas zinc concentrate dewatering circuit consists of a thickener, holding tank and filter.

After filtering, the concentrates are bagged into one tonne bulk bags. Sampling will be by manually inserted spear samplers.

14.1.6 Tailings Handling

The Pirquitas plant tailings thickener was designed to treat a low density, tin circuit tailings (~20% solids) at 4,090 tpd. The Pirquitas plant has operated successfully on zinc tailings at higher tonnages. The thickened solids (55% to 58% solids) are pumped 6 km to a portion of the mined-out Pirquitas pit for storage. Water recovery is a combination of tailings thickener overflow and in-pit pond, both recycled to the plant reclaim water system.

14.2 Process Plant Performance

The Pirquitas process plant has continued to improve performance after upgrading and converting to Chinchillas ores in 2018. These improvements have included better understanding of flotation characteristics of the ores, improved operating and maintenance practices and a change of cyclone in the grinding circuit.

These changes have seen improvement from the expected 4,000 tpd capacity to 4,500 tpd achieved in 2021.

Table 14.1 summarises mill feed and grade, with recovery and production for metals in concentrate.

Table 14.1 Mill Production Summary 2018 to 2021

	Unit	2018	2019	2020	2021
Ore Milled	kt	1,420	1,393	1,118	1,643
Ag Feed	g/t	114	184	164	158
Zn feed	%	0.84	0.54	0.51	0.57
Pb Feed	%	0.85	0.89	0.77	1.12
Silver Recovery	%	72.1	93.2	94.6	95.8
Zinc Recovery	%	39.3	49.2	55.5	65.6
Lead Recovery	%	82.6	85.8	90.2	93.0
Silver Produced	koz	3,747	7,674	5,581	8,010
Zinc Produced	klb	8,775	8,392	6,988	13,641
Lead Produced	klb	3,107	23,958	17,193	37,695

15 INFRASTRUCTURE

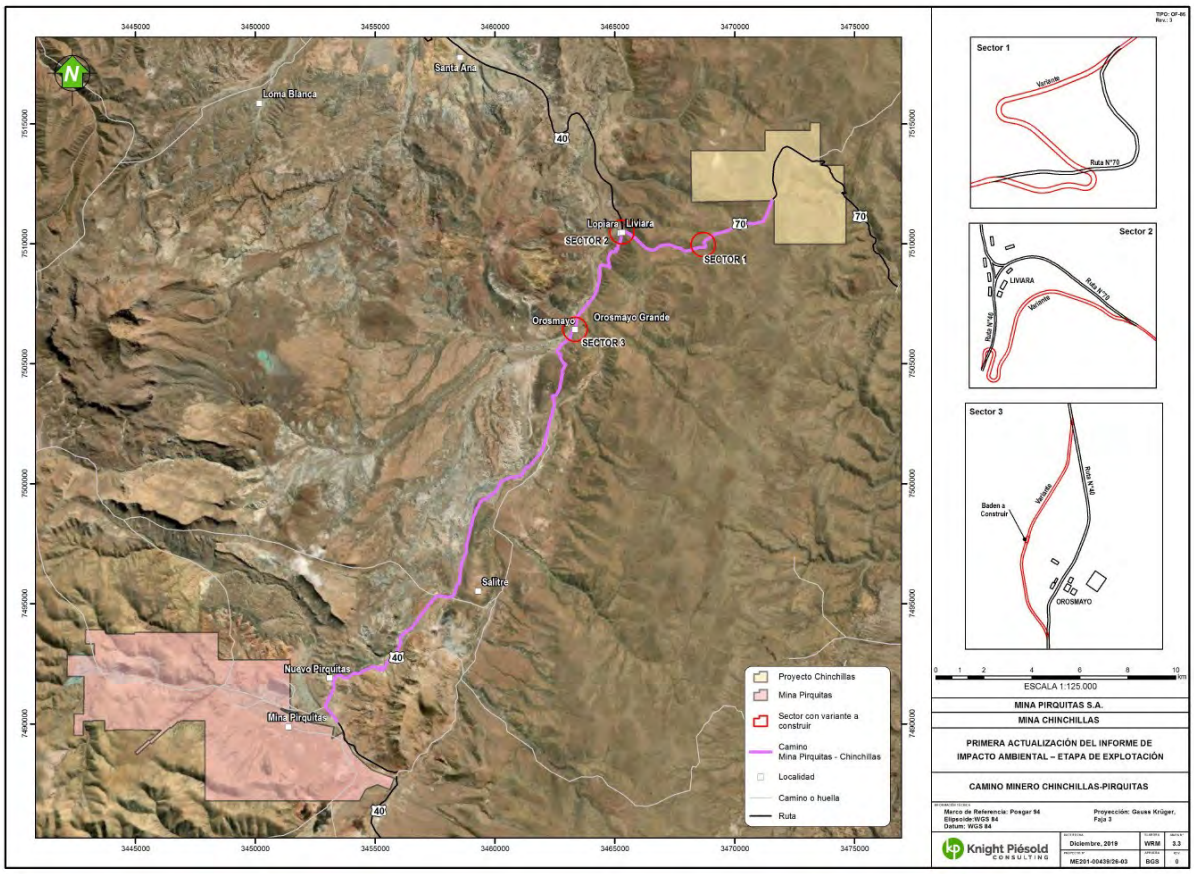
The main approach to infrastructure for the Project is to maximise the use of existing infrastructure and facilities at the Pirquitas Operation and minimise the building of new items at the Chinchillas site.

The Pirquitas Operation includes significant infrastructure used to sustain mining and processing operations over the last seven years, much of which remains suitable for continued operation. These facilities include roads, a gas pipeline, power generation facilities, water diversion systems, tailings dams, mine waste stockpiles, camp facilities, office buildings, maintenance shops and communications systems.

15.1 Ore Haulage

The ore transport road from Pirquitas to Chinchillas is the National Route No. 40 that leads to Provincial Route No. 70. The route required upgrading in order to have the increased traffic, including 35-42 t ore haulage trucks, safely and efficiently travel the route. A road survey was completed and a road design was developed and constructed to widen roads and improve route conditions, including bypasses of the local villages of Orosmayo and Liviara to minimise social impacts. This design, along with improved river and creek crossings and the requirement for road surface topping. Figure 15.1 shows the access road route.

Figure 15.1 Access Road for the Project and Proposed Modifications



Knight Piesold, 2019

15.2 Gas Pipeline and Power Supply

For its source of electricity the Pirquitas Operation uses natural gas to power three Wärtsila generator sets, each with a capacity of five megawatts (MW) of power. In addition, the same electrical plant has three diesel-powered Cummins generators, each yielding 1.1 MW. There is 6.7 km of gas pipeline on the Pirquitas property. The pipeline is 152 mm diameter, constructed of API5L Grade B steel with 4.8 mm wall thickness in normal applications and 7.1-mm wall thickness at river or drainage crossings.

Power for the Chinchillas mine site supplied along existing power lines from the natural gas powered generators at Pirquitas. EJESA is the local power authority that owns the lines. The power line from Pirquitas that goes directly past the rural EJESA line at the town of Nuevo Pirquitas (approximately five kilometres from Pirquitas). The rural power line then goes from Nuevo Pirquitas to all villages along Route No. 40 and Route No. 70 and directly to Santo Domingo. This line is able to carry the 1MW load for Chinchillas, with a small spur line (approximately four kilometres in length) to take power into the mine.

No ore processing is done at Chinchillas therefore power requirements are minimal. In the event of power loss at Pirquitas. Back-up power from the EJESA grid that amounts to 100 kVa can be drawn. This back-up power is designated for critical telecommunications systems and the first aid building.

15.3 Water Supply

Water supply for the Pirquitas Operation comes from the northwards flowing Collahuaima River which lies immediately east of the property. Water is pumped seven kilometres to the mill from a site known as San Marcos located within the mine property, a short distance downstream from where the Pirquitas River drains into the Collahuaima River. By means of Permit No. 201/002, originally granted to Sunshine Argentina by the Dirección Provincial de Recursos Hidricos de Jujuy and recorded by the Ministerio de Obras y Servicios Publicos on 23 July 1998, the mine is allowed to draw up to 32 L/s of water from the river.

Water supply for the Chinchillas mine will be supplied via local pumping wells. There is allowance for a water distribution system, equipment washing, road dust control, sewage and fire water facilities. Potable water for Chinchillas will be supplied by bottles and larger water totes.

15.4 Tailings

MPSA is currently using the Pirquitas pit as a tailings reservoir. These tailings come from the processing of the Mina Chinchillas ore.

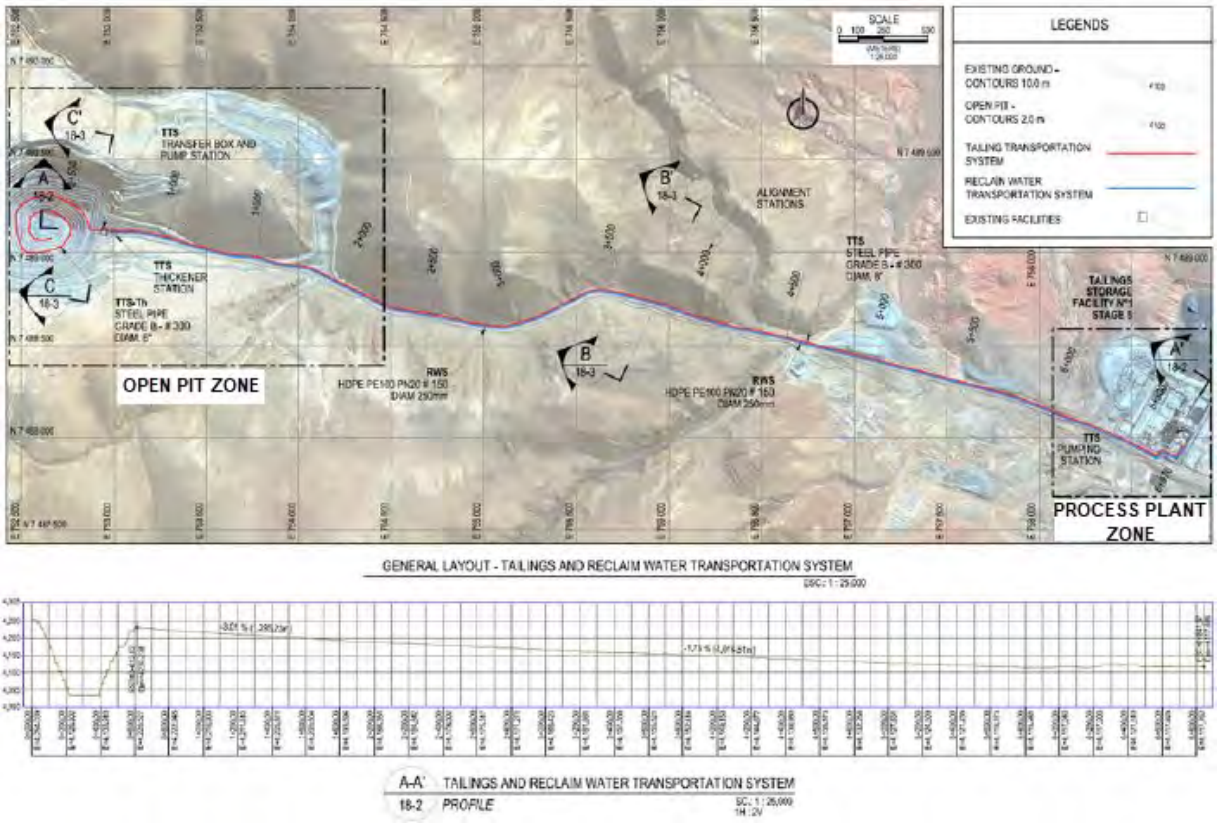
The use of the Pit as a tailings reservoir was approved by the Authority through Resolution No. 056/2018, after submitting the Addendum to the Authority in August 2017.

Placing the tailings inside the pit involves transporting them from the process plant to the pit by means of a pumping system and a 6.3 km pipeline to the tailings box located on the edge of the pit, to be discharged to the pit. Likewise, the tailings reservoir has a water recovery system to pump the water (from the tailings, the flows that enter the pit by filtration, direct rain and surface runoff) to the process plant for reuse. This pipe follows the same route as the pipe that transports the tails. The disposal of the tailings in the pit began in April 2019.

Thickened tailings (55% solids) are transported to a portion of the Pirquitas pit through a pipeline for in-pit disposal, tailings in-pit discharge system from the tailings transport pipeline, in-pit water reclaim system, and pipeline from the Pirquitas pit to the Pirquitas plant for reuse. Water recovery will be a combination of tailings thickener overflow and in-pit pond, both recycled to the plant reclaim water system. These proposed upgrades will allow for additional tailings capacity in connection with the processing of Chinchillas ore. The distance from the

Pirquitas plant to the Pirquitas pit is six kilometres and the grades vary from 1.7% to 3.0% uphill. The alignment and gradient is shown in Figure 15.2.

Figure 15.2 Alignment and Gradient of the Tailings Line for In-pit Disposal



SSR, 2021

15.5 Communications Systems

The Pirquitas site is equipped with both cellular and landlines. This equipment uses cell phone towers to communicate to Abra Pampa and is connected via a land line to the Pirquitas mine offices and buildings. On-site communication at Chinchillas is via radio communication and local phone.

15.6 Camp, Office, and Chinchillas Infrastructure

The Pirquitas camp site is equipped with housing sufficient for a maximum of 673 personnel. This housing is a mix of rehabilitated housing from prior mining operations and modular housing that was installed during construction. It is anticipated that Chinchillas and Pirquitas operating management and senior staff will be housed at the Pirquitas camp while local workers and operators will be transported to their local villages.

Camp food is catered by a contractor and is provided on a seven day per week schedule. Food as required by Chinchillas workers will be delivered daily to Chinchillas.

Office buildings at Pirquitas are a mix of rehabilitated offices from prior mining operations and modular office space installed during mine construction.

The following facilities are located at Chinchillas:

- Mine and administration offices
- Truck shop
- Lunchroom (food preparation and storage is at the Pirquitas camp – daily delivery)
- Change room / Bathrooms / Training room
- Water wells, distribution and sewage system
- Lighting and heating facilities
- IT network
- Explosives magazines, and transfer of emulsion silos from MPLLC
- Fire and lightening protection
- Oil and fuel storage
- Security and first aid buildings
- Solid waste storage facility

Solid waste materials will be collected at the mine site and will be delivered to Pirquitas for recycling. A small landfill facility will be developed at Chinchillas site for small amount of solid waste produced at site. The explosives facilities are located at Pirquitas in accordance with Argentine mining regulations.

The infrastructure and facilities listed above can be seen in general site layout in Figure 13.5.

15.7 Mine Short Term/Long Term Ore Stockpiles

In the east side of the pit, adjacent to the pit rim, a pad has been developed using type C waste materials for multipurpose tasks. The size of the pad is approximately 400 m x 300 m. This includes a staging area for loading ore onto the haulage trucks to be transported to the mill. A short-term ore stockpile of ore will be formed in this area, with the amount of stockpiling varying by period. A small amount (690 kt) of low-grade ore will also be stockpiled on this pad as long-term stockpile. This will be milled at the end of mine life before closing the mine. Refer to Figure 13.5 for general site layout where the location of short-term and long-term stockpiles are shown.

15.8 Rock Storage Facilities

The mine currently has two waste stockpiles as described in Section 13.4. Rock storage facilities are classified by their geochemistry attributes as discussed in Section 17. Potential Acid Generating (Type A) will be disposed close to the pit rim so that its drainage will be collected in the pit and treated accordingly at closure. Mineralised waste will be separated and stockpiled with Type A material, but adjacent to the ore stockpiles, for potential processing opportunities at a later date. High metal leaching materials (Type B) will be stored with Type C (non-hazardous materials) with a controlled drainage system. Rock storage facilities can be seen in general site layout at Figure 13.5. More information about managing Type A and B materials can be found in Section 17.

15.9 Other Pirquitas Infrastructure

The Pirquitas site has a permitted wastewater treatment facility for treatment of liquid waste from camp operations. This system is designed to allow for discharge of treated waste-water to national standards.

The site has a landfill for organic waste and a recycling centre for plastics, wood and metal products. Most wood products are donated to the local communities and are used as fuel or for construction supplies. Scrap steel and specialty steels are recycled via local vendors.

Domestic water comes from a water diversion located in the Medano Canyon area which is approximately 300 m upstream from the Pirquitas mine open pit. Water is pumped from that location to a site water treatment facility for filtering and chlorination and is then used within the camp site. At the date of this Puna21TRS, potable water is currently supplied by bottles and totes for drinking and cooking purposes.

Concentrate shipments from Pirquitas are currently trucked to Susques, Jujuy from Pirquitas via Route 77, and from there to Buenos Aires via Route 9. At arrival to the terminal, the material is directly dispatched from the port facilities to the concentrate buyers.

16 MARKET STUDIES

The Project is a poly-metallic project containing three principal metals – silver, lead and zinc. Production is from two separate concentrates: a high silver content lead concentrate and a zinc concentrate.

The lead concentrate contains most of the recovered silver metal and is the more valuable of the two concentrates. Trace amounts of minor penalty elements are present in both of the concentrates.

16.1 Metal Prices

Silver is traded on a global basis on a number of metals and commodity market exchanges. The price is determined by a number of factors that follow short and long-term trends and is most commonly established on the London Metal Exchange.

Metal prices for the economic analysis were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The metal prices are representative of industry forecasts. Lead and zinc are relatively low compared to the consensus prices. The prices used for the economic analysis are shown in Table 16.1

Table 16.1 Metal Price Assumptions

Commodity	Unit	2022	2023	2024	2025	Long-Term
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Lead	$/lb	1.00	0.95	0.93	0.92	0.90
Zinc	$/lb	1.30	1.20	1.20	1.20	1.20

16.2 Concentrate Terms

The Chinchillas concentrates are commodities and are sold and traded in global markets. Sales are either made directly to smelter operations or through commodity traders.

The logistics, required customs procedures, and exporting requirements are therefore well understood by the MPSA.

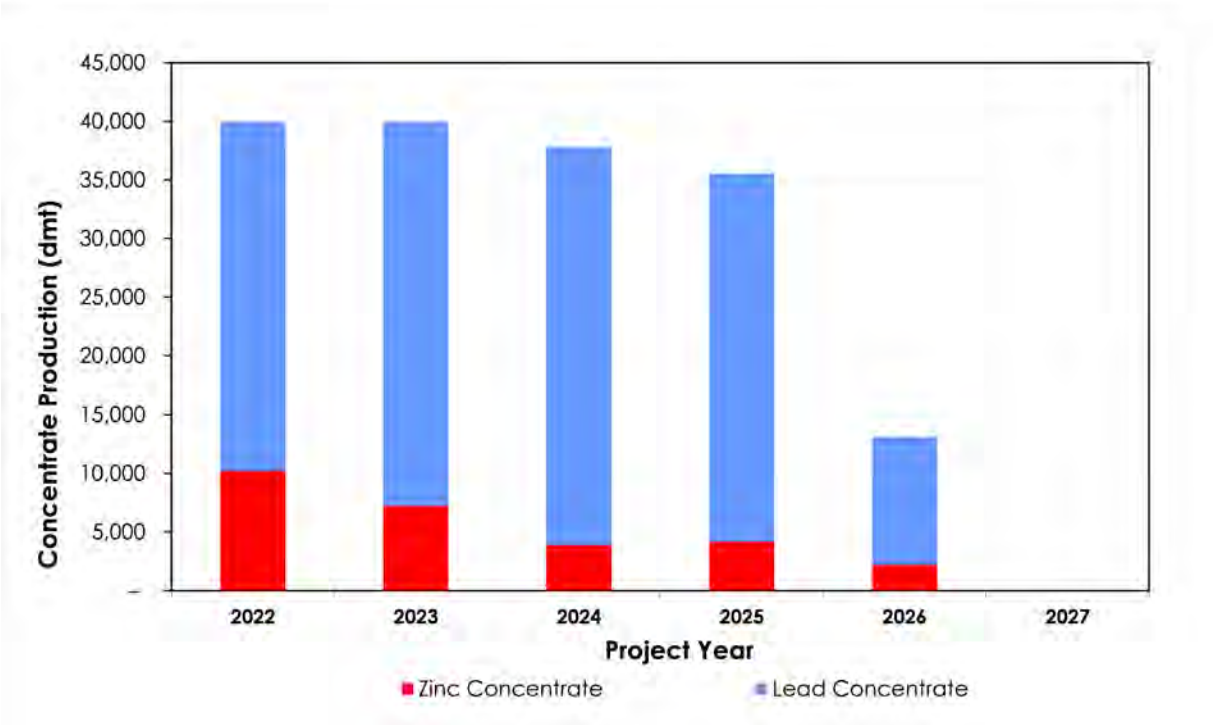
Average concentrate terms and transport are based on experience at the Puna Operations and are shown in Table 16.2.

Table 16.2 Concentrate Marketing Terms and Charges

Item	Unit	Lead Concentrate	Zinc Concentrate
Treatment and Refinery Charge	$/t Conc	1,191	724
Payability – Silver	%	95	75
Payability – Lead	%	95	
Payability – Zinc	%		85
Deduction – Lead	%	3	
Deduction – Zinc	%		8
Minimum Payout Factor	%	63	39
Royalty	%	3	3
Export Duty (Rev. Less TCRC's)	%	5	5
Puna Credit (Rev. Less TCRC's)	%	2.5	3

The concentrate quantities produced by period are displayed graphically in Figure 15.2 and are derived from the annual mine production schedule.

Figure 16.1 Concentrate Production



OreWin, 2021

17 ENVIRONMENTAL STUDIES, PERMITTING AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS

Significant environmental and social analysis has been conducted for both Mines. A summary of key physical, chemical, and biological information is provided in the following sub-sections.

17.1 Mina Chinchillas

17.1.1 Surface Hydrology and Water Quality

The Chinchillas Property is located in a small, contained valley near the headwaters of the Colquimayo and Orosmayo rivers. Drainage from small ephemeral streams into the Project area collect in the valley bottom in the Arroyo Uquillayoc, which drains to the east into Rio Colquimayo.

Flows in the small tributaries that drain the Project area are governed primarily by rainfall, which is typically highest between December and March. Typical flows in the Arroyo Uquillayoc near the Project site are low, ranging from 0–1.5 litres per second (L/s) during the dry period, and between 0.3 and 20.0 L/s during the rainy season.

Surface water quality samples were obtained and analysed from 22 sites between 2011 and 2016, from within the Project area in the Arroyo Uquillayoc as well as far-field sites site in Quebrada San Pedro, the Rio Colquimayo and Rio Cincel, as well as the Rio Orosmayo.

Both surface and groundwater baseline sampling show the influence of native mineralisation in the host rock. While surface water chemistry is generally circumneutral, Arroyo Uquillayoc near the Project site seasonally shows variation from acidic (pH 5.9) during higher flows to basic (maximum pH 8.0) during lower flows. Annual average pH at these sites was neutral, between 6.8 and 7.2.

In Argentina, the Environmental Protection for Mining Activity Law (Ley de Protección Ambiental para la Actividad Minera in Spanish) specifies limits of parameter concentrations in water quality in the absence of site-specific data for various end uses, including drinking water, aquatic life, irrigation, and livestock watering. Metals such as aluminium, antimony, arsenic, barium, boron, cadmium, copper, chromium, iron, lead, manganese, nickel, vanadium, and zinc occasionally are at, or exceed, these concentrations in the baseline water sampling.

Surface water parameters in the Quebrada de San Pedro exhibited generally more neutral pH, but with similar metal concentrations.

The sampling location in the Arroyo Uquillayoc as it exits the Chinchillas valley will be used during operations as a point of control to monitor water quality during operations. In the baseline condition, samples from the Arroyo Uquillayoc at the outlet of the Chinchillas valley exhibited exceedances for a number of the limits set by the Environmental Protection for Mining Activity Law. This suggests that some metal parameters occur naturally in higher concentrations in Project area waters, which would be expected, as they are draining the valley that contains the mineralised zone. Mitigation and management programmes are part of the Project permitting. These programmes consider the naturally elevated baseline parameters.

Currently MPSA monitors 17 of the original 22 sites given the expansion of the mine. The monitoring programme includes 1 control point and 2 compliance points. MPSA monitoring to indicates that the water quality values are between the maximum and minimum baseline parameters.

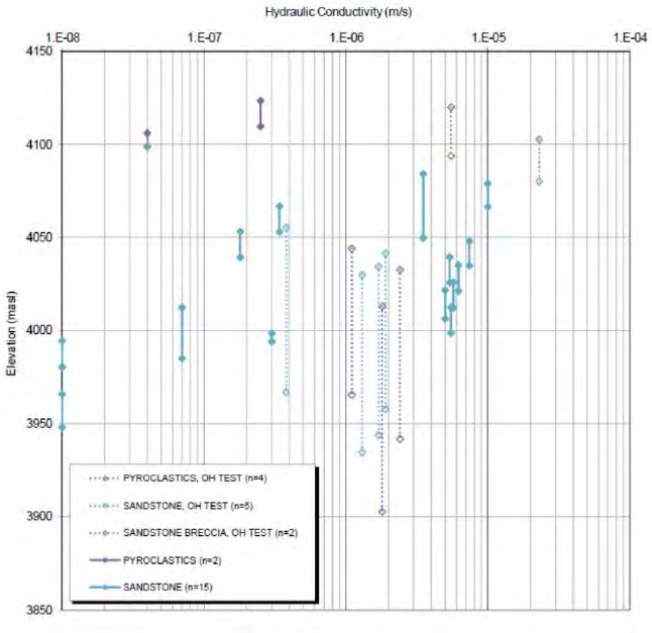
17.1.2 Hydrogeology

The Chinchillas site is located in a caldera or bowl-like feature in the side of the mountain range, resulting in some flow towards the bowl from the north and south as well as from the east. The bowl is somewhat like a shallow open pit.

Groundwater discharges to topographic lows, such as the local drainage in the deposit area depression and to the regional low elevation at the base of the range to the east and west of the Project area. Elevations are highest along the south–south-west–north–north-east divide of the Sierras and decrease towards the east and west. Groundwater gradients are therefore steepest towards the east and west, and groundwater is expected to generally flow in these directions following topography.

Hydrogeological data were collected during a 2015 site investigation consisting of drillhole logs, hydraulic conductivity testing (packer tests and open-hole tests), water level observations, and drilling circulation records. Sixteen packer tests and nine open-hole falling head tests were completed in three geotechnical drillholes in the deposit area. Hydraulic conductivity values estimated from the packer tests range from less than 1 x 10–8 m/s to 1 x 10–5 m/s (Figure 17.1).

Figure 17.1 Response Test Hydraulic Conductivity by Lithology



MPSA, 2021

The metasediments outside the caldera feature are expected to have a relatively low hydraulic conductivity. Storage values are expected to be low, provided almost entirely by joints, fractures, bedding planes and faults. Within approximately 300 m from the contact margins with the overlying tertiary pyroclastics, the permeability of the metasediments increases due to the strongly fractured nature of the rock.

North-west trending faults likely provide partial barriers to groundwater flow across the faults and enhanced flow parallel to faults. The fractured zone adjacent to the metasediments has relatively high hydraulic conductivity, likely in excess of 1 x 10–6 m/s.

Groundwater discharges occur primarily in topographic lows, often into stream beds. The indications from the available surface flow measurements are that groundwater discharge contributes from 1.5 L/s to upwards of 4 L/s to stream flows at the eastern extent of the Chinchillas valley. The groundwater reporting to the pit area is estimated to be 1.8 L/s.

Arid climatic conditions result in relatively high evapotranspiration rates that ultimately minimise the amount of precipitation available for groundwater recharge. The variation in annual precipitation impacts the precipitation available for groundwater recharge from one year to the next.

Recharge could vary from insignificant to about 50 mmpa, depending on climatic conditions and surface materials. This is expected to result in water level increases of a few metres in wet years, which would decrease over drier years. Smaller variations can be expected on a seasonal basis.

Currently the dewatering system consists of sumps located on the base of the pit and discharged through a pump to a contact water pool near the facility (A Pond – Contact water). This water is used for dust control.

MPSA is evaluating the necessity of a dewatering system consisting of wells containing submersible pumps located in the perimeter of the pit.

Groundwater quality samples from monitoring wells immediately adjacent to the Project area were collected in 2015 and 2016. Similar water quality parameters were observed in the groundwater to those identified in the surface water samples discussed above.

Sample results were compared to limits specified in the Environmental Protection for Mining Activity Law. As was noted in the surface water, exceedances were noted in the baseline condition for some metals parameters. These variably included exceedances of the drinking water, aquatic life, irrigation, and livestock watering limits. However, these exceedances are considered natural and represent water that drains from within and around the mineralised zone and are carefully documented as part of the baseline monitoring programme.

The current monitoring programme includes one well located downstream of the Chinchillas Mine. The most recent shows water quality values are between the maximum and minimum baseline parameters.

17.1.3 Geochemistry

Geochemical investigations were undertaken in order to assess the potential for net acid generation and the potential for metal leaching. As described above, both surface water samples and groundwater samples in the area of the mineralisation show circum-neutral pH values. Water samples exhibited slightly elevated sulfates (ranging from <25 mg/L SO4 to 100 mg/L SO4), alkalinity up to 100 mg/L and a range of dissolved and total metals. There are no strongly acidic seepages found in the Project area, either in the surface drainage or the groundwater. Of particular interest in the prediction of water chemistry from the Project, there are slightly elevated values of aluminium, zinc, cadmium, iron, manganese and antimony found in some baseline samples. These metals are consistent with the mineralisation of the Project area and the Chinchillas deposit.

The regional geology comprises a package of sediments overlain by volcanics. Within this region, the deposit was formed by a major east–west trending fault structure along which volcanic intrusions and mineralising events have resulted a zone of pyroclastic rocks (breccias, tuffs and ash) forming a roughly elliptical deposit. The deposit has undergone several different types of alteration, primarily clay alteration with lesser sericitisation, silicification, and carbonate alteration. The deposit lithology is therefore broadly grouped by lithology into (meta)sediments and volcanics, and further by alteration.

Silver, lead and zinc bearing minerals include silver sulfosalts, boulangerite, tetrahedrite, freibergite, sphalerite, and galena. Associated mineral assemblages include chalcopyrite, pyrite, siderite, limonites, manganese oxides, and malachite. The mineralisation occurs as disseminated within the breccias but primarily along structure within the volcanics and basement rocks. Considering the environmental geochemistry, this deposit would be considered a low sulfide system and a low carbonate (alkalinity) system.

A suite of 34 samples were selected for geochemical testing to provide spatial coverage of the expected mine areas and to evaluate the characteristics of the various lithological and alteration units, and mineralisation within ore and waste for the deposit. The extensive exploration ICP database was evaluated before selecting the samples in order to ensure that representatives of low grade ore and waste rock were selected.

Testing included both standard elemental analyses (by ICP) and acid base accounting to characterise the range of sulfide content (and therefore potential for acid generation) and carbonate content (and therefore potential for neutralisation).

The static test results are consistent with those expected from the deposit geology; relatively low sulfur content and low carbonate content, and mineralisation concentrated in the breccias. The metal contents reflect the main minerals in the deposit, with zinc and cadmium associated with the sphalerite, aluminium associated with the clay alteration, and copper occurring in the freibergite and chalcopyrite.

The key findings with respect to the potential for net acid generation are:

- Paste pH of the samples range from neutral to slightly acidic, with the majority of the samples between paste pH of 5.7 to 8.1.
- Total sulfide content of the samples is low, ranging from <0.01% to 4% S, with one sample of breccia at 7% S. This is consistent with the statistical analysis of the entire exploration IPC database of the deposit (including ore) which shows sulfide concentrations range from <0.1 wt % to >10 wt % with an average of 0.75 wt % for the deposit.
- Carbonate concentrations are relatively low, ranging from less than detection to 4.3 kg/t CaCO3 equivalent.
- Sulfate sulfur concentrations are low in the rock samples, indicating minimal in situ oxidation of the sulfides. This is consistent with the geological model of a shallow oxidation front.
- The ratio of neutralisation potential to acid potential (NP/AP) is used to indicate the potential for net acid generation from a static test. Approximately 75% of the samples are considered non-acid generating based on the NP:AP ratio or the low sulfur content. Approximately 25% of the samples could be considered potentially weakly acid generating, however given the relatively low sulfide content this may represent only local zones of potential net acidity.

This is consistent with the baseline observations of generally circum-neutral water quality in the project area.

Selected samples were tested using a various short-term leach extraction tests to provide an indication of potential metal leaching from these samples. These tests are designed as ‘batch’ or instantaneous tests to maximise dissolution of metals from a sample; these tests can overestimate actual drainage water chemistry in the longer term. The short-term filter extraction tests were used to indicate the potential for metal leaching for the range of rock samples encountered in both waste rock and low grade materials. Sample results indicated that certain units of waste rock may have leachable aluminium, cadmium, copper, lead, and zinc where lower pH values occur.

The static tests and the evaluation of the ICP database confirm that the samples selected cover the range of expected sulfide concentrations in the mining material. On-site materials have a low neutralisation potential. Therefore, the classification of materials is primarily a function of the content of sulfur and metal. These results indicate that most of the waste rock has low potential for acid drainage and metal leaching, mainly due to relatively low sulfide and mineralisation outside the ore zones.

A combination of sulfide, zinc and paste pH are used to identify waste rock that is a potential source of metals leaching or acid drainage. These parameters are included in the mine block model and are used for the design of the waste rock handling.

The mine block model is used to manage the waste rock according to the net acid generation potential and / or metal leaching potential in the waste rock storage areas. This is accomplished through segregation of potentially reactive waste rock (Class A) placement in the dumps with contained drainage. These waste rock storage areas have controlled drainage and, in the long term, can be directed to the open pit if necessary. Non-reactive waste rock (Class B or C) are placed separately further downstream in the catchment.

A rock sampling programme is projected on 2022 in order to update the geochemical information. The programme will include kinetic ARD assays of the rock.

17.1.4 Water Management

During the Project life, water quantity and quality is managed to maximise diversions and maintain 'non-contact' water. The site water management plan is designed to 'keep clean water clean' as much as possible. Diversion ditches have been designed around the dumps, pit and stockpiles to convey clean or non-contact freshwater around these disturbed areas, where it is physically practical. The 'Class A' Rock Storage Area stores potentially reactive rock and is located such that it can drain into a contact water pond (A Pond – Contact Water), to allow monitoring and batch treatment if required before discharge. Currently the contact water is used for dust control given that the quality is appropriate for this use.

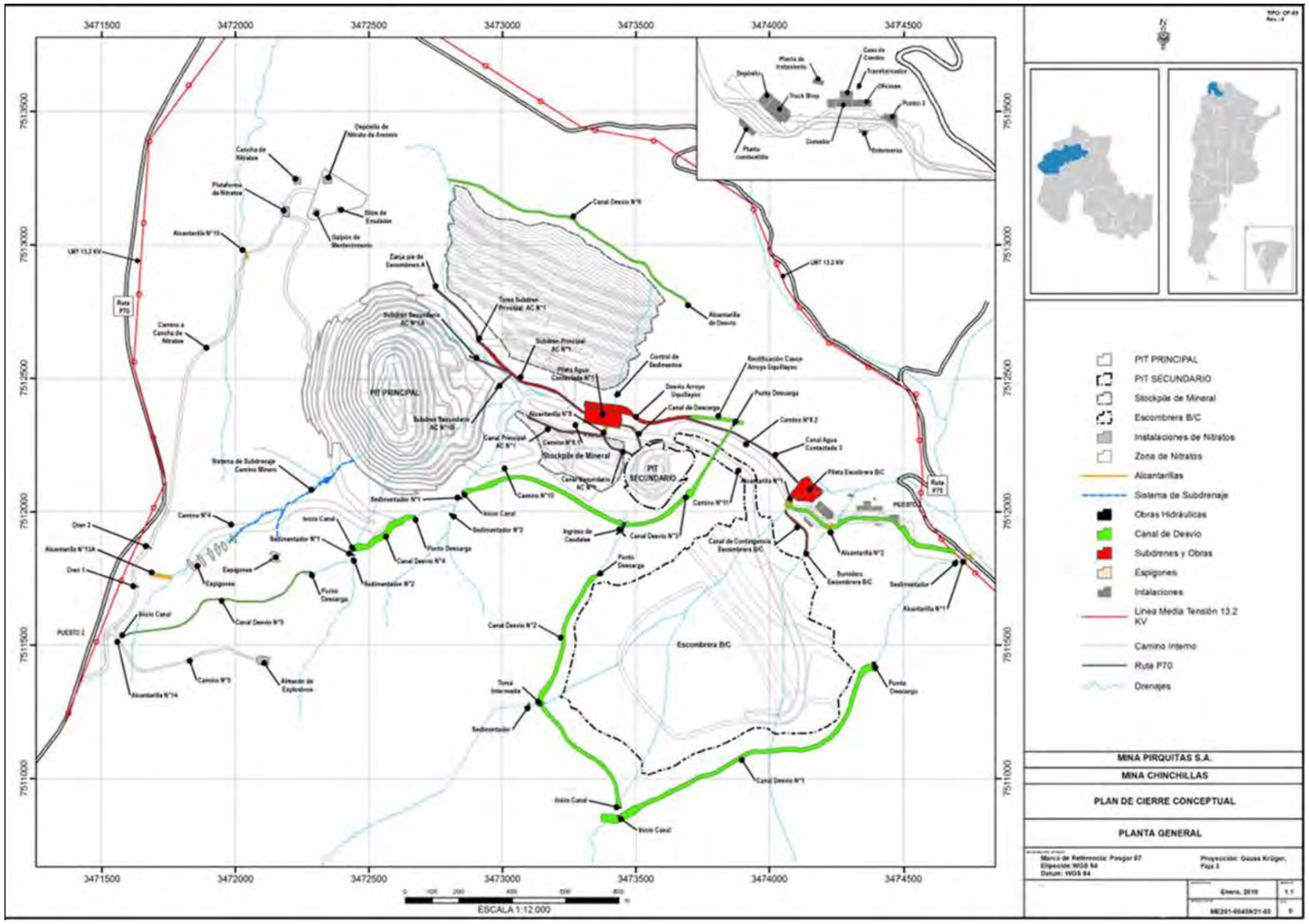
Water that accumulates on Project infrastructure is collected for settling and testing prior to any discharge. No water will be discharged to the environment that would have adverse environmental impact.

The dewatering and water management plan is comprised of three systems:

- Diversion Ditches
- Pit Groundwater Dewatering Sumps (non-contact water)
- Surface Contact Water Runoff Dewatering

Water collected within the catchments of the open pit and each waste rock dump area are directed to two ponds constructed at the low point of each area. The water of both ponds in used for dust control. A general arrangement of this system is included in Figure 17.2. The contact water diversion channels are shown in red; this water is currently used for dust control. The non-contact water diversion channels are shown in green, these water flows are drained to Uquillayoc river.

Figure 17.2 Project General Arrangement and Water Management Features



MPSA, 2021

17.1.5 Flora and Fauna

The Chinchillas Property area is a mix of high Andean plains and Puna landscape, characterised by grassy steppes and low-growing shrub land (Figure 17.3 and Figure 17.4), interspersed with bare soil and alkaline wetlands (peladares). Where standing water is encountered, such as at ponds and streams, surrounding wetland vegetation are collectively known as 'vegas', dominated by the families Juncaceae, Cyperaceae, Poaceae, Oxalidáceas and Scrofulariaceas (Figure 17.5). In upland drier zones, cactus such as Maihueniopsis and Lobivia can be found.

Figure 17.3 Grassland Steppes on the Western Edge of the Project Area

Figure 17.4 Shrub Land on the Northern Edge of the Project Area

Figure 17.5 Vega Habitat

The effects of the high-altitude environment include increased solar radiation, constant winds, and large temperature fluctuations. Soils are typically young with low levels of organic material. These conditions have influenced the development of plant species in this area, where species of different families often show similar morphologies. Grasses typically have a high proportion of cellulose and lignin for added rigidity, and extra layers of cutin or suberin to restrict water loss. Woody plants are typically found as shrubs, with almost no tree layers evident.

Fauna of the Project area are highly correlated to wetter and humid areas, including the vegas. Several species of insects have been recorded, along with three species of amphibians. Three species of reptiles (two lizards and one snake) have also been documented in the area.

There are at least 72 species of birds known to be present for at least part of the year in the Project area. The most abundant of these are the Ash-breasted sierra finch (Phygilus atriceps) and the Bright-rumped yellow finch (Sicalis uropygialis). Other birds in the area of note include the Andean Condor (Vultur gryphus), the Ornate Tinamou (Nothoprocta ornate), the Puna Rhea (Pterocnemia tarapacensis), the Mountain Parakeet (Bulborhynchus aurifrons), and the Bare-faced Ground Dove (Metriopelia ceciliae).

Studies completed in 2015 identified nine native and one exotic mammalian species. Numerous domestic species (e.g. llamas) were also noted in the area. The most common native mammals were the Vicuña (Vicugna vicugna) and the Vizcacha (Lagidium viscacia).

Some displacement of vegetation communities and attendant wildlife habitat has occurred within and adjacent to the Project footprint as a result of project development. These impacts have been assessed and approved in the Resolution 014/2017 (DIA Mina Chinchillas). As a result of the approval of the EISA of Chinchillas Mine, since 2018 MPSA developed a biannual Community Environmental Monitoring Program that includes fixed monitoring stations of flora, fauna and limnology, as well as water, air and soil quality.

17.1.6 Protected Areas

There are 15 protected areas within the Province of Jujuy, however the majority of these are far removed from the Project area. The Laguna de Pozuelos represents the most important protected area within the Chinchillas Property region.

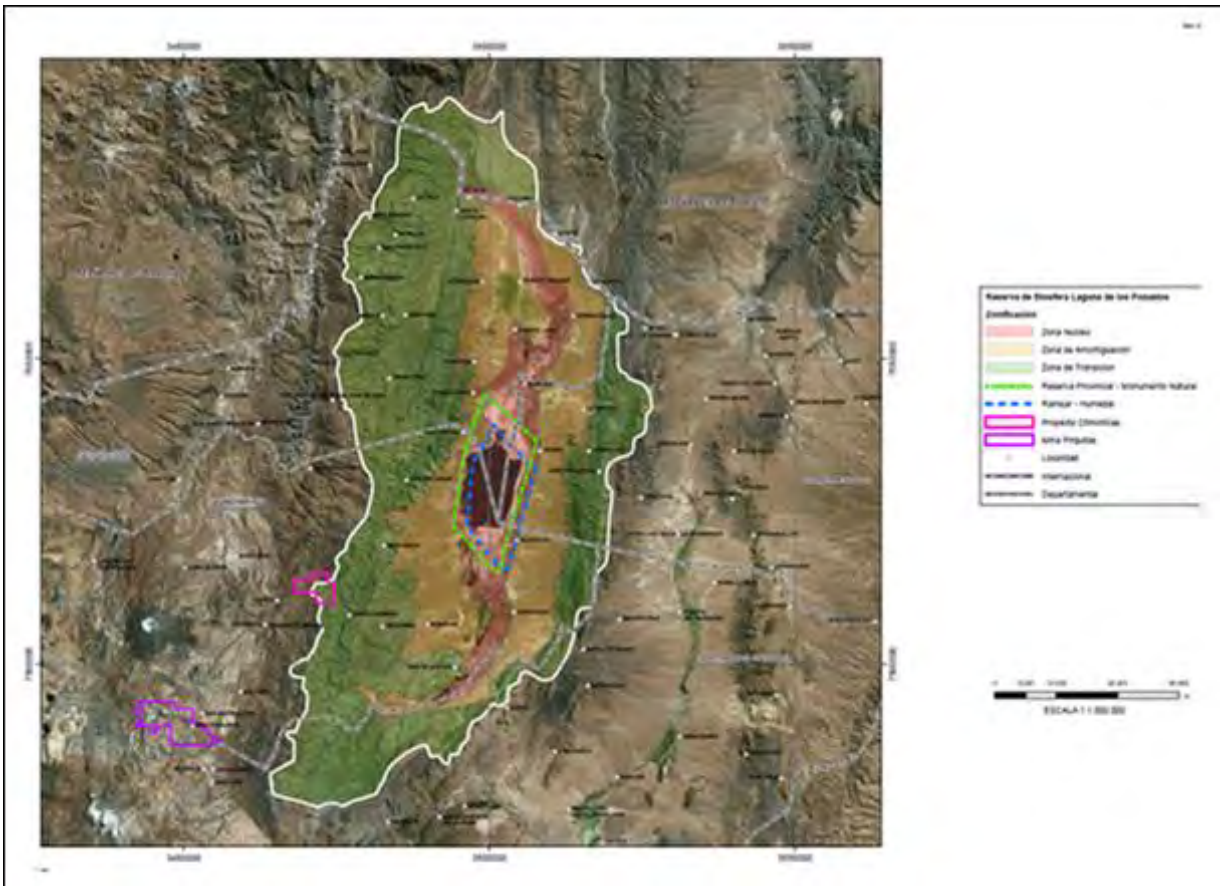
The Laguna de Pozuelos is a large, permanent, high-altitude lake located approximately 25 km from the Project area. It is an important migratory bird stopover, particularly known as habitat for the Andean Flamingo, as well as many other species.

The Laguna is located within a National Natural Monument, protected by the 'Administracion de Parques Nacionales' (National Parks Administration) as well as a United Nations Educational Scientific and Cultural Organisation (UNESCO) designated Biosphere Reserve and RAMSAR Wetland of International Importance. The National Natural Monument covers a surface of approximately 16,000 hectares and in this area all economic activities, including mining, are prohibited.

The National Natural Monument is surrounded by a buffer zone of approximately 380,000 hectares defined as a RAMSAR Wetland of International Importance that is administered by the multi-sector organisation 'Corporación para el Desarrollo de la Cuenca de Pozuelos' (CODEPO: Corporation for the Development of the Pozuelos Watershed) that is responsible for promoting sustainable development in the buffer zone. This buffer zone is recognised by UNESCO, who note that one of the objectives of the Reserve buffer zone is to make development compatible with conservation (www.unesco.org).

As shown in Figure 17.6, the Jujuy Ministry of Mining GIS data indicates that the Chinchillas property is located just inside the buffer zone, while boundaries provided by the University Nacional de Jujuy (UNJ) follow the UNESCO model and divide the buffer zone into an outer transition zone, with the Chinchillas property located outside of both zones. Taking the Ministry data of the buffer outline as the most recent and correct suggests that Chinchillas falls within the Ministry buffer zone, and within the UNESCO transition zone. In either case, economic activities, including mining and exploration, are permitted in these areas.

Figure 17.6 Laguna de los Pozuelos Buffer Zones



MPSA, 2021

17.2 Social and Community Engagement

17.2.1 Local Communities

The Project is located in a rural area in the department of Rinconada in the province of Jujuy. The Rinconada department has an area of 6,407 km^2 and a population of only 2,489 (2010 Census). The department is divided into two municipalities; Rinconada Municipality and Mina Pirquitas Municipality.

The nearest population centres to the Project include the village of Santo Domingo (approximately 6 km distant) and the larger city of Abra Pampa (approximately 75 km distant), which is located in the adjacent department of Cochinoca. Additionally there are four villages located between the Chinchillas site and the Pirquitas Operation; Liviara (approximately 9 km distant) Orosmayo Grande and Orosmayo (approximately 14 km distant), Coyaguayma (40 km of distant) and Nuevo Pirquitas (approximately 29 km distant). Each community is considered aboriginal communities, with predominant Colla ethnicity. Colla people historically occupied the high Puna regions throughout northern Argentina, western Chile, and southern Bolivia. They traditionally speak a dialect of the Quechua language.

It is estimated that 78 people live in Santo Domingo, the village most proximate to the Project. A further 60 people are estimated to live dispersed throughout the surrounding area. Similarly, an estimated 17 people live in Liviara, 12 in Orosmayo, 25 in Osormayo Grande and 116 in Nuevo Pirquitas. Abra Pampa, the largest urban area in the region, has a population of approximately 16,000.

The livelihood of the area's population is primarily tied to small-scale livestock management, typically goats and llamas, with some limited production of sheep. Sale of livestock, meat, and wool is typically done in Abra Pampa, from where it may eventually reach markets farther afield such as San Salvador de Jujuy.

Outside of agriculture, regional inhabitants are employed by the public sector (e.g. schoolteachers), or work in the mining industry. Many local rivers are exploited for low volumes of placer gold, and several hard rock mines, including the Pirquitas mine, have operated in the area. The majority of workers from Liviara and Orosmayo are employees of the Pirquitas mine.

Currently MPSA employs or hires 149 workers that come from direct and indirect communities (ESIA Mina Chinchillas 2021).

17.2.2 Archaeology

The Puna region of Argentina has a rich history of occupation, dating from at least 10,000 years before present. Hunter gatherers roamed throughout the region, gradually domesticating llamas and moving to greater reliance on agriculture within the last 3,000 years. The Incas arrived in the region in 1475, which had a great effect on the social order and use of resources. Spanish conquistadors arrived in 1535, further altering the socio-economy of the area and ushering in the colonial era.

Mining occurred historically at the Chinchillas area on a small scale in the eighteenth century by Jesuit missionaries. In the late 1960's, there was a period of small underground production by a local company using adits and tunnels.

An archaeological survey was conducted at the Chinchillas Property in 2015. A total of 11 archaeological sites were identified proximate to the project itself. Other sites were identified in the surrounding area totalling 31 finds.

Prior to the start of exploitation of the Chinchillas Mine, in February 2018 the archaeological clearance of 15 sites that were going to be affected by the mine facilities was carried out (approved in resolution 014/2017 - DIA of the Chinchillas Mine). The final clearance was obtained by Resolution N°453/2018 issued by Cultural and Tourism Ministry. In April 2019 an additional clearance of a historical sites carried out under the authorization of Resolution N °151/2019. The remaining sites are being protected by the company and are subject to annual monitoring.

17.3 Project Permitting

The legal framework for mine permitting is derived mainly of the second section of the Mining Code of the Nation and its supporting National Law No. 24.585. The institutional Framework for the permitting process is driven by stipulations in Law No. 24.585, with technical support of UGAMP and the National Mining Secretariat.

The main focus of permitting is the detailed Environmental and Social Impact Assessment, which must be submitted prior to commencement of operations. Upon successful review of the ESIA, a DIA is awarded. Annex III of Law 24.585 establishes the minimum contents of the EIA, which must include:

- Description of the Environment (physical, biological, and socio-economic);

- Project Description;
- Description of Environmental Impacts;
- Environmental Management Plan (which includes measures and actions to prevent and mitigate environmental impact);
- Plan of Action on Environmental Contingencies; and
- Methodology Used.

An ESIA for the Project was developed and submitted for review in September 2016. which was subject to review by the Mining Department and UGAMP and approved on 22 December 2017 by Resolution N°014/2017. It is subject to review by the Mining Department and UGAMP, a process that is expected to conclude with issue of a DIA in mid to late 2022 . Since then, two more ESIA Updates have been developed and submitted to Mining Authorities, ESIA Mina Chinchillas 2019 and ESIA Mina Chinchillas 2021. Both are being reviewed by Mining Authorities and it is expected to have the final DIA soon.

The UGAMP is a multi-stakeholder group chaired by a technical appointee from the Mining Department who recommends approval or rejection of the ESIA and related work application to the provincial mining authorities. Meetings are held to allow UGAMP members to review the proposed materials with members of Golden Arrow. UGAMP representatives appurtenant to the Project include:

- • Representatives from the local Communities of Santo Domingo, Orosmayo, Liviara, Orosmayo Grande, Nuevo Pirquitas and Coyaguayma;
- Mining Workers Unions;
- Provincial Department of Water Resources;
- Department of Mines and Energy;
- Provincial Secretary of Mining;
- Surface Landowners;
- Provincial Collage of Geologists;
- Provincial Department of Environment;
- Provincial Department of Human Rights and Indigenous Communities;
- National University of Jujuy;
- Jujuy Chamber Mining;
- National Parks Administration;
- Corporation for the Development of the Pozuelos River;
- Provincial Secretary of Public Health;
- Provincial Department of Agriculture and Livestock Control; and
- Provincial Department of Industry and Commerce

Chinchillas has maintained all previous exploration activity permits in good standing, each of which required the submission of an ESIA and receipt of a DIA. As the review of the mining ESIA proceeds, precedent suggests that the DIA will also be granted.

The use of the Pirquitas pit for tailings deposition at the Pirquitas Operation is a modification to the mining activities not contemplated in MPSA's ESIA until 2016 for the Pirquitas mine. On August 2017 MPSA issued to Mining Authorities an Addendum of the 2016 ESIA Update that included the upgrades to conduct the tailings to the pit of Mina Pirquitas. The permit was obtained on September the 24th, 2018 by Resolution N° 056/2018. Since then, MPSA has submitted to Mining Authorities the ESIA Update for Mina Pirquitas on September 2020 which document is being reviewed.

17.4 Mine Closure

A conceptual closure plan and cost has been developed for the Project. There are no specific laws in Argentina that specify mine closure requirements, and there is no bonding requirement. The closure plan for the Project has been developed in consideration of best industry practice. The closure plan was designed to accommodate the following objectives:

- Health and security of the public
- Protection of the environment
- Ensure physical and chemical stability of post-closure structures
- Ensure unrestricted and unimpacted natural surface water flow
- Prevent erosion of post-closure structures from wind or water
- Safe removal of impacted surface structures and buildings
- Safety and security for people, wildlife, and livestock

17.4.1 Closure Activities

Buildings and surface structures will be cleaned of residual fuels, lubricants, reagents, and wastes prior to being deconstructed and dismantled. Recyclable wastes will be reused wherever possible. All structures will be removed to ground level, with concrete slabs or other inert foundations covered with stored topsoil. All access roads to the pit and waste rock storage areas will be blocked for safety using earthen berms accompanied by warning signs.

The water diversion systems employed during operations will be fortified for long term use in managing water post-closure. This will include maintaining all upgradient runoff as non-contact water passed downstream to the Arroyo Uquillayoc.

The pit will be allowed to flood to the phreatic level. A large safety berm accompanied by appropriate signage will be constructed around the pit rim to prevent access.

Ongoing monitoring of the closure measures will be conducted over a period of five years to ensure successful implementation. Due to the fact that the exploitation and mineral extraction stage of the Pirquitas pit has ended, some components of the Pirquitas Mine are currently in the mine closure stage, so the activities currently being carried out are those linked to the ore processing and mine closure. Closure costs for Chinchillas Mine have been estimated at $30.6M. MPSA is reviewing these costs and suggested that the closure costs will be lower than this.

17.5 Pirquitas Mine

17.5.1 In-Pit Tailings Disposal

MPSA is currently using the Pirquitas pit as tailings reservoir. These tailing comes from the processing of the Mina Chinchillas ore. The use of the Pit as a tailings reservoir was approved by the Authority through Resolution No. 056/2018, after submitting the Addendum to the Authority in August 2017.

Placing the tailings inside the Pit involves transporting them from the Process Plant to the Pit by means of a pumping system and a 6.3 km pipeline to the tailings box located on the edge of the Pit, to be discharged to the pit. Likewise, the tailings reservoir has a water recovery system to pump the water (from the tailings, the flows that enter the pit by filtration, direct rain and surface runoff) to the Process Plant for reuse. This pipe follows the same route as the pipe that transports the tails. The disposal of the tailings in the pit began in April 2019.

Due to the fact that the exploitation and mineral extraction stage of the Pirquitas pit has ended, some components of the Pirquitas Mine are currently in the mine closure stage, so the activities currently being carried out are those linked to the ore processing and mine closure.

17.5.2 Pirquitas Pit

Pirquitas pit within the same watershed as the Homonymous River. During the operation of Mina Pirquitas, the surface runoff influent to the pit was captured and conveyed along the southern perimeter of the pit to a discharge point in the Pircas River, downstream of the pit. The main tributaries to the pit correspond to the Pircas and Maray streams (contacted waters in the Pircas dump), and the Médanos stream (waters not contacted), the convergence of these three (3) channels naturally formed the Pircas River, precisely in the pit sector.

In January 2017, with the cessation of mining in Pirquitas, the mine dewatering ceased and surface runoff from the upper basins was directed towards the pit. As a result, the pit lagoon increased in volume until it reached approximately 40% of the depth of the pit. The increase in volume led to various hydrogeological studies and models, to establish the design criteria for the tailings reservoir.

The studies concluded that the open pit acts as a sink and can contain the tailings and their processes associated with the proposed methodology for the disposal of the tailings.

As a result of the studies, a critical maximum elevation of the water level has been determined at 4207.70 masl, where the pit would cease to be a sink. Likewise, the overflow level of the Pit was established at 4230 masl.

To maintain the required water levels for the tailings reservoir, it was necessary to construct a water management system to avoid the inflow of surface water to the pit. These works were completed in February 2020.

Based on the operational and meteorological conditions, the pit water balance is annually updated.

17.5.3 Environmental and Social description and Closure

17.5.3.1 Water Quality

In December 1998, consulting engineering firm KP completed an ESIA for Sunshine Argentina. The ESIA contained a description and evaluation of environmental conditions that existed at the time, as well as foreseeable potential effects that development of the Pirquitas mine could have on the surrounding environment. The scope of the ESIA was commensurate with the norms for environmental protection associated with Argentina's applicable mining laws and guidelines established by international lending institutions such as the World Bank. The discussion below is either paraphrased or taken directly from the ESIA, with updates to include information about the Pirquitas mine subsequent to the date of such ESIA.

Remnants of historic mining activities at the Pirquitas mine included derelict buildings, mine structures and tin-silver jig tailings and tin placer tailings along the Río Pircas. Flotation tailings had been discharged into the Río Pircas and piles of gold placer tailings were left above the current level of the Río Pircas on paleo-river terraces near the mine camp. These areas comprise some 107 hectares of surface disturbance that existed prior to Sunshine Argentina's acquisition of the property, some of which are now associated with acid rock drainage into the Río Pircas watershed.

Surface and ground waters are known to be acidic and metalliferous down gradient from the historic mines above the Río Pircas canyon at Tres Placas, which is located downstream from the Pirquitas pit. In addition, acidic and metalliferous ground water is present in the abandoned underground workings and some natural springs in the area, suggesting natural

oxidation of sulfide mineralisation which is widespread in the rocks found on the property is also contributing to background surface water contamination.

Furthermore, the only condition the Argentina Ministry of Mines and Energy applied to its approval of Sunshine Argentina's ESIA, apart from the mandatory two-year update to the report, was the requirement that water quality monitoring be carried out.

MPSA is currently monitoring the water quality both upstream and downstream of the mine. The monitoring programme includes 21 sites for superficial water and eight sites for groundwater monitoring. The general characterization of the water continues the same as the original in 1998.

17.5.3.2 Flora and Fauna

In the area of influence of Mina Pirquitas, the Altoandina and Puna ecoregions are distinguished. The physiognomy of the climax vegetation corresponds to an herbaceous (High Andean) or shrubby (Puna) steppe, however, it is possible to find a mixed ecotonal community between these two ecoregions in nearby environments.

The plant physiognomy in the Puna consists of shrubby and gramineous steppes or grasslands, with low plant cover and extensive areas of bare areas. In the sectors associated with wetlands, such as lagoons and streams, there are springs, with vegetation dominated by grasses such as Festuca sp. (chillagua), sedges such as Scirpus sp., and rushes that completely cover the ground, constituting a privileged habitat for being sites where there is a high concentration of biodiversity. In the rocky areas there are species of cacti of the Maihueniopsis and Lobivia genera.

The species, both herbaceous and shrubby, have the shape of cushions (camephytes or hemicryptophytes), and settle on the ground in a scattered manner, leaving areas of bare soil. The physiognomy of the vegetation resembles a high altitude desert; however, there are endemic species and others that only appear in the rainy season (late summer), which provides a significant richness of species. The families best represented in these environments are: Poaceae, Asteraceae and Solanaceae

Given that in the Mina Pirquitas area, there is great variability in terms of the floristic composition of the vegetation units, the area of influence was subdivided into 6 sub-basins. These areas are monitored twice a year since 2011.

The area of Mina Pirquitas and its immediate surroundings in Jujuy, has a high value from the point of view of conservation, mainly of Puno and high Andean habitats, but also in terms of its biodiversity.

The upper Pilcomayo basin, represented by the Pirquitas area, constitutes, together with the adjoining endorheic basins of Pozuelos and Vilama, a considerable area of outstanding quality of this ecosystem.

The faunal indicators selected to carry out fauna monitoring did not show, at a general level, tangible changes in the richness of species in the area and in the structure of the communities, which at this scale shows that the impacts of the activities carried out in Mina Pirquitas for the groups of fauna involved, they are stable or compensated on this spatial and temporal scale.

As a result of the approval of the EISA of Pirquitas Mine, since 2018 MPSA develop biannual Community Environmental Monitoring Program that includes fixed monitoring stations of flora, fauna and limnology, as well as water, air and soil quality

17.5.3.3 Local Communities

The Area of Direct Influence (AID) is made up of the localities that have the greatest connection with the Mine, either due to geographical proximity, because of the employment relationship of a large part of the active labour population, or because of the community relationship programmes that are implemented jointly. with the company. The localities are: Nueva Pirquitas (approximately 4.5 km), Loma Blanca (approximately 50 km distance), Coyaguayma (14 km), Orosmayo- Orosmayo Grande (25 km) and Liviara (30 km).

The linkages that are carried out between the locations of the AID and the Mine are fundamentally due to the proximity that exists between the operational areas and the communities, where they share communication routes and road infrastructure; Part of the workforce of the Mine is from nearby towns and community investment policies are executed by the Company, which is headed by the Municipal Commission of Nueva Pirquitas.

The highest percentage of personnel working at Mina Pirquitas S.A belongs to the Province of Jujuy. That is, 163 people belong to the province of Jujuy, 96 people to the communities of the Area of Direct Influence (AID), 17 people to the communities of the Area of Indirect Influence (AII).

17.5.3.4 Pirquitas Permitting

In 1998, the Original ESIA of the Pirquitas Project was developed by KP firm, which was prepared in accordance with the requirements of the National Law for Mining Environmental Protection, Law No. 24,585 and other substantive and formal regulations in force. The document was approved by Resolution No 16/99. However, the mining activities provided for in the 1998 ESIA for the exploitation of the Mine were not started.

In 2005, a new stage of exploration began in order to identify new mineralized areas. This year, the primary focus was a geological reconnaissance of the Oploca veins, with the aim of expanding in-depth geological and mineralogical knowledge.

The first Update of the ESIA was delivered to authorities in 2008 and was approved by Resolution No 35/08. In June 2008, the pre-production stage began, starting the production of concentrates on April 6, 2009.In 2008, a second ESIA was completed by KP following start-up of mining activities and initiation of plant construction. While there were no observations or restrictions placed on MPSA at that time, this study began to focus on the water management plan and conceptual plans for mine waste stockpiles. A conceptual water treatment plant for neutralisation of acid waters was proposed as a contingency with a treatment capacity estimated to be as much as 150 L/s. Alternative water management measures to date have reduced the source of acidic waters, and such treatment plant has not yet been required.

A party wishing to commence or modify any exploration or mining-related activity under Argentina's mining laws, including property abandonment or mine closure activity, must prepare and submit an ESIA, which must include a description of the nature of the proposed work, its potential risk to the environment and the measures that will be taken to mitigate that risk. The most recent update permit to MPSA's ESIA for the Pirquitas mine, which included engineering studies for the design of water management structures and mine closure design, was submitted in December September 2016 and the addendum for in-pit disposal was submitted in August 2017. These ESIA´s were approved in September 2018 by Resolution 056/2018.

The preceding update was submitted in December 2014 and formally approved in January 2016. An addendum to this ESIA regarding the closure of the Pirquitas mine was filed in December 2015, which reflected the revised mine plan projecting the completion of the Pirquitas pit, with lower grade stockpile processing expected to commence upon cessation of open pit mining activities at the Pirquitas pit. In July 2016, an updated closure plan, which included more detailed engineering of the selected closure measures and costing for both

active closure and longer term care and maintenance, was submitted to the regulatory authorities. Due to the approval of Mina Chinchillas ESIA in December 2017 (Resolution 014/2017) the closure plan for Pirquitas Mine was archived and any work proposed on this closure plan in currently submitted in the ESIA Updates every two years. and is currently under review.

The most recent ESIA submitted to authorities is the ESIA 2020 Update which is currently on revision under review by mining authorities.

The cessation of open pit mining activities at the Pirquitas pit in January 2017 has resulted in a significant reduction in workforce, as well as reduced indirect economic benefits to the surrounding and supporting communities with the start of exploitation of the Chinchillas mine, new contracts were made at Mina Pirquitas as of 2018 and currently MPSA hires 840 workers between Chinchillas and Pirquitas mines. A social impact assessment study was commissioned in 2015 and formed the basis of the social closure plan for the Pirquitas mine. The potential risks, as well as actions to reduce those risks and support the employees and the community, were developed as part of the reclamation and closure plan submitted in 2016 .

17.5.4 Closure

Argentina currently has no specific mine closure legislation other than the requirement to prepare and submit and regularly update an ESIA, including with respect to mine closure activity. However, it is expected that closure options will be proposed as part of the review of MPSA's updated closure plan and may include passive or active neutralisation features to return discharged waters to baseline conditions (acidic at the time of baseline studies) with monitoring requirements. The closure requirements for the Pirquitas pit may change in the future and MPSA may be subject to increased obligations for both the technical and social aspects associated with such mine closure and reclamation, which would impact the closure plan and the duration of the associated closure activities.

The current closure and reclamation plan addresses a range of closure risks, design criteria and costs that are anticipated in order to comply with internationally accepted practices. It considers both the physical reclamation of the site and the social closure plan for the neighbouring communities for whom the mine provides employment and community support. The closure plan considers the short-term decommissioning and reclamation measures, as well as longer term care and maintenance activities and related costs and risks. The actual costs of reclamation and mine closure are uncertain and planned expenditures may differ from the actual expenditures required. Therefore, the amount required to be spent could be materially higher than current estimates.

MPSA is developing an update of the Puna closure plan that will includes both Chinchillas and Pirquitas Mines to possible changes to the closure requirements and obligations. .

18 CAPITAL AND OPERATING COSTS

18.1 Capital Costs

The Project utilises the existing processing facilities at the Pirquitas Operation, therefore most capital items are related to the mining equipment and infrastructure required at the mine site.

The estimated capital costs required to achieve the Mineral Reserve LOM are summarised in Table 18.1. The capital costs were estimated by the MPSA using actual costs and other information.

The sustaining capital costs include:

- Surface infrastructure construction such as upgrades to the camp and kitchen, IT upgrades, and asset integrity costs.
- Mill improvements and replacement of major components.
- Tailings management facility costs.
- Mobile equipment such as new and replacement purchases and major rebuilds.

Table 18.1 Summary of Capital Expenditures

Description	Total ($M)
Exploration and Development	21
Sustaining Capex	47
Closure & Reclamation	31
Total Capital Cost	99

Capital includes only direct project costs and does not include non-cash shareholder interest, management payments, foreign exchange gains or losses, foreign exchange movements, or tax pre-payments.

18.2 Operating Costs

Operating costs are estimated using current operating experience at Pirquitas operation, actual quotes from vendors and first principles. Operating costs are estimated by MPSA for the areas such as mining, processing, tailings and general and administration.

The operating expenses estimated to validate the positive cash flow for the Mineral Reserve LOM. The LOM operating costs are approximately $52.67/t of ore milled, as are summarised in Table 18.2. The mining expense includes all labour, supplies / consumables, and equipment maintenance to complete mining related processes/activities, less exploration diamond drilling and capital excavations and construction. The milling expense includes all labour and supplies / consumables to complete milling related processes / activities. The administrative expense includes all labour, supplies / consumables, and equipment maintenance to complete administrative, finance, human resources, environmental, safety, supply chain, site services, camp and kitchen, and travel related processes / activities.

Table 18.2 Operating Costs

Description	Total ($M)	LOM Average ($/t milled)
Mining Costs	110	15.01
Processing Costs	183	24.95
G&A Costs	93	12.71
Total	387	52.67

19 ECONOMIC ANALYSIS

19.1 Economic Assumptions

The modelling and taxation assumptions used in the Puna21TRS are discussed in detail below.

All monetary figures expressed in this report are in US Dollars ($) unless otherwise stated. Cash flows are assumed to occur evenly during each year and a mid-year discounting approach is taken. The estimates of cash flows have been prepared on a real basis as 1 January 2022 and a mid-year discounting is used to calculate net present value (NPV).

19.1.1 Pricing and Discount Rate Assumptions

Metal price assumptions are shown in Table 19.1. Other key assumptions in the economic modelling relating to product pricing are tabulated in Table 19.2. A discount rate of 5% is used for calculating net present value (NPV).

Table 19.1 Metal Prices

Commodity	Unit	2022	2023	2024	2025	Long Term
Silver	$/oz	24.00	23.00	22.00	21.00	21.00
Lead	$/lb	1.00	0.95	0.93	0.92	0.90
Zinc	$/lb	1.30	1.20	1.20	1.20	1.20

Table 19.2 Key Economic Assumptions

Item	Unit	Lead Concentrate	Zinc Concentrate
Treatment and Refinery Charge	$/t Conc	1,191	724
Payability – Silver	%	95	75
Payability – Lead	%	95	
Payability – Zinc	%		85
Deduction – Lead	%	3	
Deduction – Zinc	%		8
Minimum Payout Factor	%	63	39
Royalty	%	3	3
Export Duty (Rev. Less TCRC's)	%	4.5	4.5
Puna Credit (Rev. Less TCRC's)	%	2.5	2.5

In the analysis, carry balances such as tax and working capital calculations are based on nominal dollars and outputs are then deflated for use in the integrated cash flow calculation.

19.2 Overview and Results

The estimates of cash flows have been prepared on a real basis as at 1 January 2022 and a mid-year discounting is used to calculate NPV.

The projected financial results include:

- After-tax NPV at an 5% real discount rate is $228M.
- Mine life of five years.

The estimated total cash costs for the LOM is $11.63/oz silver. AISC, which includes infrastructure capital, capital development and reclamation, average for the LOM is $13.57 per payable ounce of silver sold. Unit costs include concentrate in stockpile. Silver provides the primary revenue for the analysis, with contributions from lead and zinc. Credits from lead and zinc are included in the cash cost.

The key results of the Puna21TRS are summarised in Table 19.3.

Table 19.3 Puna21TRS Results Summary

Description	Unit	Total LOM
Processed		
Processed	kt	7,352
Ag Feed grade	g/t	160
Pb Feed grade	%	1.32
Zn Feed grade	%	0.29
Silver Recovery	%	95.5
Concentrates		
Lead Concentrate – in Stockpile	kt	4
Zinc Concentrate – in Stockpile	kt	1
Lead Concentrate – Produced	kt	135
Zinc Concentrate – Produced	kt	27
Lead Concentrate – Total	kt	139
Zinc Concentrate – Total	kt	28
Metal Produced		
Silver	koz	37,210
Lead	Mlb	204
Zinc	Mlb	29
Key Financial Results		
Mine Site Cash Cost	$/oz payable Silver	11.61
Royalties and Refining Costs[1]	$/oz payable Silver	6.10
Credits	$/oz payable Silver	–6.08
Total Cash Costs (after credits)[1]	$/oz payable Silver	11.63
AISC	$/oz payable Silver	13.57
Site Operating Costs	$/t milled	52.67
Average Silver Price	$/oz	22.38
NPV[1]	$M	228
Discount Rate	%	5
Project Life	years	5

Metal produced includes current concentrate stockpiles containing 242 koz silver and 5 Mlb lead.

19.2.1 Production and Cost Summary

The process production forecasts are shown in Table 19.4 and forecast tonnes mined are shown in Figure 19.1. The processing tonnes and metal production are summarised in Figure 19.2 and Figure 19.3 respectively.

Table 19.4 Production Forecast

Item	Unit	Total LOM
Ore Processed		
Processed	kt	7,352
Ag Feed Grade	g/t	160
Pb Feed grade	%	1.32
Zn Feed grade	%	0.29
Silver Recovery	%	95.5
Concentrate Produced		
Lead Concentrate – in Stockpile	kt	4
Zinc Concentrate – in Stockpile	kt	1
Lead Concentrate – Produced	kt	135
Zinc Concentrate – Produced	kt	27
Lead Concentrate - Total	kt	139
Zinc Concentrate - Total	kt	28
Metal Produced		
Silver	koz	37,210
Lead	Mlb	204
Zinc	Mlb	29

Metal produced includes current concentrate stockpiles containing 242 koz silver and 5 Mlb lead.

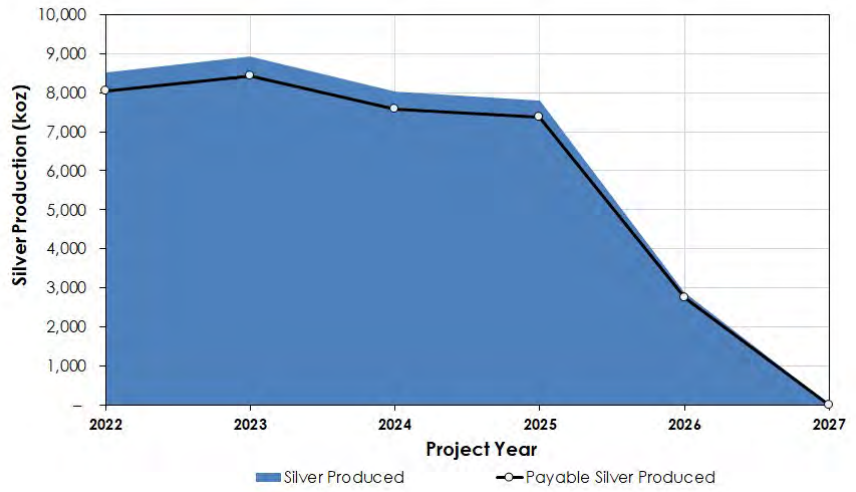
Figure 19.1 Mining Production Profile

OreWin, 2021

Figure 19.2 Process Feed Profile

OreWin, 2021

Figure 19.3 Silver Production



OreWin, 2021

The estimated Mine site cash costs are shown in Table 19.5. The estimated total cash costs for the LOM is $11.63/oz payable silver. AISC, which includes infrastructure capital, capital development and reclamation, average for the LOM is $13.57/oz payable silver. Silver provides the primary revenue for the analysis, with contributions from lead and zinc. Credits from lead and zinc are included in the cash cost.

These estimated costs include only direct operating costs of the mine site, namely:

- Mining
- Processing

- General and administrative (G&A) costs
- Government fees and charges (excluding corporate taxation)

The projected financial results include:

- After-tax net present value (NPV) at an 5% real discount rate is $228M.
- Mine life five years.

Table 19.5 Cash Costs

Item	LOM Average ($/oz Ag)
Mine Site Cash Cost	11.61
Royalties and Refining Costs	6.10
Credits	–6.08
Total Cash Costs (after credits)	11.63
AISC (after credits)	13.57

Note: Includes concentrate in stockpile

The estimated revenues and operating costs have been presented in Table 19.6, along with the estimated net sales revenue value.

Table 19.6 Operating Costs and Revenues

Description	TOTAL ($M)	LOM Average ($/t milled)
Revenue		
Gross Sales Revenue	1,000	136.01
Less Realisation Costs		
Treatment & Refining Charges	179	24.28
Royalties	36	4.89
Total Realisation Costs	214	29.17
Net Sales Revenue	785	106.84
Less Site Operating Costs		
Mining Costs	110	15.01
Processing Costs	183	24.95
G&A Costs	93	12.71
Total	387	52.67
Operating Margin	398	54.17

Note: Includes concentrate in stockpile

Table 19.7 Total Project Capital Costs

Description	Total ($M)
Exploration & Development	21
Sustaining Capex	47
Closure & Reclamation	31
Total Capital Cost	99

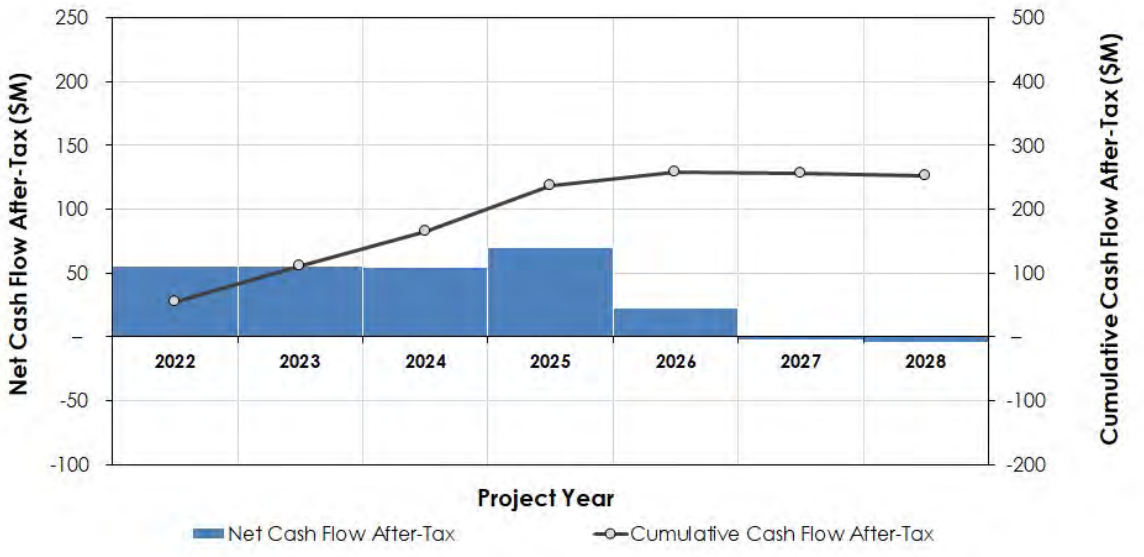
Capital includes only direct project costs and does not include non-cash shareholder interest, management payments, foreign exchange gains or losses, foreign exchange movements, tax pre-payments, or exploration phase expenditure.

The projected financial results for undiscounted and discounted cash flows, at a range of discount rates are shown in Table 19.8.

The results of NPV5% sensitivity analysis to a range of changes in silver price (primary commodity) and discount rates is shown in Table 19.9. NPV sensitivity analysis for changes to operating and capital costs are shown in Table 19.9.

A chart of the after tax cumulative cash flow is shown in Figure 19.4 and details of the cash flow is shown in Table 19.11.

Figure 19.4 After Tax Annual and Cumulative Cash Flow



OreWin, 2021

Table 19.8 Financial Results

Discount Rate	NPV ($M)	
	Before-tax	After-tax
Undiscounted	279	253
2.0%	268	242
5.0%	253	228
10.0%	231	206
12.0%	223	199

Note: Includes concentrate in stockpile

Table 19.9 After-Tax NPV Sensitivity to Silver Price and Discount Rates

After Tax NPV5%	Long-term Silver Price ($/oz Ag)								
	10.00	15.00	18.50	19.00	21.00	22.00	24.00	27.00	30.00
Discount Rate	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**	**$M**
Undiscounted	-17	105	192	204	253	278	327	401	474
2%	-17	101	183	195	242	266	313	384	454
5%	-16	95	172	183	**228**	250	294	360	427
10%	-14	86	156	166	206	226	266	327	387
12%	-14	83	150	160	199	218	257	315	373

Note: NPV includes concentrate in stockpile

Table 19.10 After-Tax NPV5% Sensitivity to Operating and Capital Cost Changes

Discount Rate	Changes to Cost (%)								
	–30%	–20%	–10%	–5%	–	+5%	+10%	+20%	+30%
Operating	342	304	266	247	228	208	189	151	113
Capital	238	234	231	229	228	226	224	221	217

Note: NPV includes concentrate in stockpile

Table 19.11 Estimated Cash Flow

Description	Total	2022	2023	2024	2025	2026	2027	2028
	($M)	($M)	($M)	($M)	($M)	($M)	($M)	($M)
Total Gross Revenue	999.9	245.2	244.0	214.4	198.7	97.7	–	–
Total Realisation Costs	214.5	50.1	50.8	47.7	43.9	21.9	–	–
Net Revenue	785.5	195.0	193.2	166.7	154.7	75.8	–	–
Site Operating Costs								
Mining Costs	110.3	35.4	30.6	24.6	12.8	7.0	–	–
Processing Costs	183.4	41.6	40.8	41.3	42.0	17.9	–	–
G&A Costs	93.5	22.2	21.0	20.8	19.8	9.8	–	–
Total Operating Costs	387.2	99.2	92.3	86.6	74.5	34.6	–	–
Operating Surplus / (Deficit)	398.3	95.9	100.9	80.1	80.2	41.2	–	–
Capital Costs								
Exploration & Development	20.8	3.1	4.7	10.1	–	2.9	–	–
Sustaining Capex	47.2	15.6	13.9	9.8	4.8	3.1	–	–
Closure & Reclamation	30.6	3.8	7.8	–	–	–	14.7	4.4
Total Capital	98.6	22.4	26.4	19.9	4.8	5.9	14.7	4.4
Working Capital	20.6	5.1	10.2	–0.2	3.3	2.2	–	–
Pre-tax Cash Flow	279.1	68.3	64.3	60.4	72.1	33.0	–14.7	–4.4
Tax Payable	26.0	13.0	8.5	6.0	1.6	10.1	–12.8	–0.2
After-tax Cash Flow	253.0	55.4	55.9	54.4	70.5	23.0	–2.0	–4.1

Note: Table shows $M, includes concentrate in stockpile

20 ADJACENT PROPERTIES

This section is blank.

21 OTHER RELEVANT DATA AND INFORMATION

This section is blank.

22 INTERPRETATION AND CONCLUSIONS

Mineral Resources and Mineral Reserves in the Puna21TRS are reported in accordance with subpart 1300 of US Regulation S-K Mining Property Disclosure Rules (S-K 1300).

Significant factors that could materially affect the Mineral Resources and Mineral Reserve are:

- Environmental, Permitting Social and Community – Argentina currently has no specific mine closure legislation other than the requirement to prepare and submit and regularly update an ESIA, including with respect to mine closure activity. MPSA is developing an update of the Puna closure plan that will includes both Chinchillas and Pirquitas Mines to possible changes to the closure requirements and obligations. In order to operate the mine, MPSA must maintain appropriate relations with all the authorities and stakeholders. Social, community and government relations are managed by MPSA and include programmes and engagement with the local communities and both local and national governments.
- Mine planning to maximise the current Mineral Resources is an important activity that MPSA has identified and commenced. Expediting this work will optimise the project and has the potential expand on the current project opportunities.
- Metal price impacts – silver is the primary revenue element and is produced from lead and zinc concentrates. Zinc prices have ben relatively high compared to the long-term forecasts. As the operation has a short life evaluation of the prices for all metals will needed to maximise the value of extracted metal.
- Geotechnical impacts – the mine designs for Chinchillas were revised in 2021, a review by geotechnical engineers of the updated designs should be prepared to confirm that the designs are suitable for the current slope recommendations.
- The location of the project means that the concentrates are required to be transport ed a significant distance to customers. Delays or other issues pose a risk to revenue and MPSA needs to maintain planning and strategies to provide for an efficient logistics function.
- Closure of the processing plant may limit the development options of the Pirquitas underground Mineral Resource.

23 RECOMMENDATIONS

Key recommendations for the project are:

- Potential remains to expand the current Mineral Resource and to define new Mineral Resources on the property.
- At Chinchillas it is recommended that MPSA examine advanced grade control (using reverse circulation drilling) at a grid spacing of 20 m, to determine if it will improve prediction particularly where the grade trends are horizontal. This examination should identify the targets and cost of the programme.
- The shallow eastward dip of high grades should be carefully managed by pit mapping and advanced grade control drilling to provide appropriate levels of confidence to manage risk. A detailed review of Socavon should be undertaken to determine whether portions may be amenable to economic extraction.
- Prepare a study to re-evaluate and assess the Pirquitas Mineral Resource and determine the development horizon available prior to the completion of the Chinchillas open pit and the impact of the current operation.
- Upgrade the Pirquitas density estimation method in future modelling.
- Conduct a review by geotechnical engineers of the updated designs should be prepared to confirm that the designs are suitable for the current slope recommendations.
- Undertake a geotechnical study of the waste rock dumps.
- Further pit optimisation using a range of metal prices and cost input parameters.
- Prepare additional detailed planning and design for rock storage and the general site layout.
- Prepare a geometallurgical study and design a testwork programme.
- Continue with on-going review of capital and operating cost estimates and performance and productivity tracking.
- Finalise the update of the Puna closure plan and associated costs for Chinchillas and Pirquitas Mines including analysis of the possible changes to requirements and obligations.

Costs for this work cost included in the cash flows and as the work will be primarily undertaken by site and other SSR personnel the costs are not considered significant extra costs above the budgeted operating and capital costs.

24 REFERENCES

Armstrong, R. and Spratt, J., 2016. EPMA study of Ag-bearing Minerals from the Pb-Zn-Ag Mineralization of the Chinchillas Project. Unpublished report prepared by the Natural History Museum for Golden Arrow Resources Corporation.

Board W., Kennedy B. and Yeomans T., 2011. NI 43-101 Technical Report on the Pirquitas Mine, Jujuy Province, Argentina. 23 December 2011. Prepared for Silver Standard Resources Inc.

Blasco, G. G., 2011. Actualización bianual estudio de impacto ambiental etapa de exploración: Golden Arrow environmental impact assessment actualization report for exploration stage, 2011, 51 p.

Caffe P., 2002. Estilos eruptivos del complejo dómico Pan de Azucar – Puna Norte. Revista de la Asociación Geológica Argentina, 57 (3) 232-250.

Caffe P., 2013. Petrografía de muestras de testigo y roca. Mina Chinchillas. Unpublished report prepared for Golden Arrow Resources.

Caffe P. and Coira B., 2008. Depósitos epitermales polimetálicos asociados a complejos volcánicos domicos: Casa Colorada, Pan de Azucar, Chinchillas y Cerro Redondo, en: RELATORIO DEL XVII CONGRESO GEOLÓGICO ARGENTINO, JUJUY, 2008.

Canadian Securities Administrators (CSA), 2011. National Instrument 43-101 Standards of Disclosure for Mineral Projects. Retrieved from: https://www.bcsc.bc.ca/Securities_Law/ Policies/Policy4/43- 101_Standards_of_Disclosure_for_Mineral_Projects NI 43-101

Caranza, H., and Carlson, G. G., 2012. Final report on the phase I drill program Chinchillas Ag-Pb-Zn Project. Golden Arrow internal report, 2012, 1360 p.

CIM, 2003. Estimation of Mineral Resources and Mineral Reserves Best Practices Guidelines Retrieved from: http://web.cim.org/

CIM Standing Committee on Reserve Definitions, 2014. CIM DEFINITION STANDARDS - For Mineral Resources and Mineral Reserves. Retrieved from: http://web.cim.org/

Chen, S. and Redfearn, M., 2014. 2014 Project Report on Metallurgical Testing on the Chinchillas Project. Unpublished report prepared by Bureau Veritas Commodities Canada Ltd, Inspectorate Metallurgical Division, for Golden Arrow Resources Corporation.

Coira, B., Caffe P., Ramirez A., Chayle W., Diaz A., Rosas S., Perez A., Perez B., Orozco O. and Martinez M., 2004. Hoja Geológica 2366-I/ 2166/III Mina Pirquitas, Provincia de Jujuy. Servicio Geológico Minero Argentino, Boletin 269.

Coira B., Diaz A., Chayle W., Pérez A., and Ramírez A., 1993. Chinchillas, un modelo de complejo volcánico domico portador de depósitos de metales de base con Ag y Sn, en Puna Jujeña. XII Congreso Geológico Argentino y II Congreso de Exploración de Hidrocarburos. Actas Tomo IV (270-276).

Cunningham, C., McNamee J., Pinto J. and Ericksen G., 1991. A model of volcanic dome-hosted precious metal deposits. Econ Geol 86: 415-421.

Daroca, J. A., Undated. Lapacha S.R.L. report on Aranlee work at Chinchillas Project. Prepared for Aranlee Resources.

Davis, B. and Howie, K., 2013. Mineral Resource Estimate for the Chinchillas Silver-Lead-Zinc Project, Jujuy Province, Argentina. 20 June 2013. Retrieved from http://www.sedar.com/.

Davis, B., Howie, K., and Smith, B., 2014. Mineral Resource Estimate for the Chinchillas Silver-Lead- Zinc Project, Jujuy Province, Argentina. 10 October 2014. Retrieved from http:// www.sedar.com/.

Davis, B., Sim, R., and Smith, B., 2015. Mineral Resource Estimate for the Chinchillas Silver-Lead-Zinc Project, Jujuy Province, Argentina. 2 November 2015. Retrieved from http:// www.sedar.com/.

Davis, B., Sim, R., and McEwen, B., 2016. Mineral Resource Estimate for the Chinchillas Silver-Lead- Zinc Project, Jujuy Province, Argentina. May 27, 2016. Retrieved from http:// www.sedar.com/.

Glencore, 2015. Resources and Reserves as at 31 December 2016. Retrieved from http:// www.glencore.com/assets/investors/doc/reports_and_results/2016/GLEN-2016-Resources-Reserves-Report.pdf

Golden Arrow Resources Corporation, 2015a. Silver Standard Plans up to US$12.6M to Advance to Feasibility Golden Arrow's Chinchillas Project for a Business Combination with Pirquitas Mine [News Release 1 October 2015]. Retrieved from https:// goldenarrowresources.com/news/2015

Golden Arrow Resources Corporation, 2015b. Management Information Circular. 20 November 2015. Retrieved from http://www.sedar.com/

Gorustovich, S., Monaldi C. and Salfity J., 2011. Geology and metal ore deposits in the Argentina Puna. In Cenozoic Geology of the Central Andes of Argentina, 169-187, SCS Publisher.

Jacobs Engineering Group, 1999. Feasibility Study Pirquitas Silver-Tin Project, Jujuy Province, Argentina. Prepared for Sunshine Argentina Inc.

Journel, A.G. and C.J. Huijbregts, 1978. Mining Geostatistics, Academic Press London

Kuchling, K., Davis, B., Howie, K., Embree, K. and Fox, J., 2014. Preliminary Economic Assessment for the Chinchillas Silver-Lead-Zinc Project, Jujuy Province, Argentina. 20 January 2014. Retrieved from http://www.sedar.com/

Kuchling, K., Davis, B., Embree, K., Fox, J., Howie, K., and Smith, B., 2015. Preliminary Economic Assessment Update for the Chinchillas Silver-Lead-Zinc Project, Jujuy Province, Argentina. Amended Date February 13th, 2015. Retrieved from http://www.sedar.com/.

Kulemeyer, J. A., 2011. Anexo sobre el patrimonio cultural, arqueológico, paleontológico e histórico de Santo Domingo, departamento de Rinconada, de la actualización bianual del estudio de impacto ambiental - etapa de exploración. Proyecto minero Chinchillas: Golden Arrow environmental impact assessment actualization report for exploration stage annex, 2011, 72 p.

Lorenz, V. and Kurszlaukis S., 2007. Root zone processes in the phreatomagmatic emplacement model and consequences for the evolution of maar-diatreme volcanoes. Journal of Volcanology and Geothermal Research, Vol 159:4-32.

Ma, W., and Redfearn, M., 2014. Mineralogical Assessments on Five Test Products. Unpublished report prepared by Bureau Veritas Commodities Canada Ltd, Inspectorate Metallurgical Division, for Golden Arrow Resources Corporation.

Marshall, D., and Mustard, P., 2012. Chinchillas Intermediate Sulphidation Epithermal system. Unpublished report prepared by Vancouver Petrographics Ltd for Golden Arrow Resources Corporation.

OreWin, 2022, Puna 2021 Project Update Report

O'Brien, M. F., 2020. Technical Memorandum No. 2 on Geological Model and Grade Estimation for the Chinchillas Silver-Lead-Zinc Mine, San Salvador de Jujuy, Argentina, for Mina Pirquitas SA.

Peacey, J., 2016. Guidance on Treatment terms for Chinchillas Pb-Ag and Zn concentrates. Unpublished report prepared by Kingston Process Metallurgy for Silver Standard Resources Inc.

Puritch, E., 2020. Pirquitas Mine – Underground Mineral Resource Estimate.

Quantec Geoscience Argentina S.A., 2008. Geophysical report on: pole-dipole array, induced polarization and resistivity survey at the Chinchilla Project, Jujuy Province, Argentina, on behalf of Silex Argentina S.A.

Ramos V., 1999. Rasgos estructurales del territorio argentino, Instituto de Geologia y recursos Minerales, Anales 29 (24), Buenos Aires.

Silex Argentina S.A., 2008. Internal report on the Chinchillas Ag-Pb-Zn deposit.

Stanley, C.J., and Armstrong, R.N., 2016. The Opaque Mineralogy of 28 samples from the Pb-Zn-Ag Mineralization of the Chinchillas Project. Unpublished report by the Natural History Museum prepared for Golden Arrow Resources Corporation.

Soler M., Caffe P., Coira B., Onoe A., and Mahlburg Kay S., 2007. Geology of the Vilama caldera: A new interpretation of a large-scale explosive event in the Central Andean plateau during the Upper Miocene, in Journal of Volcanology and Geothermal Research, Vol.164, 27pp.

25 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

OreWin has relied on the following information provided by SSR in preparing the findings and conclusions in this Technical Report Summary regarding the following aspects of modifying factors:

- Macroeconomic trends, data, and assumptions, and interest rates.
  - This has been used in Section 19
- Marketing information and plans within the control of the registrant.
  - This has been used in Sections 16 and 19
- Legal matters outside the expertise of the qualified person, such as statutory and regulatory interpretations affecting the mine plan.
  - This has been used in Sections 3 and 17
- Environmental matters outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17
- Accommodations the registrant commits or plans to provide to local individuals or groups in connection with its mine plans.
  - This has been used in Sections 3 and 17
- Governmental factors outside the expertise of the qualified person.
  - This has been used in Sections 3 and 17

OreWin considers it reasonable to rely on SSR because SSR employs professionals and other personnel with responsibility in these areas and these personnel have the best understanding of these areas. OreWin is not qualified to provide advice on legal, permitting and ownership matters.