

# **Imperial Metals Corporation**

# **Annual Information Form**

For the Year Ended December 31, 2022

March 24, 2023

[ intentionally left blank ]

# Table of Contents

Content Information 1
Company Business & Corporate Structure
General Development & Outlook
Material Properties15
Mineral Property   Red Chris Mine15
Mineral Property   Mount Polley Mine
Other Properties
Dividends and Distributions
Capital Structure
Market for Securities 44
Prior Sales
Directors & Executive Officers
Corporate Cease Trade Orders or Bankruptcies
Conflicts of Interest
Interest of Management & Others in Material Transactions
Material Contracts
Legal Proceedings
Transfer Agent & Registrar
Interests of Experts
Additional Information

# **Content Information**

All references in this Annual Information Form ("AIF") to "Imperial", "Company", "we" and "our" apply collectively to Imperial Metals Corporation and its subsidiaries.

#### **Cautionary Note Regarding Forward-Looking Information**

This AIF provides material information about Imperial Metals Corporation and its business, operations and developments for the year ended December 31, 2022, and plans for the future based on facts and circumstances as at March 24, 2023.

Except for statements of historical fact relating to the Company, certain information contained herein constitutes forward-looking information which are prospective in nature and reflect the current views and/or expectations of Imperial. Often, but not always, forward-looking information can be identified by the use of statements such as "plans", "expects" or "does not expect", "is expected", "scheduled", "estimates", "forecasts", "projects", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "should", "would", "might" or "will" be taken, occur or be achieved. Such information includes, without limitation, statements regarding: future impacts of the COVID-19 pandemic; the ability to continue operations in lieu of the COVID-19 pandemic; changes to the Company's business and operations in order to minimize the risks to employees, communities and other stakeholders; the effectiveness of preventative actions put in place by the Company and Newcrest, including measures taken in accordance with Provincial Health Officer orders, to respond to the COVID-19 pandemic as well as to implement a preventative plan for all communicable diseases; potential impact of violations to acts and regulations with respect to the preventative measures; mine plans; plans and timing of current and proposed exploration, drilling and development; production and marketing; capital expenditures; expectations regarding the care, maintenance and rehabilitation activities at Mount Polley and Huckleberry mines; expectations and timing regarding current and future exploration and drilling programs; expectations and timing regarding release of an initial mineral resource estimate; expectations and timing regarding the completion of the Block Cave Feasibility Study; expectations regarding the potential cost and length of life mine of Red Chris; adequacy of funds for projects and liabilities, including the payment of fees related to the guarantee of the Company's Credit Facility (as defined below); expectations relating to the receipt of necessary regulatory permits, approvals or other consents; expectations regarding the Convertible Debentures and the Non-Convertible Debentures including with respect to the interest payable, date of maturity and number of common shares to be issued; outcome and impact of litigation; cash flow; working capital requirements; the requirement for additional funding for capital projects; the ability for the Company to continue as a going concern, including sufficient funding of the Company's obligations as they become due; results and targets of operations, production, revenue, margins and earnings; future prices of copper and gold; future foreign currency exchange rates, including its impact on derivative instruments; future accounting changes; future prices for marketable securities; expectations with respect to declaring cash dividends or distributions on securities; and expectations regarding opportunities and standing with respect to greenfield exploration properties.

Forward-looking information is not based on historical facts, but rather on then current expectations, beliefs, assumptions, estimates and forecasts about the business and the industry and markets in which the Company operates, including, but not limited to, assumptions that: the scope and duration of the COVID-19 pandemic and its impact on our business will not be significant and the Company's operations will be able to return to normal as the COVID-19 pandemic subsides; the Company will have access to capital as required and will be able to fulfill its funding obligations as the Red Chris minority joint venture partner; there are risks related to holding non-majority investment interests in the Red Chris Mine Joint Venture; the Company will be able to advance and complete remaining planned rehabilitation activities within expected timeframes; there will be no significant delay or other material impact on the expected timeframes or costs for completion of rehabilitation of the Mount Polley and Huckleberry mines; the Company's rehabilitation activities at Mount Polley and Huckleberry will be successful in the long term; all required permits, approvals and arrangements to proceed with planned rehabilitation at Huckleberry will be obtained in a timely manner; there will be no material operational delays at the Red Chris and Mount Polley mines; equipment will operate as expected; there will not be significant power outages; there will be no material adverse change in the market price of commodities and exchange rates; and the Red Chris and Mount Polley mines will achieve expected production outcomes (including with respect to mined grades and mill recoveries and access to water as needed). Such statements are qualified in their entirety by the inherent risks and uncertainties surrounding future expectations. We can give no assurance that the forward-looking information will prove to be accurate.

Forward-looking information involves known and unknown risks, uncertainties and other factors which may cause Imperial's actual results, revenues, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the statements constituting forward-looking information. Important risks that could cause Imperial's actual results, revenues, performance or achievements to differ materially from Imperial's expectations include, among other things: the risk that the Company's beneficial interest of the Red Chris mine may be diluted over time should it not have access to capital as required and will not be able to meet its funding obligations as the Red Chris minority joint venture partner; additional financing that may be required may not be available to Imperial on terms acceptable to Imperial or at all; uncertainty regarding the outcome of sample testing and analysis being conducted on the area affected by the Mount Polley Breach (as defined below); risks relating the rehabilitation plan and the Mount Polley long term water management plan; risks relating to the remaining costs and liabilities and any unforeseen longer-term environmental consequences arising from the Mount Polley Breach; uncertainty as to actual timing of completion of rehabilitation activities and the implementation of the Mount Polley long term water management plan; risks relating to the impact of the Mount Polley Breach on Imperial's reputation; risks relating to the timely receipt of necessary approvals and consents to proceed with the rehabilitation plan at Huckleberry; risks relating to mining operations; uncertainty regarding general economic conditions; uncertainty regarding the short-term and long-term impact of the COVID-19 pandemic on the Company's operations and investments and on the global economy and metals prices generally; risks relating to the potential ineffectiveness of the measures taken in response to the COVID-19 pandemic; risks associated with competition within the mining industry; the Company's dependency on third party smelters; risks relating to trade barriers; the quantum of claims, fines and penalties that may become payable by Imperial and the risk that current sources of funds are insufficient to fund liabilities; risks that Imperial will be unsuccessful in defending against any legal claims or potential litigation; risks of protesting activity and other civil disobedience restricting access to the Company's properties; failure of plant, equipment or processes to operate in accordance with specifications or expectations; cost escalation, unavailability of materials and equipment, labour unrest, power outages, and natural phenomena such as weather conditions and water shortages negatively impacting the operation of the Red Chris and Mount Polley mine; changes in commodity and power prices; changes in market demand for our concentrate; risks that the COVID-19 pandemic may adversely affect copper and gold prices, impact our ability to transport or market our concentrate, cause disruptions in our supply chains and create volatility in commodity prices and demand; inaccurate geological and metallurgical assumptions (including with respect to the size, grade and recoverability of mineral reserves and resources); uncertainty relating to mineral resource and mineral reserve estimates; uncertainty relating to production estimates; risks associated with mineral exploration and project development; fluctuations in exchange rates and interest rates; risks associated with permitting and government regulations; environmental and health and safety matters; risks relating to joint venture projects; risks relating to foreign operations; dependence on key management personnel; taxation risk; conflicts of interest; cyber threats; credit risk related to cash, trade or other receivables, and future reclamation deposits; risks relating to the use of derivative contracts and other hazards and risks disclosed within the Management's Discussion & Analysis for the year ended December 31, 2022 and other public filings which are available under the Company's profile on sedar.com. For the reasons set forth above, investors should not place undue reliance on forward-looking information. Imperial does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

## **Date of Information**

Unless otherwise stated, the information within this AIF is for Imperial's financial year ended December 31, 2022.

#### Currency

The reporting currency of the Company is the Canadian ("CDN") Dollar, unless otherwise indicated.

# **Reference for Select Abbreviations**

mm = millimetre	oz = ounces
cm = centimetre	lbs = pounds
m = metre	kg = kilogram
masl = metres above sea level	g = gram
m <sup>3</sup> = cubic metre	g/t = grams per tonne
km = kilometre	t/d = tonnes per day
ha = hectare	kV = kilovolt
M = million	kW = kilowatt
MT = million tonnes	hp = horsepower
ppm = parts per million	SAG = semi autogenous
NAG = non acid generating	QA/QC = Quality Assurance/Quality Control
PAG = potentially acid generating	mRL = metres Relative Level

Provincial BC Ministries:

MFLNRORD = Ministry of Forest, Lands, Natural Resource Operations and Rural Development

MECCS = Ministry of Environment and Climate Change Strategy

MEMLCI = Ministry of Energy, Mines and Low Carbon Innovation

# **Reference for Conversions**

Imperial Measure Conversion to Metric Unit		Metric Unit Conversion to Imperial Measure
2.470 acres	= 1 hectare	0.4047 hectare = 1 acre
3.280 feet	= 1 metre	0.3048 m = 1 foot
0.620 miles	= 1 kilometre	1.6093 kilometre = 1 mile
2.205 pounds	= 1 kilogram	0.4540 kilograms = 1 pound
1.102 (short) tons	= 1 tonne	0.9072 tonnes = 1 ton

#### **Definitions for Mineral Resource & Mineral Reserve Estimates**

#### Resource and Reserve Classifications

This AIF adheres to the resource/reserve definitions and classification criteria developed by the Canadian Institute of Mining and Metallurgy ("CIM"). The CIM Definition Standards on Mineral Resources and Reserves ("CIM Definition Standards") establish definitions and guidance on the definitions for mineral resources, mineral reserves, and mining studies used in Canada. The Mineral Resource, Mineral Reserve, and Mining Study definitions are incorporated by reference into National Instrument 43-101–*Standards of Disclosure for Mineral Projects* ("NI 43-101"). The CIM Definition Standards are summarized below. For additional information refer to *cim.org*.

#### Mineral Resource

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than an Inferred Mineral Resource but has a lower level of confidence.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

#### Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

# Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

# Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

#### Mineral Reserve

Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of modifying factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

#### Probable Mineral Reserve

A Probable Mineral Reserve is the economically mineable part of an Indicated Mineral Resource, and in some circumstances, a Measured Mineral Resource. The confidence in the modifying factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

The Qualified Person (as defined in NI 43-101) may elect, to convert Measured Mineral Resources to Probable Mineral Reserves if the confidence in the modifying factors is lower than that applied to a Proven Mineral Reserve. Probable Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study ("PFS").

#### Proven Mineral Reserve

A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the modifying factors.

Application of the Proven Mineral Reserve category implies the Qualified Person (as defined in NI 43-101) has the highest degree of confidence in the estimate with the consequent expectation in the minds of the readers of the report. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect the potential economic viability of the deposit. Proven Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a PFS. Within the CIM Definition Standards the term Proved Mineral Reserve is an equivalent term to a Proven Mineral Reserve.

#### Mineral Resource & Mineral Reserve Classification

The CIM Definition Standards provide for a direct relationship between Indicated Mineral Resources and Probable Mineral Reserves and between Measured Mineral Resources and Proven Mineral Reserves. In other words, the level of geoscientific confidence for Probable Mineral Reserves is the same as that required for the in situ determination of Indicated Mineral Resources and for Proven Mineral Reserves is the same as that required for the in situ determination determination of Measured Mineral Resources.

# **Company Business & Corporate Structure**

Imperial is a Vancouver based mining company active in the acquisition, exploration, development, mining and production of base and precious metals.

The Company's registered and records office address is Suite 200, 580 Hornby Street, Vancouver, British Columbia, Canada V6C 3B6. Imperial was incorporated under the British Columbia *Company Act*, which was superseded by the British Columbia *Business Corporations Act* (the "BCBCA"), on December 6, 2001 under the name IMI Imperial Metals Inc. Imperial changed its name to Imperial Metals Corporation on April 10, 2002.

Principal Properties	Metals Mined	Mining Method	Location
Mount Polley <sup>(1)</sup>	copper/gold	open pit & underground	British Columbia
Red Chris <sup>(2)</sup>	copper/gold	open pit & underground	British Columbia

<sup>(1)</sup> Mine operations were suspended in May 2019, and the mine restarted operations in late June 2022.

<sup>(2)</sup> Imperial holds 30% interest. Newcrest Mining Limited holds 70% interest and is the project operator.

Principal Subsidiaries	Ownership	Jurisdiction of Incorporation
Red Chris Development Company Ltd.	100% (1)	British Columbia
Mount Polley Mining Corporation	100%	British Columbia
CAT-Gold Corporation	100% (1)	Canada

(1) Imperial owns 100% of CAT-Gold Corporation, which in turn owns 100% of Red Chris Development Company Ltd.

A list of Imperial subsidiaries is provided in Note 16 of the December 31, 2022 financial statements.

#### **Employees**

At December 31, 2022, Imperial and its subsidiaries had 290 employees. The Red Chris mine had approximately 569 employees at year end.

#### **Principal Markets & Distribution**

Copper concentrate produced at the Red Chris mine is trucked to and shipped from the Port of Stewart. Copper concentrate from the Mount Polley mine is trucked to and shipped from the Port of Vancouver. Both concentrates are then shipped via bulk carriers to copper smelters, the majority of which are located in Asia.

Revenue by Product (000's)	2022	2021
Copper	\$109,902	\$94,950
Gold	\$61,518	\$36,098
Silver	\$1,573	\$1,570
Other	\$614	\$973

#### **Competitive Conditions and Cycles**

The Company's business is to produce and sell metal concentrates at prices determined by world markets over which we have no influence or control. These markets are cyclical. Our competitive position is determined by our costs compared to those of other producers throughout the world, and by our ability to maintain our financial capacity through metal price cycles and currency fluctuations. Costs are governed principally by the location, grade and nature of mineral deposits, labour, costs of equipment, fuel, power and other inputs, as well as by operating and management skill. Over the long term, our competitive position will be determined by our ability to locate, acquire and develop economic mineral deposits and replace current production, as well as by our ability to hire and retain skilled employees. In this regard, we also compete with other mining companies for employees, mineral properties, joint venture agreements, capital and the acquisition of investments in other mining companies.

#### **Environmental Protection**

Our current and future operations, including development activities and production on our properties or areas in which we have an interest, are subject to laws and regulations governing protection and remediation of the environment, site reclamation, management of toxic substances and similar matters. Compliance with these laws and regulations can affect the planning, designing, operating, closing and remediating of our mines.

We work to apply technically proven and economically feasible measures to protect the environment throughout exploration, construction, mining, processing and closure. Although we believe that our operations and facilities are currently in substantial compliance in all material respects with all existing laws, regulations and permits, there can be no assurance that additional significant costs will not be incurred to comply with current or future regulations or that liabilities associated with non-compliance will not be incurred.

The Company has recognized provisions for future site reclamation at its Red Chris, Mount Polley, Huckleberry, Ruddock Creek and Catface properties. Although the ultimate amounts of the future site reclamation provisions are uncertain, the provision of these obligations is based on information currently available, including closure plans and applicable regulations. Significant closure activities include land rehabilitation, water treatment, demolition of facilities, monitoring and other costs.

The total undiscounted amount of estimated cash flows required to settle the Company's estimated future closure and decommissioning costs is \$246,945 (December 31, 2021-\$240,524). The estimated future cash flows were then inflated using inflation rate 2.0% (December 31, 2021-1.5% to 2.0%). The total provision for closure and decommissioning costs is calculated using discount rates between 3.28% to 5.28% (December 31, 2021-1.76% to 3.76%). Obligations in the amount of \$129,935 are expected to be settled in the years 2023 through 2052.

#### Specialized Skill and Knowledge

The nature of the Company's business requires specialized skills and knowledge. Such skills and knowledge include the areas of permitting, geology, implementation of exploration programs, operations, treasury and accounting. To date, Imperial has been successful in locating and retaining employees and consultants with such skills and knowledge and believes it will continue to be able to do so.

There are material risks that could cause actual results to differ materially from our current expectations. The risks associated with our business, include those related to, but are not limited to: risks associated with the rehabilitation activities from the Mount Polley Breach; risks inherent in the mining and metals business; commodity price fluctuations and the effects of hedging; general economic conditions; sale of products and future market access; risks resulting from the global COVID-19 pandemic; availability and cost of key inputs; competition for mining properties; reliance on third parties; risks associated with trade barriers; mineral reserves and resource estimates; production estimates; exploration and development; risks resulting from replacement and expansion of mineral resources and reserves; depletion of mineral reserves; risks inherent to future discoveries or acquisition of mineral resources; generating sufficient cash flow; currency fluctuations; interest rate risks; exchange rate risks; financing risks; the risk that further advances may not be available under credit facilities; risks associated with maintaining substantial levels of indebtedness, including potential financial constraints on operations; regulatory and permitting risks; environmental risks; joint venture risks; foreign activity risks; regulatory, legal and other proceedings; challenges to title of mineral rights or surface rights; infrastructure risks; dependence on key management personnel; taxation risks; repatriating funds from foreign subsidiaries; conflicts of interest; reclamation risks; asset risks; cybersecurity risks; use of price risk management contracts; and accounting risks and other risks and uncertainties. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also impair our business operations. If any of these events actually occur our business, prospects, financial condition, cash flows and operating results could be materially harmed. Full disclosure of the Company's Risk Factors is provided in the December 31, 2022 Management's Discussion & Analysis available under Imperial's profile on sedar.com or on the Imperial website imperialmetals.com.

# **General Development & Outlook**

#### **Corporate General**

On October 2, 2019, the Company entered into a one year \$50 million revolving credit facility ("Credit Facility"). The Credit Facility is used to support letters of credit relating to future reclamation liabilities and general corporate purposes.

The \$50.0 million Credit Facility was due in October 2020 but was extended into October 2021. The facility is secured by shares of all material subsidiaries and a floating charge on certain assets of the Company.

With the exception of the advent of the COVID-19 pandemic in early 2020, there were no significant developments during 2020 which had an influence on the Company's general business.

Mining was declared an essential service in British Columbia in early 2020, and the Company implemented measures to reduce and mitigate the risk to employees, operations and projects. The continuing impact of COVID-19 to travel and other operating restrictions established to curb the spread of COVID-19, could materially and adversely impact the Company's current plans by causing a temporary closure of the Red Chris mine, suspending planned exploration work, causing an economic slowdown resulting in a decrease in the demand for copper and gold, negatively impacting copper and gold prices, impacting the Company's ability to transport or market the Company's concentrate or causing disruptions in the Company's supply chains.

On February 10, 2021, the Company reported that construction had commenced on the portal site for an exploration decline into the deep East zone at Red Chris mine. The Red Chris Joint Venture between Newcrest and the Company (the "Red Chris Joint Venture") approved \$135.0 million (on a 100% basis) of funding for the construction of the exploration decline and associated infrastructure and permitting costs.

On March 10, 2021, the Company entered into a \$10.0 million promissory note financing ("Note") with an affiliate of its major shareholder. The Note matures on April 1, 2022 and bears interest of 8.0% per annum. The Note was fully repaid on June 28, 2021, prior to its maturity date.

On March 15, 2021, the Company acquired a 30% interest in the GJ Property for a payment of \$3.0 million to Newcrest Red Chris Mining Limited.

On March 30, 2021, the Red Chris Mineral Resource update was released, and it is a key input into the PFS which had been initiated on the development of a high margin underground block cave mine at Red Chris.

On April 27, 2021, the Company announced a Normal Course Issuer Bid to provide for purchases of its common shares in the capital of Imperial (the "Common Shares") to satisfy its obligations under the Non-Management Directors' Plan and the Share Purchase Plan.

On June 25, 2021, the Company completed a rights offering pursuant to which it issued a total of 12,853,267 Common Shares at a price \$4.70 per Common Share for gross proceeds of approximately \$60.4 million (the "2021 Rights Offering"). The Company issued a total of 10,992,281 Common Shares under basic subscription privileges in the 2021 Rights Offering and a total of 1,860,986 Common Shares under additional subscription privileges.

On July 2, 2021, the Red Chris Joint Venture received a Notice of Proposed Transfer and Right of First Refusal Offer regarding the sale of an existing 1% Net Smelter Returns Royalty in consideration of US\$165.0 million. The Right of First Refusal was not exercised by the Red Chris Joint Venture.

On July 8, 2021, the Company acquired 100% interest in the Ruddock Creek high grade zinc-lead project by purchasing the remaining 54.72% interest held by its previous joint venture partners.

On July 15, 2021, the Company's subsidiary, Huckleberry Mines Ltd., purchased five mineral tenures from ArcWest Exploration Inc. ("ArcWest"). The claims cover 2,526 ha and are located north of the Huckleberry Mine mining lease. Consideration payable was \$50,000 cash and the granting to ArcWest a 1% Net Smelter Returns Royalty.

On July 26, 2021, the Company granted PJX Resources Inc. ("PJX") a five-year option to acquire 100% interest in the Estella Property located northeast of Cranbrook, B.C. The property consists of 14 Crown granted mineral claims covering approximately 224 hectares. Consideration payable to Imperial are staged payments totalling \$250,000 and the granting to PJX of a 2% Net Smelter Returns Royalty.

On October 11, 2021, the Company reported highlights of the Red Chris Block Cave PFS. With the completion of the PFS, the Operator has approved preparation of a Feasibility Study which is expected to be completed in the first half 2023. On November 29, 2021, the NI 43-101 Technical Report for Red Chris was filed.

On October 20, 2021, the Company received notice that the binding arbitration of the claim from a contractor filed in June 2020 was completed. The arbitrator's partial final award dismissed all of the contractor's claims and found the contractor liable for numerous misrepresentations and for overbilling. Contractor went bankrupt and the Company was unable to realize any payment for damages.

On October 29, 2021, the existing Credit Facility was increased from \$50.0 million to \$75.0 million maturing October 9, 2022. The increase of \$25.0 million in the facility is guaranteed by an affiliate of the Company's major shareholder, to which the Company will pay certain fees for providing the guarantee.

On December 7, 2021, the Company acquired four mineral claims adjacent to the Sustut property totalling 6,834.47 ha from Freeport-McMoRan Mineral Properties Canada Inc. for the consideration of claim assessment work expenditures and a 0.5% Net Smelter Return Royalty.

On January 19, 2022, the Company reached an agreement with the Province of British Columbia for the surrender of Giant Copper mineral claims located 37 km east of Hope, BC, Canada and received a cash consideration of \$24.0 million.

On February 28, 2022, the Company increased its existing Credit Facility from \$75.0 million to \$100.0 million. This additional increase of \$25.0 million in the facility was guaranteed by a related party.

On March 31, 2022, the Company increased its existing Credit Facility from \$100.0 million to \$125.0 million. This additional increase of \$25.0 million in the facility was guaranteed by a related party.

On April 27, 2022, the Company announced a Normal Course Issuer Bid to provide for purchases of its Common Shares to satisfy its obligations under the Non-Management Directors' Plan and the Share Purchase Plan.

On June 24, 2022, the Company completed a rights offering pursuant to which it issued a total of 13,475,400 Common Shares at \$3.04 per share for gross proceeds of approximately \$41.0 million (the "2022 Rights Offering"). The Company issued a total of 9,948,611 Common Shares under basic subscription privileges in the 2022 Rights Offering and a total of 3,526,789 Common Shares under additional subscription privileges.

On August 31, 2022, the Company completed a non-brokered private placement of \$47.0 million aggregate principal amount of convertible debentures. N. Murray Edwards ("Edwards"), a significant shareholder of the Company, purchased \$32.5 million of the convertible debentures and directors and officers of the Company purchased \$2.25 million of the convertible debentures.

On September 20, 2022, the Company acquired a 30% beneficial interest in the McBride, Railway and Todagin claims for a payment of \$362,487 to Newcrest Red Chris Mining Limited. These 37 claims formerly held by Hawkeye Gold & Diamond Inc. now form part of the Red Chris Mine Joint Venture.

On December 28, 2022, the Company completed a non-brokered private placement (the "Non-Convertible Debentures Private Placement") of \$53.0 million aggregate principal amount of unsecured non-convertible debentures (the "Non-Convertible Debentures"). The Company issued Non-Convertible Debentures of an aggregate principal amount of \$48,450,000 (the "A Debentures"). In connection with the issuance of the A Debentures, the Company issued 6,056,250 common share purchase warrants which are exercisable into Common Shares of the Company at a price of \$2.10 per share. The Company also issued Non-Convertible Debentures of an aggregate principal amount of \$4.6 million (the "B Debentures"). Edwards purchased \$35.45 million of the A Debentures and \$4.55 million of the B Debentures, and as part of the purchase of the A Debentures received 4,431,250 warrants and directors and officers of the Company purchased \$1.57 million of the A Debentures and as part of the A Debentures and as part of the A Debentures.

Subsequent to December 31, 2022, the Company reported the following:

- On January 9, 2023, the Company extended its Credit Facility, which had a maturity date of December 9, 2022, to February 28, 2023.
- On January 31, 2023, the Company entered into a settlement agreement (the "Settlement Agreement") to settle the securities class action that was filed in 2014. The Settlement Agreement has been reviewed and approved by the Court and is in the process of implementation.
- On February 21, 2023, the Company extended its Credit Facility to February 21, 2024.
- On March 1, 2023 issued unsecured non-convertible debentures, with an aggregate principal amount of \$29,125,000 in a non-brokered private placement basis. Edwards purchased \$22 million of the debentures and directors and officers of the Company purchased \$1,125,000 of the debentures.

# Outlook

The Company's plans for 2023 and beyond could continue to be impacted by the effects of the COVID-19 pandemic.

At Red Chris, the operator provided metals production guidance (100%) for Red Chris mine, for the period July 1, 2022, to June 30, 2023 (period conforms to the operator's June 30 annual year end), at approximately 60 million pounds copper and approximately 40,000 ounces gold.

The Company will need to conclude further financing arrangements to fund its share of cost of the ongoing development of a block cave mine at Red Chris.

At Mount Polley, production targets for 2023 are between 30-33 million pounds of copper and 35-40 thousand ounces of gold. Imperial maintains a large portfolio of greenfield exploration properties in British Columbia. These properties have defined areas of mineralization and exploration potential. Management continues to evaluate various opportunities to advance many of these properties.

Exploration for 2023 will be focused on Red Chris, with 50,000 metres of drilling planned and continuing development of the exploration decline to provide access for underground exploration planned at Red Chris.

Diamond drilling began in February at Mount Polley on targets located between the Cariboo and Springer pits. Currently five holes are planned, drilling to an approximate depth of 500m. In conjunction with the diamond drilling, a trenching program was completed 2.4 km southeast of the mill, on copper mineralization that was uncovered during a geotechnical investigation.

At Huckleberry, in 2022 ground truthing was conducted on the high priority targets generated by the property wide airborne ZTEM and Aeromagnetic survey that was completed in 2021. Diamond drilling priority targets is planned for the 2023 field season.

#### **Operations | Red Chris Mine**

The Company owns a 30% interest in the Red Chris copper/gold property in northwest British Columbia through its unincorporated joint venture with Newcrest, finalized in August, 2019. The Red Chris property was originally acquired in April 2007 by Red Chris Development Company Ltd. ("RCDC"), a wholly owned subsidiary of the Company.

RCDC conducted exploration from 2007 through May 2012. Construction of the 30,000 t/d mill processing plant began in mid-2012 and was completed in early 2015. The mine achieved commercial production from open pit mining in July 2015. RCDC was operator of the Red Chris mine.

RCDC initiated preliminary engineering studies to determine the optimum method to mine the deep resource below the designed pits. Based on this work, Golder Associates were engaged to develop a plan to mine the deep resource using block cave methods. A preliminary economic assessment of the block cave mining potential, incorporating geotechnical data gathered from earlier diamond drill hole programs, was completed by the end of 2018.

On August 15, 2019, Newcrest Red Chris Mining Ltd. ("NRCML"), a subsidiary of Newcrest, acquired a 70% interest in the Red Chris mine. RCDC and NRCML formed Newcrest Red Chris joint venture ("NRCJV"), with NRCML acting as the operator of the mine. The NRCJV is expected to bring significant value by leveraging Newcrest's unique technical expertise in block caving operations.

In late 2019, two drill programs were initiated by NRCML. The East Zone Resource Definition Program, designed to obtain geological, geotechnical, and metallurgical data to support future studies for underground block cave mining, and the Brownfields Exploration Program to search for additional zones of higher-grade mineralization within the Red Chris porphyry corridor. On the operation side, NRCML commenced mine and processing plant optimization.

In early 2020 with the advent of the COVID-19 pandemic, mining was declared an essential service in British Columbia. NRCML implemented measures that met or exceeded Canadian and provincial requirements. The Tahltan Central Government, Iskut First Nation and Tahltan Band agreed with NRCML's implementation of measures which proactively protect and support communities and enable Tahltan members to support their families and communities, helping Red Chris to continue to operate during the COVID-19 pandemic. Measures included changing the employee roster to provide for longer on/off-site periods to decrease the amount of travel required and enable First Nation employees increased time to self-isolate before returning to their local communities. Mine management continued to closely monitor and respond to developments relating to COVID-19 through 2021 and 2022. This included regular reviews of risk controls, and improvements focusing on spread containment, contact tracing and isolation procedures. Health and safety protocols for mine personnel were continually adjusted as deemed appropriate.

Several initiatives were implemented by NRCML in 2020 to improve efficiencies across the site, including optimization of haul road conditions and dumping locations to reduce truck cycle times, introduction of *just in time fueling* to increase operating time, installation of a dispatch system in the mine, and the fitting of lighter weight boxes on CAT 793 haul trucks to increase capacity. Six new launders were installed in the mill in 2020, designed to increase the mass pull in the rougher circuit and lead to increased recovery of copper and gold. The installation of additional cleaner flotation capacity was begun to further increase metal recoveries.

Metallurgical test work completed in 2021 confirmed that a conventional processing flowsheet incorporating crushing, grinding, flotation and concentrate dewatering was suitable for ore from the planned block cave. In the mine concentrator, an additional cleaner column cell was commissioned in June with early results showing improved gold recovery.

Construction of a portal site for an exploration decline into the deep East Zone commenced in early 2021, with completion of the box cut in June and the subsequent start of underground development on June 25. By the end of 2021 the decline had advanced 652 metres. Decline construction included access for underground drilling stations to provide more detailed geological and geotechnical information on the initial block cave design, and for other exploration targets.

In October 2021, NRCML released the positive results of the PFS, which began in June 2020, confirming Red Chris as a Tier 1 asset with the potential to become a long life, low cost mine, and approving progression of the Block Cave project to the Feasibility Stage. This was followed in November 2021 by the release of a NI 43-101 technical report with updated reserve and resource estimations for Red Chris (excluding East Ridge exploration target which is still

being explored). A final, positive decision to develop a block cave mine at the East Zone is still subject to the successful completion of the exploration program, further studies, all necessary approvals, regulatory requirements, and favorable market and operating conditions.

Drilling continues at East Ridge with two underground and two surface drill rigs operating. Further diamond drilling is planned to test and close out the target mineralization. This program is expected to be completed by the second quarter of 2023, and an initial mineral resource estimate for this zone is expected to be available for release by the third quarter of 2023.

Block Cave development continues with the exploration decline at 2,731 metres as of February 8, 2023, and the first ventilation raise bore was completed in February 2023.

The Block Cave Feasibility Study is now expected to be completed in the second half of 2023 to allow optimization opportunities to be evaluated and further defined, with no impact to the project development timeline expected. Inflation and global supply chain interruptions continue to be assessed as part of the Feasibility Study and value engineering is underway with the objective to offset inflationary cost pressures.

# **Operations | Mount Polley Mine**

Mount Polley Mining Corporation ("MPMC") is owner/operator of the Mount Polley copper-gold mine in southcentral British Columbia. In January 2019, following a lengthy sustained period of declining copper prices, the Company announced operations would be suspended. The mine was placed on care and maintenance status at the end of May 2019.

Legal action for damages arising from the August 2014 Mount Polley Breach were settled among all parties to the action in November 2018, in consideration of net payments to the Company totaling approximately \$108.0 million. The settlement represents compromises of disputed claims and does not constitute an admission of liability on the part of any party to the action.

On September 12, 2019, Pollution Abatement Order 107461 ("PAO") issued by the Ministry of Environment, now the Ministry of Environment and Climate Change Strategy ("MECCS"), dated August 5, 2014 under Section 83 of the British Columbia Environmental Management Act was cancelled when MECCS deemed all PAO requirements had been complied with, including MECCS's acceptance of the final remediation plan.

Rehabilitation of terrestrial and aquatic zones informed by ongoing detailed site investigation, risk assessments and environmental monitoring, is ongoing and in cooperation with regulatory authorities, First Nations and the local communities.

During 2019, an exploration program was conducted. The Frypan/Morehead is a largely till covered magnetic high which has a similar magnetic response to that obtained over the Mount Polley mine host rock of monzonite and hydrothermally altered monzonite breccia pipes. The area is located west and north of the mine and is approximately 3x3 km in size. There were 948 soil samples collected and analyzed using the Mobile Metal Ion (MMI) technique. SJ Geophysics also completed an 80.7 line km Volterra-3D Induced Polarization (IP) survey covering the same grid area. Numerous, high priority targets were outlined for future testing.

In 2020, MPMC acquired an option to earn a 100% interest in seven mineral claims (3,331 ha) adjacent to the mine. Three target settings occur within the optioned claims and adjacent Mount Polley claims, including a potential northern projection of the high-grade Quarry zone beneath a post-mineral conglomerate unit, a partially tested glacial till covered area where regional magnetics suggests a faulted offset of the Mount Polley Intrusive complex, which hosts the Mount Polley orebodies, is present and a till covered prospective area immediately east of the Southeast Zone. A deep looking IP survey, along with a soil sampling program, was completed over the optioned claims. A similar IP survey was conducted over the Mount Polley mine site to identify the geophysical response of the known mineralization to aid in prioritizing targets on the Frypan/Morehead area. The survey consisted of 81.5 line km and was successful in delineating the known mineralization, as well as outlining several new un-tested areas in the vicinity of the mine.

Drill programs were planned to test the targets outlined on the optioned claims and to expand the copper and gold resource near historic deposits, with a focus on gold rich zones. The drill program set out to improve drill hole data density of mineralization near the historic mining areas where the use of underground mining is being considered,

The WX Zone is the most recent major discovery (2009) at Mount Polley. Located south of the Springer Pit, it is noted for its high gold grades and high gold/copper ratio mineralization. Drill hole WX-20-78 was designed test and confirm the continuity of the mineralization in an area of proposed underground mining. Drilled down the plunge, this hole served to confirm the continuity of this modelled higher grade target within the WX Zone.

The C2 Zone is located south of the Cariboo Pit. Two holes were drilled to test a zone of higher gold grade along the Polley fault at depth. Historic drilling in this zone yielded an intercept of 55 metres grading 2.14 g/t gold and 1.19% copper in drill hole C2-11-97. Both holes were successful in extending this lower gold zone.

Drill hole SD-20-162 was designed to fill a gap in drilling on the eastern side of the target area beneath the Springer Pit. The Springer Zone contains most of the reserves in the current open pit mine plan. Historic drilling beneath the currently planned Springer Pit confirmed the mineralization continues for at least 250 metres below the pit bottom.

The Trio Creek target area is located north and northwest of the mine. This area is covered by glacial till with limited bedrock exposure. Using new geophysical and geochemical anomalies outlined by recent surveys, the goal was to gain an understanding of the geological system. Drill holes TC-20-01 and TC-20-02 were designed to test new anomalies north and west of the mine. The targeted areas feature favorable geophysics that match the geophysical fingerprint of the Mount Polley mineralized host rock. Drill holes TC-20-01 and TC-20-02 have defined a clear extension to the north of similar geology and associated hydrothermal alteration zones to that which hosts the mineralization at Mount Polley. Additional exploration is planned to further define the targets located in this area.

The 2021 exploration program included the acquisition of high density ground magnetic data over top of high priority areas within the mine site and areas immediately to the north. This ground magnetic survey was successful in providing high resolution magnetic data overtop of high priority targets located north of the Junction Zone, north of the old Bell Pit, west of the Wight Pit, adjacent to Polley Lake and south of the South East Rock Dump. The ground magnetic data has highlighted many magnetic anomalies around the property that have a similar geophysical signature as the known mineralization found at Mount Polley. Several more magnetic surveys have been planned to cover areas where data and exploration is limited. Additional exploration is planned to further define the anomalies derived from the ground magnetic surveys.

Through 2019 into 2021, site personnel continued to maintain access, fire watch, manage collection, treatment and discharge of site contact water, and actively monitor the tailings storage facility. In the fourth quarter of 2021, MPMC took the initial steps towards recommencement of operations at the Mount Polley mine. Stripping operations began to enable milling operations to restart in 2022. Mechanical and electrical contractors began on refurbishing the plant, including work on the tailings slurry and reclaim water pipelines and pumps, crushers, conveyors, screens, grinding mills, flotation and plant water systems. The crushing plant was commissioned by year end providing crush material for winter road maintenance.

Operations at Mount Polley in 2022 achieved the following:

- The total material moved was 1,630,695 tonnes versus 2,612,384 tonnes scheduled in the 2022 budget.
- Mobile equipment maintenance availability was generally at or above target level.
- The reconciled mill feed was 365,097 tonnes @ 0.223% copper and 0.348 g/t gold with an oxide copper ratio of 8.7%.
- Concentrate production was 2,474 tonnes @ 21.4% copper and 30.8 g/t gold.

COVID-19 has impacted mine restart with excess absenteeism, delays in deliveries of key items.

During January 2023, 510,935 tonnes were processed. Metal production was 2.3 million pounds of copper and 3,326 ounces of gold. Copper recovery averaged 81% and gold recovery was 68% from grades averaging 0.257% copper and 0.294 g/t gold.

The 2023 production target for Mount Polley is 30-33 million pounds copper and 35-40 thousand ounces gold.

The plans for 2023 include continuous improvement in the plant of availability, recovery and throughput. Mining operations will focus on mining the Springer phase 4 Pit and the tailings that were deposited in the Springer Pit in 2015 and 2016. Also in 2023, work on permitting several items, including; co-disposal of tailings and NAG rock removed from the Springer Pit and deposited in the Southeast Rock Disposal site (SERDS), Springer Pit expansion –

# **Material Properties**

For the purposes of this AIF, the Company has identified the Red Chris Mine and the Mount Polley Mine as material properties.

# Mineral Property | Red Chris Mine

The RED CHRIS OPERATIONS, BRITISH COLUMBIA, CANADA NI 43-101 Technical Report, ("2021 Red Chris Report") with an effective date of June 30, 2021, was filed November 29, 2021 on sedar.com. Updated Mineral Resource and Mineral Reserve Estimates are in Newcrest's Annual Information Form filed December 13, 2022 on sedar.com.

#### **Description, Location & Access**

Red Chris mine is located in northwest British Columbia, 18 km southeast of Iskut and 80 km south of Dease Lake. Road access to the property from Highway 37 is via an 18 km gravel road. Power is accessed via a 16 km 287 kV power line from the Tatogga substation. Mining and milling operations proceed year-round. Elevations range from 1,100 masl to 1,550 masl.

The Town of Smithers and the City of Terrace are the closest supply centres. Commercial aircraft service the Dease Lake airport located 118 km north by road from the mine site along Highway 37. Stewart is the nearest port with ship loading facilities a distance of 320 km (by road) from the Red Chris property.

The mine operates as a fly-in/fly-out site with the majority of employees on a two-week rotation. Chartered aircraft fly employees to the Dease Lake airstrip from where they are transported by bus to the mine site.

RCDC owns a 30% beneficial interest in the Red Chris mine, following the August 15, 2019 sale of a 70% interest to NRCML. RCDC and NRCML have formed a joint venture for the operation of Red Chris, with NRCML acting as operator ("the Operator").

The Red Chris Joint Venture property comprises the Red Chris Main Red Chris South, GJ Property and Hawkeye claim groups, and consists of 204 mineral tenures that cover a total area of 71,875 ha. All mineral tenures are issued in accordance with the *Mineral Tenure Act* of British Columbia. The Red Chris Main claim group consists of 51 mineral tenures covering 17,149 ha, five of which are 30-year mining leases with terms valid until June 20, 2042 that cover 5,141 ha in addition to 46 mineral claims (one valid until January 21, 2024, two valid to March 12, 2027 and 43 valid to October 31, 2027) encompassing 12,008 ha.

The five mining leases and 31 mineral claims at the property are subject to a net smelter return royalty held by the Tahltan Central Government. Annual advance royalty payments commenced in October 2016. All or portions of four of the mining leases and 19 mineral claims are also subject to a 1.0% net smelter return royalty held by International Royalty Corporation, who acquired the royalty from Glencore Canada Corporation in August 2021. A right of first refusal is retained by NRCML on any further disposition of the net smelter royalty by International Royalty Corporation.

The Red Chris South claim group comprises 29 mineral tenures (two valid to March 9, 2024, one valid to March 12, 2027 and 26 valid until November 11, 2027) covering 7,068 ha. It was subject to a 1.5% net smelter return royalty held by Canada Carbon Inc.; however, in August 2020 the royalty was acquired by NRCML on behalf of the NRCJV and extinguished.

March 15, 2021, Imperial acquired from NRCML a 30% interest in the GJ Property located approximately 30 km westsouthwest of the Red Chris Mine. The property has been incorporated into the Red Chris Joint Venture and consists of 87 mineral tenures (85 valid to March 17, 2027 and two valid to October 31, 2027) covering 39,432 ha. The claims are subject to net smelter return royalties in favour of Teck Resources Limited amounting to 0.51% on 14 claims and 1.02% on 66 claims; and in favour of TF R&S Canada Ltd. amounting to 0.49% on 14 claims and 0.98% on 66 claims.

On September 20, 2022, Imperial acquired from NRCML a 30% interest in the McBride, Railway and Todagin claims located 14 km north, 18 km north and 21 km southwest respectively of the Red Chris Mine. The three claim blocks have been incorporated into the Red Chris Joint Venture and consist of 37 mineral tenures (one valid to January 28, 2026, six valid to October 31, 2027 and 30 valid to November 30, 2027) covering 8,225 ha. The claims are subject to a net smelter returns royalty of 2% in favour of Hawkeye Gold & Diamond Inc., the vendor of the three claim blocks.





Imperial Metals Corporation | 2022 Annual Information Form

## **Permitting & Environment Management**

All phases of mining and reclamation are authorized and/or regulated by the Province of British Columbia and the Federal Government of Canada. Mine operations are primarily authorized and regulated under the British Columbia *Environmental Management Act* (*"EMA"*) and the *Mines Act*, both as administered by the MECCS and the Ministry of Energy, Mines and Low Carbon Innovation (*"MEMLCI"*), respectively.

Mine operations and supplementary activities are also authorized and/or regulated under legislation such as the British Columbia *Water Sustainability Act*, implemented by the Ministry of Forest, Lands, Natural Resource Operations and Rural Development ("MFLNRORD"). A summary of permits is below.

Ministry	Authorization	Purpose	Permit	First Issued	Notes
MEMLCI	<i>Mines Act</i> Permit Approving Mining and Reclamation Program	Mining activities	M-240	May 2012	An amendment related to the Pre-Production Phase of the Block Cave Project is in progress.
MECCS	Environmental Management Act Effluent Discharge Permit	Authorizes discharge to the TIA, non-point source discharges and sediment control pond discharges	105017	September 2013	Amended July 2022 as part of ENV's effectiveness review and modernization and to reflect site operations.
MECCS	Environmental Management Act Municipal Wastewater Regulation Registration	Authorizes discharge of waste to the environment from the wastewater facility pursuant to meeting conditions and requirements of the Municipal Wastewater Regulation	106004	August 2012	Wastewater facility to service camp and office facilities.
MECCS	Environmental Management Act Air Discharge Permit	Authorizes discharge of ash to ground and air contaminants to the air	106668	June 2013	Amended September 2022 as part of ENV's effectiveness review and modernization and to reflect site operations.
Ministry of Forests	Road Use Permit	Mine access road	S25481	June 2012	Construction and maintenance of roads and bridges.
Northern Health	Permit to Operate a Drinking Water System	Potable water system		August 2019	Permit revised August 2021 and includes a drinking water system with 2-14 connections for the mine camp water system.

In 2016, the Red Chris mine received approval to amend the *EMA* Permit 105017 and *Mines Act* Permit M-240 to authorize construction and operation of the South Reclaim Dam and South Dam for the TIA. Red Chris received permission to build the South Reclaim Dam in July 2016, and permission to build the South Dam in August 2016; construction of both dams began mid-2016. The *Mines Act* Permit M-240 amendment approving the operation of the raised Temporary Saddle Dam was received in January 2017; the South Dam operation amendment was issued in February 2017, and the PAG Tailings Deposition in South Basin was approved in August 2017.

Federal authorizations for the installation of a bridge on Highway 37 at Snapper Creek were received in July 2016.

- Schedule 2 Amendment under the federal Fisheries Act ("Fisheries Act"), and
- Department of Fisheries and Oceans Canada *Fisheries Act 35(2)(b)* Authorization.

The bridge at Snapper Creek creates fish habitat by removal of culverts that were access barriers to fish. This project is to offset impacts to fish and fish habitat resulting from the construction of the South Dam. The Snapper Creek

Bridge installation was completed in 2017, and the bridge has been in use since mid-October 2017. Monitoring of the remediated fish habitat is ongoing according to the offsetting commitments.

The British Columbia Environmental Assessment Certificate was amended in 2016 to accommodate design changes to the South Dam recommended by the Engineer of Record for the TIA (the "Tailings Impoundment Area") after extensive hydrogeology and geotechnical investigations. The design changes included an upstream geomembrane liner, sand and gravel construction and downstream buttress. This BC Environmental Assessment Certificate process is aligned with the regulatory permitting through the Mine Development Review Committee.

Environmental monitoring programs at the Red Chris mine continue as required under authorizations from the MECCS and the MEMLCI. Such programs include monitoring of surface water (streams, lakes, and diversions), groundwater, seepage and hydrometric data. RCDC is committed to the future reclamation of the site and has been stockpiling soil recovered from the plant site, mine, rock storage areas and TIA.

The Red Chris Monitoring Committee ("RCMC") is a requirement of *Mines Act* Permit M-240. The RCMC is chaired by representatives from RCDC and the Tahltan Nation. The committee includes members from the MECCS, the MEMLCI and the MFLNRORD.

In conjunction with the RCMC, the Environmental Oversight Committee has been established under the Red Chris Impact Benefit and Co-Management Agreement. The Environmental Oversight Committee is a forum for dialogue between RCDC, the Tahltan Central Government and Tahltan Nation representatives, and the committee's terms of reference lay out environmental management mechanisms for the committee relating to:

- the Environmental Management System,
- Red Chris project's environmental compliance, monitoring and performance,
- all Red Chris project-related environmental information and recommendations concerning environmental matters,
- Federal and Provincial Permit applications, and
- environmental monitoring programs.

# **Red Chris History**

The first recorded exploration on the property now known as Red Chris was in 1956 when Conwest Exploration Limited examined copper showings on the Todagin plateau. In 1968 Great Plains Development Co. of Canada staked the Chris and Money claims and subsequently completed geological, geochemical and geophysical surveys. In 1970 Silver Standard Mines Ltd. staked the Red and Sus claims to the north and east of the Chris claim group, and followed up in 1971 with mapping, soil surveys and trenching. In 1973 Ecstall Mining Limited (which later became Texasgulf Canada Limited ("Texasgulf")) optioned the Silver Standard claims and drilled 14 percussion holes, intersecting low grade copper mineralization. In 1974 Texasgulf acquired an option on 60% of the combined Red and Chris groups of claims and initiated a major program from 1974-1976 comprising 67 diamond drill holes and 30 percussion holes. From 1978 to 1980, Texasgulf drilled seven holes and completed property-wide geological, geochemical and geophysical surveys, resulting in the delineation of the Red stock and within it the Main and East Zones of quartz-stockwork hosted mineralization.

No exploration was conducted from 1981 to 1994.

In 1994, a series of corporate takeovers and reorganizations resulted in the ownership of the property divided amongst Falconbridge (60%), Norcen Energy (20%), and Teck Corporation (20%). American Bullion Minerals Ltd. ("ABML") acquired an 80% interest in early 1994, with Teck Corporation retaining their 20%. In 1994 and 1995, ABML completed mineral claim staking, comprehensive geochemical and geophysical surveys, and diamond drilling totaling 58,187 m over 170 holes. Significant near-surface copper-gold mineralization was also discovered in the Gully and Far West Zones.

In 2003, Red Chris was under the control of bcMetals Corporation ("bcMetals"). bcMetals drilled 49 holes over 16,591 m and updated the measured, indicated, and inferred resources early in 2004 (ref: NI 43-101 Technical Report on the Red Chris Copper-Gold Project, filed by bcMetals December 16, 2004). Subsequent infill drilling of 25 holes over 6,927 m resulted in the re-modelling of the Main and East Zones as a single unit, incorporated into the feasibility study completed by AMEC Americas Ltd. Exploration in 2006 consisted of 14 drill holes (4,679 m) over the reserve and in the Gully Zone, and additional drilling required under the terms of a joint venture agreement between bcMetals and Global International Jiangxi Copper Company Ltd., which had previously been announced for the development of Red Chris.

In mid-2006, the Company launched a takeover bid for Red Chris which was successfully completed in the acquisition of bcMetals in April 2007 at a cost of \$68.6 million, which was funded from cash on hand and a \$40.0 million short term loan facility.

Historical exploration at Red Chris by previous operators focused on establishing open-pit mineable reserves above a depth of approximately 400 metres. The Company's strategy now was to explore for mineral potential below the planned pit for longer term mine planning. Beginning in 2007, the Company established the vertical extent and strength of the system with deep drilling exploration programs (total approximately 102,000 metres drilled over 91 holes through 2018) primarily in the East and Main Zones, leading to a redesigned block model and a new reserve calculation in 2012. Several geophysical surveys were undertaken during the period for regional assessment. Camp and road infrastructure were upgraded. Exploration was suspended in May 2012 to allow for mine construction, which was completed in early 2015. Commercial production was achieved in July, with RCDC as operator. A 2016 review by Golder Associates of the potential for utilizing block cave methods to mine the deep East Zone resource led to preliminary engineering studies and geotechnical and metallurgical assessments through 2018, which supported block cave mining as the optimal method.

Effective August 15, 2019, Red Chris mine operations were under NRCML, with the Company holding a 30% interest through RCDC, and NRCML holding a 70% interest. Subsequently in 2019, NRCML initiated two drill programs. The East Zone Resource Definition Program was designed to obtain geological, geotechnical and metallurgical data to support future studies for underground block cave mining, and the Brownfields Exploration Program which was designed to search for additional zones of higher grade mineralization within the Red Chris porphyry corridor. By late 2019, six diamond drill rigs were deployed; approximately 17,000 metres were drilled in 20 holes completed or partially completed at year end.

During 2020, the focus was on the Brownfields Exploration program with drilling across the East Zone, Main Zone and Gully Zone, following up on historic drilling information along a 3-km trend of copper-gold mineralization which could expand the mining potential. Results from the East Zone continued to confirm the footprint of the western high-grade pod. Drilling showed the potential for additional high-grade mineralization south of the South Boundary Fault, which historically had been assumed to define the southern extent of mineralization. Drilling between the Main Zone and the Gully Zone intersected a new zone of higher grade mineralization approximately 100 m west of the Main Zone Pit. Late in the year, deep drilling several hundred metres east of the East Zone Pit and south of the South Boundary fault confirmed mineralization found by Imperial in 2011 in an isolated drill hole. This new target was named the East Ridge Zone.

Geophysics programs in 2020 included a property wide airborne electro-magnetic and gravity survey, and a high resolution airborne magnetics survey conducted over a portion of the property to provide complete coverage. These programs aim to generate drill targets across the entire claim package.

Drilling in 2021 utilized up to 8 diamond drill rigs (total 98,522 metres drilled over 96 holes, exploration and geotechnical). In the Brownfields Exploration program (total 77,371 metres over 65 holes) the new East Ridge Zone was confirmed in the first hole (RC678, intersecting 198 metres grading 0.89 g/t gold and 0.83% copper from 800 metres). Further drilling explored the East Ridge systematically from west to east with angle holes to delineate the vertical height and width of the mineralized porphyries as well as to trace continuity along the trend.

The 2021 exploration program also included infill drilling in the East Zone (4,441 metres over 3 holes) for improved definition of deep high-grade mineralization in the planned block cave. Geotechnical drilling continued as part of the East Zone Resource Definition Program (20,369 metres over 19 holes) aimed at improving grade and geological controls in high-grade pods for feasibility. Drilling in the Main Zone in 2021 (11,687 metres over 13 holes) followed up on historic results southwest of the Main Zone Pit and confirmed the potential to outline additional copper-gold zones beyond the limits of the designed open pit.

# **Geological Setting, Mineralization & Deposit Types**

Red Chris is a porphyry copper deposit in the northern Intermontane Belt of the Canadian Cordillera. It is situated in the accreted geological terrane of Stikinia, which is dominated by island arc volcanic, sedimentary, and plutonic rocks of the Middle to Late Triassic Stuhini Group, and the Early to Middle Jurassic Hazelton Group. Stikinia hosts many important mineral deposits in the region, known as the *Golden Triangle*, ranging from active mine operations to early stage exploration projects.

Red Chris is in the Iskut district, on the northern edge of the Skeena Mountains. Most of the property is situated on the Todagin Upland plateau. The Red Chris deposit on the southern edge of the plateau is hosted by the Red stock, which was emplaced in the very Late Triassic into deformed Stuhini Group sedimentary and volcanic rocks. Lower Hazelton Group volcanic and sub-volcanic rocks, similar in age to the Red stock, dominate the western part of the Todagin plateau, unconformably overlying Stuhini Group. Post-mineralization erosion during the Early Jurassic was followed by deposition of mainly sedimentary upper Hazelton Group rocks, and the succeeding Bowser Lake Group in the Middle Jurassic; these units originally covered the partly eroded Red stock and Stuhini Group, but they are now preserved only along the southern margin of the plateau due to southeastward tilting in the Late Cretaceous.

The Red stock is an ENE-elongate intrusive complex up to 8 km long by 1.5 km wide at surface. It consists of a series of porphyries beginning with pre-mineral leucodiorite, which forms the bulk of the complex. This was intruded by quartz monzonite porphyries which were coincident with potassic alteration and quartz vein-hosted copper-gold mineralization. Finally, late and post-mineralization porphyries and dikes were intruded. The current Red Chris ore reserve, where open pit mining is ongoing, consists of the East Zone and the Main Zone each of which contain pods or clusters of copper-gold ore centred on the mineralizing porphyries. At surface, combined East Zone and Main Zone mineralization extends about 2,000 m along the stock's east-northeast axis; in width, it ranges from at least 100 m in the East Zone to 650 m in the Main Zone. The depth of significant mineralization is over 1,200 m in the East Zone and about 1,000 m in the centre of the Main Zone. A further 1.5 km to the west of the open pit are the Gully and Far West exploration Zones, which have similar geological characteristics to the East and Main Zones. The Gully Zone footprint is approximately 400-500 m across, east-west. The Far West Zone has a smaller footprint and has seen less drilling than the other zones. The new East Ridge Zone several hundred metres east of the East Zone extends the known mineralized corridor at Red Chris to approximately 4 kilometres.

Mineralization consists of thin wavy or thicker planar quartz veins and stockworks containing chalcopyrite, bornite and magnetite; these minerals are also disseminated outside the veins. In the upper part of the ore deposit, potassic alteration is rarely preserved and the rocks are dominated by sericite-pyrite and clay-carbonate-hematite overprinting alterations; here, chalcopyrite and pyrite are the dominant sulfides, with bornite best preserved in the core of the East Zone. Gold occurs as microscopic inclusions in the copper sulfides. Molybdenite occurs locally in quartz veins, especially deeper and outside the high-grade core. The Red Chris deposit has been modified by syn-to post-mineralization faulting, including the Late Cretaceous South Boundary fault.

Red Chris is a typical porphyry copper deposit based on the composition of its host rocks, its alteration pattern and sequence, and its ore mineralogy. It may be classified as belonging to the high-potassium calc-alkalic type of porphyry system, which includes several world-class deposits such as Bingham (Utah).

# Exploration

Up to eight rigs were utilized in the 2022 exploration program. In East Ridge diamond drilling, 71 holes had been completed with five in progress at the end of the year. Holes were drilled from several surface rigs, and beginning in July also from two underground stations along the decline which will reduce the meterage required to reach the mineralization and the amount of surface disturbance needed to construct drill pads and roads. Recent results include the deepest higher-grade intercept at the East Ridge to date with RC857 intersecting 266 metres grading 0.57% copper and 0.43 g/t gold from 1,534 metres, including 34 metres grading 1.6% copper and 1.1 g/t gold from 1,706 metres. The vertical height of the known higher-grade mineralization along the East Ridge trend has been expanded to more than 1,000 metres, and it remains open at depth on several drill sections. Follow-up drilling is being completed on a nominal 100 metre by 100 metre grid to better determine the footprint, and to demonstrate the character and continuity of the higher-grade mineralization (>0.8g/t Au and >0.8% Cu) which occurs over an area 400 metres long, 125 metres wide and 700 metres high. Additional diamond drill holes are planned to test and close out the Exploration Target and determine geotechnical and metallurgical characteristics. This drilling program is expected to be completed in the first half of 2023.

Since discovery in late 2020, exploration of the East Ridge has tested a corridor 900 metres long and 250 metres wide, and to a vertical extent of 1,000 metres. An updated Exploration Target has been defined for the East Ridge zone, with ranges from a lower case of approximately 400 MT at 0.49% copper and 0.42 g/t gold for 1.9 MT copper and 5.4M oz gold to an upper case of approximately 500 MT at 0.47% copper and 0.39 g/t gold for 2.3 MT copper and 6.1M oz gold. The grades and tonnages are estimates based on continuity of mineralization defined by exploration drilling results, with the lower range estimate in the area having a nominal drill hole spacing of 100 metres by 100 metres and the upper range estimate extended into the area with a nominal drill hole spacing of 100

metres by 200 metres. The Exploration Target is in addition to the current published mineral resource and relates to the portion of the deposit that has not yet been adequately drill tested. The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. Work will be undertaken to deliver an updated Red Chris Mineral Resource estimate including East Ridge in late 2023.

In 2022 drilling in the Main zone, hole RC858 collared at the western edge of the pit, intersected 276 metres grading 0.31% copper and 0.36 g/t gold from 500 metres, including a 68 metre higher grade interval grading 0.70% copper and 0.65 g/t gold from 700 metres. This hole expands the Main Zone mineralization west towards the Gully Zone.

A detailed field mapping and sampling program was initiated in 2022 for geochemical and mineralogical analysis over more distal parts of the Red stock and surrounding rock units where historic reconnaissance and drilling is minimal or absent, in order to locate copper or gold anomalies and prospective hydrothermal alteration. Results will be evaluated for potential follow-up exploration, and the program may be expanded to other parts of the property.

# Sampling, Analysis & Data Verification

During the period from 2007 to August 2019, exploration at Red Chris was conducted by RCDC and followed standard practices and security measures involving the handling, geological and geotechnical logging, processing, and sampling of drill core, and quality controls to assure consistency and reliable results. Assays were obtained from accredited analytical laboratories. Since August 2019, sampling, analysis and data verification at Red Chris has been conducted by the Operator. The following account and comparison with previous procedures is summarized from NRCML.

In the historic drill programs, core was split and sampled at nominal 3 metre intervals. During the RCDC exploration programs, samples were taken at maximum 2.5 min intervals from sawn, halved-core. NRCML took nominal 2 metre samples from sawn, halved-core. Core samples are organized into shipments and the primary laboratory takes possession of the samples at site and transports them to the laboratory location. Blasthole sampling collects about 3–4 kg sample from each 12 metre approximate length blasthole, and analysis is done on site.

All geological logging of core is completed at the Red Chris mine. Geological logging records qualitative descriptions of lithology, alteration, mineralization, veining and structure, including orientation of key geological features. Geotechnical measurements are recorded including Rock Quality Designation (RQD) fracture frequency, solid core recovery and qualitative rock strength measurements. Magnetic susceptibility measurements are recorded every metre. All drill core is photographed, prior to cutting and/or sampling the core.

Third-party, independent analytical and sample preparation laboratories have included Min-En Laboratories in Smithers, BC; Chemex Laboratories Ltd. in North Vancouver, BC; International Plasma Laboratory Ltd. in Vancouver BC; ALS Chemex in Vancouver, BC (successor to Chemex); Acme Laboratories in Vancouver BC; and Bureau Veritas Commodities Canada Ltd. in Vancouver, BC. Imperial used the Mount Polley and Red Chris mine laboratories, which are not independent, for check assaying and grade control, respectively.

Sample preparation and analytical methods varied over time. Early sample preparation consisted of crushing to minus ¼ inch and pulverizing to 95% passing 150 mesh; crushing to -10 mesh, and pulverizing to 95% passing 150 mesh. More recently, sample preparation consisted of crushing to 80% passing a nominal 3–5 mm, and pulverizing to 85% passing 200 mesh, and crushing to 95% passing 4.75 mm, and pulverised to 95% passing 106  $\mu$ m.

QA/QC procedures were in place for the RCDC and NRCML drill programs. The process generally involved submission and analysis of standard reference materials, blanks, and duplicates. The Operator conducted a detailed QA/QC review of the data in the database as at end-February 2021. Drilling reviewed was primarily from the RCDC (2007– 2018) and the Operator (2019–2021) campaigns. Overall, the dataset is acceptable for use in preparing a Mineral Resource estimate for copper and gold. The primary commercial laboratory QA/QC results have shown some negative copper bias in the order of 3-4% relative. Resolution is being addressed with the laboratory.

Over 90% of the RCDC assay data were electronically loaded into acQuire from the original laboratory assay files. Historical assay data prior to RCDC's Project interest were imported and validated as part of verification in support of technical reports prepared under NI 43-101.

The Operator includes both internal verification processes and independent third-parties in the data verification steps:

- internal verification: laboratory inspections; review of geological procedures, resource models and drill plans; sampling protocols, flow sheets and data storage; specific gravity data; logging consistency, down hole survey, collar coordinate and assay QA/QC data; geology and mineralization interpretation; and
- external verification: a number of data verification programs were conducted in support of technical reports from 2004–2021. These indicated that at the time each database iteration was reviewed, there were no significant issues that would have precluded Mineral Resource estimation or imposed confidence classification limits on certain data support.

The Operator has implemented a steering committee, the Resources & Reserves Steering Committee ("RRSC"), to ensure appropriate governance of development and management of resource and reserve estimates, and the public release of those estimates. This is achieved by ensuring regular RRSC review meetings, and internal and external reviews.

No material issues with the database including sampling protocols, flowsheets, or data storage have been identified to date from the checks performed. The primary commercial laboratory QA/QC results have shown some negative copper bias in the order of 3-4% relative. Resolution is being addressed with the laboratory. The database is acceptable for use in Mineral Resource and Mineral Reserve estimation.

# **Mineral Resource and Mineral Reserve Estimates**

Mineral Resource estimates are reported with an effective date of June 30, 2022, and are reported inclusive of those Mineral Resources converted to Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Mineral Resources were depleted to June 30, 2022. Updated Mineral Resource and Mineral Reserve Estimates are in Newcrest's Annual Information Form filed December 13, 2022 on sedar.com

Factors that may affect the Mineral Reserve estimates include changes to long-term gold and copper price assumptions; changes to exchange rate assumptions; changes to metallurgical recovery assumptions; changes to the input assumptions used to design the optimized open pit shell; changes to the input assumptions used to derive the cave outlines and the mine plan that is based on those cave designs; changes to include operating, and capital assumptions used, including changes to input cost assumptions such as consumables, labour costs, royalty and taxation rates; variations in geotechnical, mining, dilution and processing recovery assumptions; including changes to designs as a result of changes to geotechnical, hydrogeological, and engineering data used; changes to the NSR cut-off criteria used to constrain the open pit estimates; changes to the shut-off criteria used to constrain the underground estimates; changes to the assumed permitting and regulatory environment under which the mine plan was developed; ability to maintain mining permits and/or surface rights; and the ability to maintain social and environmental license to operate. Factors that are risk-specific to block cave operations, and which may affect the Mineral Reserves include: inrush of water into the underground workings including decline, cave levels and infrastructure areas; poorer rock mass quality and quantity than interpreted; inability to achieve planned decline development rates having impact on schedule and cost; incorrect estimation of cave propagation potentially leading to air blast; and damage to mine workings due to a seismic event.

These Mineral Resources were estimated using a constraining open pit and block cave underground volume solids, along with preliminary mining assumptions. These constraints and assumptions are laid out in detail in the current 43-101 report produced by Newcrest, (effective date of June 30, 2021, available on SEDAR and the Company's website).

Mineral Resources reported in the table are quoted at 100% and were prepared by Newcrest.

Resource Classification		Townee	Grade	Grade		Contained Metal	
	Assumed Mining Method	Tonnes (Mt)	Au (g/t)	Cu (%)	Au (Moz)	Cu (Mt)	
Measured		9.5	0.15	0.24	0.047	0.023	
Indicated		240	0.30	0.36	2.4	0.88	
Sub-total Measured and Indicated	Open pit and stockpiles	250	0.30	0.36	2.4	0.90	
Measured		-	-	-	-	-	
Indicated		670	0.46	0.40	10	2.7	
Sub-total Measured and Indicated	Underground	670	0.46	0.40	10	2.7	
Total Measured and Indicated	Open pit and underground	920	0.42	0.39	12	3.6	

#### Measured and Indicated Mineral Resource Statement, Red Chris

Pacauraa	Tonnes		Grade		Contained Metal	
Resource Assume Classification	Assumed Mining Method	(Mt)	Au (g/t)	Cu (%)	Au (Moz)	Cu (Mt)
Inferred	Open pit and stockpiles	8.5	0.25	0.30	0.069	0.026
Inferred	Underground	180	0.32	0.30	1.8	0.54
Total Inferred	Open pit and underground	190	0.32	0.30	1.9	0.56

Notes to Accompany Red Chris Mineral Resource Tables:

1. Mineral Resources are reported with an effective date of June 30, 2022, using the 2014 CIM Definition Standards.

- 2. Mineral Resources are reported on a 100% basis. Newcrest holds a 70% interest in the Red Chris Joint Venture and Imperial holds the remaining 30%.
- 3. Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- 4. Mineral Resources that are potentially amenable to open pit mining methods are constrained within a conceptual open pit shell that uses the following input assumptions: metal prices of US\$3.40/lb Cu, US\$1,400/oz Au; mining costs of C\$2.27/t mined, and process and general and administrative (G&A) costs of C\$16.10/t processed; a conventional sulphide flotation producing a copper–gold concentrate; metallurgical recoveries that average 50–61% for gold and 81–83% for copper; a relative level restriction of 1,112 mRL to define the open pit to underground interface; and overall pit slope angles that range from 34-46°. Mineral Resources are reported above a net smelter return of C\$16.10/t milled.
- 5. Mineral Resources that are potentially amenable to underground mass mining methods are constrained within a conceptual cave footprint, and reported using the following assumptions: metal prices of US\$3.40/lb Cu, US\$1,400/oz Au; mining costs of C\$6.56/t mined, and process and general and administrative (G&A) costs of C\$14.38/t processed; a conventional sulphide flotation producing a copper–gold concentrate; metallurgical recoveries that average 50–61% for gold and 81–83% for copper; a relative level restriction of 1,112 mRL to define the open pit to underground interface; and an underground footprint based on a minimum approximate footprint of 160 x 160 m area with vertical walls and variable height of draw. Mineral Resources are reported above a net smelter return of C\$21.00/t milled.
- 6. Tonnages are metric tonnes. Gold ounces are estimates of metal contained in tonnages and do not include allowances for processing losses. Copper tonnes are estimates of metal contained in tonnages and do not include allowances for processing losses.

#### **Mineral Reserves Statement, Red Chris**

Reserve	Tonnes		Grade		Contained Metal	
Classification	Mining Method (Mt)		Au (g/t)	Cu (%)	Au (Moz)	Cu (Mt)
Proven	Open pit and stockpiles	-	-	_	-	-
Probable		63	0.36	0.42	0.72	0.26
Sub-total Proven and Probable		63	0.36	0.42	0.72	0.26
Proven	Underground	_	_	_	_	_
Probable	]	410	0.55	0.45	7.2	1.8
Sub-total Proven and Probable	]	410	0.55	0.45	7.2	1.8
Total Proven and Probable		470	0.53	0.45	8.0	2.1

Notes to Accompany Red Chris Mineral Reserves Table:

- 1. Mineral Reserves are reported with an effective date of June 30, 2022, using the 2014 CIM Definition Standards.
- 2. Mineral Reserves are reported on a 100% basis. Newcrest holds a 70% interest in the Red Chris Joint Venture and Imperial holds the remaining 30%.
- 3. Mineral Reserves that will be mined using open pit mining methods are constrained within a pit design that uses the following input assumptions: metal prices of US\$3.50/lb Cu, US\$1,600/oz Au; metallurgical recoveries that average 80% for copper and 54% for gold; mining costs of C\$3.6/t mined, and process and general and administrative (G&A) costs of C\$15.9/t processed; and pit slope angles that range from 34–46°. Mineral Reserves are reported above a net smelter return of >C\$20.33/t. Full mine recovery is assumed, and Mineral Reserves do not have additional dilution over that incorporated in the resource block model.
- 4. Mineral Reserves that will be mined using underground mass mining methods are constrained within a block cave design that uses the following input parameters: metal price of US\$3.00/lb Cu, US\$1,300/oz Au; CA\$:US\$ exchange rate of 0.8; metallurgical recoveries that range from 81–86% for copper and 60–75% for gold; a life-of-mine operating cost of C\$20.34/t milled; and shut-off values of MB1: C\$22.00/t, MB2 and MB3: C\$22.80/t, resulting in an approximate dilution of 5%.
- 5. Tonnages are metric tonnes. Gold ounces and copper tonnes are estimates of in-situ metal and do not include allowances for processing losses.

## Production

Red Chris metal production (100% basis) for 2022 was 67.6 million pounds copper and 63,658 ounces gold, increase of 3% and 6% respectively from the 65.4 million pounds copper and 60,160 ounces gold produced in 2021. The increase in 2022 metal production was a result of higher copper and gold grades, and slightly higher tonnes milled, partially offset by lower recoveries.

Imperial's 30% portion of Red Chris mine third quarter production was 20.3 million pounds copper and 19,097 ounces gold.

The Operator has maintained its guidance for Red Chris mine production (100%) for the period July 2022 to June 2023 at about 60 million pounds of copper and about 40 thousand ounces of gold.

Table represents 100% of annual production

Year Ended December 31	2022	2021
Ore milled - <i>tonnes</i>	9,457,303	9,324,304
Ore milled per calendar day - <i>tonnes</i>	25,910	25,546
Grade % - copper	0.421	0.403
Grade g/t - gold	0.382	0.358
Recovery % - copper	77.0	79.1
Recovery % - gold	54.8	56.0
Copper - 000's pounds	67,604	65,426
Gold - ounces	63,658	60,160

### **Block Cave Project**

Information regarding the Block Cave Project is based on the 2021 PFS. The Block Cave Project has progressed to the Feasibility Stage. The Feasibility Study is now expected to be completed in the second half of 2023 to allow optimization opportunities to be evaluated and further defined, with no impact to the project development timeline expected. Inflation and global supply chain interruptions continue to be assessed as part of the Feasibility Study and value engineering is underway with the objective to offset inflationary cost pressures.

The proposed mine plan uses technology conventional to block cave operations, including mine design and equipment. The planned mining equipment is conventional to block cave operations. The 2021 PFS envisages that the tonnage profile transitions from a predominantly open pit feed in FY26 to an exclusively underground mill feed in FY30 when the nameplate capacity of 13.6 Mt/a is scheduled to be reached. The projected underground mine life is from FY2026 to FY2057.

The ground conditions at Red Chris are interpreted to be "very good", based on data collected from 2018–2020. Six geotechnical domains were assessed for the proposed underground development and cave extents. Cave fragmentation analyses concluded that orebody pre-conditioning via high undercut, blast, and hydraulic means will be required due to the rock quality. All pre-conditioning works will extend from the extraction level of the macroblocks to within 75 m of the ultimate floor of the open pit (580 m above the underground footprint). Modelled cave subsidence shows no major risks with respect to surface mining infrastructure or surface features such as Kluea Lake. Camp Creek may be impacted, and further study is required in terms of in-situ stress measurements and rock mass characterization. The crater limit will be at the end of the Life of Mine ("LOM"), at year 34, and the crater depth will be 350–400 m below the bottom of the final pit.

The main source of water that will present to the underground was determined to come from direct precipitation (rain and snowmelt) flowing through the caved mass. The planned water management capacity will range from 200–1,500 m<sup>3</sup>/hr over the LOM plan.

Each macroblock footprint will consist of an extraction level, undercut level, and infrastructure development. A single crusher and tipple arrangement will be used for all macroblocks. A perimeter drive on the extraction and undercut level will provide extraction and drill drive access and ventilation to the working areas. The footprint will be ventilated via the access decline and a return air raise. A series of internal ventilation raises will provide exhaust ventilation for the crusher, conveyor, and tipple areas. Access to the mine will be via two declines: the exploration/access and conveyor declines. The mine layout includes declines, ventilation infrastructure, footprint access, crusher location, and footprint layout. Primary ventilation will be achieved through three fresh air intakes, and two exhaust raises. Heating will be employed.

Extraction levels for all macroblocks are based on the standard extraction level layout using an El Teniente layout. The planned mining sequence is based on a combination of grade and geotechnical considerations. MB1, which hosts the high-grade portion of the Mineral Reserve will be the first to be mined. MB2 will be a southern extension of MB1, and with cave rules and stress orientation dictating that MB3 is opened from southeast to northwest, MB2 must be opened prior to MB3.

Infrastructure required to support the block cave will include primary crushers, five-way tipple arrangements, ROM and crushed ore bins, and conveyor systems. Equipment requirements include primary development, cave development, and production equipment. A secondary production fleet will support this equipment. These equipment types will be conventional to block cave mining operations. Underground workshops, offices, and refuge stations will support the underground operations.

#### **Processing and Recovery Operations**

# **Current Plant**

Plant design for treating open pit ores was based on metallurgical testwork, and was a standard porphyry copper flowsheet employing SAG and ball milling, flotation, regrinding, thickening and filtering to produce a copper concentrate at a moisture content of 8% for export. Subsequent to the initial construction, the plant has undergone the following changes: installation of a pebble bypass system on the SAG mill, installation of an additional rougher flotation cell to increase rougher flotation residence time, and installation of a third flotation column to increase capacity of the cleaner circuit. The plant as at May 2021 consisted of a SAG mill–ball mill–pebble crushing (SABC) comminution circuit housed in a single process building. The target grind size was a P80 of 150  $\mu$ m, with throughput taking precedence over grind size, resulting in typical grind sizes closer to 170–180  $\mu$ m. The flotation circuit was configured to produce a copper concentrate with a grade of 23–24% Cu. Originally configured as a two-stage cleaning circuit, the plant was often operated with only a single stage of cleaning due to insufficient capacity in the cleaner columns; this was addressed by installation of the third flotation column.

#### **Block Cave Project Plant**

The 2021 PFS evaluated two process options:

- a Central Case, that would treat 13.6 Mt/a of underground ore through the existing SABC circuit plus a new single-stage SAG circuit; this concept was within the current maximum permitted throughput of 38,000 t/d average, 13.87 Mt/a; and
- 2. an Upside Case, that would treat 15 Mt/a of underground ore through the existing SABC circuit plus a new singlestage SAG circuit, with SAG mill discharge configurations modified to allow coarsening of grind size, and addition of a HydroFloat coarse particle flotation circuit.

In both cases, flotation and concentrate dewatering upgrades were included to allow processing of higher head grade underground ore. The Central Case was selected as the basis for the 2021 PFS.

The Central Case expansion will largely keep the existing process operation, adds an additional grinding line and expands some unit operations to suit block cave ore. Upgrades will include a new coarse ore stockpile, single-stage SAG mill, pre-rougher StackCells, new regrind circuit and expansion of the concentrate dewatering circuit. The ore properties of underground ore are expected to be sufficiently favourable to discontinue sulphide scavenger flotation, which is required for most open pit ores. The existing regrind ball mill would be removed to create space for an expanded cleaner flotation circuit. The expansion scenario considered that the ongoing process improvement projects would be online prior to the block cave expansion, including Cleaner Column 3, Phase 1 pre-rougher StackCells (treating cyclone overflow from the existing SABC circuit), and NAG tailings thickening.

#### Infrastructure, Permitting, and Compliance Activities

#### Infrastructure

The existing mine infrastructure includes an open pit, divided between the East and Main Zones; two stockpiles (lowgrade, coarse ore); one WRSF; the tailings impoundment area (TIA) complex; non-contact water diversion structures; power supply; process plant, process facilities; exploration facilities; medical and ambulance facilities administrative and warehouse facilities; maintenance facilities; water treatment facilities; waste treatment facilities; and accommodations camp.

The transition to block cave mining and associated changes to processing will be supported by existing infrastructure as well as infrastructure upgrades. Infrastructure upgrades are required in the following areas: new mobile equipment maintenance and workshop facility; pumping upgrade from the north reclaim dam to the booster station; seepage mitigation modifications for the TIA; new cyclone sand plants and tailings thickener for dewatering NAG tailings cyclone overflow; associated modifications to tailings pipelines for the cyclone sand plants, thickeners, and short term tailings deposition; dust cover for the coarse ore stockpile; and accommodations camp upgrades.

New infrastructure requirements for the block cave project envisaged in the 2021 PFS include: operations accommodation complex, site asset operation centre, mine dry, concrete/shotcrete batch plant; expansion of existing North dam and South dam, new Northeast dam, relocated North Reclaim dam and South Reclaim dam, new Northeast Reclaim dam. North Valley pumping wells, North Valley seepage wells, make-up water booster pumps and pipelines for fresh and reclaim water, potable water treatment plant, fire water supply to operations accommodation complex, decline conveyor; propane, diesel storage and distribution; air compressors to supply compressed to underground utility stations; sewage treatment plant, septic field; ditches around the operations accommodation complex; expansions to switchgear and substations, mine substation, site-wide reticulation; communications backbone feeding surface and underground facilities; surface haul roads, access to conveyor portal, ventilation raises, process plant, TIA dam access roads; laydown areas, construction offices, warehouse, maintenance shops, water utility supply pump/pipeline from south reclaim pond; and stockpile pads, TIA reclaim dam diversion ditches, Camp Creek diversion, and Beaver Creek diversion.

Road access to the mine site is constructed, and operational. There will be new haul roads and site roads as envisaged in the 2021 PFS to allow access to the various locations, including the TIA, conveyor portal area, exploration portal, ventilation pads and reclaim dams at the TIA.

Concentrate is transported 320 km from the mine south to the Stewart Bulk Terminals at the Port of Stewart. Concentrate is stored in sheds at the bulk terminal until there is a sufficient stockpile to ship load. The current philosophy of shipping concentrate through the Stewart Bulk Terminals is assumed to be maintained for the block cave project.

# **Current Environmental, Permitting and Social Status**

Extensive environmental baseline data collection and monitoring of the area has occurred since 2003. Site-specific baseline studies were completed to support the 2004 Environmental Assessment Application and subsequent 2010 Joint *Mines Act* and *Environmental Act* Permit Application, as well as associated addendums to permit applications.

Following receipt of the EA certificate (M05-02), *Mines Act* permit (M-240), and *EMA* permit (105017), approvals for mine construction commencement (2012) and operational authorization (June 2015), the Red Chris Operations have continued to collect comprehensive environmental monitoring data to support effective environmental management.

Baseline characterization studies included data collection on dust, noise and vibration, potential visual impacts, air quality and meteorology, groundwater and surface water quality and quantity, hydrogeology, aquatic resources and fisheries, terrestrial ecosystems including vegetation and wildlife, and cultural heritage and archaeological studies. The 2021 PFS noted that additional information would need to be collected in the areas of dust, noise, and air quality in support of future block cave operations.

#### **Environmental Considerations**

There is an environmental management system ("EMS") in place for the open pit operations, which includes associated plans, procedures, policies, guidelines, auditing, and compliance. The EMS and environmental management plans ("EMPs") will be updated to incorporate the block cave project. Key mitigation measures that have been identified for impacts assessed during the 2021 PFS will inform the updates to the EMPs.

# Stockpiles, Waste Rock Storage Facilities, and Tailings Storage Facilities

The Red Chris Operations use a grade binning ore control system based on NSR value of mineralized material. Highand medium-grade ore is generally fed to the crusher directly with low-grade ore stockpiled for later use as required. A mineralized waste stockpile has been retained as a potential buffer for the mill in the event of production interruptions from the mine, should low-grade ore stockpiles become depleted. Mineralized waste treatment would be contingent on sufficiently high metal spot prices to make processing the material economically viable. The stockpile is not included in the Mineral Reserves but is based on a cut-off that pays for processing, general and administration plus stockpile rehandle costs.

Sufficient WRSF space was designed to store 150 MT of NAG and PAG waste. The open pit schedule requires 120 MT of waste be stored. The block cave mine will produce about 2.9 MT of PAG waste, which will be stored on the existing permitted facilities. NAG material will be used for site construction, including the TIA.

The TIA is currently permitted for 302 MT of tailings, the containment of which is provided by a single impoundment with natural topography, and the LOM design incorporates three dams, the North, South, and Northeast dams. To support the proposed block cave operation, the TIA will be expanded to a capacity of about 550 MT. The design assumes raises on the North, South and Northeast dams above that which is currently permitted, and relocation of certain of the reclaim dams and associated seepage interception systems.

# Water Supply and Water Management

The main source of water for the process plant is reclaim from the main pond at the TIA and, when constructed, will be from the planned thickener and cyclone sand plant. Groundwater pumping from a deep aquifer is the main source of makeup water when needed to meet process water demands.

The TIA will be the main water management reservoir for the Red Chris Mine. Inputs to the TIA will include water from the tailings, runoff from the TIA catchment area, direct precipitation, and pump-back from the reclaim dams. Collected water from the pit and WRSFs, including the low-grade ore stockpile, will be initially routed through the mill for process use before reporting to the TIA with the tailings. Diversion ditches around the TIA will divert non-contact runoff water to the north and south of the TIA as much as practicable.

# **Closure and Reclamation Planning**

A closure plan was developed for the 2021 PFS for the closure of the proposed block cave operation in its entirety, including works associated with the existing open pit operations. Under the British Columbia *EMA* the Mines Act, maintenance of a five-year mine plan and a closure plan are required for mines operating in British Columbia. The closure plan currently approved is for the closure of the existing facilities to support the open pit mine at Red Chris. A reclamation bond is required to be updated according to the disturbance areas and facilities associated with the M-240 permit.

# **Permitting Considerations**

The Red Chris Operations are fully permitted for open pit mining.

The British Columbia Reviewable Projects Regulation sets out the criteria for determining which projects are required to undergo an EA; however, it is understood that the block cave project does not meet or exceed the thresholds defined in the Reviewable Projects Regulation; therefore, except in the event that the Red Chris Project is designated by the Ministry of Environment and Climate Change Strategy, British Columbia, the Red Chris Project will not require a new EA certificate. However, amendments to the EA certificate will be required in connection with certain phases of the block cave project (such as underground mining) where the activities to be undertaken during such phases are not authorized by the existing EA certificate. The permitting strategy will follow a phased approach. Permitting for development of the exploration decline (Phases 1 and 2) is complete and the decline is under construction. MB1 is expected to be able to be permitted at the provincial level, through an EA certificate amendment and amendments to the *Mines Act* and *EMA* permits. The application for an EA certificate amendment in terms of the *Environmental Assessment Act* may be subject to the agreement yet to be concluded between the Tahltan Central Government and the Province under Section 7 of the *Declaration on the Rights of Indigenous Peoples Act. Mines Act* and *EMA* permit amendment applications are expected to be submitted and reviewed concurrently during the EA certificate amendment process.

Extension of the mine's operating life beyond 2040 through the mining of MB2 and MB3 may trigger the need for environmental review at the federal level under the *Impact Assessment Act* and additional permitting under the *Fisheries Act*. These permitting activities are estimated to be initiated after 2035.

# **Social Considerations**

The mining operations are located entirely within the Tahltan Nation's territory. The proposed block cave project requires an approach that aligns with the Tahltan Nation and leadership and with provincial governments. Since initiating discussions on exploration activities and Red Chris Mine activities, representatives continued to meet regularly with Tahltan Central Government representatives, Tahltan leadership, and the Tahltan Nation. While feedback has been largely positive, a range of concerns and interests have been raised.

# Outlook

Exploration at Red Chris for 2023 will be focused on further definition of the East Ridge zone, with 50,000 metres of drilling planned for 2023.

Work is underway on the Feasibility Study of a block cave mine and it is expected to be completed in the second half of 2023.

# Mineral Property | Mount Polley Mine

The NI 43-101 Technical Report for the Mount Polley Mine, Cariboo Mining Division, British Columbia, ("2016 Mount Polley Report") dated May 20, 2016, was filed on May 26, 2016 and is available on sedar.com.

#### **Description, Location & Access**

The Mount Polley copper-gold mine commenced operations in 1997. The mine site is located in south-central British Columbia, eight km southwest of Likely and 56 km northeast of Williams Lake. The property lies near the eastern edge of the Fraser Plateau physiographic sub-division, which is characterized by rolling topography and moderate relief. Elevations range from 920 masl at Polley Lake to 1,266 masl at the summit of Mount Polley. Road access from Williams Lake to the Mount Polley property is 15 km southeast on Highway 97 to 150 Mile House, 76 km north on Likely Road past Morehead Lake, and then 14 km south on the unpaved Bootjack Forest Access Road. The mine is connected to the BC Hydro power grid. Mining and milling operations proceed year-round. When in operation, the mine has between 300-350 employees, the majority of whom commute from Williams Lake and the smaller communities in the region.

The property consists of 59 mineral tenures covering 24,096 ha and comprises seven mining leases (terms valid to August 22, 2026, September 29, 2034, December 19, 2035, September 21, 2037, January 9, 2038, and November 28, 2036) totaling 2,007 ha and 52 mineral claims (one valid to October 20, 2023, one valid to December 1, 2025, 48 valid to June 1, 2026 and two valid to November 1, 2029) encompassing 22,090 ha. All mineral tenures are issued in accordance with the *Mineral Tenure Act of British Columbia* and are owned by MPMC.

In October 2019, MPMC optioned seven adjacent mineral tenures (3,331 ha) from Commander Resources Ltd. These are included in the aggregate figures above. Upon exercising the option on December 30, 2022, these claims are now subject to a production royalty of \$1.25 per tonne payable on ore mined from the claims and milled in the Mount Polley processing plant. Mining lease 933970 is also subject to a production royalty held by Commander Resources Ltd. of \$2.50 per tonne on the first 400,000 tonnes of ore mined and milled and \$1.25 per tonne on any additional ore mined and milled, a rate that may be reduced to \$0.62 per tonne by payment of \$1 million. No production was undertaken from mining lease 933970 during 2020-2022.





P 32

#### **Permitting & Environmental Management**

All phases of mining and reclamation are authorized and/or regulated by the Province of British Columbia and the Federal Government of Canada. Mine operations are primarily authorized and regulated under the *EMA* and the *Mines Act*, both as administered by respective ministries of the Province of British Columbia. Mine operations and supplementary activities are also authorized and/or regulated under legislation such as the *Water Act* and that implemented by the MFLNRORD.

Ministry	Authorization	Purpose	Permit #	Date Issued	Comment
MEMLCI	Permit Approving Mining and Reclamation Program	Mining activities	M-200	August 1995	many amendments; most recent December 2020
MECCS	Effluent Discharge Permit	Effluent discharge for tailings and site contact water	11678	May 1997	many amendments; most recent December 2022
MECCS	Conditional Water License	use of water for dust suppression and industrial processes.	111741	December 1996	
MECCS	Conditional Water License	diversion of water from Polley Lake for use in processing	101763	December 1996	amended 1997, 2002
MECCS	Waste Discharge Permit	Landfill	14590	March 1997	amended 2019
MECCS	Waste Generator Registration	Special Waste Regulation	01559	July 1997	amended 2012
MECCS	Effluent Discharge (Biosolids) Permit	Store and apply biosolids for use in reclamation	15968	December 1999	amended 2007, 2014
MECCS	Air Discharge Permit	air contaminants from mill and crusher	15087	August 1997	amended 2007
MFLNRORD	Road Use Permit	Mine access	01-5654-96	June 1996	Morehead – Bootjack FSR
MFLNRORD	Conditional Water License	Storage of water in Polley Lake	C132360	August 2015	for rehabilitation purposes below Polley Lake

Federal regulation of the activities at the Mount Polley mine is primarily through the *Fisheries Act*, which aims to protect fish habitat by prohibiting the entry of deleterious substances into fish-bearing waters, as well as the disruption or disturbance of fish habitat without the necessary approvals. Protection of fish habitat also includes the Metal Mining Effluent Regulations (annexed under the *Fisheries Act*) which regulate deposition of mining effluent into fish-bearing waters.

The Mount Polley breach resulted in the release of tailings and TSF supernatant into the adjacent environment (the "Mount Polley Breach"). As a result, MPMC was issued a Pollution Abatement Order pursuant to the *EMA* and an Engineer's Order pursuant to the *Water Act* (the "Orders"). Both Orders set out a number of requirements for environmental investigation and remediation of the affected area. MPMC carried out the investigations, monitoring and remediation planning requirements of the Pollution Abatement Order and the Order was cancelled by MECCS in 2019. Remediation work of terrestrial and fish habitat is continuing under the guidance of the Engineer's Order. In doing so, MPMC is working with local First Nations and with the applicable government agencies to ensure that it complies with the MECCS approved Conceptual Remediation Plan. Investigation of the Mount Polley Breach by Fisheries and Oceans Canada, Environment and Climate Change Canada, and the British Columbia Conservation Officer Service is ongoing.

The Comprehensive Environmental Monitoring Program at the Mount Polley mine continues as required under authorizations from the MECCS and the MEMLCI. Such programs include monitoring of groundwater, surface water
(streams, lakes, and mine contact water collection sites), weather, and hydrological conditions. MPMC submits an annual Environmental and Reclamation Report to the MECCS and MEMLCI. That report outlines all current and planned mining and reclamation activities, as well as environmental monitoring activities and results.

MPMC is committed to the progressive on-site reclamation of disturbed areas during the mine-life cycle and has been actively completing such work since 1998. Reclamation work since 2014 has been limited, as efforts have been focused on remediation activities in the areas affected by the Mount Polley Breach. The total on-site area reclaimed to date is 72.15 ha. On-site Mine contact water is collected, treated at a water treatment plant then discharged via a pipeline at depth into Quesnel Lake.

MPMC is actively engaged in research projects with academic partners and qualified consultants to refine site reclamation and closure methods, as well as to contribute to improving industry best practices. The Mine Plan and Reclamation Program Update 2022 refreshed the underlying strategy for reclamation is that it is founded on a management approach that is iterative based on monitoring results, research findings and changes to best practice and regulation.

Recent research has focused on treatment of contact water for operations and considered for closure/post closure, to investigate and advance various treatment technologies. The site has a positive water balance, with discharge required to prevent year-on-year accumulation of water. MPMC has been progressing and evaluating multiple technologies to support the treatment of identified constituents of concern and to support potential decentralized treatment and discharge. The water treatment technologies under consideration are progressing through a standardized engineering design process from proof-of-concept and detailed bench-scale to pilot-scale and demonstration-scale test work. The passive/semi-passive treatment technologies in the development and evaluation stage are pit-lake treatment and anerobic systems of saturated rock fill, packed bed reactor and constructed wetland treatment.

MPMC is actively engaged in research projects with academic partners and qualified consultants to refine site reclamation and closure methods, as well as to contribute to improving industry best practices. The Mine Plan and Reclamation Program Update 2022 refreshed the underlying strategy for reclamation is that it is founded on a management approach that is iterative based on monitoring results, research findings and changes to best practice and regulation.

Recent research has focused on treatment of contact water for operations and considered for closure/post closure, to investigate and advance various treatment technologies. The site has a positive water balance, with discharge required to prevent year-on-year accumulation of water. MPMC has been progressing and evaluating multiple technologies to support the treatment of identified constituents of concern and to support potential decentralized treatment and discharge. The water treatment technologies under consideration are progressing through a standardized engineering design process from proof-of-concept and detailed bench-scale to pilot-scale and demonstration-scale test work. The passive/semi-passive treatment technologies in the development and evaluation stage are pit-lake treatment and anerobic systems of saturated rock fill, packed bed reactor and constructed wetland treatment.

## History

Ownership history and early exploration of the Mount Polley property is provided in the 43-101 Technical Report for Mount Polley Mine Feasibility Study filed August 5, 2004 on sedar.com. That report contains information on the period from Mount Polley's formal discovery in 1964, through to the formation of MPMC and subsequent mine construction in 1996. Mount Polley mine operated from 1997 through to the fall of 2001, at which time operations were suspended, and the mine placed on care and maintenance, due to a sustained period of low commodity prices. At that time, the originally designed Cariboo Pit had been completed, while the Bell Pit was in process of being mined.

In late 2003, following discovery of the high-grade Northeast Zone, exploration resumed at Mount Polley and preparations for the restart of mining and milling began. In 2004, Imperial conducted a new feasibility study which incorporated the Northeast Zone, as well as the Springer and Bell Zones. In March 2005, mining began in the new Wight Pit (Northeast Zone) and resumed in the Bell Pit. In subsequent years, drilling exploration was carried out in a number of other areas focused on expanding or deepening known deposits or testing new targets revealed by trenching, mapping and sampling programs, or by geophysical anomalies. As a result, significant copper-gold resources were delineated in the Southeast Zone (mined 2008-2010), the Pond Zone (mined 2009-2010), the C2

P 35

Zone (now incorporated in the Cariboo Zone), the WX Zone, and the Boundary Zone. Mining was completed in the Bell Pit in 2008, and in the Wight Pit in 2009. Mining in the Springer Zone, which contains the majority of the remaining reserves at Mount Polley, began in 2008. Deep drilling since late 2003 has resulted in a substantial increase in Springer resources.

The first underground exploration development at Mount Polley began in 2010 in the deep Boundary Zone, which was mined between 2013 and early 2017. Substantial resources also exist in the deep Northeast Zone beneath the Wight Pit, known as the Martel Zone. The underground workings were extended from the Boundary Zone for a program of delineation drilling in the Martel in winter 2016-2017 (see below).

Operations were suspended on August 4, 2014 following the Mount Polley Breach. Rehabilitation work was immediately initiated at the TSF and the affected areas downstream.

An Independent Expert Engineering and Investigation Review Panel, commissioned by the MEMLCI, investigated the Mount Polley Breach and released its report on January 30, 2015. The report concluded that the breach was sudden and without warning and was due to the fact the independent engineering firms retained by MPMC to design the TSF did not take into account the strength of the glaciolacustrine layer approximately 8 m below the foundation of the embankment in the area of the breach.

On July 9, 2015 MPMC received regulatory approvals authorizing restart of mine operations under a modified operating plan. With the TSF not authorized for continued mill process tailings deposition at the time, the modified operating plan included use of the Springer Pit for tailings deposition. Operations resumed on August 5, 2015, with mill processing on a one-week-on/one-week-off schedule, and ore feed sourced from the Cariboo Pit and the Boundary Zone underground operation. In late November 2015, due to the complexity of operating the mill under winter conditions and considering weakened commodity prices, the mill transitioned into operating on a continuous basis.

On December 17, 2015, the Chief Inspector of Mines for the Province of British Columbia released his report on the Mount Polley Breach. The report concluded, as had the Independent Expert Engineering and Investigation Review Panel report, that the root cause of the Mount Polley Breach was associated with an engineering design that had not properly characterized the strength of a clay (glaciolacustrine) unit in the native soil foundation.

In spring 2016, a diamond drill program was completed in the Cariboo Zone (six holes, 819 m) and WX Zone (five holes, 1,010 m) to assist in mine planning. On June 23, 2016 MPMC received regulatory approvals authorizing the mine to return to full operations and for use of the repaired TSF for tailings deposition.

In late 2016 and into early 2017, exploration of the deep Northeast Zone known as the Martel Zone, continued with an underground drilling program. The Martel Zone is about 400 m east of the Boundary Zone and vertically below the Wight Pit. Wide spaced drilling from surface, mainly in 2004, had defined a measured and indicated below-pit resource of approximately 6.27 MT grading approximately 1.12% copper, 0.40 g/t gold and 7.38 g/t silver. The objective of the 2016-2017 drilling was to define a high-grade portion within the Martel Zone for future underground mining. Access for the drilling was by a ramp and drift driven in 2016 to within about 100 m of the Martel mineralization. Holes were drilled on azimuths ranging from 070° to 090° at shallow to moderate angles from four drill stations at 25 metre intervals along the drift. Four holes (1,421 m) were completed before yearend 2016 and the remaining 21 holes in the 6,680 metre program were completed in February 2017.

Drill results and geological details were given in news releases dated February 28, 2017 and April 10, 2017. The Martel Zone consists of strongly mineralized breccia and measures approximately 130 metre long, 170 metre high, and 140 metre wide; the southernmost hole in the program indicates the zone is thinning in this direction but is still open. Along its northeastern fringe, the Martel breccia gives way to monzonitic wall rock and dikes, in between which are discontinuous lenses of distinct and very high-grade, bornite-rich mineralization collectively termed the Green Zone. The Green Zone was intercepted in several holes over various but mainly narrow widths and displays a roughly vertical disposition; it may be more structurally controlled than the main body of the Martel.

A new resource for the Martel Zone was announced August 14, 2017. The Zone as presently delineated consists of 6.8 MT in the measured and indicated category, grading 0.91% copper, 0.28 g/t gold, and 5.79 g/t silver. In addition, there is an inferred resource of 635,600 tonnes grading 1.29% copper, 0.59 g/t gold, and 8.32 g/t silver. These underground resources will be incorporated into the future open pit and underground mine planning.

In 2018, all open pit production came from the Cariboo, supplemented by previously stockpiled ore. Rehabilitation work at the TSF and areas affected by the Mount Polley Breach continued through all phases of operations and in care and maintenance.

In January 2019, the Company announced Mount Polley mine operations would be suspended due to low and declining copper prices. Milling of low grade stockpiles continued through until the end of May 2019, at which time the mine was placed on care and maintenance status.

Historic production, from all zones at Mount Polley since start-up in 1997 through the temporary suspension of operations in May 2019, is approximately 594 million pounds copper and 928,000 ounces gold from about 118 MT mill throughput.

During 2019, a comprehensive exploration program was conducted of the Frypan/Morehead area, a largely till covered magnetic high which has a similar magnetic response to that obtained over the Mount Polley mine host rock of monzonite and hydrothermally altered monzonite breccia pipes. The area is located west and north of the mine and is approximately 3x3 km in size. There were 948 soil samples collected and analyzed using the Mobile Metal Ion (MMI) technique. A 80.7 line km Volterra-3D Induced Polarization (IP) survey covering the same grid area was also completed. A similar IP survey was conducted over the mine site to identify the geophysical response of the known mineralization to aid in prioritizing targets on the Frypan/Morehead area. This survey consisted of 81.5 line km and was successful in delineating the known mineralization, as well as outlining several new un-tested areas in the vicinity of the mine.

In the fourth quarter of 2021, MPMC took the initial steps towards recommencement of operations at Mount Polley mine. Stripping operations began to enable milling operations to restart in 2022. Mechanical and electrical contractors began on refurbishing the plant, including work on the tailings slurry and reclaim water pipelines and pumps, crushers, conveyors, screens, grinding mills, flotation and plant water systems. The crushing plant was commissioned by year end providing crush material for winter road maintenance.

Initial production from renewed operations began in June 2022.

Operations at Mount Polley in 2022 achieved the following:

- The total material moved was 1,630,695 tonnes versus 2,612,384 tonnes scheduled in the 2022 budget.
- Mobile equipment maintenance availability was generally at or above target level.
- The reconciled mill feed was 365,097 tonnes grading 0.223% copper and 0.348 g/t gold with an oxide copper ratio of 8.7%.
- Concentrate production was 2,474 tonnes grading 21.4% copper and 30.8 g/t gold.

## **Geological Setting, Mineralization & Deposit Types**

Mount Polley is an alkalic porphyry copper-gold deposit. It lies in the tectono-stratigraphic Quesnel terrane or Quesnellia, which is characterized by a Middle Triassic to Early Jurassic assemblage of volcanic, sedimentary and plutonic rocks which formed in an island arc tectonic setting outboard of the ancestral North American continental margin. Quesnellia hosts several major porphyry copper deposits such as Highland Valley, Copper Mountain, Afton-Ajax, Gibraltar and Mount Milligan, all generated by early Mesozoic, calc-alkalic or alkalic arc magmatism.

In the Mount Polley region, the Triassic arc rocks are assigned to the Nicola Group and comprise alkalic basaltic to andesitic volcanics and sedimentary rocks, which are intruded by sub-volcanic stocks; all are overlain by post-Nicola, Early Jurassic clastic rocks and rare volcanics. Mount Polley itself is a complex of alkalic intermediate porphyritic intrusions and related magmatic-hydrothermal breccias. It was emplaced into the Nicola Group in the Late Triassic around 205 million years ago. The intrusive complex is about 6 km long (north-northwest) and 3 km wide, lying between Polley Lake in the east and Bootjack Lake in the west. The intrusions range from diorite (oldest) to monzonite (youngest) and are marginally undersaturated in silica. The Mount Polley Intrusive Complex is in the centre of the Mount Polley property; the remainder of the property is underlain mainly by Nicola Group volcanics and post-Nicola conglomerate, and small intrusions in which no economic mineralization has been found to date.

Mineralization in the Mount Polley Intrusive Complex ("MPIC") is primarily hosted by irregular zones of hydrothermal breccia, which are closely related to the porphyry intrusions and were formed by magmatic devolatization processes. Mineralization and brecciation were accompanied by potassic or calc-potassic, albite, and magnetite alteration; the MPIC is bounded on most sides by propylitic country rocks. As in many alkalic porphyry systems, there is no single or simple zoned mineralization pattern, but instead a number of copper-gold zones of various size, shape and grade

characteristics, distributed around the MPIC from the far north to the south. There is no clear structural control on the location of these mineralized breccia zones, although the greatest continuity and the bulk of the past and present resources occur in the centre of the MPIC (e.g. Springer, Cariboo, Bell Zones) between two pre-mineral diorite intrusions. Dimensions of mineralized breccias in the MPIC range up to many hundred metres in length and width, such as in the Springer Zone. Elsewhere, smaller zones (generally less than 100 m across) may form mineable bodies if grades and other factors are favourable. Post-mineral faulting probably did not disrupt the continuity of mineralized zones very significantly, except in the Northeast Zone where deeper mineralization was offset along a fault a few hundred metres laterally and dropped vertically slightly.

In the deposits, the degree of brecciation and associated hydrothermal alteration is usually a reliable guide as to grade. There is relatively little post-mineralization dike dilution. Chalcopyrite is the dominant copper mineral, typically accompanied by pyrite; bornite is relatively uncommon in the centre of the MPIC. Here, copper sulfides occur as disseminations or veins and fracture coatings in brecciated intrusion, or they are disseminated in the matrix of breccias, in both cases precipitated along with alteration minerals. Mineralization has been traced by deep drilling in the Springer Zone to a depth of around 900 m (from pre-mining surface).

In the north of the MPIC are much higher grade orebodies, namely the Northeast (mined in the Wight Pit, 2005-2009) and Boundary Zones, where copper grades can reach several percent per tonne. Chalcopyrite and significant bornite form coarse-grained infill in breccias, and intense vein and microvein stockworks. As in the zones in the centre of the MPIC, gold and silver occur mainly as microscopic inclusions in the copper sulfides and in pyrite.

Exploration has always proceeded alongside mining at Mount Polley, leading to the expansion and deepening of known deposits, or to the discovery of new zones, or raising the status or resource category of marginal prospects, potentially towards feasibility for profitable mining. Geological and geotechnical logging of drill core is integrated with down-hole assay data and used with software for computation of the resource block model and mine design. In addition, exploration and research since the restart of operations in 2004-2005 have considerably advanced understanding of geology, structure and deposit genesis at Mount Polley, improving interpretation of mineralization geometry and the design of drill programs. New underground development is followed where appropriate by wall mapping and rib sampling to further characterize the mineralization, fill gaps in the resource model, and help guide stope design.

Airborne and ground magnetic signature are regarded as the most important geophysical tool for identifying new mineralization, although tellingly it was not effective in the Northeast Zone, possibly delaying discovery of that highgrade but magnetite-poor orebody until 2003. An 11-line Titan-24 deep Induced Polarization-Magnetotelluric survey was completed by Quantec Geoscience Ltd. in Fall 2009 to potentially locate blind sulfide targets and guide exploration drilling where appropriate. Outlying parts of the Mount Polley property, away from the mine site, have been explored by geological mapping, sampling and trenching and by soil surveys over intrusive bodies, with no significant results to date. Mineral potential remains most promising within the MPIC itself, or possibly buried beneath the unconformity with cover rocks (conglomerate, breccia) immediately to its north.

## Exploration

MPMC acquired an option to earn a 100% interest in seven mineral claims (3,331 ha) adjacent to the mine in 2020. Three target settings occur within the optioned claims and adjacent Mount Polley claims, including a potential northern projection of the high-grade Quarry Zone beneath a post-mineral conglomerate unit, a partially tested glacial till covered area where regional magnetics suggests a faulted offset of the Mount Polley Intrusive complex, which hosts the Mount Polley orebodies, is present and a till covered prospective area immediately east of the Southeast Zone. A deep looking IP survey, along with a soil sampling program, was completed over the optioned claims. Drill programs have been designed to test the targets outlined on the optioned claims and to expand the copper and gold resource near historic deposits, with a focus on gold rich zones.

The 2020 exploration program was planned to improve drill hole data density of mineralization near historic mining areas where the use of underground mining is being considered, and to drill new geophysical and geochemical anomalies outlined by recent surveys in the Trio Creek area located north and northwest of the mine. Six drill holes totalling 3,792 metres were completed.

The WX Zone is the most recent major discovery (2009) at Mount Polley. Located south of the Springer Pit, it is noted for its high gold grades and high gold/copper ratio mineralization. Drill hole WX-20-78 was designed test and confirm

the continuity of the mineralization in an area of proposed underground mining. Drilled down the plunge, this hole served to confirm the continuity of this modelled higher grade target within the WX Zone.

The C2 Zone is located south of the Cariboo Pit. Two holes were drilled to test a zone of higher gold grade along the Polley fault at depth. Historic drilling in this zone yielded an intercept of 55 metres grading 2.14 g/t gold and 1.19% copper in drill hole C2-11-97. Both holes were successful in extending this lower gold zone.

Drill hole SD-20-162 was designed to fill a gap in drilling on the eastern side of the target area beneath the Springer Pit. The Springer Zone contains most of the reserves in the current open pit mine plan. Historic drilling beneath the currently planned Springer Pit confirmed the mineralization continues for at least 250 metres below the pit bottom. Studies are underway to evaluate the potential for bulk underground mining beneath the planned pit.

The Trio Creek target area is located north and northwest of the mine. This area is covered by glacial till with limited bedrock exposure. Using new geophysical and geochemical anomalies outlined by recent surveys, the goal was to gain an understanding of the geological system. Drill holes TC-20-01 and TC-20-02 were designed to test new anomalies north and west of the mine. The targeted areas feature favorable geophysics that match the geophysical fingerprint of the Mount Polley mineralized host rock. Drill holes TC-20-01 and TC-20-02 have defined a clear extension to the north of similar geology and associated hydrothermal alteration zones to that which hosts the mineralization at Mount Polley. Additional exploration is planned to further define the targets located in this area.

The 2021 and 2022 exploration programs were planned to acquire high density ground magnetic data over top of high priority areas within the mine site and areas immediately to the north while remaining available to support geotechnical drilling that was ongoing on site.

The ground magnetic survey was successful in providing high resolution magnetic data overtop of high priority targets located north of the Junction Zone, north of the old Bell Pit, west of the Wight Pit, adjacent to Polley Lake, south of the Southeast Rock Dump and over Polley Mountain. The ground magnetic data has highlighted many magnetic anomalies around the property that have a similar geophysical signature as the known mineralization found at Mount Polley. Several more magnetic surveys have been planned to cover areas where data and exploration is limited. Additional exploration such as trenching and drilling is planned to further define the anomalies derived from the ground magnetic surveys.

At December 31, 2022, a total of 2,783 exploration holes (surface and underground combined) had been drilled.

## Sampling, Analysis & Data Verification

Early drill core from 1966 to 1980 has largely been lost to vandalism. All core samples from 1981 onwards were collected in wooden core boxes at the drill. The average core size was NQ2, but HQ diameter drill core has become more common with deep drilling in recent years. Each core box holds approximately 4 m. Mount Polley drill core is sampled in its entirety, in most cases, with sample length of 1.0-2.5 m. The standard maximum length of a 2.5 m sample may be broken into smaller intervals where required by significant changes in geology, faults, or mineralization intensity. The core is first logged geotechnically and geologically photographed and then sample lengths are cut axially with a rock saw. One half of the core is sent for analysis and the other half stored on the property in covered core racks for future reference as a geological record, or for any necessary test work at a later date. The core library and core logging facility are located at the mine site, securely inside the mine perimeter. Pulps and rejects are stored in the same facility. All drill core post-1980 was assayed for gold, total copper, and iron while non-sulphide copper, silver and some other analyses were completed on core from certain areas of the property where the additional data was considered to be important. Much of the pre-1980 core was assayed only for total copper. Over the life of the mine, exploration samples have been assayed at a number of labs in British Columbia.

From 2006 to 2017 approximately 80% of core samples were analyzed by the on-site mine laboratory. Thereafter, core samples have been analysed at Bureau Veritas Mineral Laboratories in Vancouver. A full QA/QC program using blanks, standards and duplicates was completed for all diamond drilling samples submitted to the labs. Significant assay intervals reported represent apparent widths. Insufficient geological information is available to confirm the geological model and true width of significant assay intervals.



### Mineral Reserve and Mineral Resource Estimates: Effective date January 1, 2023

Mineral Resources are inclusive of Mineral Reserves. Mineral Resources outside the Mineral Reserves have not demonstrated economic viability at the current metal prices and costs.

Mount Polley Mineral Reserves at January 1, 2023							
		Grade			Contained Metal		
Pit/Zone	Tonnes	Copper %	Gold g/t	Silver g/t	Copper lbs	Gold Oz	Silver Oz
Springer	42,935,000	0.299	0.270	0.560	283,072,000	373,000	774,000
wx	7,769,000	0.319	0.576	0.631	54,580,000	144,000	158,000
Boundary							
OP	592,000	0.646	0.578	4.390	8,433,000	11,000	84,000
Martel UG	2,272,000	1.145	0.299	7.205	57,344,000	22,000	526,000
Total							
Reserve	53,568,270	0.342	0.319	0.895	403,429,000	550,000	1,542,000

Mount Polley Mineral Resources at January 1, 2023							
		Grade		Contained Metal			
Pit/Zone	Tonnes	Copper %	Gold g/t	Silver g/t	Copper lbs	Gold Oz	Silver Oz
Springer					1		
Mea&Ind	114,652,000	0.310	0.295	0.586	782,765,000	1,088,000	2,159,000
Inf	2,202,000	0.197	0.218	0.488	9,589,000	15,000	35,000
WX					1		
Mea&Ind	13,267,000	0.301	0.579	0.615	87,929,000	247,000	262,000
Inf	142,000	0.161	0.294	0.495	503,000	1,000	2,000
Cariboo/C2							
Mea&Ind	62,387,000	0.213	0.262	0.107	293,422,000	526,000	215,000
Inf	11,940,000	0.149	0.171	0.041	39,345,000	66,000	16,000
Bell					1		
Mea&Ind	8,508,000	0.239	0.270	0.444	44,862,000	74,000	121,000
Inf	763,000	0.158	0.128	0.329	2,660,000	3,000	8,000
Boundary OP							
Mea&Ind	1,123,000	0.579	0.479	3.944	14,330,000	17,000	142,000
Martel UG							
Mea&Ind	2,272,000	1.145	0.299	7.205	57,344,000	22,000	526,000
Total (M&I)	202,209,000	0.287	0.304	0.527	1,280,652,000	1,974,000	3,425,000
Total (Inf)	15,048,000	0.157	0.177	0.125	52,097,000	85,000	61,000

The 2023 Mineral Reserve estimate includes open pit mining of the Springer, Boundary, and WX Zones, and underground mining of the Martel Zone. The Cariboo reserve was mined to completion in 2018. The Mineral Reserve estimate is an update of the original mine schedule from the 2016 43-101 report using current topography and the following metal price assumptions: US\$3.71/lb copper, US\$1,655/oz gold, US\$22.00/oz silver and a \$0.769 US/CDN exchange rate. The Mineral Reserve for the Martel Zone was generated using detailed stope designs. For open pit mining, a \$1 per tonne MHV (Mill Head Value) cut-off is employed.

The Mineral Resource and Mineral Reserve estimates for the Mount Polley property were prepared by Art Frye, Imperial Metals Technical Services, under the supervision of Greg Gillstrom, P.Eng. Refer to the 2016 Mount Polley Report for detailed information.

## **Mining and Mineral Processing**

The Mount Polley mine is a 20,000 tonne per day open pit conventional milling operation. In the Mount Polley mine mill, run-of-mine ore from the open pits and underground is hauled to the crusher. The crusher has three stages of crushing involving five crushers, twenty conveyors and four sets of screens. Ore is deposited by rock trucks into the feed pocket of the primary gyratory crusher and is then crushed in three stages to produce a product for the grinding circuit. Pebbles obtained from the triple deck screen in the crushing plant are used as grinding media in the pebble mills. Periodically, the crusher is also used for production of aggregates used in TSF construction and other tasks.

The grinding circuit consists of two parallel rod mill/ball mill circuits and a pebble mill circuit. Crusher product is first split between two rod mills where water is added, and a slurry is formed to grind the product down to a sand like texture. The rod mill discharge is pumped to the primary hydrocyclones that classify the particles by size. The larger particles flow to feed the ball mills while the fine particles report to two flash flotation cells. The ball and pebble mills are in "closed circuit", meaning that the discharge is pumped to the classifying units (primary hydrocyclones) and the particles will not pass to the next stage until the particle sizes are fine enough. The flash flotation product can report directly to the dewatering circuit or to the cleaner circuit for further upgrading. The overflow from the pebble mill hydrocyclones reports to the flotation circuit.

The flotation circuit separates the valuable minerals from the rest of the ground particles. With the addition of reagents, the valuable minerals, mostly in the form of sulphides, are separated by flotation and are collected and upgraded to produce a concentrate. Initial separation is completed in a rougher/scavenger circuit, where the remaining minerals are discarded as tailings (which flow by gravity to the TSF). Rougher concentrate is reground in a regrind mill and further upgraded in a cleaner circuit to produce the final concentrate product. Cleaner tailings report to the cleaner scavenger circuit, and the tailings from the cleaner scavenger circuit are recycled to the rougher scavenger circuit to maximize recovery.

The concentrate from the flotation circuit is dewatered in two stages. In the first stage the thickener settles particles and decants water so that the settled particles form a sludge that has a reduced water content of roughly 25%-30%. In the second stage, pressure filtration further reduces water content to approximately 8%. The water removed is utilized as process water. The filtered concentrate is stored in the load-out building and loaded onto 40-tonne trucks for shipping. Tailings materials generated by mill operations are piped via gravity to the TSF.

Information on Mining, Milling, Infrastructure, Permitting and Compliance Activities, Environmental, Permitting, Social or Community factors, and Capital and Operating Costs can be viewed in the 2016 Mount Polley Report.

## Production

Mount Polley mine was on care and maintenance status since operations were suspended in May 2019.

The mine restart plan was updated in early 2021 to include revised pit designs, results of recent drilling, and current metal prices. The COVID-19 pandemic has had an impact on mine restart scenarios; however, MPMC took the initial steps towards recommencement of operations in late 2021 with the introduction of mine pre-stripping and plant refurbishing activities under a protective COVID-19 plan.

During the fourth quarter 1,084,016 tonnes ore were treated, producing 3.785 million pounds copper and 6,995 ounces gold. Operations in the 2022 fourth quarter were negatively impacted by a period of very cold weather in December 2022.

Year Ended December 31	2022
Ore milled - <i>tonnes</i>	2,068,830
Ore milled per calendar day - tonnes	11,244
Grade % - copper	0.214
Grade g/t - gold	0.306
Recovery % - copper	63.5
Recovery % - gold	59.4
Copper - 000's pounds	6,206
Gold - ounces	12,078

During January 2023, 510,935 tonnes were processed. Metal production was 2.3 million pounds of copper and 3,326 ounces of gold. Copper recovery averaged 81% and gold recovery was 68% from grades averaging 0.257% copper and 0.294 g/t gold.

The 2023 production target for Mount Polley is 30-33 million pounds copper and 35-40 thousand ounces gold.

## Outlook

The outlook for 2023 include continuous improvement in the plant of availability, recovery and throughput. Mining operations will focus on mining the Springer phase 4 Pit and the tailings that were deposited in the Springer Pit in 2015 and 2016. Also in 2023, work on permitting several items, including; co-disposal of tailings and NAG rock removed from the Springer Pit and deposited in the Southeast Rock Disposal site (SERDS), Springer Pit expansion – to expand the pit from phase 4 to phase 6, expansion of the SERDS and PAG stockpile and extension of the effluent discharge into Quesnel Lake from June 2025 to Post Closure of the mine and construction of the tailings storage facility beyond the 970 metre elevation.

# **Other Properties**

In addition to the material properties outlined in this AIF, the Company also has the Huckleberry Mine, which is not considered a material property for the purposes of the Company's AIF.

## **Huckleberry Mine**

Huckleberry Mines Ltd. ("HML") is owner/operator of the Huckleberry copper mine in west-central British Columbia. Imperial holds 100% of the shares of HML through HML Mining Inc., a wholly owned subsidiary of Imperial.

On January 6, 2016, HML suspended pit mining operations. Stockpiles were then milled until the end of August 2016. Huckleberry mine remains on care and maintenance.

The Huckleberry mine lies north of Tahtsa Reach on the southern flank of Huckleberry Mountain. Elevations on the Mine Leases range from 1,542 masl on Huckleberry Mountain to 853 masl on the on Tahtsa Reach. The deposits have an average surface elevation of 1,036 masl. Access to the property is along 121 km of gravel forest service roads and private access roads that lead from Houston BC. A 138 kV power line supplies hydro power to the site. The District of Houston is 307 km west of Prince George, 411 km east of Prince Rupert and served by Highway 16 and the Canadian National Railway. When in operation the mine employs approximately 260 people from nearby Houston and surrounding local communities.

The Huckleberry property covers 25,767 ha and consists of a contiguous block of two mining leases and 49 mineral claims. The mining leases total 2,422 ha and have terms to June 25, 2027, and April 26, 2052, respectively. The mineral claims are in good standing until August 2023.

Three contiguous claims (3,059 ha included in aggregate figures above) approximately eight km north of the mine and identified as the Whiting Creek property are subject to a 60% interest buyback provision in favour of Rio Tinto Exploration Canada Inc.

Pursuant to an agreement dated July 15, 2021, HML purchased a 100% interest in five mineral tenures (2,526 ha included in aggregate figures above) from ArcWest. The claims are situated in and around Sweeney Lake between the Whiting Creek property and the Huckleberry Mine and are subject to a 1% net smelter return royalty in favour of ArcWest with no buyout provision.

Recent exploration on the Huckleberry property consists of diamond drilling, geophysics, mapping and rock sampling. In 2020, a total of 2,491 meters were drilled over three diamond drill holes to test for mineralization below the East Zone pit on the Huckleberry mine site. All holes intersected copper mineralization, but the best intercepts were 361.1 m at 0.35% Cu, including 99.5 m at 0.52% Cu from hole H20E-416. In 2021, Geotech Airborne Ltd. was contracted to fly a property wide ZTEM magnetic and electromagnetic survey. This survey helped to define exploration and drilling targets across the property. In 2022, geological mapping and rock sampling were completed over Whiting Creek and other exploration targets that were defined from the ZTEM survey.

In 2022 ground truthing was conducted on the high priority targets generated by the property wide airborne ZTEM and Aeromagnetic survey that was completed in 2021. Diamond drilling priority targets is planned for the 2023 field season.

## **Other Exploration Properties**

Imperial holds a portfolio of 20 exploration properties in British Columbia. These properties have defined areas of mineralization and clear exploration potential. Management continues to evaluate various opportunities to advance many of these properties, and work will be conducted to keep these properties in good standing.

## **Dividends and Distributions**

Imperial has not declared, and does not intend to declare, cash dividends or distributions on its securities. Payment of dividends is within the discretion of the Company's board of directors (the "Board") and will depend on Imperial's future earnings, if any, its capital requirements and financial condition, and other relevant factors.

# **Capital Structure**

Imperial's Authorized Share Capital:

- 50,000,000 First Preferred shares without par value with special rights and restrictions to be determined by the directors, of which 3,100,000 have been designated as Series A First Preferred shares (issued & outstandingnil).
- 50,000,000 Second Preferred shares without par value with rights and restrictions to be determined by the directors (issued & outstanding-nil).
- An unlimited number of Common Shares without par value.
- As at December 31, 2022 there were 154,871,341 Common Shares issued & outstanding.

Each Common Share entitles its holder to notice of all meetings of holders of Common Shares and to attend and vote at such meetings. All of the Common Shares rank equally as to participation in dividends as and when declared and in the distribution of Imperial's remaining assets on a liquidation, dissolution or winding-up.

The directors of Imperial are authorized to issue the First Preferred shares and the Second Preferred shares in one or more series, to set the number of shares in and determine the designation of each such series and to attach such rights and restrictions to each series as they may determine. No First Preferred shares or Second Preferred shares have been issued subject to call or assessment. Currently, there are no pre-emptive or conversion or exchange rights attached to First Preferred shares or Second Preferred Shares or Second Preferred shares or purchase for cancellation, surrender, or sinking or purchase funds.

Provisions as to the modification, amendment or variation of the authorized share structure of Imperial are contained in the BCBCA.

## **Market for Securities**

Imperial's Common Shares are listed on The Toronto Stock Exchange and trade under symbol III.

Date	High	Low	Volume Traded
Jan-22	3.86	3.10	485,484
Feb-22	4.21	3.03	569,522
Mar-22	4.21	3.51	667,955
Apr-22	3.96	3.51	446,842
May-22	3.89	3.04	719,687
Jun-22	3.36	2.77	544,058
Jul-22	3.41	2.20	537,145
Aug-22	2.97	2.60	313,375
Sep-22	2.65	1.83	576,540
Oct-22	2.68	2.16	198,993
Nov-22	2.52	1.86	607,772
Dec-22	2.15	1.60	933,573

# **Prior Sales**

On June 24, 2022, pursuant to the 2022 Rights Offering, the Company issued an aggregate of 13,475,400 Common Shares at a price of \$3.04 per Common Share.

On August 31, 2022, pursuant to the Convertible Debentures Private Placement, the Company issued \$47.0 million aggregate principal amount of Convertible Debentures. Each \$3.20 of the principal amount is convertible into one Common Share.

On December 28, 2022, pursuant to the Non-Convertible Debentures Private Placement, the Company issued \$53.0 million aggregate principal amount of Non-Convertible Debentures, consisting of the A Debentures and the B Debentures. In connection with the issuance of the A Debentures, the Company issued 6,056,250 common share purchase warrants which are exercisable into Common Shares at a price of \$2.10 per Common Share.

## **Directors & Executive Officers**

The term of office for each director will expire at Imperial's 2023 Annual General Meeting, or when their successor is duly elected or appointed, unless their office is earlier vacated in accordance with the articles of the Company.

Name, Province and Country of Residence	Current Position with Imperial	Present Principal Occupation and Preceding Five Years	Director Since
Pierre Lebel British Columbia, Canada	Chairman Director <sup>1.3.4.</sup>	Chairman	2001 Dec 6
J. Brian Kynoch British Columbia, Canada	President Director <sup>4.</sup>	President	2002 Mar 7
Carolyn D. Anglin British Columbia, Canada	Director <sup>3.4.5</sup>	Principal consultant at Anglin & Associates Consulting; previously Chief Scientific Officer and Vice President, Environmental Affairs of the Company.	2022 May 25
Larry G. Moeller Alberta, Canada	Lead Director <sup>1.2.3.</sup>	President, Kimball Capital Corporation	2002 Mar 7
Janine North British Columbia, Canada	Director <sup>1.2.5.</sup>	Professional Director	2018 May 22
JP Veitch <i>Alberta, Canada</i>	Director <sup>1.5.</sup>	Director, Secretary/Treasurer of a private consultancy company	2018 May 22
Edward Yurkowski British Columbia, Canada	Director <sup>1.2.3.4.5.</sup>	Retired mining contractor & mining executive	2005 May 20
Darb Dhillon British Columbia, Canada	Chief Financial Officer & Corporate Secretary	Chief Financial Officer & Corporate Secretary (2020); prior thereto: Vice President Finance (2017); Director of Finance, Newmarket Gold Inc., Kirkland Lake Gold (2017).	-
Don Parsons British Columbia, Canada	Chief Compliance Officer	Chief Compliance Officer (2022) Chief Operating Officer (2011)	-
Randall Thompson British Columbia, Canada	Chief Operating Officer	Chief Operating Officer (2022) Vice President Operations (2018); prior thereto: Red Chris Mine General Manager (2018); Chief Operating Officer, JDS Silver Inc.(2017); President, Huckleberry Mines Ltd. (2016).	-
Jim Miller-Tait British Columbia, Canada	Vice President Exploration	Vice President Exploration (2017); Exploration Manager (2009)	-
Sheila Colwill British Columbia, Canada	Vice President Marketing	Vice President Marketing (2017); Marketing Manager (2011)	-

Committees: <sup>1.</sup> Audit <sup>2.</sup> Compensation <sup>3.</sup> Corporate Governance & Nominating <sup>4.</sup> Health & Safety <sup>5.</sup> Special: Mount Polley

## **Shareholdings of Directors and Executive Officers**

The directors and executive officers beneficially owned, or controlled, or directed, directly or indirectly, a total of 7,098,091 Common Shares of Imperial, representing approximately 4.58% of the total 154,871,341 issued and outstanding Common Shares of Imperial as at December 31, 2022.

### **Audit Committee**

The Audit Committee is structured to comply with National Instrument 52-110 ("NI 52-110") and is responsible for reviewing the Company's financial reporting procedures, internal controls and the performance of the Company's external auditors.

All members of the Audit Committee are independent, financially literate, and understand the breadth and level of complexity of the issues that may reasonably be expected to be raised by the Company's financial statements.

### Larry Moeller, B. Comm., CPA, CA, CBV – Audit Committee Chair

President, Kimball Capital Corporation, a private company in Calgary, Alberta, and Director, Magellan Aerospace Corporation and Orbus Pharma Inc.

### Pierre Lebel, LL.B., MBA

Director & Audit Committee, West Vault Mining Inc., and Director, Vancouver Opera Association.

### Janine North, ICD.D.

Director, Conifex Timber Inc., Mercer International Inc. and Fraser Basin Council.

### J.P Veitch

Director & Audit Committee, Magellan Aerospace, Director & Secretary/Treasurer, a private consultancy company.

### Edward Yurkowski, P.Eng.

Mining industry Engineer & Consultant, and Director & Audit Committee, Fortune Minerals Ltd.

### Audit Committee Charter

The Audit Committee is responsible for reviewing the Company's financial reporting procedures, internal controls and the performance of the Company's external auditors. The Audit Committee Charter is available in the Corporate Governance section on imperialmetals.com.

## Reliance on Certain Exemptions

At no time since commencement of the Company's most recently completed financial year has the Company relied on the exemptions in Sections 2.4, 3.2, 3.3(2), 3.4, 3.5, 3.6 or 3.8 of NI 52-110, or an exemption from NI 52-110, in whole or in part, granted under Part 8 of NI 52-110.

## Audit Committee Oversight

At no time since commencement of the Company's most recently completed financial year has a recommendation of the Audit Committee to nominate or compensate an external auditor not adopted by the Board.

## Pre-Approval Policies and Procedures

The Audit Committee is authorized by the Board to review the performance of the Company's external auditors and approve in advance provision of non-audit services and to consider the independence of the external auditors. The Audit Committee has delegated to the Chair of the Audit Committee the authority to act on behalf of the Audit Committee with respect to the pre-approval of the audit and permitted non-audit services provided by Deloitte LLP from time to time. The Chair reports on any such pre-approval at each meeting of the Audit Committee.

#### External Auditor Service Fees

#### Fees paid to Deloitte LLP:

Years Ended	2022	2021
Audit fees <sup>(1)</sup>	\$618,460	\$477,755
Audit related fees	\$5,829	\$5,352
Total	\$624,289	\$483,107

<sup>(1)</sup> For professional services rendered for the audit and review of our financial statements or services provided in connection with statutory and regulatory filings or engagements.

#### Complaint Procedures

The Company has implemented detailed procedures for receipt, retention and treatment of complaints or submissions regarding accounting, internal accounting controls or auditing matters, and confidential and anonymous submission of concerns from employees of the Company or any of its subsidiaries about questionable accounting or auditing matters. Imperial's procedures for filing complaints relating to accounting and auditing matters is available in the Corporate Governance section on imperialmetals.com.

#### **Compensation Committee**

#### Larry Moeller, Chair; Janine North; Edward Yurkowski

The Compensation Committee is to discharge the Board's responsibilities relating to compensation and benefits of the executive officers and directors of the Company.

### **Corporate Governance & Nominating Committee**

#### Pierre Lebel, Chair; C.D. Anglin; Larry Moeller; Edward Yurkowski

The Corporate Governance & Nominating Committee is to assist the Board in fulfilling its oversight responsibilities to identify and recommend qualified individuals for appointment or election to the Board, and to develop and recommend to the Board corporate governance guidelines and practices for the Company.

### **Health & Safety Committee**

#### Edward Yurkowski, Chair; C.D. Anglin; Brian Kynoch; Pierre Lebel

The Health and Safety Committee is to oversee the development and implementation of appropriate policies and to review the performance of the Company with respect to industrial health and safety matters.

## **Special Committee: Mount Polley**

## J.P. Veitch, Chair; C.D. Anglin; Janine North; Edward Yurkowski

The Special Committee is to provide oversight on the legal and technical work resulting from the Mount Polley Breach.

## **Corporate Cease Trade Orders or Bankruptcies**

Mr. Yurkowski was a Director of Chieftain Metals Corp. (Chieftain) from May 22, 2013 to September 1, 2016. On August 31, 2016, Chieftain and its wholly owned subsidiary (Chieftain Metals Inc.) was served with an application by West Face Capital Inc., as agent for West Face Long Term Opportunities Global Master LP, seeking the appointment of Grant Thornton Limited as receiver of all of the assets, undertakings and properties of Chieftain. On September 6, 2016, the Ontario Superior Court of Justice issued an order appointing Grant Thornton Limited as the receiver and manager of all the assets, undertakings and properties of Chieftain. On June 2, 2017, the Ontario Superior Court of Justice issued an order appropriate to file a proposal under the *Bankruptcy and Insolvency Act* (Canada) in respect of Chieftain and its wholly owned subsidiary.

## **Conflicts of Interest**

Certain of the Company's directors and officers also serve as directors or officers of other companies or they may have significant shareholdings in other companies. As a result, they may be in a position where their duty to another company conflicts with their duty to Imperial. To the extent that other companies may transact with the Imperial or participate in ventures in which Imperial may participate, the directors and officers of Imperial may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. In the event a conflict of interest arises at a meeting of the Board, a director or officer who has a conflict will disclose the nature and extent of their interest to the meeting and abstain from voting in respect of the matter.

## **Interest of Management & Others in Material Transactions**

During its three most recently completed financial years, the Company closed various financings that involved its significant shareholders and other insiders of the Company. Details are provided in General Development & Outlook, Corporate General in this AIF.

On March 10, 2021, the Company entered into the Note financing with an affiliate of its major shareholder. The Note matures on April 1, 2022 and bears interest of 8.0% per annum. The Note was fully repaid on June 28, 2021 prior to its maturity date.

## **Credit Facility**

In October 2021, the existing Credit Facility was increased from \$50.0 million to \$75.0 million maturing October 9, 2022. The increase of \$25.0 million in the facility is guaranteed by an affiliate of the Company's major shareholder, to which the Company will pay certain fees for providing the guarantee.

On February 28, 2022, the Company increased its existing Credit Facility from \$75.0 million to \$100.0 million. This additional increase of \$25.0 million in the facility was guaranteed by a related party.

On March 31, 2022, the Company increased its existing Credit Facility from \$100.0 million to \$125.0 million. This additional increase of \$25.0 million in the facility was guaranteed by a related party. On February 21, 2023, the Company further extended its Credit Facility to February 21, 2024.

#### Debentures

On August 31, 2022, the Company completed a non-brokered private placement of \$47.0 million aggregate principal amount of convertible debentures (the "Convertible Debentures"). Edwards purchased \$32.5 million of the Convertible Debentures and directors and officers of the Company purchased \$2.25 million of the Convertible Debentures.

On December 28, 2022, the Company completed the Non-Convertible Debentures Private Placement of \$53.0 million aggregate principal amount of the Non-Convertible Debentures. The Company issued the A Debentures. In connection with the issuance of the A Debentures, the Company issued 6,056,250 common share purchase warrants ("Warrants"). The Company also issued the B Debentures. Edwards purchased \$35.45 million of the A Debentures and \$4.55 million of the B Debentures, and as part of the purchase of the A Debentures received 4,431,250 Warrants and directors and officers of the Company purchased \$1.57 million of the A Debentures and as part of the A Debentures.

On March 1, 2023, the Company issued unsecured non-convertible debentures (the "2023 Non-Convertible Debentures"), with an aggregate principal amount of \$29,125,000 on a non-brokered private placement basis. The 2023 Non-Convertible Debentures have a maturity date of March 1, 2024 and bear interest at a rate of 12.0% per annum, with interest paid semi-annually in cash, with the first payment due September 1, 2023. Edwards purchased \$22 million of the 2023 Non-Convertible Debentures and directors and officers of the Company purchased \$1,125,000 of the 2023 Non-Convertible Debentures.

# **Material Contracts**

Except as otherwise disclosed herein, no director, executive officer or principal shareholder of the Company, or any associate or affiliate of the foregoing, have had any material interest, direct or indirect, in any other transaction within the three most recently completed financial years or during the current financial year prior to the date of this AIF that has materially affected or is reasonably expected to materially affect the Company.

## **Credit Facility**

On October 2, 2019, the Company entered into a one year \$50.0 million revolving Credit Facility. The Credit Facility is used to support letters of credit relating to future reclamation liabilities and general corporate purposes. The Credit Facility includes various restrictive covenants that, subject to exceptions, limit the Company's ability to, among other things, incur or assume indebtedness, grant or assume security, engage in affiliate transactions, undertake material changes in the Company's business or enter into acquisitions, mergers and consolidations. The Credit Facility also requires compliance with financial covenants pertaining to minimum cash balances on hand. The Credit Facility was increased from \$50.0 million to \$75.0 million in October 2021, and further increased from \$75.0 million to \$100.0 million in February 2022 maturing October 9, 2022. On March 31, 2022, the Credit Facility was increased from \$100.0 million to \$125.0 million. This additional increase of \$25.0 million in the facility was guaranteed by a related party. The Company made further extensions to the Credit Facility with a February 28, 2023. On February 21, 2023, the Company further extended its Credit Facility to February 21, 2024.

## Debentures

On August 31, 2022, the Company completed a non-brokered private placement of \$47.0 million aggregate principal amount of convertible debentures (the "Convertible Debentures"). The Convertible Debentures have a term of 5 years with an annual interest rate of 8%, paid semi-annually with the first payment payable on February 28, 2023. Each \$3.20 of principal amount is convertible into one common share of the Company. The Convertible Debentures are not callable unless the closing price of the Company's Common Shares exceeds 140% of the conversion price for at least 30 consecutive days. A maximum of 14,687,500 Common Shares will be issued if all of the Convertible Debentures are converted into Common Shares of the Company. The Convertible Debentures will mature on August 30, 2027. Edwards purchased \$32.5 million of the Convertible Debentures and directors and officers of the Company purchased \$2.25 million of the Convertible Debentures.

On December 28, 2022, the Company completed the Non-Convertible Debentures Private Placement of \$53.0 million aggregate principal amount of the Non-Convertible Debentures. The Company issued the A Debentures which have a maturity date of four years from the date of issuance, and which bear interest at a rate of 10.0% per annum, with interest paid semi-annually in cash, with the first payment due June 23, 2023. In connection with the issuance of the A Debentures, the Company issued 6,056,250 Warrants which are exercisable into Common Shares of the Company at a price of \$2.10 per share for a period of four years from the date of issuance. The Company also issued the B Debentures which have a maturity date of twelve months from the date of issuance, and which bear interest at a rate of 12.0% per annum, with interest paid semi-annually in cash, with the first payment due June 23, 2023. No warrants were issued in connection with the B Debentures. Edwards purchased \$35.45 million of the A Debentures and \$4.55 million of the B Debentures, and as part of the purchase of the A Debentures received 4,431,250 Warrants and directors and officers of the Company purchased \$1.57 million of the A Debentures and as part of the A Debentures received 196,250 Warrants.

On March 1, 2023, the Company issued 2023 Non-Convertible Debentures, with an aggregate principal amount of \$29,125,000 on a non-brokered private placement basis. The 2023 Non-Convertible Debentures have a maturity date of March 1, 2024 and bear interest at a rate of 12.0% per annum, with interest paid semi-annually in cash, with the first payment due September 1, 2023. Edwards purchased \$22 million of the 2023 Non-Convertible Debentures and directors and officers of the Company purchased \$1,125,000 of the 2023 Non-Convertible Debentures.

## **Legal Proceedings**

The nature of the Company's business may subject it to numerous regulatory investigations, claims, lawsuits and other proceedings. The results of these legal proceedings cannot be predicted with certainty. In the opinion of management, these matters, unless otherwise described herein, are not expected to have a material effect on the Company's consolidated financial position, cash flow or results of operations.

During the third quarter of 2014, a securities class action under section 138 of the Ontario Securities Act was filed against the Company and certain of its directors, officers, and others. On September 23, 2020, the Ontario Superior Court denied leave to proceed with this claim. The Plaintiff's appeal of this decision was partially successful with the action being returned to the Ontario Superior Court for reconsideration of the leave application. Subsequent to December 31, 2022 the Company entered into the Settlement Agreement to settle the securities class action that was filed in 2014. The settlement agreement has been reviewed and approved by the Court and is in the process of implementation. The settlement resolves the class action entirely and eliminates further expenditure of management resources and costs to the Company's insurer. The Settlement Agreement expressly provides that the Company makes no admission of liability whatsoever. The settlement amount is well within the coverage limits of the Company's insurance policy.

The Company was successful in its action against its insurance underwriters to recover losses incurred at the Mount Polley mine.

The Company is aware of other claims and potential claims, none of which is considered probable of resulting in a material loss or judgment against the Company.

## **Transfer Agent & Registrar**

The Company's transfer agent and registrar is Computershare Investor Services Inc. (Canadian offices in Vancouver and Toronto).

## **Interests of Experts**

Deloitte LLP, the Company's auditors, have prepared an opinion with respect to the Company's consolidated financial statements for the year ended December 31, 2022 available on imperialmetals.com and sedar.com. Deloitte LLP is independent of Imperial within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of British Columbia.

The following persons prepared or certified a statement, report, opinion or valuation described or included in, or referred to in, a filing made under National Instrument 51-102 by the Company, and whose profession or business gives authority to such statement, report, opinion or valuation. Some of these persons were employees of the Company at the date of the stated reports, and may have had registered or beneficial interests, direct or indirect in the securities of the Company; however such securities would represent substantially less than one per cent of the Company's outstanding securities.

2021 Red Chris Report: Rob Stewart, FAusIMM; Brett Swanson, MMSAQP.; Michael Sykes, FAusIMM; Laurie Reemeyer, P.Eng.; Dr. Bing Wang, P.Eng.; Philip Stephenson, FAusIMM. Report filed on SEDAR November 29, 2021.

2016 Mount Polley Report: Ryan Brown, P.Eng.; Gary Roste, P.Geo.; Janice Baron, P.Eng.; and Chris Rees, Ph.D., P.Geo. Report filed on SEDAR May 26, 2016.

## **Additional Information**

Additional information, including details of director and officer remuneration and indebtedness, principal holders of Imperial shares, securities authorized for issuance or equity compensation plans, options to purchase Imperial shares and certain other matters, is contained in the Company's Information Circular for its most recent annual general meeting of shareholders that involved the election of directors, and on sedar.com. Complete financial disclosure is provided in the Company's consolidated comparative financial statements, and management's discussion and analysis for the fiscal year ended December 31, 2022. Copies of these and other disclosure documents are available at imperialmetals.com and sedar.com, or by contacting the Company's Shareholder Communications at 604.669.8959.