



**POLYMET**  
MINING

**POLYMET MINING CORP.**

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**ANNUAL INFORMATION FORM**

**For the year ended December 31, 2022**

**Dated as at March 23, 2023**

## **TABLE OF CONTENTS**

<b>1. INTRODUCTORY NOTES .....</b>	<b>1</b>
<b>2. CORPORATE STRUCTURE .....</b>	<b>3</b>
<b>3. GENERAL DEVELOPMENT OF THE BUSINESS.....</b>	<b>4</b>
<b>4. DESCRIPTION OF THE BUSINESS .....</b>	<b>8</b>
<b>5. RISK FACTORS.....</b>	<b>50</b>
<b>6. DIVIDENDS .....</b>	<b>60</b>
<b>7. CAPITAL STRUCTURE.....</b>	<b>60</b>
<b>8. MARKET FOR SECURITIES .....</b>	<b>61</b>
<b>9. SECURITIES NOT LISTED OR QUOTED.....</b>	<b>61</b>
<b>10. DIRECTORS AND OFFICERS .....</b>	<b>62</b>
<b>11. LEGAL PROCEEDINGS AND REGULATORY ACTIONS .....</b>	<b>63</b>
<b>12. INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS .....</b>	<b>63</b>
<b>13. TRANSFER AGENT AND REGISTRAR .....</b>	<b>63</b>
<b>14. MATERIAL CONTRACTS .....</b>	<b>64</b>
<b>15. INTEREST OF EXPERTS.....</b>	<b>64</b>
<b>16. AUDIT COMMITTEE .....</b>	<b>64</b>
<b>17. ADDITIONAL INFORMATION.....</b>	<b>67</b>
<b>SCHEDULE A. AUDIT COMMITTEE CHARTER.....</b>	<b>68</b>

## 1. INTRODUCTORY NOTES

In this Annual Information Form (“AIF”) “PolyMet” or the “Company” refers to PolyMet Mining Corp. and its subsidiaries (unless the context otherwise dictates). All information contained herein is as at March 23, 2023 unless otherwise indicated, other than certain financial information, which is as at December 31, 2022, being the date of the Company’s most recently audited financial year end. All dollar amounts in this AIF are expressed in United States (“U.S.”) dollars, the functional and reporting currency of the Company, unless otherwise indicated.

Additional information related to the Company is available for view on the System for Electronic Document Analysis and Retrieval (“SEDAR”) at [www.sedar.com](http://www.sedar.com) and EDGAR at [www.sec.gov](http://www.sec.gov), respectively, and on the Company’s website [www.polymetmining.com](http://www.polymetmining.com).

### Cautionary Note Regarding Forward-Looking Statements

This AIF contains “forward-looking statements” within the meaning of applicable Canadian securities legislation and Section 27A of the United States Securities Act of 1933 and Section 21E of the United States Securities Exchange Act of 1934.

Forward-looking statements are not, and cannot be, a guarantee of future results or events. Forward looking statements are based on, among other things, opinions, assumptions, estimates and analyses that are subject to significant risks, uncertainties, contingencies and other factors that may cause actual results and events to be materially different from those expressed or implied by the forward-looking statement.

All statements in this AIF that address events or developments that PolyMet expects to occur in the future are forward-looking statements and are generally, although not always, identified by words such as “expect”, “plan”, “anticipate”, “project”, “target”, “potential”, “schedule”, “forecast”, “budget”, “estimate”, “intend” or “believe” and similar expressions or their negative connotations, or that events or conditions “will”, “would”, “may”, “could”, “should” or “might” occur.

These forward-looking statements include, but are not limited to, PolyMet’s objectives, strategies, intentions, expectations, including the need for copper and other products and commodities that the Company will produce and sell, production, costs and inflationary impacts, capital and exploration expenditures, including estimated economics of future financial and operating performance, expected receipt of regulatory approvals and the expected timing thereof, expected receipt or completion of feasibility studies and other studies and the expected timing thereof, the anticipated benefits of the 50:50 joint arrangement transaction (the “Joint Arrangement”) with Teck American, Inc., a subsidiary of Teck Resources Limited (together “Teck”) and the Company’s expectations with respect to the future development of the NorthMet and Mesaba projects; the timing and closing of the financings required pursuant to the Joint Arrangement, proposed or expected changes in regulatory frameworks and their anticipated impact on the Company’s business, and impacts on the Company’s environmental, community, health and safety initiatives. All forward-looking statements in this AIF are qualified by this cautionary note.

The material factors or assumptions applied in drawing the conclusions or making forecasts or projections set in the forward-looking statements include, but are not limited to:

- various economic assumptions, in particular, commodity prices, interest rates, inflation and capital cost estimates;
- certain operational assumptions, including mill recovery and operating scenarios;
- acts of foreign or domestic governments and the outcome of legal proceedings;
- construction costs and schedules; and
- assumptions related to timing and certainty of the environmental review and permitting process.

The risks, uncertainties, contingencies and other factors that may cause actual results and events to differ materially from those expressed or implied by the forward-looking statement may include, but are not limited to, risks generally associated with the mining industry, such as: economic factors (including future commodity prices, currency fluctuations, inflation rates, energy prices and general cost escalation); uncertainties related to the development of the NorthMet Project and the Mesaba Project; dependence on key personnel and employee relations; risks relating to political and social unrest or change, operational risk and hazards, including unanticipated environmental, industrial and geological events and developments and the inability to insure against all risks; failure of plant, equipment, processes, transposition and other infrastructure to operate as anticipated; compliance with governmental and environmental regulations, including permitting requirements; the outcome of ongoing litigation in connection with permits and decisions for the NorthMet Project; the potential impact of COVID-19 and its variants on PolyMet, as well as other factors identified and as described in more detail under the heading “Risk Factors” in Item 5. The list is not exhaustive of the factors that may affect the forward-looking statements.

There can be no assurance that such statements will prove to be accurate, and actual results, performance or achievements could differ materially from those expressed in, or implied by, these forward-looking statements. Accordingly, no assurance can be given that any events anticipated by the forward-looking statements will transpire or occur, or if any of them do, what benefits or liabilities PolyMet will derive therefrom. The forward-looking statements reflect the current expectations regarding future events and operating performance and speak only as of the date hereof and PolyMet does not assume any obligation to update the forward-looking statements if circumstances or management’s beliefs, expectations or opinions should change other than as required by applicable law. For the reasons set forth above, undue reliance should not be placed on forward-looking statements.

### **Cautionary Note to United States Readers Regarding Resource and Reserve Estimates**

Mineral reserves and mineral resources presented in this AIF have been estimated in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”), as required by Canadian securities regulatory authorities. In accordance with NI 43-101, the Company uses the terms mineral reserves and resources as they are defined in accordance with the CIM Definition Standards on mineral reserves and resources (“CIM”) adopted by the Canadian Institute of Mining, Metallurgy and Petroleum.

The United States Securities and Exchange Commission (“SEC”) has adopted amendments to its disclosure rules to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC under the U.S. Securities Exchange Act of 1934, as amended. These amendments became effective February 25, 2019 (the “SEC Modernization Rules”) with compliance required for the first fiscal year beginning on or after January 1, 2021. The SEC Modernization Rules replace the historical property disclosure requirements for mining registrants that were included in SEC Industry Guide 7 (“Guide 7”), which was rescinded from and after the required compliance date of the SEC Modernization Rules. As a foreign private issuer that files its annual report on Form 40-F with the SEC pursuant to the multi-jurisdictional disclosure system (“MJDS”), the Company is not required to provide disclosure on its mineral properties under the SEC Modernization Rules and will continue to provide disclosure under NI 43-101. However, if the Company either ceases to be a “foreign private issuer” or ceases to be entitled to file reports under the MJDS and the CIM Definition Standards, then the Company will be required to provide disclosure on its mineral properties under the SEC Modernization Rules. Accordingly, United States investors are cautioned that the disclosure the Company provides on its mineral properties in this AIF and the annual report on Form 40-F and under its continuous disclosure obligations under the Exchange Act may be different from the disclosure that the Company would otherwise be required to provide as a U.S. domestic issuer or a non-MJDS foreign private issuer under the SEC Modernization Rules.

The SEC Modernization Rules include the adoption of terms describing mineral reserves and mineral resources that are substantially similar to the corresponding terms under the CIM. As a result of the adoption of the SEC Modernization Rules, the SEC now recognizes estimates of “measured”, “indicated” and “inferred” mineral resources. In addition, the SEC has amended its definitions of “proven mineral reserves” and “probable mineral reserves” to be substantially similar to the corresponding CIM definitions, as required by NI 43-101.

United States investors are also cautioned that while the SEC will now recognize “measured mineral resources”, “indicated mineral resources” and “inferred mineral resources”, investors should not assume that any part or all of the mineral deposits in these categories will ever be converted into a higher category of mineral resources or into mineral reserves. These terms have a great amount of uncertainty as to their economic and legal feasibility. Accordingly, United States investors are cautioned not to assume that any “measured mineral resources”, “indicated mineral resources”, or “inferred mineral resources” of PolyMet are or will be economically or legally mineable. Further, “inferred mineral resources” have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. In accordance with Canadian rules, estimates of “inferred mineral resources” cannot form the basis of feasibility or other economic studies, except in limited circumstances where permitted under NI 43-101.

#### **Qualified Persons Under NI 43-101**

Except where specifically indicated otherwise, the disclosure in this AIF of scientific and technical information regarding the NorthMet Project and the Mesaba Project have been reviewed and approved by the following persons who are Qualified Persons as defined by NI 43-101:

- Alberto Bennett, P.E.;
- Daniel H. Neff, P.E.;
- Nicholas Dempers, Pr. Eng., SAIMM;
- Daniel Roth, P.E., P.Eng.;
- Richard Schwering, SME-RM;
- Thomas J. Radue, P.E.;
- Jeff S. Ubl, P.E.;
- Herbert E. Welhener, SME-RM;
- Laurie Tahija, MMSA-QP; and
- Shane Tad Crowie, P.Eng.

## **2. CORPORATE STRUCTURE**

PolyMet Mining Corp. was incorporated under the Business Corporations Act (British Columbia) (“BCBCA”) on March 4, 1981 under the name Fleck Resources Ltd. and changed its name to PolyMet Mining Corp. on June 10, 1998.

PolyMet was the original sole shareholder of Poly Met Mining, Inc. (“PolyMet Inc”). PolyMet Inc. was incorporated in Minnesota, United States on February 16, 1989.

On November 22, 2022, PolyMet incorporated PolyMet US Inc., a Delaware corporation, and via a Contribution and Assignment Agreement dated February 9, 2023 by and between PolyMet and PolyMet US, PolyMet contributed all of the issued and outstanding shares of stock of PolyMet Inc. to PolyMet US.

During the year ended December 31, 2022, the Company was engaged in the exploration and development of natural resource properties through PolyMet Inc.

Subsequent to the year ended December 31, 2022, PolyMet closed a joint arrangement with Teck (the “Joint Arrangement”), to become equal owners in NewRange Copper Nickel LLC (formerly PolyMet Inc.) (“NewRange”) which places the NorthMet Project and Mesaba Project under single management with each of PolyMet and Teck holding a 50% interest. See further details below.

The Company’s corporate head office and principal executive office is located at 444 Cedar Street, Suite 2060, St. Paul, MN 55101, USA. The registered and records office is located at 2500 – 700 West Georgia Street, Vancouver, B.C. V7Y 1B3, Canada.

### **3. GENERAL DEVELOPMENT OF THE BUSINESS**

#### **Significant History**

PolyMet’s primary mineral property and principal focus is the commercial development of its NorthMet Project (“NorthMet” or “NorthMet Project”), a polymetallic project in northeastern Minnesota, United States of America, which hosts copper, nickel, cobalt, gold, silver, and platinum group metal mineralization.

The NorthMet ore body is at the western end of a series of known copper-nickel-precious metals deposits in the Duluth Complex, one of the largest undeveloped mineral resources in the world. An updated technical report and feasibility study published in December 2022 confirmed the technical and economic viability, positioning NorthMet as the most advanced of the four main deposits in the Duluth Complex: namely, from west to east, NorthMet, the Mesaba Project (formerly owned by Teck and which now is held in NewRange of which PolyMet owns 50%), Serpentine (owned by Encampment Resources) and Maturi (owned by Twin Metals Minnesota, a wholly owned subsidiary of Antofagasta plc).

#### Asset Acquisition

In November 2005, the Company acquired from Cliffs Erie LLC, a subsidiary of Cleveland-Cliffs Inc. (together “Cliffs”), a former taconite processing facility located approximately six miles west of the NorthMet deposit which includes crushing and milling equipment, plant site buildings, real estate, tailings storage facilities and mine workshops, as well as access to extensive mining infrastructure including roads, rail, water and power.

Plans are to refurbish, reactivate and, as appropriate, update the crushing, concentrating and tailings storage facilities to produce concentrates containing copper, nickel, cobalt and precious metals – platinum, palladium, gold and silver. Once commercial operations are established, the Company may install an autoclave to upgrade nickel concentrates to produce a nickel-cobalt hydroxide and a precious metals precipitate.

In December 2006, additional property and associated rights were acquired from Cliffs sufficient to provide a railroad connection linking the NorthMet deposit and processing facilities. The transaction also included railcars, locomotive fueling and maintenance facilities, water rights and pipelines, administrative offices and land to the east and west of the existing tailings storage facilities.

PolyMet indemnified Cliffs for reclamation and remediation associated with the property under both transactions and long-term mitigation plans are included in the Company’s environmental rehabilitation provision.

In June 2018, the Company acquired surface rights over the NorthMet deposit through a land exchange with the United States Forest Service (“USFS”) using land the Company previously owned. With the exchange, PolyMet has total surface rights, including ownership and other use and occupancy rights, to approximately 30 square miles of land including the land at the mine and processing sites, the transportation corridor connecting those sites, and buffer lands.

Mineral rights in and around the NorthMet orebody are held through two mineral leases with RGGSLand & Minerals Ltd., L.P. ("RGGSL") and LMC Minerals ("LMC"). The RGGSL lease covers 5,123 acres. Provided the Company continues to make annual lease payments, the lease period continues until June 12, 2048 with an option to extend the lease for up to five additional ten-year periods on the same terms and further extend as long as there are commercial mining operations. The LMC lease covers 120 acres that are encircled by the RGGSL property. Provided the Company continues to make annual lease payments, the lease period continues until December 1, 2028 with an option to extend the lease for up to four additional five-year periods on the same terms. Lease payments to both lessors are considered advance royalty payments and will be deducted from future production royalties payable to the lessor.

On July 20, 2022, the Company announced that it had entered into an agreement with Teck to form the Joint Arrangement that will place NorthMet and Mesaba resources, containing copper, nickel, cobalt, platinum, palladium, gold and silver, under single management. The two resources account for approximately one-half of the known resources of copper, nickel, cobalt and precious metals in Minnesota's Duluth Complex and are adjacent to each other. The Mesaba Project is progressing baseline environmental studies, resource definition and mineral processing studies. Further studies and community and tribal consultation will be required to fully define long-term development potential of Mesaba.

Subsequent to the year ended December 31, 2022, the Joint Arrangement transaction closed on February 14, 2023 and the Company and Teck became equal owners in NewRange (formerly PolyMet Inc.). The Company and Teck are responsible for funding their pro rata share of costs relating to the NorthMet Project and the Mesaba Project. PolyMet and Teck have committed to an initial work program with an estimated budget of \$170 million to maintain permits, update feasibility study estimates and undertake detailed engineering to position NorthMet for a development decision following permit clearances.

#### Feasibility Study, Mineral Resources and Mineral Reserves

PolyMet published an updated technical report under NI 43-101 on the NorthMet Project dated December 30, 2022 (the "NorthMet Technical Report") which confirmed the economic and technical viability of the NorthMet copper-nickel-precious metals project. The report retained the original plans from the 2018 report for the permitted case but included updates to cost estimates for construction and operations. Proven and Probable mineral reserves were estimated to be 289.1 million short tons grading 0.290% copper, 0.084% nickel, 79 ppb platinum, 270 ppb palladium, 39 ppb gold, 74 ppm cobalt, and 1.07 ppm silver. These mineral reserves lie within Measured and Indicated mineral resources of an estimated 701.6 million short tons grading 0.252% copper, 0.074% nickel, 67 ppb platinum, 234 ppb palladium, 34 ppb gold, 70 ppm cobalt, and 0.94 ppm silver. See additional details in the Company's most recent Annual Information Form or the NorthMet Technical Report, both filed on SEDAR at [www.sedar.com](http://www.sedar.com) and EDGAR at [www.sec.gov](http://www.sec.gov).

As a closing condition of the Joint Arrangement, PolyMet published a technical report under NI 43-101 on the Mesaba deposit dated November 28, 2022 (the "Mesaba Technical Report"). Measured and Indicated mineral resources were estimated to be 2,207 million short tons grading 0.428% copper, 0.102% nickel, 34 ppb platinum, 97 ppb palladium, 25 ppb gold, 76 ppm cobalt, and 1.19 ppm silver. See additional details in the NorthMet Technical Report and the Mesaba Technical Report, both filed on SEDAR at [www.sedar.com](http://www.sedar.com) and EDGAR at [www.sec.gov](http://www.sec.gov).

#### Environmental Review and Permitting of the NorthMet Project

In November 2015, the Minnesota Department of Natural Resources ("MDNR"), U.S. Army Corps of Engineers ("USACE"), and USFS published the Final Environmental Impact Statement ("FEIS") and in March 2016, the MDNR issued its decision that the FEIS met the requirements under the Minnesota Environmental Policy Act.

In January 2017, the USFS issued its Final Record of Decision ("ROD") authorizing the land exchange. In June 2018, the Company and USFS exchanged titles to federal and private lands,

completing the land exchange giving the Company control over both surface and mineral rights in and around the NorthMet ore body and consolidating the Superior National Forest's land holdings in northeast Minnesota.

In November and December 2018, the Company received all final state permits for which the Company had applied from the MDNR and Minnesota Pollution Control Agency ("MPCA"), including the Permit to Mine, dam safety, water appropriations, water quality permit, air emission quality permit, and Section 401 Certification.

In March 2019, the Company received the federal ROD and Section 404 Wetlands Permit from the USACE, which was the last key permit or approval needed to construct and operate the NorthMet Project.

Legal challenges contesting various aspects of state and federal permits and decisions are ongoing and have delayed the NorthMet Project timeline. All legal challenges that have reached a final determination have been in favor of the Company and of the more than 20 permits issued, only three (Permit to Mine, NPDES/SDS Permit, Section 404 Permit) remain on hold.

#### Glencore Financing

Since October 2008, the Company and Glencore have entered into a series of financing agreements resulting in the following financial interests as at December 31, 2022:

- Equity – 72,008,404 common shares of the Company acquired between 2009 and 2019 representing 71% of the Company's issued shares;
- Convertible debt – \$80.0 million initial principal unsecured convertible debentures due March 31, 2023 (subsequently extended to the rights offering closing date); and
- Promissory note – \$10.0 million initial principal note due on rights offering closing date.

On July 19, 2022, in connection with entering into the combination agreement between PolyMet and Teck regarding the Joint Arrangement, Glencore committed to support PolyMet's respective portion of the initial work program required under the Joint Arrangement and certain other costs and expenses in an amount of up to \$105 million. Pursuant to the commitment by Glencore, Glencore agreed to fully backstop the Rights Offering (as defined below) by PolyMet to raise additional funding upon closing of the Joint Arrangement. Glencore also committed to either convert outstanding convertible debentures or backstop additional funding under the Rights Offering to repay these debentures.

#### Other Financing – Rights Offering

On February 27, 2023, the Company filed a notice and circular for an offering of rights ("Right") to holders of common shares of the Company to raise \$195.4 million in gross proceeds (the "Rights Offering"). Every shareholder received one Right for each common share owned on March 10, 2023, the record date for the Rights Offering, and each Right entitles the holder to acquire 0.91068844 new common shares of the Company at \$2.11 per share. This offering of Rights will expire on April 4, 2023 and as mentioned above, is fully backstopped by Glencore, who agreed to purchase any common shares not subscribed for by holders of Rights, subject to the satisfaction of the terms and conditions of the Standby Purchase Agreement. Glencore will be entitled to a fee at the closing of the Rights Offering of approximately \$5.862 million, which is equal to 3.0 percent of the total funds committed by Glencore under the Standby Purchase Agreement. The Company intends to use the proceeds of the Rights Offering to repay all outstanding convertible debt and promissory notes due to Glencore, to fund PolyMet's portion of the Joint Arrangement initial work program and to fund general corporate activities.

In connection with the Rights Offering, Glencore confirmed it will not convert the convertible debt and will extend the maturity of the convertible debt until the rights offering closing date. In addition, Glencore confirmed it will continue to provide financial support to enable the Company to continue its business operations as a going concern through at least March 31, 2024.



### Three Year History

The Company's focus over the past three years has been on defense of the NorthMet Project permits, site monitoring, maintenance of existing infrastructure and advancing engineering and activities to facilitate the transition to construction.

Major highlights and recent events include:

- On February 27, 2023, the Company filed a notice and circular for an offering of rights to holders of common shares of the Company to raise \$195.4 million in gross proceeds (the "Rights Offering") to repay all outstanding convertible debt and promissory notes due to Glencore, to fund PolyMet's portion of the Joint Arrangement initial work program and to fund general corporate activities.
- On February 14, 2023, the Joint Arrangement transaction closed and the Company and Teck became equal owners in NewRange (formerly PolyMet Inc.). The Company and Teck are responsible for funding their pro rata share of costs relating to the NorthMet Project and the Mesaba Project. PolyMet and Teck have committed to an initial work program with an estimated budget of \$170 million to maintain permits, update feasibility study estimates and undertake detailed engineering to position NorthMet for a development decision following permit clearances.
- On December 30, 2022, the Company published the updated NorthMet Technical Report under NI-43-101 that confirmed the economic and technical viability of the NorthMet copper-nickel-precious metals project.
- On November 28, 2022, the Company published a technical report under NI-43-101 on the Mesaba deposit. Measured and Indicated mineral resources were estimated to be 2,207 million short tons grading 0.428% copper, 0.102% nickel, 34 ppb platinum, 97 ppb palladium, 25 ppb gold, 76 ppm cobalt, and 1.19 ppm silver.
- On July 20, 2022, the Company announced that it had entered into an agreement with Teck to form the Joint Arrangement that will place NorthMet and Mesaba resources, containing copper, nickel, cobalt, platinum, palladium, gold and silver, under single management. The two resources account for approximately one-half of the known resources of copper, nickel, cobalt and precious metals in Minnesota's Duluth Complex and are adjacent to each other. The Mesaba Project is progressing baseline environmental studies, resource definition and mineral processing studies. Further studies and community and tribal consultation will be required to fully define long-term development potential of Mesaba.
- In January 2022, the Minnesota Court of Appeals ("MCOA") affirmed key aspects of the NPDES/SDS Permit and ordered the MPCA to consider whether any discharges to groundwater will be the "functional equivalent" of discharges to navigable waters – also known as the "Maui" test.
- In December 2021, the MPCA issued supplemental findings supporting its decision to issue the Air Permit in accordance with an order from the MCOA. The Air Permit is now active.
- In April 2021, the Minnesota Supreme Court ("MSC") overturned a lower court's decision finding that no contested case hearing was required for the dam safety permits and limiting the Permit to Mine contested case hearing to one issue regarding the use of bentonite clay at the tailings basin.

## Goals and Objectives for the Next Twelve Months

PolyMet's objectives include:

- Successfully defend against legal challenges to NorthMet permits;
- Maintain political, social and regulatory support for NorthMet;
- Successfully integrate the Joint Arrangement with Teck;
- Advance study estimates. Engineering and construction finance to position NorthMet for a development decision following permit clearances; and
- Progress environmental, resource definition and mineral processing studies, and community and tribal consultation for Mesaba.

The Company continues to explore various sources of debt and equity finance opportunities sufficient to fund its share of construction and generate future profitable operations. Construction and ramp-up to commercial production is anticipated to take approximately thirty months from receipt of construction funding. As noted in the "Environmental Review and Permitting" section above, legal challenges contesting various aspects of state and federal permits and decisions are ongoing and have delayed the NorthMet Project timeline; however, the Company continues to make preparations to act on those permits as appropriate.

See additional discussion in the sections below.

## 4. DESCRIPTION OF THE BUSINESS

### NorthMet Project

The following description of the NorthMet Project and the NorthMet Technical Report prepared by the qualified persons set out in Section 1 of this AIF are qualified in their entirety by reference to the full text of the NorthMet Technical Report filed by PolyMet under its profile at [www.sedar.com](http://www.sedar.com) and at [www.sec.gov](http://www.sec.gov) and the detailed disclosure contained in the NorthMet Technical Report is incorporated by reference into this AIF.

PolyMet contracted M3 Engineering & Technology Corporation ("M3") to complete an updated Technical Report, at a feasibility study level, for the NorthMet Project based on feasibility-study-level engineering as well as the Final Environmental Impact Statement and environmental permits for the development of a 32,000-short ton per day 225 million short ton production schedule. PolyMet also retained Independent Mining Consultants ("IMC"), Senet, (Pty) Ltd. ("Senet"), Hard Rock Consulting, LLC ("HRC") and Barr Engineering Company ("Barr") to contribute to this updated Technical Report which was published on December 30, 2022.

### **NorthMet Property Description and Location**

#### Project Location

The NorthMet Project comprises two key elements: the NorthMet deposit (or Mine Site) and the Erie Plant. The NorthMet deposit is situated on mineral leases located in St. Louis County in northeastern Minnesota at Latitude 47° 36' north, Longitude 91° 58' west, about 70 miles north of the City of Duluth and 6.5 miles south of the town of Babbitt. The Erie Plant is approximately six miles west of the NorthMet deposit.

The NorthMet deposit site totals approximately 5,980 acres and the Erie Plant site, including the existing tailings basin, covers approximately 12,400 acres.

The NorthMet Project is located immediately south of the eastern end of the historic Mesabi Iron Range and is in proximity to a number of existing iron ore mines including the Peter Mitchell open pit

mine located approximately two miles to the north of the NorthMet deposit. NorthMet is one of several known mineral deposits that have been identified within the 30-mile length of the Duluth Complex, a well-known geological formation containing copper, nickel, cobalt, platinum group metals, silver, gold, and titanium.

The NorthMet deposit is connected to the Erie Plant by a transportation and utility corridor that is comprised of an existing private railroad that will primarily be used to transport ore, an existing private road that will be upgraded to provide vehicle access, new water pipelines and an electrical power network.

#### NorthMet Project Ownership

During the year ended December 31, 2022, PolyMet owned 100% of PolyMet Inc. (now NewRange Copper Nickel LLC, a Delaware Corporation, and for purposes in this Section 4, "PolyMet Inc"), and PolyMet Inc controlled 100% of the NorthMet Project. As of December 31, 2022, PolyMet was the sole owner of PolyMet Inc, for the sake of simplicity, this summary will for the most part refer to both entities as PolyMet, except when specific differentiation is required for legal clarity.

Pursuant to a combination agreement dated July 19, 2022 (the "Combination Agreement") among PolyMet, PolyMet Inc, Teck, and Teck American Inc., a wholly owned subsidiary of Teck, the parties agreed to form a 50:50 joint arrangement that placed NorthMet and Teck's Mesaba Project under single management. PolyMet and Teck became equal owners in PolyMet Inc, which was renamed NewRange Copper Nickel LLC upon closing of the Joint Arrangement on February 14, 2023.

#### Mineral Rights

The mineral rights covering 4,282 acres or 6.5 square miles at the NorthMet orebody are held through two mineral leases:

- The U.S. Steel Lease dated January 4, 1989, subsequently amended and assigned, covers 4,162 acres originally leased from U.S. Steel Corporation (U.S. Steel), which subsequently sold the underlying mineral rights to RGGGS Land & Minerals Ltd., L.P. (RGGGS). PolyMet has extended the lease indefinitely by making \$150,000 annual lease payments on each successive anniversary date. The lease payments are advance royalty payments and will be deducted from future production royalties payable to RGGGS, which range from 3% to 5% based on the net smelter return, subject to minimum payments of \$150,000 per annum.
- On December 1, 2008, PolyMet entered into an agreement with LMC Minerals ("LMC") whereby PolyMet leases 120 acres that are encircled by the RGGGS property. The initial term of the renewable lease is 20 years with minimum annual lease payments of \$3,000 on each successive anniversary date until the earlier of NorthMet commencing commercial production or for the first four years, after which the minimum annual lease payment increases to \$30,000. The initial term may be extended for up to four additional five-year periods on the same terms, subject to the Project meeting specified production and timing criteria. The lease payments are advance royalty payments and will be deducted from future production royalties payable to LMC, which range from 3% to 5% based on the net smelter return, subject to a minimum payment of \$30,000 per annum.

#### Surface Rights

The surface rights at the Mine Site are owned by PolyMet as a result of a land exchange with the USFS that was completed in 2018. PolyMet also holds leasehold interests and licenses to certain surface lands adjacent to or near the Mine site.

PolyMet Inc purchased the Erie Plant, which covers approximately 12,400 acres, or 19.4 square miles, from Cliffs Erie, L.L.C. (“Cliffs Erie”). Additionally, PolyMet holds various leases through a combination of state, county, and private entities and various other rights of use with Cliffs Erie that give it control of 100% of the existing Plant site.

### Royalties and Encumbrances

The NorthMet deposit mineral rights carry variable royalties of 3% to 5% based on the Net Smelter (NSR) per ton of ore mined. For a Net Metal Value (NMV) of under \$30 per ton, the royalty is 3%, for NMV of \$30-35 per ton it is 4%, and above \$35 per ton it is 5%. Both the U.S. Steel lease (RGGGS) and the LMC Lease carry advance royalties, which can be recouped from future royalty payments, subject to minimum payments in any year. The US Steel leases were transferred through sale to RGGGS although the underlying agreement terms remain the same.

### Environmental Liabilities

Federal, state and local laws and regulations concerning environmental protection affect the PolyMet operation. As part of the purchase of the Erie Plant and associated infrastructure, the Company indemnified Cliffs and its subsidiary Cliffs Erie for reclamation and remediation obligations of the acquired property.

The Company’s estimate of the environmental rehabilitation provision under International Financial Reporting Standards (IFRS) on December 31, 2022 was \$65.631 million based on estimated cash flows required to settle this obligation in present day costs of \$77.718 million, a projected inflation rate of 2.5%, a market risk-free nominal interest rate of 3.5% and expenditures expected to occur over a period of approximately 30 years. This estimate includes but is not limited to water treatment and infrastructure closure and removal, with costs estimated by PolyMet and its consultants and construction contractors.

### Permits

PolyMet has received all key permits and approvals from the state and federal agencies required to construct and operate the NorthMet Project. Legal challenges contesting various aspects of state and federal permits and decisions are ongoing which have delayed the NorthMet Project timeline. All legal challenges that have reached a final determination have been in favor of the Company. Of the more than 20 permits issued, only three (Permit to Mine, NPDES/SDS Permit, Section 404 Permit) remain on hold.

## **NorthMet Accessibility, Climate, Local Resources, Infrastructure and Physiography**

### Accessibility and Climate

Access to the NorthMet Project is by a combination of good quality asphalt and gravel roads via the Erie Plant site. The nearest center of population is the town of Hoyt Lakes, which has a population of about 2,500 people. There are a number of similarly sized communities in the vicinity, all of which are well serviced, provide ready accommodations, and have been, or still are, directly associated with the region’s extensive taconite mining industry. The road network in the area is well developed, though not heavily trafficked, and there is an extensive railroad network which serves the taconite mining industry across the entire Range. There is access to ocean shipping via the ports at Taconite Harbor and Duluth/Superior (on the western end of Lake Superior) and the St. Lawrence Seaway.

Climate is continental and characterized by wide temperature variations and significant precipitation.

## Local Resources and Infrastructure

The area has been economically dependent on the mining industry for many years and while there is an abundance of skilled labor and local mining expertise, the closure in 2001 of the LTVSMC open pit mines and taconite processing facility has had a significant negative impact on the local economy and population growth. There are, however, several other operating mines in other parts of the Iron Range. Because of this, the mining support industries and industrial infrastructure remains well developed and of a high standard.

The Erie Plant site is connected to the electrical power supply grid and a main HV electrical power line (138 kV) runs parallel to the road and railroad that traverse the southern part of the mining lease area. PolyMet has a long-term power contract with Minnesota Power.

There are plentiful local sources of fresh water, and electrical power and water are available nearby. Previous operations at the site processed 100,000 STPD with adequate water supply, which is more than three times the plan for PolyMet.

## Physiography

The Iron Range forms an extensive and prominent regional topographic feature. The NorthMet Project site is located on the southern flank of the eastern Range where the surrounding countryside is characterized as being gently undulating. Elevation at the NorthMet Project site is about 1,600 ft asl (1,000 ft above Lake Superior). Much of the region is poorly drained and the predominant vegetation comprises wetlands and boreal forest. Forestry is a major local industry and the NorthMet Project site and much of the surrounding area has been repeatedly logged. Relief across the site is approximately 100 ft.

## **NorthMet History**

U.S. Steel held mineral and surface rights over much of the region, including the NorthMet lease, until the 1930s when, for political and land management reasons, surface title was ceded to the USFS. In negotiating the deeds that separated the titles, U.S. Steel retained the mineral rights and the rights to explore and mine any mineral or group of minerals. U.S. Steel first drilled what is now known as the modern day NorthMet deposit in the 1960s during exploration for a high-grade, underground copper-nickel resource.

U.S. Steel's interest in the NorthMet deposit (also known as the Dunka deposit) was triggered by an anomaly identified during airborne survey work conducted in 1966. U.S. Steel mapped and ground surveyed the property the following year, and initiated drilling exploration in 1968. Drilling has been the primary method of exploration at the NorthMet Project, however, 240 geophysical soundings, numerous test pits, and down-hole geophysical testing have been completed to better understand the depth to bedrock and the lithologic contacts.

Between 1969 and 1974, U.S. Steel drilled 112 holes for a total of 113,716 ft, producing 9,475 assay intervals, which are included in the modern-day NorthMet Project database. Assay data from U.S. Steel core samples was not necessarily collected at the time of the original drilling.

A number of historic mineral resource estimates were completed (U.S. Steel, Fleck Resources, NERCO) prior to PolyMet's acquisition of the NorthMet Project. These resource estimates predate current NI 43-101 reporting standards and the associated resource models, electronic or otherwise, are not available for verification.

There is no historical production data to report for the NorthMet Project.

## **NorthMet Geological Setting and Mineralization**

### Regional Geology

The NorthMet deposit is situated on the western edge of the Duluth Complex in northeastern Minnesota. The Duluth Complex is a series of distinct intrusions of mafic to felsic tholeiitic magmas that intermittently intruded at the base of a comagmatic volcanic edifice during the formation of the Midcontinental rift system between 1108 and 1098 Ma. The intrusives of the Duluth Complex represent a relatively continuous mass that extends in an arcuate fashion from Duluth to the northeastern border between Minnesota and Canada near the town of Grand Portage. Footwall rocks are predominantly comprised of Paleoproterozoic and Archean rocks, the hanging wall rocks are made up of mafic volcanic rocks and hypabyssal intrusions, and internally scattered bodies of strongly granoblastic mafic volcanic and sedimentary hornfels can be found.

### Local and Property Geology

The NorthMet deposit is situated within the Partridge River Intrusion ("PRI"). The PRI has been mapped, drilled, and studied in detail because of its importance as a host for copper-nickel ("Cu-Ni") and iron-titanium ("Fe-Ti") deposits. The PRI consists of varied troctolitic and (minor) gabbroic rock types that are exposed in an arcuate shape that extends from the Water Hen (Fe-Ti) deposit in the south to the Babbitt (Cu-Ni) deposit in the North. The PRI is bound on the west by the Paleoproterozoic Virginia Formation (slate and graywacke), and to a lesser extent, the Biwabik Iron Formation ("BIF"). The upper portion of the PRI forms a complex contact an assemblage of anorthositic, gabbroic, and hornfelsic rocks. This assemblage is also found as large inclusions within the interior of the PRI. The inclusions are thought to represent earlier roof zone screens that were overplated by later emplacement of Partridge River intrusion magmas.

### Mineralization

The metals of interest at NorthMet are copper, nickel, cobalt, platinum, palladium, silver, and gold. Minor amounts of rhodium and ruthenium are present though these are considered to have no economic significance. In general, except for cobalt and gold, the metals are positively correlated with copper mineralization. Cobalt is well correlated with nickel. Most of the metals are concentrated in, or associated with, four sulfide minerals: chalcopyrite, cubanite, pentlandite, and pyrrhotite, with platinum, palladium and gold also found as elements and in bismuthides, tellurides, and alloys.

Mineralization occurs in four broadly defined horizons or zones throughout the NorthMet property. Three of these horizons are within basal Unit 1, though they likely will not be discriminated in mining. The sulfide mineralization occurs as primarily as disseminated interstitial grains between a dominant silicate framework and are chalcopyrite > pyrrhotite > cubanite > pentlandite. The thickness of each of the three Unit 1 enriched horizons varies from 5 ft to more than 200 ft. Mineralization in Unit 1 occurs along the strike length of the NorthMet property and extends down dip from the surface to a depths 2,600 feet below surface. Mineralization in Unit 1 locally penetrates up into Unit 2 along strike and down dip of Unit 1. The copper-rich, sulfur-poor disseminated mineralization in the Magenta Zone crosscuts Units 4, 5 and 6 in the western part of the NorthMet. The Magenta Zone dips shallowly to the southeast and has a strike length of 8,700 feet, and average thickness of approximately 100 feet and occurs at depths starting at the surface to depths of 800 below surface. The mineralization within Unit 1, Unit 2, and the Magenta Zone accounts for over 90% of the mineralized material at NorthMet.

## **NorthMet Deposit Types**

The NorthMet deposit is considered a magmatic Copper - Nickel ± platinum group element (“PGE”) deposit. These are a broad group of deposits containing nickel, copper and PGEs occurring as sulfide concentrations associated with a variety of mafic and ultramafic magmatic rocks. Magmatic Cu-Ni sulfide deposits with or without PGEs account for approximately 60 percent of the world’s nickel production. Magmatic Ni-Cu±PGE sulfide deposits are spatially and genetically related to bodies of mafic and/or ultramafic rocks. The sulfide deposits form when the mantle-derived magmas become sulfide-saturated and segregate immiscible sulfide liquid, commonly following interaction with continental crustal rocks.

The NorthMet deposit is a large-tonnage, disseminated accumulation of sulfide in mafic rocks, with rare massive sulfides. Copper to nickel ratios generally range from 3:1 to 4:1. Primary mineralization is probably magmatic, though the possibility of structurally controlled re-mobilization of the mineralization (especially PGE) has not been excluded. The sulfur source is both local and magmatic. Extensive detailed logging has shown no definitive relation between specific rock type and the quantity or grade quality of sulfide mineralization in the Unit 1 mineralized zone or in other units, though local noritic to gabbro-noritic rocks (related to footwall assimilation) tend to be of poorer PGE grade and higher in sulfur.

## **NorthMet Exploration**

Historical exploration completed on the NorthMet Project by previous owners is presented in the “History” section above. Other than drilling, very little exploration has been carried out at the NorthMet Project by PolyMet except for certain field mapping and surface sampling which was completed in 2018. The field mapping and surface samples focused on an undrilled area to the northeast of the east pit. Historical mapping in the area identified mineralized outcrops, subcrops and float, interpreted as Unit 1 mineralization.

## **NorthMet Drilling**

Exploration drilling was carried out by U.S. Steel between 1969 and 1974. In total, eight drilling programs have been conducted at NorthMet (U.S. Steel, NERCO, and PolyMet) resulting in 469 drill holes, representing over 300,000 feet of stratigraphic control and analytical results.

In addition to the data provided by the drilling exploration programs, stratigraphic data is available from another seventy exploration holes drilled in the area for nearby projects, hydrogeological studies, or water supply wells. All exploration data is maintained by PolyMet in a drill-hole database used for resource evaluation, reserve calculation, and mine planning. PolyMet has verified and validated all drilling locations, down-hole surveys, lithology, rock property, and assay data, organized all related records, and established procedures for ongoing database maintenance.

PolyMet completed 355 drill holes between 1998 and 2019 totaling 187,964 ft. Of the 355 holes drilled by PolyMet, 52 were drilled using reverse circulation, and 303 are diamond core holes. Drilling exploration conducted by PolyMet is summarized in Table 10-1 of the NorthMet Technical Report, and drill hole distribution is shown on Figure 10-1 of the NorthMet Technical Report.

Very little documentation is available on drilling and sampling procedures employed by U.S. Steel and NERCO. However, the drilling was conducted by companies experienced in exploration and production and is considered reliable.

In all cases, drilling has shown a basal mineralized zone (Unit 1) in heterogeneous troctolitic rocks with the highest values in the upper portion with grades generally diminishing to depth along drill holes. Grade appears to increase down dip, but less information is available as the depth to the unit intersection increases. The main ore zone is 200 to 1,000 ft thick, averaging about 450 ft. The mineralization extends from base of the till at the north edge of the NorthMet Project and continues

to depths greater than 2,500 ft. Sampling on the deepest holes is sparse, with little in-fill work done since the original U.S. Steel drilling. PolyMet collected 700 samples from the deeper U.S. Steel holes in the spring of 2006, this data is included in the exploration database .

Core recovery is reported by PolyMet to be upwards of 99% (see table below) with rare zones of poor recovery. Rock quality designation (“RQD”) is also very high, averaging 85% for all units, excluding the Iron formation. Experience in the Duluth Complex indicates that core drilling has no difficulty in producing samples that are representative of the rock mass. Rock is fresh and competent and the types of alteration (when observed: sausserization, uralization, serpentinization and chloritization) do not affect recovery.

**Summary of Core Recoveries and RQD Measurements (includes all drilling through 2010)**

Unit	Recovery Count	Recovery Percentage (%)	RQD Count	RQD Percent
1	8,906	99.9	4,194	91.8
2	1,879	99.5	968	90.3
3	4,374	100	2,632	93.5
4	2,160	100	1,063	96.4
5	1,901	100	838	94.3
6	2,262	100	1,041	94.7
7	951	99.3	396	87.4
Virginia Formation	2,095	99.7	1,069	87.6
Inclusions	62	98.1	57	86.6
Biwabik Iron Formation	381	100	60	79.8
<b>Duluth Complex Average</b>		<b>99.96</b>		<b>92.82</b>

**NorthMet Sample Preparation, Analyses and Security**

There are multiple generations of sample analyses that contribute to the overall NorthMet Project assay database:

- Original U.S. Steel core sampling, by U.S. Steel, 1969-1974;
- Re-analysis of U.S. Steel pulps and rejects, selection by Fleck and NRRI, 1989-1991;
- Analysis of previously un-sampled U.S. Steel core, sample selection by Fleck and NRRI in 1989-1991, and 1999-2001;
- Analysis of 2 of the 4 NERCO drill-holes, 1991;
- PolyMet RC cuttings, 1998-2000; and
- PolyMet core, 2000, 2005, 2007, 2010, 2018, and 2019.

The laboratories utilized by U.S. Steel were not independent of the company, and no information regarding accreditation is available. All the labs that have provided analytical testing for PolyMet were or currently are fully accredited, independent, commercial labs that are not related to any of the exploration companies or any of its directors or management.

PolyMet’s drill hole and assay data is administered by the Company’s geologic staff from the operational headquarters in Hoyt Lakes. PolyMet uses Excel and Gemcom GEMS to manage the geologic data. Paper logs are available at the operational headquarters.

U.S. Steel and NERCO

There is no documentation indicating sample handling protocols at drill sites, and only limited documentation of sample handling between the drill site and assay laboratory for programs conducted by U.S. Steel and NERCO.



## PolyMet

Employees of PolyMet (or its predecessor, Fleck Resources) have been either directly or indirectly involved in all sample selection since the original U.S. Steel sampling. Sample cutting and preparation of core for shipping has been done by PolyMet employees or contract employees. Reverse circulation sampling at the rig was done by, or in cooperation with, PolyMet employees and the drilling contractor.

The diamond drillers remove the drill core samples from the rods and place them into covered core boxes. PolyMet representatives collect the trays and transport them to the core storage facility located near the processing plant each day where the core is inventoried prior to processing. Once the geologist is ready to log the hole, the core trays are laid out on core logging tables where all logging takes place prior to sampling.

Drill core samples are placed into plastic sample bags, sealed, and placed into a cardboard box. The cardboard box is sealed shut with tape and couriered to the laboratory. Once the laboratory has accepted delivery of the samples they remain under the control of the laboratory.

The RC holes were assayed on 5-ft intervals. Six-inch RC drill-holes produced about 135 lb to 150 lb of sample for every 5 feet of drilling. This material was split using a riffle splitter into two samples and placed in plastic bags and stored underwater in five-gallon plastic buckets. A 1/16th sample was taken by rotary splitter from each 5-ft interval of chip sample for assay. The assay values were used to develop a composite pilot plant sample from bucket samples. Actual compositing was completed after samples had been shipped to Lakefield. A second 1/16th sample was sent to the Minnesota Department of Natural Resources for their archive.

There are 5,216 analyses from the RC drilling in the current PolyMet database. RC sample collection involved a 1/16 sample representing each five-foot run. These were sent to Lerch for preparation, and then sent to ACME or Chemex for analysis.

Chip samples were collected and logged and are currently retained at the PolyMet warehouse. While the chip sample logging is less precise than logging of core samples, the major silicate and sulfide minerals are identifiable, and the location of marker horizons can be derived based on the composition of the individual samples. The underlying metasedimentary rocks (Virginia Formation) are readily recognized in chip sample, and the base of the NorthMet deposit is relatively easy to define. Where rock recognition is difficult, the higher zinc content of the footwall rocks is used to help define the contact.

PolyMet geologists log all drill cores at the core storage facility located near the processing plant. The geologists record information for each drill hole including the hole number, azimuth, total depth, coordinate datum, drilling company, hole logger, start and end of drilling dates, rock codes, and a written description of stratigraphy, alteration, texture, mineralogy, structure, grain size, ground conditions, and any notable geologic features. The rock quality designation (RQD) and recovery percentage are also recorded.

Sample intervals are determined by the geologist with respect to stratigraphy, mineralization, and sulfide content, otherwise a standard 10-ft interval is sampled. Zones of increased sulfide mineralization >2.5 ft are sampled down to 5-ft intervals. Core within Unit 1 is sampled on 5-ft intervals. Core samples are cut to ¼ or 1/8 of the total core with a diamond bladed saw by trained personnel following written procedures. Each sample is placed in a numbered plastic sample bag with the corresponding sample number tag and placed in a cardboard box for transport to the laboratory. All QA/QC samples are inserted into the sample stream prior to shipment.

### Sample Preparation

Samples were prepared for analysis at Lerch, Acme, or Chemex facilities. In general, all the facilities followed a similar preparation procedure. Samples were crushed to an approximate -10 mesh, prior to being reduced to a 250-gram split for pulverization (149 to 106 µm range). Pulps were split again to separate a sample for the following analyses:

- Base metals (Cu, Co, Mo, Ni and Zn) - Four-acid digestion with ICP-AES finish;
- Base metals (Ag, Cu, Co, Mo, Ni and Zn) – Aqua Regia digestion with ICP-AES finish;
- PGEs (Au, Pt and Pd) – 30 gm fire assay with ICP-AES finish; and
- Total Sulphur by LECO furnace.

Select core samples were crushed to - ½ inch and placed in a poly bottle, purged with nitrogen, and capped and sealed for special metallurgical and environmental analysis.

### Quality Assurance/Quality Control Procedures (“QA/QC”)

QA/QC samples used by PolyMet include blanks, standards and field duplicates. PolyMet inserts QA/QC samples into the sample stream at the following frequencies:

- Insertion of coarse blank every 40 samples;
- Insertion of Standard Reference Material (SRM) every 40 samples; and
- Submission of duplicate 1/4 or 1/8 of the drill core every 40 samples.

### Core Storage and Sample Security

The U.S. Steel core has been stored, either at the original U.S. Steel warehouse in Virginia, Minnesota during drilling, or more recently at the CMRL (now a part of the University of Minnesota). Core has been secured in locked buildings within a fenced area that is locked at night where a key must be checked out. The NERCO BQ size core is also stored at this facility.

The PolyMet core and RC reference samples were stored in a PolyMet leased warehouse in Aurora, Minnesota during drilling and pre-feasibility. Core and samples were then moved in 2002 to a warehouse in Mountain Iron, Minnesota where they remained until 2004. They were then moved to a warehouse at the Erie Plant site in Hoyt Lakes. Access to this warehouse is limited to PolyMet employees.

### Opinion on Adequacy

The NorthMet qualified person (“NorthMet QP”) concludes that the sample preparation, security and analytical procedures are correct and adequate for the purpose of the NorthMet Technical Report. The sample methods and density were appropriate, and the samples were of sufficient quality to comprise a representative, unbiased database.

### **NorthMet Data Verification**

The NorthMet mineral resource estimate is based on the exploration drill-hole database available as of March 13, 2019. Drill hole data including collar coordinates, down-hole surveys, sample assay intervals, and geologic logs were provided by PolyMet in Microsoft Excel spreadsheets. The database was reviewed and validated by the NorthMet QP prior to estimating mineral resources. The NorthMet database includes 116 historic drill holes 2 of which were twinned holes, 355 PolyMet drill holes, 240 vertical sounding holes, 15 depths to bedrock test pits, and 47 geologic holes from the surrounding area. Of the 739 drill holes, only 469 drill holes were used in the estimation, although many of the 469 holes include only select analytical information. The database was validated using Leapfrog Geo 3D® (multiple versions) software. Validation checks included:

- No overlapping intervals;
- Down-hole surveys at drill-hole collar;
- Consistent drill-hole depths for all data tables; and
- No gaps in the “from – to” data tables.

The analytical information used for the resource estimate includes copper, nickel, platinum, palladium, gold, silver, cobalt and sulfur. All assay values Below Detection Limits (“BDL”) were assigned a value of one half of the detection limit and missing or non-sampled intervals were assigned a value of zero (0).

The NorthMet QP reviewed PolyMet’s check assay programs and considers the programs to provide adequate confidence in the data. Samples that are associated with QA/QC failures were reviewed and reanalyzed as necessary.

Exploration drilling, sampling, security, and analysis procedures were conducted in a manner that meets or exceeds industry standard practice. All drill cores and cuttings from PolyMet’s drilling have been photographed. Drill logs have been digitally entered into an exploration database organized and maintained in Gemcom. The split core and cutting trays have been securely stored and are available for further checks.

### **NorthMet Mineral Processing and Metallurgical Testing**

The NorthMet deposit is hosted in the Duluth Complex in northeastern Minnesota. The Duluth Complex is a large, composite, grossly layered tholeiitic mafic intrusion. The sulfide mineralization of the complex contains metals (copper, nickel, cobalt, titanium and PGMs) that are of economic interest. A significant amount of metallurgical test work has been conducted on the Duluth Complex; therefore, the general metallurgy of the complex is fairly well understood.

Orway Mineral Consultants (“OMC”) in 2014 studied SAG Mill based comminution circuits for the NorthMet Project. This was done to assess if a SAG Mill based circuit would be practical for the NorthMet Project and capable of rationalizing the existing 4-stage crushing circuit (total of 11 crushers) and 12 lines of Rod Mill + Ball Mill grinding circuits in the existing Erie concentrator. Comminution test work results from SGS were interpreted by OMC and used to scope out a SAG mill based comminution circuit to process 32,000 STPD. Further comminution test work was conducted by Hazen Research (Golden, Co.) in 2015 to confirm the comminution parameters.

The development of the current NorthMet flotation process flowsheet was based on test work (SGS, 2015) and includes the following:

- Flotation Test work conducted by SGS Lakefield (“SGS”) between 1998 and 2014, and
- Supplementary flotation test work conducted by SGS in 2015 and interpreted by Eurus Mineral Consultants (“EMC”) for circuit modeling and flotation plant design.

SGS conducted extensive flotation test work up until 2010. The work covered by SGS included significant amounts of batch and rate flotation test work on a number of samples provided by PolyMet. A flotation process block flow diagram was developed from the results and observations of the initial batch test work conducted by SGS. The process block flow diagram shown in Figure 13-1 in the NorthMet Technical Report can be summarized into three main circuits as follows:

- The Bulk Copper-Nickel Flotation circuit;
- The Copper-Nickel Separation Circuit; and
- The Pyrrhotite Flotation Circuit.

Pilot scale test work was conducted by SGS to demonstrate the flowsheet developed for the NorthMet process. The results of the pilot test work are also included in the SGS report.

Additional flotation test work was requested of SGS in 2015 to fill in gaps in the flotation test work. EMC conducted a flotation circuit simulation of the process flow based on the results obtained from both SGS's batch and pilot scale test work. The work that EMC conducted was initially targeted at simulating the pilot plant, and then to producing full production scale results. EMC's simulations were based on a throughput of 32,000 STPD. The results of the simulations were used to review the previous design and update the current process plant design basis and criteria.

In 2019 Expert Process Solutions (XPS) carried out a test work program which had three principal mandates:

1. The first objective was to perform tests to investigate the potential to increase the grade of the nickel concentrate produced.
2. The second objective was to investigate improving the commercial value of the pyrrhotite concentrate produced.
3. The third objective was to examine performance variability to identify and assess project risks. Minimum process optimization was planned and much of the testwork was based on several years of flotation testing on ore samples from the deposit. The test program was not designed as a complete re-engineering and flowsheet development exercise for what is essentially a well-studied ore. Rather, it was anticipated that a relatively compact assessment program would be carried out upon a Y1-3 "Master Composite" to identify and capture any opportunities for enhanced grade or recovery

A second pilot plant program was carried out by SGS in 2009 to investigate hydrometallurgical processes. This is discussed in more detail starting from Section 13.6 of the NorthMet Technical Report.

### **NorthMet Mineral Resource Estimates**

Mr. Richard Schwering, P.G., SME-RM, of Hard Rock Consulting, LLC ("HRC") is responsible for the resource estimate presented here. Mr. Schwering is a qualified person as defined by NI 43-101 and is independent of PolyMet. The NorthMet QP estimated the mineral resource for the NorthMet polymetallic project from drill-hole data constrained by geologic boundaries using an Ordinary Kriging ("OK") algorithm. Datamine Studio 3® software was used in combination with Sage 2001 for the variography and Leapfrog Geo® for the geologic model. The metals of interest at NorthMet are copper, nickel, cobalt, platinum, palladium, gold, silver, and sulfur.

The mineral resource estimate reported herein was prepared in a manner consistent with the "CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines" prepared by the CIM Mineral Resource and Mineral Reserve Committee and adopted by the CIM Council in November 2019. The mineral resources have been classified as Measured, Indicated, and Inferred in accordance with standards defined by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") "CIM Definition Standards - For Mineral Resources and Mineral Reserves," prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council in May 2014. Each individual mineral resource classification reflects an associated relative confidence of the grade estimates.

Overall, the NorthMet QP utilized several methods to validate the results of the estimation method. The combined evidence from these validation methods verifies the OK estimation model results.

The mineral resource estimate for the NorthMet Project is summarized below. This mineral resource estimate includes all drill data obtained as of September 20, 2022 and has been independently verified by the NorthMet QP. Mineral resources that are not mineral reserves do not have demonstrated economic viability and may be materially affected by modifying factors including but not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal,

environmental, social, and governmental factors. Inferred mineral resources are that part of a mineral resource for which the grade or quality are estimated on the basis of limited geological evidence and sampling. Inferred mineral resources do not have demonstrated economic viability and may not be converted to a mineral reserve. It is reasonably expected, though not guaranteed, that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

**Mineral Resource Statement for the NorthMet Project Inclusive of Mineral Reserves,  
Hard Rock Consulting, LLC, September 20, 2022**

Class	Tonnage (M st)	Grades (Undiluted)								
		Copper (%)	Nickel (%)	Platinum (ppb)	Palladium (ppb)	Gold (ppb)	Cobalt (ppm)	Silver (ppm)	NSR \$/ton	Cu-Eq (%)
Measured	314.5	0.257	0.077	68	240	35	72	0.94	21.78	0.526
Indicated	387.1	0.248	0.073	66	229	33	68	0.93	20.74	0.502
M&I	701.6	0.252	0.074	67	234	34	70	0.94	21.20	0.513
Inferred	441.1	0.254	0.070	67	243	34	55	0.92	21.23	0.509

**\*Notes:**

1. The effective date of the 2022 Mineral Resource estimate is September 20, 2022. The NorthMet QP for the estimate is Richard Schwering P.G., RMSME, of Hard Rock Consulting, LLC.
2. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
3. Mineral Resources are reported inclusive of Mineral Reserves at a \$8.17 NSR cut-off. The Mineral Resources are considered amenable to open pit mining and are reported within an optimized pit shell. The pit optimization is based on total ore costs of \$8.17/t processed, mining costs of \$1.20/t at surface and increasing \$0.025/t for every 50 ft of depth and pit slope angles of 48 degrees.
4. Cu-Eq (copper equivalent grade) is based on the mill recovery to concentrates and metal prices shown in Table 14-35 of the NorthMet Technical Report. Mill recoveries were based on average recoveries of 91.0% for Cu, 60.6% for Ni, 30.0% for Co, 77.3% for Pd, 71.1% for Pt, 57.0% for Au and 53.8% for Ag.
5. Copper Equivalent (Cu Eq) = ((Cu head grade x recovery x Cu Price) + (Ni head grade x recovery x Ni Price) + (Pt head grade x recovery x Pt Price) + (Pd head grade x recovery x Pd Price) + (Au head grade x recovery x Au Price) + (Co head grade x recovery x Co Price) + (Ag head grade x recovery x Ag Price)) / (Cu recovery x Cu Price).
6. Tonnage is estimated in US Customary Units and grade estimates are in metric units and percent.
7. Mineral resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

**NorthMet Mineral Reserve Estimates**

The pits were evaluated according to the updated Measured and Indicated Resources and demonstrated to be economically viable; therefore, Measured and Indicated Mineral Resources within the final pit design have been converted to Proven and Probable Reserves. The mineral reserves use the terminology, definitions and guidelines given in the CIM Standards on Mineral Resource and Mineral Reserves (May 2014). All inferred material was classified as waste and scheduled to the appropriate waste stockpile.

Proven and Probable Mineral Reserves of 289.154 million tons are reported within the final pit design used for the mine production schedule and shown in the table below. All inferred material was classified as waste and scheduled to the appropriate waste stockpile. The final mineral reserves are reported using a \$9.39 NSR cutoff inside the pit design using the diluted grades. Both the mineral resource and mineral reserve estimates take into consideration metallurgical recoveries, concentrate grades, transportation costs, smelter treatment charges and royalties in determining NSR values. The table below also shows the mineral reserves by classification category and grade. The Qualified Person responsible for the Mineral Reserve estimate is Herb Welhener, vice president of IMC.

**Mineral Reserve Statement for the NorthMet Project,  
Independent Mining Consultants, October 2022**

Class	Tonnage (x 1,000)	Grades (Diluted)								
		Copper (%)	Nickel (%)	Platinum (ppb)	Palladium (ppb)	Gold (ppb)	Cobalt (ppm)	Silver (ppm)	NSR \$/ton	Cu-Eq (%)
Proven	173,031	0.292	0.085	80	275	40	74.42	1.06	21.51	0.602
Probable	116,123	0.286	0.082	78	263	38	73.65	1.09	21.10	0.590
<b>Total</b>	<b>289,154</b>	<b>0.290</b>	<b>0.084</b>	<b>79</b>	<b>270</b>	<b>39</b>	<b>74.11</b>	<b>1.07</b>	<b>21.35</b>	<b>0.597</b>

\*Notes:

1. Mineral reserve tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.
2. All reserves are stated above a \$9.39 NSR cutoff and bound within the final pit design.
3. Tonnage and grade estimates are in Imperial units on a diluted basis.
4. At a waste:ore strip ratio of 1.36 (rounded), total tonnage within the pit is 681,463 ktons.
5. Cu-Eq values are based on the metal prices in Table 15-2 of the NorthMet Technical Report and total mill recoveries in Table 15-3 of the NorthMet Technical Report.
6. Copper Equivalent (CuEq) = ((Cu head grade x recovery x Cu Price) + (Ni head grade x recovery x Ni Price) + (Pt head grade x recovery x Pt Price) + (Pd head grade x recovery x Pd Price) + (Au head grade x recovery x Au Price) + (Co head grade x recovery x Co Price) + (Ag head grade x recovery x Ag Price)) / (Cu recovery x Cu Price)

## NorthMet Mining Methods

### Open Pit Mine Plan

The NorthMet Project contains mineralization at or near the surface that is ideal for open pit mining methods.

Mining is planned on a 7 day per week schedule, with two 12-hour shifts per day. Other mining schedules may prove to be more effective but are not expected to significantly change the NorthMet Project's economics. The mine plan includes 225 million tons of ore at an overall strip ratio of 1.80:1. Mining is planned in three pits: The East Pit, the Central Pit, and the West Pit. As mining of the Central Pit commences, it will extend into the East Pit, thereby joining the pits. The combined pit will be referred to as the East Pit.

The method of material transport evaluated for the NorthMet Technical Report is open pit mining using two 36.6-yd<sup>3</sup> hydraulic front shovels as the main loading units with a 22.5-yd<sup>3</sup> front end loader as a backup loading unit. The material will be loaded into 240-ton haul trucks and the ore will be hauled to the rail transfer hopper for rail haulage to the mill or ore surge pile areas, and the waste rock to waste stockpiles or pit backfills.

During the first half of the operation, the more reactive waste rock mined will be placed in two temporary stockpiles (one west of the East Pit referred to as the Category 4 Stockpile, and one south of the East Pit referred to as the Category 2/3 Stockpile), and the least reactive waste rock will be placed in a permanent stockpile north of the West Pit (referred to as the Category 1 Stockpile). Once mining is completed in the East Pit, the more reactive waste rock mined will be placed directly in the East Pit as backfill. The more reactive waste rock in the Category 4 Stockpile (in the location of the future Central Pit) will then be relocated as backfill into the East Pit, thus clearing the area for mining of the Central Pit. The Category 2/3 Stockpile will then be moved into the West Pit as backfill at the end of mining. Once mining is completed in the Central Pit, waste rock will be backfilled into that pit, also. By the end of the mine life, all of the more reactive waste rock will be placed as backfill in the pits. As the least reactive waste rock is mined, it will be placed in the permanent Category 1 Stockpile or in the East and Central Pits as backfill. The three mine pits will flood with water after mining and backfilling are completed, which results in the more reactive waste rock being permanently disposed of subaqueously. The general Mine Site layout, including pits, waste rock stockpiles, ore surge pile, rail transfer facility, and overburden storage and laydown area are shown on Figure 16-1 of the NorthMet Technical Report.

### Pre-production Development

The pre-production mine development will be carried out by contractors until bedrock has been uncovered. Clearing, grubbing and harvesting of marketable timber and biomass will be completed as part of Mine Site development and mining. The surface overburden consists of glacial till and peat. Final pre-stripping overburden bank slopes will be maintained at a slope that is not steeper than 2.5H:1V. Excavated peat will be stockpiled in the OSLA or near construction footprints until it can be reused for construction and other on-site reclamation. The remaining glacial till fraction of the overburden will also be removed from the pit footprints and, where necessary, within the stockpile liner footprints, separated based on being saturated or unsaturated, and hauled to the appropriate construction or disposal areas.

Pre-production mine development will utilize on-site construction materials, where possible, including overburden materials and Category 1 waste rock, once available. Additional construction materials will be obtained, as approved by the MDNR. Potential construction materials include waste rock from the state-owned waste rock stockpile located approximately 5 miles west of the Mine Site along Dunka Road, and possibly waste rock and overburden from the inactive (LTVSMC) Area 5 Mine Site to the north and east of the FTB.

Before mining operations can begin, the Mine Site infrastructure, facilities and water management systems must be developed. Mine Site development will take 18-24 months. In the area of the pits, the pre-mining clearing, grubbing and overburden removal will be staged by pit area and completed during the year ahead of rock mining.

### Production Schedule

The production schedule is driven by the nominal ore rate of 32,000 STPD equivalent to 11.6 million tons per annum (average of 362.5 days per year, or 99% availability) with a 20-year mill life. Mining is planned on a 7 day per week schedule, with two 12-hour shifts per day. The mine plan includes 225 million tons of ore and an overall strip ratio of 1.80:1. The production schedule has been calculated on an annual basis for the life of the mine.

The cutoff grade used for the mine schedule is based on the NSR values assigned to the block model described in Section 15.1.3 of the NorthMet Technical Report. The NSR value is based on the diluted metal grades and the dilution approach is described in Section 15.1.2 of the NorthMet Technical Report. An elevated cutoff is used in the early mining years to achieve a higher metal content in the mill feed tonnage. The NSR cutoff ranges between \$14.00/t to \$12.00/t during years 1 through 13 and then is \$9.39/t for years 14 through 20. The cutoffs for the mill ore are shown in the below table as part of the annual production schedule. The \$9.39/t NSR cutoff covers the cost of processing, site G&A and waste water treatment on a per ton of ore basis.

The Life of Mine (“LOM”) schedule was developed on an annual basis for all years. Milling of the mined ore begins in Year 1 and ramps up to full production; a total of 8.7 Mt are milled during Year 1, approximately 75% of a full year’s production rate. The yearly mine production schedule showing ore and waste tonnages is presented in the below table.

## Yearly Mine Production Schedule

	Total	YEAR -1	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20	YEAR 21	
<b>Ore Mined</b>	NSR cutoff - >	14.00	14.00	14.00	14.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	9.39	9.39	9.39	9.39	9.39	9.39	9.39	0.00	0.00
ktons	225,000		8,700	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	7,500	
Diluted NSR318royMI	22.43	24.09	25.22	24.33	24.80	23.56	23.78	23.22	22.69	22.81	22.16	21.83	23.83	23.18	21.36	20.96	20.09	18.33	19.85	20.90	21.93			
Cu, %	0.304		0.320	0.340	0.320	0.332	0.316	0.318	0.314	0.308	0.309	0.305	0.306	0.316	0.305	0.295	0.284	0.256	0.258	0.282	0.293	0.313		
Ni, %	0.087		0.099	0.102	0.089	0.091	0.084	0.085	0.091	0.090	0.086	0.089	0.090	0.092	0.093	0.085	0.080	0.067	0.072	0.080	0.083	0.088		
Diluted CuEq, %	0.631	0.664	0.700	0.678	0.692	0.662	0.665	0.647	0.633	0.641	0.627	0.621	0.672	0.654	0.604	0.593	0.568	0.526	0.566	0.590	0.616			
<b>Mill Feed</b>	NSR cutoff - >	14.00	14.00	14.00	14.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	9.39	9.39	9.39	9.39	9.39	9.39			
ktons	225,000		8,700	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	7,500	
Diluted NSR318royMI	22.43	24.09	25.22	24.33	24.80	23.56	23.78	23.22	22.69	22.81	22.16	21.83	23.83	23.18	21.36	20.96	20.09	18.33	19.85	20.90	21.93			
Cu, %	0.304		0.320	0.340	0.320	0.332	0.316	0.318	0.314	0.308	0.309	0.305	0.306	0.316	0.305	0.295	0.284	0.256	0.258	0.282	0.293	0.313		
Ni, %	0.087		0.099	0.102	0.089	0.091	0.084	0.085	0.091	0.090	0.086	0.089	0.090	0.092	0.093	0.085	0.080	0.067	0.072	0.080	0.083	0.088		
Diluted CuEq, %	0.631	0.664	0.700	0.678	0.692	0.662	0.665	0.647	0.633	0.641	0.627	0.621	0.672	0.654	0.604	0.593	0.568	0.526	0.566	0.590	0.616			
Waste Total	406,014		21,928	27,507	27,408	27,613	27,668	25,225	19,636	14,090	14,726	18,026	19,777	20,587	18,006	19,715	21,101	11,400	15,978	20,769	21,217	13,637		
ktons																								
Cat 1	239,473		16,523	18,077	16,554	19,681	20,647	18,624	12,308	6,679	7,444	8,143	8,035	9,615	7,433	13,067	15,136	9,642	8,314	9,090	8,575	5,886		
Cat 2	103,810		1,970	4,939	7,031	5,372	5,373	4,916	4,786	4,734	5,008	6,724	7,283	5,637	5,312	3,892	3,868	1,526	5,373	8,392	7,570	4,104		
Cat 3	39,191		1,590	2,256	2,941	1,812	1,197	1,368	1,939	1,787	1,513	2,264	2,632	3,280	3,133	1,727	1,377	149	1,858	2,459	2,518	1,391		
Cat 4	23,540		1,845	2,235	882	748	451	317	603	890	761	895	1,827	2,055	2,128	1,029	720	83	433	828	2,554	2,256		
Total ktons Mined	631,014	30,628	39,107	39,008	39,213	39,268	36,825	31,236	25,690	26,326	29,626	31,377	32,187	29,606	31,315	32,701	23,000	27,578	32,369	32,817	21,137			
Re-handle, ktons																								
Waste Rock to pit backfill	103,156										5,000	3,732									12,500	37,750	44,174	
Total ktons moved	734,170	30,628	39,107	39,008	39,213	39,268	36,825	31,236	25,690	26,326	34,626	35,109	32,187	29,606	31,315	32,701	23,000	27,578	32,369	32,817	33,637	37,750	44,174	



## Yearly Mill Feed Schedule

	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Mill Feed NSR cutoff		14.00	14.00	14.00	14.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	9.39	9.39	9.39	9.39	9.39	9.39	9.39	
ktons	225,000	8,700	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	7,500
NSR, \$/t	22.43	24.09	25.22	24.33	24.80	23.56	23.78	23.22	22.69	22.81	22.16	21.83	23.83	23.18	21.36	20.96	20.09	18.33	19.85	20.90	21.93	
Cu, %	0.304	0.320	0.340	0.320	0.332	0.316	0.318	0.314	0.308	0.309	0.305	0.306	0.316	0.305	0.295	0.284	0.256	0.258	0.282	0.293	0.313	
Ni, %	0.087	0.099	0.102	0.089	0.091	0.084	0.085	0.091	0.090	0.086	0.089	0.090	0.092	0.093	0.085	0.080	0.067	0.072	0.080	0.083	0.088	
Co, ppm	75.14	71.18	80.64	75.18	75.86	73.45	73.09	72.80	72.94	75.82	80.24	81.66	79.98	79.12	79.88	73.75	68.01	70.05	71.28	71.60	75.30	
Pt, ppb	84.23	79.65	79.10	97.85	96.08	101.62	96.05	74.99	74.71	91.18	83.06	74.04	84.04	83.59	76.05	84.04	111.03	83.22	66.79	70.58	71.31	
Pd, ppb	287.11	314.06	317.52	324.56	322.25	308.34	317.95	309.75	295.36	290.01	266.84	254.99	314.51	301.79	260.65	270.47	286.37	221.65	241.96	262.55	256.61	
Au, ppb	41.42	36.62	41.23	49.79	47.57	48.85	45.18	37.39	36.61	43.13	41.22	39.36	42.21	41.70	38.23	39.99	48.40	37.98	35.06	36.88	38.77	
Ag, ppm	1.11	1.10	1.22	1.14	1.20	1.17	1.17	1.13	1.18	1.15	1.12	1.09	1.16	1.13	1.09	1.07	0.94	0.94	1.03	1.05	1.08	
S, %	0.64	0.79	0.90	0.65	0.66	0.52	0.56	0.72	0.74	0.65	0.71	0.70	0.64	0.67	0.69	0.55	0.38	0.49	0.55	0.62	0.72	
CuEq, %	0.631	0.664	0.700	0.678	0.692	0.662	0.665	0.647	0.633	0.641	0.627	0.621	0.672	0.654	0.604	0.593	0.568	0.526	0.566	0.590	0.616	
<b>Contained Copper Pounds x 1000</b>																						
<b>per year</b>		55,680	78,880	74,240	77,024	73,312	73,776	72,848	71,456	71,688	70,760	70,992	73,312	70,760	68,440	65,888	59,392	59,856	65,424	67,976	46,950	
<b>cumulative</b>		55,680	134,560	208,800	285,824	359,136	432,912	505,760	577,216	648,904	719,664	790,656	863,968	934,728	1,003,168	1,069,056	1,128,448	1,188,304	1,253,728	1,321,704	1,368,654	
		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>	<b>Year 11</b>	<b>Year 12</b>	<b>Year 13</b>	<b>Year 14</b>	<b>Year 15</b>	<b>Year 16</b>	<b>Year 17</b>	<b>Year 18</b>	<b>Year 19</b>	<b>Year 20</b>	

## Water Management System

Water at the NorthMet Mine Site will be segregated as mine water and stormwater. Mine water is defined for the NorthMet Project as water that has contacted surfaces disturbed by mining activities, such as drainage collected on stockpile liners, pit dewatering water, saturated overburden dewatering water, and runoff contacting ore, waste rock, and Mine Site haul road surfaces. Mine water is collected by mine water management systems at the Mine Site. Mine water runoff from the overburden storage and laydown area or saturated overburden will be routed to the FTB or used to backfill the East Pit during later years of the operation. The rest of the mine water would go through treatment by chemical precipitation or membrane separation treatment prior to discharge to the FTB or, after closure, to the Mine Site.

Water at the Plant Site will also be segregated into process water and stormwater. Water collected in the FTB seepage capture systems will be routed to the FTB or WWTS for treatment by membrane separation prior to discharge to wetlands downstream of the FTB seepage capture systems.

Stormwater includes runoff that has not been exposed to active mining activities and includes non-contact, industrial, and construction storm water. These include runoff from natural, stabilized, or reclaimed surfaces, or construction areas consisting primarily of unsaturated overburden or peat. Once areas are reclaimed, runoff is considered stormwater. Stormwater is routed to sedimentation ponds prior to discharge off-site to tributaries to the Partridge River.

A diagram of the Process Plant Water Balance is included in Figure 16-4 of the NorthMet Technical Report.

## **NorthMet Recovery Methods**

### Plant Design

The NorthMet Project plant design is based on utilizing as much of the existing infrastructure as feasible, while ensuring a safe and cost-effective operating philosophy by incorporating the latest technology.

The original plan for refurbishing the existing Erie Plant comminution circuit was reviewed and the following was taken into consideration:

- The existing circuit design and equipment is more than 60 years old;
- The plant has been idle for more than 20 years;
- The complex's operational and maintenance requirements associated with running a tertiary and quaternary crushing circuit as well as 12 milling streams; and
- The large number of transfer points associated with the above.

Based on this, the viability of replacing the existing milling circuit with larger, modern mills capable of handling the throughput requirements through a single stream was investigated. A single stream SAG and ball mill circuit with a pebble crusher would mean significant changes to the layout within the concentrator building, but has the following benefits:

- Tertiary and quaternary crushing would no longer be required. This eliminates a large portion of the current circuit which is highly maintenance intensive, and also requires significant dust control measures and building heating requirements;
- The ore storage bin operating and discharge methodology would be changed to allow a greater volume of the bin to be used, while also reducing the number of operating transfer points. This would significantly reduce the dust emissions within the concentrator building;
- The new milling circuit would have variable speed control on both mills allowing for greater process control and adaptability to cater to any potential variability in the upstream and downstream process characteristics;
- New larger mills have greater operating efficiencies and less maintenance requirements, therefore reducing operating costs; and

- Simplified milling control system as a result of reduced service requirements to the mills. These include process water addition points, lubrication systems monitoring, discharge density and grind size control and ore feed.

Based on all of the above, the decision to change the milling philosophy to incorporate a new semi autogenous ball-mill-crushing (“SABC”), circuit was made. The concentrator building was modelled to accommodate the new equipment, while ensuring that the building structure remained as per the original design. The new circuit also allowed for the existing electrical rooms, cranes and process water tanks to be utilized.

Existing equipment was analysed to determine its suitability to the new process. Generally, existing equipment that was found to be compatible with the new process design would require refurbishment. Where possible, the original equipment manufacturers (“OEMs”) were utilised to determine the refurbishment requirements and costs.

Detailed plant models were developed to identify existing infrastructure and to determine the space available for the new process equipment. Figure 17-1 in the NorthMet Technical Report illustrates the main buildings that would be utilised in the new plant design.

#### Process Plant Flowsheet Development

The overall plant process flows for the NorthMet Project are shown in Figure 17-5 in the NorthMet Technical Report.

#### Hydrometallurgical Processing

PolyMet’s previous hydrometallurgical recovery process design included two autoclaves and a copper solvent extraction/electrowinning (“SX-EW”) circuit to produce copper metal. In addition, the process included the precipitation processes of nickel-cobalt hydroxide and precious metals as value-added by-products.

PolyMet has now simplified this metallurgical process to recover base metals, gold and PGMs. PolyMet intends to construct the plant in two phases:

- Phase I: The Beneficiation Plant consisting of crushing, grinding, flotation, concentrate thickening and concentrate filtration. The Beneficiation Plant will produce and market concentrates containing copper, nickel, cobalt and precious metals; and
- Phase II: In mine year 2, a hydrometallurgical plant is expected to be commissioned to process nickel sulfide and pyrrhotite concentrates, with processing starting in mine year 3. This concentrate stream will be processed through a single autoclave to recover high-grade copper concentrate and recover nickel-cobalt hydroxide and precious metals precipitates as by-products.

The advantages of the phased approach to building the complete plant is to delay capital expenditure by deferring the hydrometallurgical plant. This deferral of costs reduces capital-at-risk in the initial years of production of the NorthMet deposit.

#### Water Management

Water will be consumed at the Plant Site in both the Beneficiation Plant and the Hydrometallurgical Plant. For the most part, water operations within these two plants would be independent of each other. The only exceptions would be the transfer of flotation concentrates from the Beneficiation Plant to the Hydrometallurgical Plant and the combining of filtered copper concentrate and solution from Au/PGM Recovery in the Copper Concentrate Enrichment process step.

## **NorthMet Project Infrastructure**

The NorthMet Project has existing infrastructure from the Erie Plant operation that is well established but will require numerous modifications and refurbishment to support the NorthMet process application. The existing usable infrastructure includes the following:

- 115 kV incoming HV power supply from the Minnesota Power grid
- Power distribution to the existing facilities
- Process plant buildings complete with distribution services
- Administration and site offices
- Site and mine access roads
- Rail network including locomotive services and re-fueling facilities
- Natural gas supply
- FTB with return water barge and pumps
- Mining and plant workshops

A description of the existing and new infrastructure required for the NorthMet Project, along with details of the work required to bring these facilities into operation, is described in detail in Section 18 of the NorthMet Technical Report.

## **NorthMet Market Studies and Contracts**

Saleable products from the NorthMet Project will initially be copper and nickel concentrates under the Phase I scenario. These products will be sold to smelting and refining complexes capable of recovering a number of metals contained in these products. It is estimated copper will contribute 61% of net revenues, nickel 18%, PGMs 18%, cobalt 2%, gold and silver 1%.

Phase II of the NorthMet Project includes construction of a hydrometallurgical facility that will result in upgrading the nickel concentrates into a higher purity nickel-cobalt hydroxide and a precious metals precipitate. Including copper concentrate sales, it is estimated net revenues will comprise copper 54%, nickel 20%, PGMs 22%, cobalt 2% and gold and silver 2%.

PolyMet has entered into a long-term marketing agreement with Glencore AG (“Glencore”) whereby Glencore will purchase all products (metals, concentrates or intermediate products) on independent commercial terms at the time of sale. Glencore will take possession of the products at site and be responsible for transportation and ultimate sale. Pricing is based on London Metal Exchange with market terms for processing. In the case of copper concentrates, the benchmark is annual Japanese smelter contracts.

## **NorthMet Environmental Studies, Permitting and Social or Community Impact**

The NorthMet Project underwent extensive state and federal environmental review culminating in publication of the Final Environmental Impact Statement (“FEIS”) in November 2015. The FEIS concluded that the NorthMet Project could be constructed and operated in a manner that meets both federal and state environmental standards and is protective of human health and the environment. The FEIS provides a detailed description of the NorthMet Project, the potential impacts to the environment, and the associated design and mitigating measures. PolyMet made numerous refinements during the environmental review process to incorporate avoidance or mitigation measures that will produce substantial environmental benefits and other advantages to the NorthMet Project.

PolyMet has subsequently secured the state and federal permits required for PolyMet's construction, operations, reclamation, closure, and post-closure maintenance activities. A few of these permits are currently held up as a result of litigation brought by project opponents.

## Environmental Review and Permitting

The United States Forest Service (USFS), together with the U.S. Army Corps of Engineers (USACE) and the Minnesota Department of Natural Resources (MDNR) (collectively, the “Co-Lead Agencies”) led a joint federal and state environmental review of the NorthMet Mining Project and Land Exchange under the National Environmental Policy Act (NEPA) and the Minnesota Environmental Policy Act (MEPA) over the course of ten years. The United States Environmental Protection Agency (EPA) and tribal authorities were cooperating agencies in the process, and the Minnesota Pollution Control Agency (MPCA) assisted in the preparation of the FEIS. This comprehensive process included multiple rounds of agency, tribal, and public review and comment.

The environmental review process that culminated in the FEIS provides governmental decision makers and the public with information about the potential effects of the NorthMet Project, as well as the mitigation measures that will be taken to eliminate or reduce the effects of the NorthMet Project on the surrounding environment. As required by NEPA and MEPA, agency decision makers considered the information in the FEIS before issuing the various permits and approvals needed to build and operate the NorthMet Project.

PolyMet submitted the permit applications needed for all applicable major state and federal permits. The MDNR and the MPCA subsequently issued state permits for the NorthMet Project. Both agencies issued all major state permits by the end of 2018. The USACE used the analysis developed in the FEIS to issue PolyMet’s CWA Section 404 permit and ROD on March 21, 2019.

Legal challenges contesting aspects of state and federal permits and decisions are ongoing with several challenges outstanding. All legal challenges that have reached a final determination have been in favor of the Company, and of the more than 20 permits issued, only three (Permit to Mine, NPDES/SDS Permit, Section 404 Permit) remain on hold.

## Baseline Studies

Extensive baseline studies were completed for the NorthMet Project and are described in Section 4 (Affected Environment) of the FEIS. These studies include extensive data on local lakes and rivers, including: meteorological conditions, ground and surface water, wetlands, hydrology, geotechnical stability, waste characterization, air quality, vegetation (types, invasive non-native plants, and threatened and endangered species), wildlife (listed species and species of special concern, species of greatest conservation need and regionally sensitive species), aquatic species (surface water habitat, special status fish and macroinvertebrates), noise, socioeconomics, recreational and visual resources, and wilderness and other special designation areas. Receipt of all permits necessary to construct and operate the NorthMet Project confirms that the design can meet applicable federal and state standards.

## Environmental Considerations

There are no known environmental issues for the NorthMet Project that cannot be successfully mitigated through implementation of the various management plans that have been developed based on accepted scientific and engineering practices. Adaptive management will be employed at the NorthMet Project by using flexible engineering controls that can be adjusted to continue achieving compliance with applicable water quality standards and permit conditions when site-specific conditions vary. Receipt of all permits necessary to construct and operate the NorthMet Project confirms that the design can meet applicable federal and state standards.

## Social Issues

The NorthMet Project has long had strong support from labor and business groups, local citizens, communities, and counties in northeastern Minnesota and statewide. Through project environmental review and permitting, more than 30 elected bodies and business organizations passed resolutions of support for the NorthMet Project.

For employment, it is estimated that approximately 2 million manhours will be required to construct the project, and that 360 direct jobs will be created during operations. These direct jobs would generate additional indirect and induced employment, estimated to be 332 additional construction-phase jobs and 631 additional operations-phase jobs. Indirect and induced effect employment numbers are calculated by IMPLAN and may include temporary, part-time, full-time, long-term, or short-term jobs. While some skilled workers would be involved only temporarily and would possibly relocate from outside the region, the majority of the NorthMet Project-related jobs are expected to be filled by those currently residing in the Arrowhead region.

According to a study by the University of Minnesota Duluth Labovitz School of Business and Economics (2009), during operations, there would be approximately \$231 million (\$305 million in 2022 dollars) per year in direct value added through wages and rents and \$332 million (\$438 million in 2022 dollars) per year in direct output related to the value of the extracted minerals. As with employment, these direct economic contributions would create indirect and induced contributions, estimated at \$99 million (\$131 million in 2022 dollars) in value added and \$182 million (\$240 million in 2022 dollars) in output.

The NorthMet Project area is located within the territory ceded by the Chippewa of Lake Superior to the United States in 1854. The Chippewa hunt, fish, and gather on lands in the 1854 Ceded Territory. Harvest levels and other activities are governed by either individual tribal entities (in the case of the Fond du Lac Band) or the 1854 General Codes and subsequent Amendments under the 1854 Treaty Authority (in the case of the Grand Portage and Bois Forte bands). Pursuant to Section 106 of the National Historic Preservation Act, the federal Co-lead Agencies identified several historic properties in consultation with the State Historic Preservation Office (“SHPO”), Bands, and PolyMet. A Memorandum of Agreement under Section 106 was signed by PolyMet, USFS, USACE, and SHPO in December 2016.

#### Closure Plan and Financial Assurance

PolyMet plans to build and operate the NorthMet Project in a manner that will facilitate concurrent reclamation, in order to minimize the portion of the NorthMet Project that will need to be reclaimed at closure.

The overall objectives of the Closure Plan for closed Mining Areas are to meet the following criteria:

- They are safe, secure, and free of hazards;
- In an environmentally stable condition; and
- Minimizes hydrologic impacts and the release of hazardous substances that adversely affect natural resources; and
- Maintenance free, to the extent possible.

In accordance with the Permit to Mine, financial assurance instruments covering the estimated cost of reclamation, should the mine be required to close in the upcoming year, must be submitted and approved by the MDNR. Minnesota Rules require PolyMet to annually update its financial assurance. These costs have been accounted for in the overall project economics. The Permit to Mine includes detailed conditions regarding the financial assurance.

Under Minnesota law, the reclamation cost estimates that form the basis of the financial assurance will be updated annually. This process acknowledges possible future changes to the financial assurance, including possible changes based on any revisions to applicable law or to the mine plan. For purposes of the NorthMet Technical Report, PolyMet has assumed that the Minnesota water quality standards governing sulfate in wild rice water will be revised, as required by law, after the NorthMet Project is in operation.

#### **NorthMet Capital and Operating Costs**

Capital and operating costs for the Phase 1 NorthMet mine and concentrator were developed and estimated based on feasibility-level design. Engineering for this effort was performed by Senet, Barr, IMC, and Krech Ojard (KO). M3 prepared a scoping level of design for the Phase 2 hydrometallurgical plant that is planned to start up in Year 4 of the mine life.

Site inspections were previously conducted (with vendors where possible) to evaluate the condition of the existing Erie plant, the mine facilities, and the primary process equipment from the previous iron mining and beneficiation operation.

As described in more detail under the heading “Risk Factors” in Item 5, capital and operating costs are subject to change due to supply, demand, inflation, and other factors.

### Capital Cost Estimates

The capital cost estimate is divided into the following major sections:

- Mine capital, including cost estimates for mine site development and major mining equipment costs;
- Mine ore loadout and plant railroad refurbishment costs;
- Comminution, processing, plant utilities and plant refurbishment costs;
- Costs to build out the existing tailings basin; and
- Costs for water treatment and water management.

The capital cost estimate is based on the following assumptions:

- The NorthMet Project utilizes a 20-year mine plan;
- Final operating permits do not result in any material changes to mine or plant design; and
- Most of the process equipment would be procured in the US and is transportable to site by road or rail.

The below table depicts the initial direct capital requirement for the development of the NorthMet Project. This estimate includes capital costs compiled by the firms associated with numerous scopes of work for the mine, mine equipment and refurbishing the Erie Plant (Phase I) which have been escalated to reflect Q4 2022 pricing.

### **Phase I Direct Costs**

Description	PHASE I (\$000)
***DIRECT COST***	
<b>MINE CAPEX</b>	
Mine Site	91,872
Construction Material Testing	1,813
Mine Equipment	135,000
<b>RAILROAD AND ORE DELIVERY</b>	28,931
<b>COMMUNITION</b>	172,312
<b>COPPER &amp; NICKEL CONCENTRATION</b>	130,624
<b>CONCENTRATES LOADOUT FACILITIES</b>	66,337
<b>WATER MANAGEMENT</b>	76,810
<b>PLANT CONTROL SYSTEM (PCS)</b>	3,273
<b>FLOTATION TAILINGS BASIN</b>	58,579
<b>PLANT INFRASTRUCTURE</b>	14,145
<b>PLANT UTILITIES</b>	123,408
<b>Subtotal DIRECT COST (MINE &amp; CONCENTRATOR)</b>	<b>903,105</b>

The capital costs for the Phase II Hydrometallurgical Plant, as set out in the below table, were developed by M3 and were based on the following:

- Recent quotations (Q4 2022) were obtained for new mechanical equipment based on detailed enquiries including specifications and equipment duty sheets. The mechanical equipment was sized based on test

work results, system modelling and in certain cases equipment sizing was dictated by physical layout/footprint constraints. Smaller pumps that were priced in Q4 2016 were escalated to Q4 2022 prices.

- Preliminary designs and sizing for new structures, tanks, bins and chutes.
- Preliminary civil and earthworks designs associated with the new structures, equipment and operational requirements including access and spillage containment.
- Priced piping and valve MTOs developed from preliminary PFDs and General Arrangement drawings.
- Quotations for electrical and instrumentation equipment based on recent enquiries, including installation on similar projects.
- A complete instrument index including a comprehensive BOM was developed in Q3 2016. Previous pricing was escalated for the current estimate.
- Man-hour estimations for the installation of new equipment, electrical, instrumentation, structures and associated civil works. These were based on industry standards and installation rates tabulated in RS Means estimating compendium.

**Phase II Direct Costs (Hydrometallurgical Plant)**

<b>***DIRECT COST***</b>	<b>PHASE II (\$000)</b>
<b>HYDROMET</b>	
Site General	28,727
Ni-Cu Concentrate Oxidative Leaching	80,627
Au/PGM Recovery	4,202
Cu Concentrate	4,811
Cu Sulfide Precipitation	2,083
Iron/Acid Removal	7,074
Mixed Hydroxide Precipitation	4,606
Magnesium Removal	981
Hydromet Tailings	975
Hydrometallurgical Residue Facility	50,926
Reagent Storage and Mixing	18,710
Plant Scrubber	1,804
Hydromet Raw Water	1,861
Hydromet Process Water	1,482
Steam Systems	1,303
Gas Systems	830
<b>Subtotal DIRECT COST (PHASE II)</b>	<b>211,002</b>



The following table depicts the estimated direct and indirect capital costs for the development of the NorthMet Project for Phases I and II.

**Direct and Indirect Costs (Phase I & II)**

	<b>PHASE I (\$000)</b>	<b>PHASE II (\$000)</b>
<b>TOTAL DIRECT COST (Excluding Mine Equipment)</b>	<b>768,105</b>	<b>211,002</b>
FREIGHT - LOGISTICS	38,068	10,004
MOBILIZATION, TEMPORARY FACILITIES AND POWER	0	6,177
<b>TOTAL CONSTRUCTED COST</b>	<b>806,173</b>	<b>227,183</b>
EPCM	111,974	38,394
COMMISSIONING	8,062	2,272
VENDOR SUPPORT AND SPARES	2,337	3,354
<b>TOTAL CONTRACTED COST</b>	<b>928,546</b>	<b>271,203</b>
CONTINGENCY	104,820	54,241
AVERAGE CONTINGENCY	11%	20%
ADDED OWNER'S COST (including initial fills & reagents)	40,098	0
<b>TOTAL CONTRACTED AND OWNER'S COST</b>	<b>1,073,464</b>	<b>325,443</b>
OWNER'S COST MINE EQUIPMENT (Initial Capital)	135,000	0
<b>TOTAL EVALUATED PROJECT COST</b>	<b>1,208,464</b>	<b>325,443</b>
<b>COMBINED TOTALS</b>	<b>1,533,907</b>	

Operating Cost Estimates

The following table is a summary of the mine operating costs by the major categories of labor, consumables and repair parts.

**Mine Operating Costs by Process**

<b>CATEGORY</b>	<b>(\$000)</b>	<b>% of Total Mining Cost</b>
Drilling	74,138	7.5
Blasting	114,626	11.7
Loading	118,538	12.1
Hauling	314,067	32.0
Auxiliary	225,536	23.0
General Mine	40,390	4.1
General Maintenance	40,261	4.1
Locomotive	50,516	5.1
WT - Mining	2,137	0.2
Diesel Adjustment	(3,762)	-0.4
Analytical Lab Contract	6,000	0.6
<b>TOTAL MINING COST</b>	<b>982,447</b>	<b>100</b>

Process plant operating costs were developed by Senet for Phase I and verified by M3. The following table is a summary of the operating cost estimates for the Erie Process Plant and assay as at Q4 2022.

**Phase I Operating Cost Estimate Summary**

		32,000 STPD	
OPEX Parameter	Units	Value	Fraction (%)
Labor	USD/t	1.28	14.7
Power	USD/t	2.77	31.7
Natural Gas	USD/t	0.30	3.4
Consumables/Water Treatment	USD/t	3.51	40.2
Maintenance Supplies & Plant Vehicles	USD/t	0.84	9.7
Assay Costs	USD/t	0.03	0.3
<b>Phase I Plant Costs</b>	<b>USD/t</b>	<b>8.73</b>	<b>100</b>

M3 developed the on-site operating costs associated with the hydrometallurgical plant (or Phase II) which are summarized by cost element of labor, electric power, reagents, maintenance parts and supplies and services in the below table.

**Phase II Operating Cost Estimate Summary**

		32,000 STPD	
OPEX Parameter	Units	Value	Fraction (%)
Labor	USD/t	0.32	8.7
Power	USD/t	0.14	3.7
Reagents	USD/t	1.51	41.3
Oxygen	USD/t	1.11	30.7
Maintenance	USD/t	0.51	13.9
Supplies & Services	USD/t	0.06	1.7
<b>Phase II Plant Costs</b>	<b>USD/t</b>	<b>3.65</b>	<b>100</b>

Additional detail concerning operating costs for the NorthMet Project are set out in Section 21 of the NorthMet Technical Report.

## **NorthMet Economic Analysis**

Financial analysis was performed to determine the Net Present Value (“NPV”), payback period (time in years to recapture the initial capital investment) and the Internal Rate of Return (“IRR”) for the NorthMet Project. Annual cash flow projections were estimated over the anticipated life of the mine (20 years) based on estimates of capital expenditures, production cost and sales revenue. Sales revenue is based on the estimated production of copper and nickel concentrates containing PGMs, cobalt, and precious metals. The economic analysis uses the estimated capital expenditure and site production costs developed for the NorthMet Project and presented in Section 21 of the NorthMet Technical Report.

The economic analysis reflects the current NorthMet Technical Report whereby PolyMet (through the Joint Arrangement) is planning to build the NorthMet Project in two phases:

- Phase I: produce and market copper and nickel concentrates containing copper, nickel, PGMs, cobalt and precious metals.
- Phase II: once processed via Phase I, continue processing the nickel concentrate through a single autoclave (Hydrometallurgical Plant), resulting in production and sale of value added nickel-cobalt hydroxide, and precious metals precipitate products.

The analysis reflects metallurgical and mining processes as well as environmental controls that have been incorporated into the FEIS.

The economic evaluation presented herein reflects processing 225 million tons of ore at a mining rate of 32,000 STPD (11.6 million tons per annum) for 20 years.

As described in more detail under the heading “Risk Factors” in Item 5, the economic analysis of the NorthMet Project costs is subject to change due to metal prices, capital costs, operating costs, inflation, and other factors. Financial projections have not been audited by the Company’s independent registered public accounting firm.

Production and operating cost highlights for Phase I and Phase I & II over the life of mine and first five years at full production (years 2-6) are shown in the below table.

**LOM Operating Cost Highlights – Phase I and Phase I & II Combined**

<b>Cost Category</b>	<b>UOM</b>	<b>Phase I</b>	<b>Phase I &amp; II</b>
Capital Costs			
Initial Capital	\$ millions	1,208.5	1,533.9
LOM Sustaining Capital	\$ millions	345.3	345.3 <sup>(1)</sup>
Operating Costs			LOM
Mining & Delivery to Plant	<i>\$/st processed</i>	4.37	4.37
Processing	<i>\$/st processed</i>	8.72	11.33
G&A	<i>\$/st processed</i>	1.26	1.26
<b>Total</b>	<b><i>\$/st processed</i></b>	<b>14.35</b>	<b>16.96</b>
LOM Average Annual Payable Metal in Cons Produced			
Copper	<i>000 lbs</i>	56,540	59,707
Nickel	<i>000 lbs</i>	6,668	8,970
Cobalt	<i>000 lbs</i>	282	320
Platinum	<i>koz</i>	9	16
Palladium	<i>koz</i>	45	64
Gold	<i>koz</i>	3	5
Silver	<i>koz</i>	54	54
Average Annual Payable Metal in Cons Produced (Yrs 2-6)			
Copper	<i>000 lbs</i>	63,18	65,611
Nickel	<i>000 lbs</i>	7,643	9,376
Cobalt	<i>000 lbs</i>	323	342
Platinum	<i>koz</i>	12	18
Palladium	<i>koz</i>	56	71
Gold	<i>koz</i>	3	6
Silver	<i>koz</i>	64	64

<sup>1</sup> Sustaining capex for Phase II is included as an OPEX for replacement parts piping liners etc.

The economics reflect an ore processing rate of 32,000 STPD for an initial period of 20 years. Metal price assumptions, process plant recoveries and key operating data for the average over the life of mine are presented in the below table. These data comprise metal content of the anticipated concentrates previously described and the contribution to net revenue after third-party processing costs. Costs are reflected on both a copper equivalent basis whereby costs are allocated to each metal according to its contribution to net revenue, and on a by-product basis whereby revenues from other metals are offset against total costs and those costs divided by production (this analysis is included for copper only).

### 32,000 STPD (Phase I) Price and Operating Assumptions and Key Production Numbers

	<b>Metal Prices Case (\$/lb or \$/oz)</b>	<b>Metal Recovery to Conc. (%)</b>	<b>Production (million lbs or oz)</b>	<b>Contribution to net revenue (%)</b>	<b>Cash Cost per lb Cu Eq</b>	<b>Cash Cost per lb Cu</b>
<b>Assumptions</b>			<b>LOM</b>			
<b>Phase I</b>						
Copper (lb)	3.52	92.0	1,131	52.9	2.21	0.72
Nickel (lb)	8.13	64.0	133	14.4		
Cobalt (lb)	25.86	37.0	5.6	1.9		
Platinum (oz)	975	74.5	181	2.3		
Palladium (oz)	2,202	78.6	906	26.5		
Gold (oz)	1,747	60.0	51	1.2		
Silver (oz)	21.76	58.5	1,078	0.3		
Low-grade Nickel PGM (Ktonne)	55.00	N/A	721	0.5		

### 32,000 STPD (Phase I & II) Price and Operating Assumptions and Key Production Numbers

	<b>Metal Prices (\$/lb or \$/oz)</b>	<b>Metal Recovery to Conc. (%)</b>	<b>Production (million lbs or oz)</b>	<b>Contribution to net revenue (%)</b>	<b>Cash Cost per lb Cu Eq</b>	<b>Cash Cost per lb Cu</b>
<b>Assumptions</b>			<b>LOM</b>			
<b>Phase I &amp; II</b>						
Copper (lb)	3.52	92.0	1,194	46.0	2.04	-0.11
Nickel (lb)	8.13	64.0	179	16.0		
Cobalt (lb)	25.86	37.0	6.4	1.8		
Platinum (oz)	975	74.5	311	3.3		
Palladium (oz)	2,202	78.6	1,276	30.7		
Gold (oz)	1,747	60.0	95	1.8		
Silver (oz)	21.76	58.5	1,078	0.3		
Low-grade Nickel PGM (Ktonne)	55.00	N/A	154	0.1		

The economic summary and financial analysis reflects processing 225 million tons of the 289 million ton Mineral Reserve over a twenty-year mine life, at an average processing rate of 32,000 STPD. Key financial results for Phase I and combined Phases I and II are presented in the below table.

### Financial Summary – 32,000 STPD

	Units	Phase I		Phase I & II
		First 5 Yrs <sup>1</sup>	LOM	LOM <sup>2</sup>
Life of Mine	Yrs		20	20
Material Mined	Mt	193	631	631
Ore Mined	Mt	58	225	225
Waste: Ore Ratio		2.3	1.8	1.8
Ore Grade				
Copper	%	0.325	0.304	0.304
Nickel	%	0.090	0.087	0.087
Cobalt	ppm	76	75	75
Palladium	ppm	0.318	0.287	0.287
Platinum	ppm	0.094	0.084	0.084
Gold	ppm	0.047	0.041	0.041
Annual Payable Metal Produced				
Copper	mlb	58.0	52.0	54.0
Nickel	mlb	6.0	6.0	8.0
Cobalt	mlb	0.32	0.28	0.32
Palladium	koz	55.9	45.3	63.8
Platinum	koz	11.6	9.1	15.5
Gold	koz	3.3	2.5	4.7
Copper Equivalent <sup>3</sup>	mlb	112.2	97.0	117.6
Cash Costs: by-product	\$/lb Cu	0.15	0.72	-0.11
Cash Costs: Cu equivalent	\$/lb CuEq	1.98	2.21	2.04
Development Capital	\$M	1,208	1,208	1,534
Sustaining Capital	\$M	117	345	345
Annual Revenue	\$M	436	377	457
Annual EBITDA	\$M	209	161	216
NPV <sub>7</sub> (After Taxes)	\$M		304	487
IRR (After Taxes)	%		10.5	11.5
Payback (after taxes, from first production)	Years		7.2	7.4

<sup>1</sup> Represents first five years at full concentrator production.

<sup>2</sup> Phase II production is projected to commence in Year 3 of operations.

<sup>3</sup> Cu Eq recovered payable metal, is based on prices shown in Table 1-4 of the NorthMet Technical Report, mill recovery assumptions shown in Table 15-3 of the NorthMet Technical Report and Hydromet Phase II recoveries shown in Table 13-14 of the NorthMet Technical Report.

Financial returns for the NorthMet Project are highly sensitive to changes in metal prices. A +/-20% change in prices results in a corresponding \$635 million change in NPV@7% after-tax for Phase I. Inclusive of Phase II, the NPV@7% after-tax sensitivity of a +/-20% change in prices is estimated to be +/- \$746 million.

## **NorthMet Adjacent Properties**

There are several deposits in Minnesota's Duluth Complex, including NorthMet, Mesaba, Serpentine (owned by Encampment Resources), and Maturi (owned by Twin Metals Minnesota, a wholly owned subsidiary of Antofagasta plc.)

As a result of closing of the Joint Arrangement, the NorthMet Project and Mesaba Project are now under single management. PolyMet and Teck are equal owners in NewRange (formerly PolyMet Inc.) as at February 14, 2023. The separate NorthMet and Mesaba resources account for approximately one-half of the known resources of copper, nickel, cobalt and PGM in the Duluth Complex.

## **NorthMet Other Relevant Data and Information**

### Project Implementation

The proposed execution of the NorthMet Project assumes a seamless transition between critical project phases, minimal project interruptions and a reduction in potential risks.

The NorthMet Project implementation would consist of the following phases:

- Engineering – Basic and Detailed;
- Demolition; and
- Construction.

It is anticipated that the stages may somewhat overlap depending on receipt of final approvals.

This approach assumes that all work associated with asset preservation will be accomplished prior to demolition. Asset preservation includes the removal of all asbestos, mold, and lead paint as well as some basic infrastructure repairs such as repair of the fire water loop and pumping system. This work is all out of the scope of this study and has been handled as a separate project, under PolyMet's existing operating budget. It is being performed prior to the project start in order to ensure optimum health and safety conditions for the plant demolition and construction works. Removal of existing saleable equipment will be handled under the asset preservation scope as well.

### Potential Opportunities

PolyMet considered opportunities to extend the mine life of NorthMet with two additional mine schedule scenarios (increase the mine life by mining the West Pit deeper to completion within the permit footprint and increase the mine life by expanding the pit limits outside the current permit limits to the pit economic limits). These scenarios should not be misconstrued as proposals or detailed plans or strategies. PolyMet would need to prepare preliminary and definitive feasibility studies, as well as conduct an analysis of the environmental impact and alternatives and budget and cost decisions prior to any decision to apply for permits to pursue these opportunities. Any such opportunities would be subject to various regulatory requirements and would require additional economic analysis and capital investment. Both scenarios are preliminary in nature, including inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them. There is no certainty that the results for these two additional mine schedule scenarios will be realized. M3 recommends that additional engineering and environmental studies be performed to further refine the costs, valuations and environmental requirements of these potential scenarios which may have the opportunity to create additional value and extend the mine life.

## **NorthMet Conclusions and Recommendations**

The financial analysis demonstrates that the NorthMet Project is technically viable and has the potential to generate positive economic returns based on the assumptions and conditions set out in the NorthMet Technical Report. This conclusion warrants continued work to advance the NorthMet Project to the next level of engineering and development which is basic engineering and long lead procurement of mine and plant equipment.

M3 offered the following recommendations in the NorthMet Technical Report:

- Proceed with final design, construction, and operation of the 32,000 STPD design discussed in the NorthMet Technical Report, and
- Review and update the scope of the NorthMet Project design to reflect any changes resulting from the environmental review and permitting process.

## **Mesaba Project**

The following description of the Mesaba Project and the Mesaba Technical Report prepared by the qualified persons set out in Section 1 of this AIF are qualified in their entirety by reference to the full text of the Mesaba Technical Report filed by PolyMet under its profile at [www.sedar.com](http://www.sedar.com) and at [www.sec.gov](http://www.sec.gov) and the detailed disclosure contained in the Mesaba Technical Report is incorporated by reference into this AIF.

PolyMet contracted Independent Mining Consultants, Inc. (“IMC”) and JDS Energy & Mining Inc. (“JDS”) to complete an update to the mineral resource estimate of the Mesaba Project which was published on November 28, 2022.

## **Mesaba Property Description and Location**

The Mesaba Project is located in St. Louis County, Minnesota. For purposes of the disclosure contained in this AIF, the Mesaba Project boundaries are defined by lands included within four mineral leases. The Mesaba deposit as described herein generally coincides with the Mesaba Project boundaries, and it is part of the larger Duluth Complex. The Mesaba Project includes surface and mineral interests that are owned by the State of Minnesota and other private parties along the southern margins of (and mostly within) the boundaries of the Superior National Forest, which is managed by United States Forest Service (“USFS”). The Forest Land and Resource Management Plan for the Superior National Forest provides for exploration, development and production of mineral and energy resources within certain areas within its boundaries. The USFS generally distinguishes non-federal minerals owned by states and private parties and federal minerals owned by the United States in its management of the national forests in recognition of established property rights.

The Mesaba Project is readily accessible by paved state and county roads. The distance by road from Duluth is approximately 115 miles (185 km) via US-53, MN-169, County Hwy-21, MN-70 and County Hwy 70 through Babbitt to the Mesaba Project boundary. Access to the site uses US Forest Service Road 112 to US Forest Service Road 423 (“FR 423”). At FR 423, the Joint Arrangement must maintain a road use permit issued by the USFS. At the Dunka River, the Joint Arrangement has an 80 ft (24 m) long bridge and an access road that links to other established field roads. The Joint Arrangement has regulatory authorizations from the USFS and Minnesota Department of Natural Resources (“MDNR”) required for construction (where necessary), use, and maintenance of this roadway access infrastructure.

A dedicated private railroad owned and operated by Northshore Mining Company (“Northshore”), a subsidiary of Cleveland-Cliffs Inc. (“Cleveland Cliffs”), for its Peter Mitchell iron ore/taconite mine crosses the surface above the Mesaba deposit in an area that is subject to NewRange’s mineral leases. This private rail line and others provide access to Lake Superior port facilities at Duluth-Superior, Taconite Harbor, and Silver Bay.



Babbitt is the nearest community to the Mesaba Project, located five miles north, with a population of about 1,500. The local infrastructure related to mining is excellent. Grid electricity, railroad networks, paved state highways, mine equipment suppliers, mining professionals, and relatively low-cost labor are available locally to service the six operating Mesabi Range iron ore (taconite) mines to the north and west of the Mesaba Project. The Mesaba Project lies directly to the south - southeast of Cleveland Cliffs' Northshore taconite mining operations with established power infrastructure owned by Minnesota Power ("MP").

Topography in the vicinity of the Mesaba Project is rolling with elevations ranging from 1,500 to 1,640 ft. The northern and western portions of the Mesaba Project area are poorly drained, with numerous swampy areas. The climate is classified as continental. Any future mining activities would be conducted year-round. Exploration is possible year-round. The Mesaba Project area contains a variety of vegetation communities, ranging from upland mixed hardwood-conifer to areas of black spruce bogs, open bogs and marshes. Regenerated forested areas contain balsam fir, jack pine, black spruce, poplar, quaking aspen and paper birch.

The Mesaba Project surface area has been disturbed by past activity including logging, diamond drilling, drill and mine service road construction, rail-line installation and third-party taconite mine-waste dump construction. Previous owners/operators of the mineral interests completed a shaft and underground drilling on a portion of the lands now subject to NewRange's mineral leases. Many of the old drill roads are overgrown and logged areas are in varying stages of regeneration.

### **Mesaba Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements**

NewRange holds a 100% indirect interest in the Mesaba Project.

The mineral lease position for the Mesaba Project comprises portions of Sections 15, 20, 22, 24–35, T60N, R12W and Section 36, T60N, R13W, 4<sup>th</sup> Principal Meridian, St. Louis County, Minnesota.

The mineral leases are held by NewRange under four mineral leases with three entities:

- a lease with Longyear Mesaba Company ("Longyear Mesaba");
- a negotiated State Metallic Minerals lease ("MM-9831N") with the State of Minnesota;
- a standard State Metallic Minerals lease ("MM-9857") with the State of Minnesota; and
- a lease with the DuNord Land Company LLC ("DuNord").

In addition to the rights to explore and develop minerals owned by the State of Minnesota, the negotiated State Metallic Minerals lease MM-9831N includes access and use of the surface (all of which is owned by the State of Minnesota), and the State Metallic Minerals lease MM-9857 provides for access and use over the portion of the leased acreage where the State also owns the surface. Access to any private surface overlying State minerals would be subject to additional notice requirements. The LMC lease provides NewRange with mineral rights, which were reserved by Longyear Mesaba (together with rights to use the surface for, among other things, mining purposes) in the deed conveying the surface to a third party and severing the surface and mineral estate. NewRange does not own the surface over most of the leased acreage in the Longyear Mesaba lease. The DuNord lease also includes severed mineral rights. NewRange owns the surface over most of the leased acreage in the DuNord lease. A third party owns certain other surface overlying minerals controlled by the DuNord lease. DuNord's predecessor-in-interest reserved the mineral rights, including rights to use the surface for mineral exploration and mining purposes, in the deed severing the mineral estate from the surface estate and then conveyed the severed mineral rights to DuNord.

Royalties are due on metallic minerals on three of the four Mesaba leases (the two State leases and the DuNord lease) based on the State of Minnesota Base Royalty Rate Table for net return value (minimum royalty of 3.95%) plus a premium of 0.55%. The Longyear Mesaba lease establishes a minimum royalty of 4% of net return value. Advance royalties are payable under the DuNord and Longyear Mesaba leases which are credited against future production royalties after mining commences.

Mineral ownership and most of the surface ownership outside of the boundaries of the Mesaba Project are held by third parties at the Mesaba deposit periphery. Unless Teck obtains rights to use, or acquire, these third-party lands, the ultimate pit shape for the Mesaba Project will be constrained by this third-party ownership.

NewRange controls certain surface lands both within the Mesaba Project boundaries and near the Mesaba Project. NewRange owns the fee surface rights to a total of 1,866 acres in St. Louis County and 704 acres in Lake County. NewRange also leases 1,623 acres for surface use only, in St. Louis County.

NewRange does not own the surface rights associated with the majority of the mineral leases within the Mesaba Project. Surface acquisitions to date include approximately 920 acres overlying the four mineral leases. The Joint Arrangement's other surface ownership includes a warehouse and office in Babbitt and scattered parcels of land south of the deposit that potentially could be used for surface facilities, stockpile, or waste rock storage facilities ("WRSFs").

Most of the Joint Arrangement's surface tenure consists largely of forested tracts, some of which have wetlands features. Acreages purchased by Teck in 2014 and 2018 are subject to easements for railroad and utilities across them. All of the purchased surface acreage has severed mineral rights that are owned by third parties. Project development may require securing additional surface rights over the Mesaba deposit to facilitate mining, and additional surface rights may be needed for a process plant, tailings facilities, stockpiles, or other infrastructure to support the Mesaba Project.

Corridors for transportation and infrastructure will likely need to be established by entering into commercial agreements and/or securing governmental approvals for reaching the mineral lease area using the existing roadway network or constructing new roads. Power line rights-of-way must be verified and/or obtained.

Six Bands of Minnesota Ojibwe (Chippewa) hold lands and treaty rights in the vicinity of the Mesaba Project. The Bands closest to the Mesaba Project area are the Bois Forte Band of Chippewa, Grand Portage Band of Lake Superior Chippewa, and the Fond du Lac Band of Lake Superior Chippewa; all are part of the umbrella Minnesota Chippewa Tribe ("MCT"), which is comprised of six reservations and is a federally recognized tribal government. Each of these three Bands closest to the Mesaba Project are also federally recognized tribal governments. These Indigenous People comprise key communities of interest for the Mesaba Project. One or more Bands may be formally involved in environmental review and permitting proceedings as a participating governmental entity or in a commenting capacity. The State of Minnesota and the U.S. Corps of Engineers will engage in government-to-government consultation with these Bands and the U.S. Environmental Protection Agency and in addition certain agencies of the State of Minnesota routinely engage in formal and informal dialogue with the Bands.

### **Mesaba Geology and Mineralization**

The Mesaba Project deposits are classified as contact-type magmatic nickel–copper–platinum group element ("PGE") deposits which are a broad group of deposits containing Ni, Cu, and PGEs occurring as sulfide concentrations associated with a variety of mafic and ultramafic magmatic rocks.

The major regional lithologies belong to the Duluth Complex, a series of Keweenawan-age tholeiitic intrusions and coeval flood basalts that formed along a portion of the Midcontinent Rift. The northwest, convex edge of the complex defines its basal contact, which dips to the southeast towards the rift. The complex is underlain by Neoproterozoic granites (Giants Range granitic rocks) and greenstones (Vermilion District) to the north, and Paleoproterozoic sediments (Virginia Formation and Biwabik Iron Formation) to the south. Roof rocks to the Duluth Complex consist of Mesoproterozoic intrusive and volcanic rocks of the Beaver Bay Complex and North Shore Volcanic Group, respectively. The Duluth Complex consists of a number of sub-intrusions. Four general rock series are distinguished on the basis of age, dominant lithology, internal structure, and structural position, including a felsic series, an early gabbro series, an anorthositic series, and a layered series. The Duluth Complex layered series hosts a number of known disseminated copper–nickel occurrences, all of which are located within the basal portions of the Partridge River ("PRI"), Bathtub ("BTI") and South Kawishiwi ("SKI") sub-intrusions.

Mineralization within the Mesaba Project area is hosted within rocks of the PRI and BTI intrusions. The current lithological classification scheme for the area is primarily based on major element geochemistry rather than trying to identify individual layered intrusive units. The more complex spatial relationships resulting from this model suggest a dynamic magma system that experienced multiple recharge events, and which created a complex framework of eroded, assimilated, and intermixed mafic lithologies.

There are several prominent structural features within the Mesaba Project area that were important to formation of the BTI intrusion and may exert an influence on mineralization trends.

The deposit has an approximate 4.9 km strike length. Mineralization is dominated by a laterally continuous 130–650 ft (40–200 m) thick disseminated sulfide zone within the basal portion of the Norite, Bathtub Intrusion Mineralized Zone (“BTMZ”), Bathtub Intrusion Mineralized Zone - Contaminated (“BTMZ-C”), and Partridge River Intrusion Basal Unit (“PRB”) units. The BTMZ\_C unit has a higher percentage of non-mineralized wall rock material thus ‘contaminated’ compared to the make up of the BTMZ unit. Mineralization extends down-dip, along the basal contact, for 1,006 m at the southwest end and for 1,981 m at the northeast end of the Bathtub Intrusion.

The Bathtub syncline is often the loci of the strongest mineralization. This concentration into a depression is most probably the result of gravitational settling. Short intercepts (0.3–4.6 m) of semi-massive to massive sulfides are encountered at or near the contact with the Virginia Formation footwall; however, with the exception of the Local Boy area in the southeastern part of the deposit, these appear to be discontinuous and do not represent a large proportion of the overall mineralization. Higher in the intrusive package, within the BTI unit, are thinner zones of erratic and discontinuous disseminated sulfide mineralization referred to as “cloud zones”.

Disseminated sulfides dominate the style of mineralization found in the Mesaba deposit. Semi-massive to massive sulfide zones most commonly occur at the basal contact of the intrusive or entirely in the underlying Virginia formation within 3 m of the basal contact. The most common sulfide minerals are chalcopyrite, cubanite, pentlandite, and pyrrhotite with lesser amounts of talnakhite, bornite, chalcocite, digenite, sphalerite, and mackinawite.

### **Mesaba History**

During the period 1952–1997, Bear Creek Mining Company (“Bear Creek”), Reserve Mining Corporation, American Metal Climax, Inc. (“Amax”), Humble Oil and Refining Co. (“Humble”)/Exxon Company (“Exxon”), International Nickel Co. (“Inco”), Kennecott Copper Corporation (“Kennecott”), Minnesota Natural Resources Research Institute (“NRRI”), Rhude & Fryberger, and Arimetco International, Inc. (“Arimetco”) completed various activities related to exploration in the vicinity of the Mesaba deposit, including: geological mapping, ground and airborne geophysical surveys, core drill programs, metallurgical test work and pilot plant testing, low-grade surface bulk sampling, construction of a shaft and drifting on the Local Boy zone, underground bulk sampling, and technical studies.

In 1998, Cominco American Incorporated, a predecessor company to Teck, identified the Babbitt, now Mesaba, deposit as a candidate for development using Teck’s proprietary Cominco Engineering Services Ltd (“CESL”) hydrometallurgical technology.

Teck collected a 5,000 t surface bulk sample from a site drilled by NRRI in 2001, conducted an additional bulk sample in 2008, and in this general timeframe, completed ground and airborne geophysical surveys, a light imaging and radar detection and ranging (“LiDAR”) survey, metallurgical test work, commissioned CESL hydrometallurgical pilot plant test work program, core drilling, historical core re-logging and re-assay programs, mineral resource estimates, and internal technical studies.

### **Mesaba Drilling**

PolyMet has conducted no drilling in the Mesaba Project area.

Prior to Teck's involvement in 1998, a total of 624 surface and underground holes (613,524 ft) were drilled. Of the drill sample intervals used for resource estimation, 58.5% are from drill holes completed prior to Teck's involvement in the Mesaba Project.

Since 1998, Teck has completed 221 drill holes (196,373 ft [59,854 m]). Teck, in the period from 2001 to 2013, focused on drilling in support of bulk sampling and providing additional material for metallurgical test work. Teck drilling programs, completed in 2007, 2008, and 2013, were designed to gather geological, geostatistical, geometallurgical, geotechnical, and hydrogeotechnical information. The programs total 256 holes (149,059 ft [45,433 m]). Thirteen drill holes (13,830 m) were completed in 2021–2022, after the cut-off date for the database used in Mineral Resource estimation. These programs focused on providing materials for metallurgical variability samples (four drill holes), and geotechnical drilling (seven drill holes). Two drill holes were conducted for exploration purposes.

The long exploration history and the involvement of many different Bear Creek Mining or Amax geologists resulted in inconsistent geological logs and lithologies in the various historical programs. Each company logged using their own geological nomenclature and coding system that was different from Teck's current system. Teck has subsequently relogged a significant portion of the historical core.

### **Mesaba Sampling**

PolyMet has conducted no sampling, sample preparation or analysis for any material in the Mesaba Project area.

Limited information is available on the historical sampling programs. Teck has completed a significant data verification program on the historical core, including re-assaying. A program of relogging and sampling of historic surface holes started in July 2008. At the end of 2018, a total of 483,272 ft in 409 drill holes had been re-logged and 290,743 ft sampled. Of the footage sampled, 162,538 ft had been assayed. The remaining footage, which is mostly barren, has yet to be assayed.

Core samples were generally taken on 5 ft (1.5 m) intervals with breaks at major lithological contacts. The minimum sampling interval was 0.3 ft (0.09 m) and the maximum was 15 ft (4.6 m). The entire intrusive interval was sampled. Sampling continued into the footwall sediments for a minimum of 50 ft (15 m) and deeper if copper or nickel sulfides were present. The banded iron-formation was the marker within the footwall sediments at which most drill holes were terminated. Generally, the iron formation was not sampled.

Specific gravity ("SG") measurements using the simple Archimedes principle (weight in water versus weight in air), were performed on over 4,007 pieces of core from the 2007–2008 drill program and re-logged historic holes. No wax was required as the rock is very dense with no significant porosity. The SG measurements were taken at intervals ranging from 16–98 ft (4.9–29.9 m) based on the complexity of the lithology.

Historical analytical laboratories used included Union Assay Office, Inc. ("Union") located at Salt Lake City, Utah, Geophysics Division ("Denver-Spec") located at Denver, Colorado, Lerch Brother Inc. ("Lerch") located at Hibbing, MN, and Amax. With the exception of Denver-Spec, the laboratories were independent of the company operating at the time. No accreditations are known for any of the laboratories used.

Teck has used non-independent and non-accredited internal facilities, including the Babbitt core facility for sample preparation and the Applied Research and Technology Group ("ART"), located at Trail, British Columbia for metallurgical test work. Independent analytical laboratories include: ALS Chemex located at Thunder Bay, Ontario; ALS Chemex located at Vancouver, British Columbia; Global Discovery Laboratories ("GDL") located at Vancouver, British Columbia; and Acme Laboratories ("Acme") located Vancouver, British Columbia, later acquired by Bureau Veritas.

Sample preparation has been done by the following companies:

- ALS Chemex
- Teck Babbitt (2010–2012)
- Teck Babbitt (2012 to date)

Analytical work has been done by the following companies:

- GDL
- ALS Chemex
- Acme/Bureau Veritas

Teck's quality assurance and quality control ("QA/QC") programs involved inserting standard reference materials (standards), blanks, core duplicates, and coarse crush duplicates.

The drill hole and associated sample data for the Mesaba deposit is hosted by an acquire database located on the Teck Vancouver server.

Sample security for the historical drilling programs of Bear Creek, Reserve Mining, Amax, Humble Oil and Inco is not documented. The majority of the core from these programs is stored in a locked MDNR facility in Hibbing, Minnesota. A limited number of pulp samples generated by Amax from its programs are also stored at the Hibbing facility.

Chain-of-custody procedures undertaken by Teck consist of filling out sample submittal forms that are sent to the laboratory with sample shipments to make certain that all samples are received by the laboratory. All core crushed and pulverized samples from the 2007–2013 Teck drilling programs is stored in Teck's office, core processing and storage facility in Babbitt. This facility is leased from the town of Babbitt and is locked at all times except when Teck employees are present.

### **Mesaba Data Verification**

IMC conducted an independent check of 10% of the assay certificates verifying that the conversion of assay information to a digital assay database was acceptable. These checks were predominantly for the copper and nickel assays with a few checks on sulfur and cobalt. IMC also reviewed the standards, blanks and duplicate assays in the database for copper nickel and cobalt. Prior to this review, Teck has done comprehensive work to validate the historic drill hole data as discussed below. IMC believes that the database is acceptable to be the basis for a mineral resource estimate.

IMC has reviewed the documentation of Teck's work on validating the historic information in the database which is described in the following paragraphs. Scanned historical drill hole survey logs were used in 2015–2016 to validate the digital downhole survey database and update where necessary.

A random check of 10% of the Mesaba holes in the NRRI database (74 holes checked) was conducted in 2016. This identified that appropriate values for Amax copper, nickel and sulfur assays were averaged values derived from two or more assay results on the same drill core interval. Teck concluded that inclusion of multiple averaged values would require that the entire historic database be reconstructed. All of the known assay results were entered into a new database that included parent results, crusher duplicate results, laboratory replicate results, and results for all of the internal standards inserted by Amax. Although the Mesaba QP uses the primary assay results, both types of data (primary and averaged) were entered into the new database to provide future reference to the historical data.

A review of all of the available Bear Creek data was completed. This included sampling methodology and preparation, crusher sample results, and data reviews performed by Bear Creek at the time. The Mesaba QP considers that the Bear Creek data is acceptable for use for copper, nickel and sulfur estimation.

A similar in-depth review was performed for the Amax data available. This included sampling methodology, sample preparation and analysis, QA/QC data, and reassay data from Amax resampling of Bear Creek drill core. The Mesaba QP considers that the Amax data is acceptable for use for copper, nickel and sulfur estimation.

Significant effort was expended by Teck to compile all the historical assay data from primary data sources. This was primarily because when a representative sample of the NRRI compilation was compared to the primary data sources, several inconsistencies were noted in how these data were established, in particular, for repeat and duplicate analysis. Where assays were duplicated, at times the results were averaged and at times, a particular analysis was selected. The overall review showed that there is no systematic bias of one dataset against another. If the data are treated as a duplicate dataset of unknown type and the implied failure rate is evaluated, results show a <10% failure rate for copper and nickel irrespective of whether these are sample duplicates or crush duplicates. It can be concluded that the sampling program was sufficiently precise to allow for the production of reproducible data. Teck recommended that the initial sample be used as the primary assay source and that all subsequent assays be treated as duplicates, not as replacements for the primary data. This data source was considered acceptable for use in resource estimation.

A variety of matrix-matched standards were manufactured and certified for copper, nickel sulfur and PGEs, and these standards have been used for original drill programs and reassay programs. A review of the data indicated that the matrix-matched standards show good agreement for copper, nickel and sulfur. The PGE data are also suitable for use in resource estimation. The silver data are suitable for resource estimation only in the low detection limit geochemical methods and the cobalt data, while quantized, are also sufficiently accurate and precise for use in resource estimation.

During 2017, a QA/QC review was conducted on the copper, nickel, sulfur cobalt, iron, silver, arsenic, selenium, uranium, vanadium, gold, and PGE data. It was concluded that:

- the three elements with the greatest spatial representivity are copper, nickel and sulfur;
- the PGEs have nearly as good spatial coverage with approximately 2/3 of the samples with a valid Ni assay also having a valid PGE assay. There may be an opportunity to increase the confidence in areas with missing PGE data through a reassaying program, if the samples are available; and
- the spatial distributions of selenium, vanadium and uranium are poor and should only be used for sectional interpretation.

The Mesaba QP (as defined below) is of the opinion that the data verification programs completed on the data collected from the Mesaba Project are consistent with industry best practices and that the database is sufficiently error-free to support the geological interpretations and Mineral Resource estimation.

### **Mesaba Metallurgical Test Work**

PolyMet has conducted no metallurgical test work in the Mesaba Project area. Shane Tad Crowie, P.Eng of JDS has reviewed the metallurgical test work on behalf of PolyMet. The following paragraphs discuss the metallurgical test work which has been completed to date.

Test work on the Mesaba Project dates back to the early 1950s. Results from comminution test work characterized Mesaba mineralized material as being of medium hardness. Grinding test work and pilot plant studies targeting grinding circuit performance conducted in the late 1970s indicated that the Mesaba mineralization was amenable to either autogenous grinding in closed circuit with pebble crushing or fully autogenous grinding. Historical flotation test work indicated that a bulk copper concentrate could be produced at copper recoveries of more than 90% and nickel recovery of approximately 75%. Copper concentrate containing <1% nickel could be produced, but no saleable nickel concentrate could be generated.

Test work completed by Teck and third party laboratories includes:

- optical mineralogical evaluation; bulk modal mineralogy mineral liberation analysis (“MLA”) examinations on selected drill core samples;
- JK drop weight tests; SMC Tests; Bond ball mill work index and bulk density testing; and
- bench-scale flotation tests produced a marketable copper concentrate (>24% Cu, <0.5% Ni) and a copper–nickel concentrate that could be further refined in a CESL refinery. The test work was completed on composites and variability drill core intervals.

CESL test work was conducted at bench, mini-pilot plant and pilot plant scales. Pilot plant operations confirmed the successful processing of low-grade bulk concentrate; >95% of the copper, nickel and cobalt were leached into solution with low (7%) sulfur oxidation. The campaign produced a high-grade mixed nickel–cobalt hydroxide precipitate (“MHP”) product. Nine nickel producers were contacted to evaluate the marketability of the high-grade MHP product. Five determined that they would be able to process the MHP product without changes; two would require capital improvement projects to their refineries to handle the product; and the remaining two would be unable to accept the material due to impurity constraints.

Mineralogical characterization was completed for a suite of 383 drill core intervals from the 2013 Mesaba geometallurgical drilling program. Chalcopyrite and cubanite were the principal economic copper minerals present at Mesaba with lesser amounts of copper–nickel–iron sulfides, bornite, chalcocite, and a copper sulfosalt. Pentlandite was the principal economic nickel mineral. Nickel was also hosted by lesser amounts of copper–nickel–iron sulfide, bravoite (nickel-bearing pyrite) and nickeline or maucherite (nickel arsenides).

Selected 2013 program samples were reanalyzed in 2020, using an X-ray modal analysis (“XMOD”) mode rather than the XBSE mode used in 2013. The improved silicate MLA data were used in conjunction with electron microprobe (“EPMA”) data collected in 2019 to better constrain nickel deportment and to produce an updated sulphide model.

A mineral chemistry program was completed in 2019 using an electron microprobe analyzer at the University of Minnesota. The major minerals noted from the analysis were olivine, orthopyroxene, biotite, and various sulfides.

A model was developed in 2020 to define a sulfide model, recovery equations for copper and nickel, and geometallurgical domains. This deportment study demonstrated that nickel deportment to non-recoverable minerals is a strong function of lithology, because of the significantly different partition coefficients for nickel in orthopyroxene versus olivine.

Separate approaches were required to model the modal abundance of pentlandite in the mineralized (GM10, GM20, GM30), the ultramafic (GM40) and non-mineralized (GM50) geometallurgical domains. Simple linear regression models were sufficient to model the nickel deportment to pentlandite as a function of total nickel.

Equations were developed to model the modal abundances of chalcopyrite and cubanite, and the sulfur deportment to each copper sulfide phase. Pyrrhotite abundance was estimated using the sulfur model. An expanded quantitative mineralogy and metal deportment study is recommended to produce a more comprehensive and robust sulfide model.

The copper recovery to the combined rougher concentrate was first calculated for the variability tests performed in the 2014 and 2015 program. The subsequent locked-cycle test work was used to estimate losses from the cleaning circuit. The predicted recovery varies ranging from 86% for material grading in the 0.2% Cu cut-off grade range and plateaus at 91.1%. The recovery range observed in the locked-cycle tests was 89–92%.

The nickel recovery was calculated from the sulfidic nickel content from the sulfide model that was developed from the 2019 mineralogical studies completed to determine nickel deportment between sulfide and silicates. The fraction of nickel contained in sulfide was found to be proportional to the sulfur content of the mineralization, and inversely proportional to the magnesium content. The predicted nickel recovery to the

bulk concentrate for blocks above the 0.2% Cu cut-off varied from 47–64% (25<sup>th</sup> to 75<sup>th</sup> percentile) which corresponded well with the range observed in the locked-cycle tests (43–68%).

The recovery assumptions used for cobalt and precious metals are based on the average of the 2019 locked-cycle tests.

Samples selected for metallurgical testing were representative of the various styles of mineralization and were obtained from two bulk sample sites. Sufficient samples were taken, and tests were performed using sufficient sample mass for the respective tests undertaken. Copper recovery will be subject to variability due to varying mineralization responses, and nickel recovery will be subject to variability due to presence of nickel in pyrrhotite and silicate nickel.

No elements reach penalty limits in the nickel concentrate that was produced during the test work programs. A penalty would be payable on the copper concentrate should the nickel content exceed 0.5% Ni. Depending on market conditions, Teck would have the option of reducing copper recoveries to the copper concentrate to reduce the nickel reporting to that concentrate, or could elect to maximize copper recovery and pay the penalty.

Tad Crowie, qualified person for metallurgy, finds the current status of the metallurgical test work to be acceptable for input to the definition of the Mesaba mineral resource.

### **Mesaba Mineral Resource Estimation**

IMC developed a mineral resource estimate using data from previous Teck work, including:

- a 100x100x50 foot regularized block model created from Teck's sub-block model for the definition of the lithology domains of the deposit;
- the geometallurgy domains from the regularized block model;
- the specific gravity values from the regularized block model;
- the drill hole assay data base;
- the topography file of the deposit area; and
- the metallurgical recoveries discussed in Section 1.10 and Section 13.

The lithology codes in the assay database were back assigned from the lithology codes within the block model in order to have consistency between the two. Copper, nickel and sulfur were nearly completely assayed, however, many of the accessory metals, particularly cobalt, were substantially under assayed relative to copper. IMC reviewed the assay data base and prepared cumulative frequency plots for the assays for each metal within each lithologic domain. A small fraction (approximately one tenth of a percent) of the assay intervals were capped with 0.11% of the copper assays being the largest percentage receiving capping and the capping grade varied by lithology domain.

The assay data was composited to nominal 50-foot composites which respected the model lithology domains. A boundary analysis for all of the metals for each lithology type was completed including the estimation domains of Local Boy and the Pyrrhotite zone. These two estimation domains exhibit substantial different grade distribution from the host lithology unit and have been assigned unique domain codes. The results of this work indicated that the majority of the lithology units should be treated as separate units during the grade estimation process. The exception to this is the Bathtub intrusion where some of the sub-units were combined for grade estimation.

IMC did a variogram analysis for both the IMC estimation domains and the Teck estimation domains and the results generally agreed. Search parameters of 1000 by 600 feet with a primary orientation of 235 degree bearing and a 5 degree plunge was used for all metals respecting the IMC estimation domains. Grades were estimated using inverse distance squared method. As mentioned above, some metals have significantly fewer assays (and composites) compared to copper, nickel and sulfur. For these metals, areas of no assay values were flagged and removed from receiving grade estimates. These model areas would carry a zero grade for the metal being estimated.



Block grades were classified into measured, indicated, and inferred categories based on the number of composites used to estimate the block, and the distance to the closest composite during the block grade estimate. The estimation counts and distances for copper were used for this process.

The procedure was as follows:

- 1) If any of the metals assigned by inverse distance are estimated, then  
imc\_class = 3 Inferred
- 2) If imc\_cu\_num >= 7.0 (3 holes) and imc\_cu\_cdist < 500 ft, then  
imc\_class = 2 Indicated
- 3) If imc\_cu\_num = 10 (4 holes) and imc\_cu\_cdist < 90 ft then  
imc\_class = 1 Measured

Where:

imc\_cu\_num = number of composites used in the estimate and  
imc\_cu\_cdist = the distance to the closest composite.

Checks were made of the resource block model including visual review of sections and level plans through the model, bias checks by domain and metal grade estimation, and swath plots. The results of these checks confirmed that the resource block model is acceptable to support a mineral resource estimate.

### Mesaba Mineral Resource Statement

Mineral Resources are reported in Table 1-2 on a 100% basis using a 12.00 NSR cutoff grade. Mineral Resources are classified using the 2019 CIM Definition Standards. The estimates have an effective date of November 28, 2022. Table 1-3 summarizes the contained metal within the resource pit shell.

**Table 1-1: Mesaba Mineral Resource**

	NSR Cutoff = \$12.00/t								
	Short ktons	NSR \$/t	Cu %	Ni total %	Co ppm	Pt ppm	Pd ppm	Au ppm	Ag ppm
Metal Prices			3.66/lb	6.79/lb	28.75/lb	1265/oz	1323/oz	1668.oz	23/oz
Measured	339,829	32.52	0.497	0.115	73.9	0.036	0.101	0.028	1.23
Indicated	1,866,958	27.57	0.415	0.100	76.9	0.034	0.096	0.024	1.18
Total M&I	2,206,787	28.33	0.428	0.102	76.5	0.034	0.097	0.025	1.19
Inferred	1,422,703	24.89	0.368	0.094	67.9	0.043	0.143	0.026	0.98

Notes:

1. Mineral Resources are reported assuming open pit mining methods, above a cut-off grade of 12.00 NSR. Estimates were confined within a conceptual open pit shell using pit definition software.
2. Mineral Resources are reported on an undiluted basis.
3. Inputs to the shell included long-term consensus metal prices of US\$3.66/lb for Cu, US\$6.79/lb for Ni, US\$28.75/lb for Co, US\$1,668/oz for Au, US\$23.00/oz for Ag, US\$1,323/oz for Pd, US\$1,265/oz for Pt; direct mining costs of US\$1.40/t moved; process costs of US\$7.17/t milled; G&A costs of US\$1.00/t milled, and inter-ramp pit slope angles of 37°, and 45° for overburden, hard rock respectively.
4. Pit shell total tons: 14,472,079 ktons.
5. Tonnages are reported in imperial units (tons). Grades are reported either as percentages (%) or parts per million (ppm).
6. Rounding as required by reporting guidelines may result in apparent summation differences between tons, grade and contained metal content.

**Table 1-2: Mineral Resource by Class and Contained Metal**

	<b>Copper</b>	<b>Nickel</b>	<b>Cobalt</b>	<b>Platinum</b>	<b>Palladium</b>	<b>Gold</b>	<b>Silver</b>
	<b>Lbs x 1000</b>	<b>Lbs x 1000</b>	<b>Lbs x 1000</b>	<b>Ozs x 1000</b>	<b>Ozs x 1000</b>	<b>Ozs x 1000</b>	<b>Ozs x 1000</b>
Measured	3,377,900	781,607	55,370	357	1,002	277	12,201
Indicated	15,495,751	3,733,916	316,735	1,851	5,255	1,312	64,472
Total M&I	18,873,651	4,515,523	372,105	2,208	6,257	1,589	76,673
Inferred	10,471,094	2,674,682	212,855	1,768	5,917	1,071	40,748

Note: Lbs x 1000 = Pounds times 1,000; Ozs x 1000 = Troy Ounces times 1,000; Contained metal within mineral resource pit shell.

The Mesaba Mineral Resources meet the current CIM definitions for classified resources. However, it should be noted that due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the Inferred portion of the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

Mineral Resources are reported with an effective date of November 28, 2022 using the 2019 CIM Definition Standards. The Qualified Person for the estimate is Herbert E. Welhener. Mineral Resources are reported on a 100% basis.

### **Mesaba Risks and Uncertainties**

The geological model is the result of interpretations that may change with additional data. The geometry of mineralized domains used for resource estimation may be more isolated than connected in some parts of the deposit, particularly in upper lenses where mineralized zones are more often thin or lower grade. Boundaries within the upper mineralized lenses, with respect to grade, may be less sharp than have been interpreted. There is a degree of uncertainty and subjectivity that comes with connecting zones of alternating mineralized intervals between drill holes which may cause over projection of mineralization zones. The opposite can also be true such that a mineralization zone appears more disconnected than it is due to a break in mineralization caused by a subtle late cross-cutting intrusion or xenolith.

The geometry and connectivity of geological domains have some uncertainty. Therefore, the associated sulfide model and recovery estimates could be higher, or lower, for a given resource block.

Geological domains in the Local Boy area and the area directly north of Local Boy are modelled based on proxy geochemical data, which could lead to minor errors in interpretation that could result inconsistent geological modelling in the area and the associated recovery implications.

The presence of graphite can affect metallurgical recoveries. The model estimation domains do not explicitly model graphite. Outside of the Virginia Formation footwall, graphite can be expected to be found in the Virginia Formation xenoliths and the norite domains, but can also occur in other igneous domains typically closer to the footwall.

Due to the uncertainty related to the degree of faulting that has taken place in the deposit, separate fault blocks are not included in the geological model. Mineralization in the north may be more horizontally oriented rather than steeply ramping, if any significant displacement caused by faulting occurred.

Mine optimization should focus on minimizing mining disturbance and exposure of the pyrrhotite bearing footwall Virginia Formation.

Sulphide-bearing waste rock management will be required that could be achieved by a range of engineering and design solutions including co-disposal of sulphide-bearing waste rock with non-sulphide bearing waste rock, geolining, or lined waste rock facilities. Each of these approaches will effectively contain or capture

precipitation exposed to sulphide-bearing waste rock. These designs and facilities are successfully used in other sulphide mining operations. Water contamination under both acid and non-acid leaching conditions is possible. Continued monitoring and testing of existing long term HCT's to support waste pad design, wastewater management requirements and water quality forecasting is required.

The Duluth Complex along with other mafic and ultramafic rocks can contain acicular mineral alteration products. Identification and isolation of such zones in mine planning is needed to allow for planning and appropriate management of this material if present.

Historical mining dangers may occur in the Local Boy area in the form of open cavities resulting from previous mining efforts.

Mineral interests, including in some instances mining leases, are held by third parties at the Mesaba deposit periphery. Acquisition of additional mineral interests may be necessary to ensure that the ultimate pit shape is not constrained. Additional surface rights acquisitions should also continue to be evaluated on an as needed basis.

### **Mesaba Opportunities**

The deposit remains open at depth to the south and potential remains to increase the known disseminated mineralization extent.

Exploration potential that remains in the Mesaba Project area includes:

- potential for high-grade massive sulfide zones such as the Local Boy zone to be present in the poorly-drilled areas to the south;
- potential for high-grade massive sulfide zones within structures such as the Grano and South Minnamax faults which may be feeder zones to the larger disseminated mineralization; and
- copper dominated, PGM mineralisation has been identified in both Teck and peripheral third-party drill holes. This mineralization is typically hosted in the PRI to the southeast of the BTI.

### **Mesaba Interpretation and Conclusions**

The qualified persons of the Mesaba Technical Report ("Mesaba QPs") are of the opinion that, based on the available data, and under the assumptions presented in this the Mesaba Technical Report, Mineral Resources show reasonable prospects of eventual economic extraction.

### **Mesaba Recommendations**

Listed below is a summary of the Mesaba QPs' recommendations for the advancement of the Mesaba Project.

1. Prioritize the re-assay program of pre 2018 drill samples (currently underway);
2. Continue with the planned 2022-2023 drill program to confirm and potentially expand the mineralization identified in wide spaced drill areas and areas within GMU 50;
3. Complete the 3 shorter spaced geostatistical crosses drill program to evaluate close spaced variations in the mineral department;
4. Continue the refinement of the geometallurgy model with additional test work;
5. Incorporate all of the above into a new block model;
6. Complete environmental base line studies;
7. Advance the project to a preliminary economic assessment; and
8. Continue negotiations with surface owners within the Mesaba Project boundary and near the periphery of the Mesaba Project.

## 5. RISK FACTORS

You should carefully consider the risks and uncertainties described below as well as in other sections of this AIF. These risks and uncertainties are not the only ones facing us. Additional risks and uncertainties not presently known to the Company or that the Company currently considers immaterial may also impair its business operations. If any of these events actually occur, the Company's business, prospects, financial condition, cash flows and operating results could be materially harmed. Other specific risk factors are discussed elsewhere in this AIF, as well as in the Company's consolidated financial statements (under the headings "Nature of Business" and "Financial Instruments and Risk Management" and elsewhere within that document) and in management's discussion and analysis (under the headings "Financial Instruments and Risk Management" and "Risk and Uncertainties" and elsewhere within that document) for the year ended December 31, 2022, and its other disclosure documents, all as filed on SEDAR and EDGAR.

### **The Company is dependent on the success of the Joint Arrangement.**

The Company's interest in the NorthMet Project and the Mesaba Project through the Joint Arrangement account for all of PolyMet's mineral resources and mineral reserves and represents the current potential for the future generation of revenue. Mineral exploration and development involves a high degree of risk that even a combination of careful evaluation, experience and knowledge cannot eliminate, and few properties that are explored are ultimately developed into producing mines. Any adverse development affecting the NorthMet Project or the Mesaba Project may have a material adverse effect on PolyMet's business, prospects, financial position, results of operations and cash flows.

### **The Company may experience delays, higher than expected costs, difficulties in obtaining and maintaining environmental permits and other obstacles when implementing current and future development plans and opportunities.**

The Joint Arrangement's development and exploration activities are subject to extensive permitting requirements. Failure to obtain required permits and/or to maintain compliance with permits once obtained could result in injunctions, fines, suspension or revocation of permits and other penalties. Activities required to obtain and/or achieve or maintain full compliance with such permits can be costly and involve extended timelines. Previously issued permits may be suspended or revoked for a variety of reasons. Failure to obtain and/or comply with required permits can have serious consequences, including: damage to the Joint Arrangement or PolyMet's reputation; stopping the Joint Arrangement from proceeding with the development of the NorthMet Project; negatively impacting the operation or further development of a mine; or increasing the costs of development or production and litigation or regulatory action against Teck, PolyMet or the Joint Arrangement, and may materially adversely affect the Joint Arrangement or PolyMet's business, results of operations or financial condition.

Failure to comply with permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions. Parties engaged in mining operations or in the exploration or development of mineral properties may be required to compensate those suffering loss or damage by reason of the mining activities and may have civil or criminal fines or penalties imposed for violations of applicable laws or regulations.

As described elsewhere in this AIF, the Joint Arrangement is in the process of several legal challenges and reviews with respect to certain of the permits relating to the NorthMet Project. The loss of any such challenges and/or any of its permits could have a material adverse effect on its ability to further advance the NorthMet Project.

In addition, the Joint Arrangement is investing heavily in various facets of the NorthMet Project, which is subject to a number of risks that may make it less successful than anticipated, including legal challenges to permits received; delays or higher than expected costs in obtaining the necessary equipment or services to build and operate the NorthMet Project or the Mesaba Project; and adverse mining conditions may delay or restrict production of expected quantities of minerals.

**Future activities could be subject to environmental laws and regulations, which may have a materially adverse effect on future operations, in which case operations could be suspended or terminated.**

PolyMet, like other companies doing business in Canada and the United States, is subject to a variety of federal, provincial, state and local statutes, rules and regulations designed to, among other things:

- protect the environment, including the quality of the air and water in the vicinity of exploration, development and mining operations;
- remediate the environmental impacts of those exploration, development, and mining operations;
- protect and preserve wetlands and endangered species; and
- mitigate negative impacts on certain archaeological and cultural sites.

Compliance with statutory environmental quality requirements described above may require significant capital outlays, impacting earnings power, or causing material changes to intended activities. Environmental standards imposed by federal, state, or local governments may be changed or become more stringent in the future, which could materially and adversely affect proposed activities.

Moreover, governmental authorities and private parties may bring lawsuits based upon damage to property and injury to persons resulting from the environmental, health and safety impacts of prior and current operations. These lawsuits could lead to the imposition of substantial fines, remediation costs, penalties and other civil and criminal sanctions. Substantial costs and liabilities, including for restoring the environment after the closure of mines, are inherent in the Company's operations. PolyMet cannot assure that any such law, regulation, enforcement or private claim would not have a material adverse effect on its financial condition, results of operations or cash flows.

**Land reclamation requirements for the NorthMet Project or the Mesaba Project may be burdensome.**

Land reclamation requirements are generally imposed on mineral exploration companies (as well as companies with mining operations) in order to minimize long-term effects of land disturbance. In order to carry out reclamation obligations imposed on the Company in connection with exploration, development and production activities, financial resources must be allocated that might otherwise be spent on further exploration and development programs. In addition, regulatory changes could increase obligations to perform reclamation and mine closing activities. If required to carry out unanticipated reclamation work, the Company's financial position could be adversely affected.

**PolyMet and the Joint Arrangement are subject to significant governmental regulations and related costs and delays may negatively affect business.**

Mining activities are subject to extensive federal, state, local and foreign laws and regulations governing environmental protection, natural resources, prospecting, development, production, post-closure reclamation, taxes, labor standards and occupational health and safety laws and regulations, including mine safety, toxic substances and other matters. The costs associated with compliance with such laws and regulations are substantial. Possible future laws and regulations, or more restrictive interpretations of current laws and regulations by governmental authorities, could cause additional expense, capital expenditures, restrictions on or suspensions of operations and delays in the development of new properties.

Various governmental permits are required to conduct exploration, development, construction and mining activities. Obtaining the necessary governmental permits is often a complex and time-consuming process involving numerous United States or Canadian federal, provincial, state, and local agencies. The duration and success of each permitting effort is contingent upon many variables not within the Company's or the Joint Arrangement's control. In the context of obtaining permits or approvals, the Joint Arrangement must comply with known standards, existing laws, and regulations that may entail greater or lesser costs and delays depending on the nature of the activity to be permitted and the interpretation of the laws and regulations implemented by the permitting authority. The failure to obtain certain permits or adoption of more stringent permitting requirements could have a material adverse effect on business, operations, and

properties and the Joint Arrangement or PolyMet may be unable to proceed with current or future exploration and development programs.

Federal legislation and implementing regulations adopted and administered by the United States Environmental Protection Agency, Army Corp of Engineers, Forest Service, Fish and Wildlife Service, Mine Safety and Health Administration, and other federal agencies, and legislation such as the Federal Clean Water Act, Clean Air Act, National Environmental Policy Act, Endangered Species Act, and Comprehensive Environmental Response, Compensation, and Liability Act, have a direct bearing on exploration, development and mining operations United States. Due to the uncertainties inherent in the permitting process, the Company cannot be certain that it will be able to obtain required approvals for current or future proposed activities in a timely manner, or that the Joint Arrangement or PolyMet's current or future proposed activities will be allowed at all.

Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, which may require corrective measures including capital expenditures, installation of additional equipment or remedial actions. Parties engaged in mining operations or in the exploration or development of mineral properties may be required to compensate those suffering loss or damage by reason of the mining activities and may be subject to civil or criminal fines or penalties imposed for violations of applicable laws or regulations. Any such penalties, fines, sanctions or shutdowns could have a material adverse effect on business and results of operations.

**The Joint Arrangement or PolyMet may be subject to future litigation and regulatory proceedings which may have an adverse effect on business operations.**

The Joint Arrangement or PolyMet may be subject to civil claims (including class action claims) based on allegations of negligence, breach of statutory duty, public nuisance or private nuisance or otherwise in connection with its operations or investigations relating thereto. While the Company is presently unable to quantify its potential liability under any of the above, such liability may have a material adverse effect on its ability to continue in operation.

In addition, the Company or the Joint Arrangement may be subject to actions or related investigations by governmental or regulatory authorities. Such actions may include civil or criminal prosecution for breach of relevant statutes, regulations or rules or failure to comply with the terms of licenses and permits and may result in liability for pollution, other fines or penalties, revocation of consents, permits, approvals or licenses or similar action, which could be material and may affect the results of operations. Exposures to fines and penalties generally are uninsurable as a matter of public policy.

**Because the price of metals fluctuate, if the prices of metals in the Joint Arrangement's ore body decrease below a specified level, it may no longer be profitable to develop the NorthMet Project or the Mesaba Project for those metals and PolyMet and the Joint Arrangement could cease operations.**

Prices of metals are determined by some of the following factors:

- global and regional supply and demand;
- political and economic conditions and production costs in major metal producing regions;
- the strength of the United States dollar; and
- expectations for inflation.

The aggregate effect of these factors on metals prices is impossible to predict. In addition, the prices of metals are sometimes subject to rapid short-term and/or prolonged changes because of speculative activities. The current demand for and supply of various metals affect the prices of copper, nickel, cobalt, platinum, palladium and gold, but not necessarily in the same manner as current supply and demand affect the prices of other commodities. If the prices of the Joint Arrangement's primary products, namely copper, nickel and palladium are below foreseeable costs of production for a substantial period operations could cease.

**PolyMet is dependent on its key personnel.**

Company success depends on key members of management. The loss of the services of one or more of such key management personnel could have a material adverse effect on the Company. PolyMet's ability to manage exploration and development activities, and hence success, will depend in large part on the efforts of these individuals. PolyMet faces intense competition for qualified personnel and cannot be certain that it will be able to attract and retain such personnel.

In addition, if the NorthMet Project or the Mesaba Project goes into production, the Joint Arrangement will experience significant growth in operations. This growth is expected to create new positions and responsibilities for management and technical personnel and will increase demands on operating and financial systems. There can be no assurance that PolyMet or the Joint Arrangement will successfully meet these demands and effectively attract and retain additional qualified personnel to manage anticipated growth. The failure to attract such qualified personnel would have a material adverse effect on business, financial position, results of operations and cash flows.

**The Joint Arrangement's metals exploration and development efforts are highly speculative in nature and may be unsuccessful.**

As a development stage company, work is speculative and involves unique and greater risks than are generally associated with other businesses.

The development of mineral deposits involves uncertainties, which careful evaluation, experience, and knowledge cannot eliminate. Few properties explored are ultimately developed into producing mines. It is impossible to ensure that the current development program the Joint Arrangement has planned will result in a profitable commercial mining operation.

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

Mining, processing, development and exploration activities depend on adequate infrastructure. Reliable roads, bridges, port and/or rail transportation, power sources, water supply and access to key consumables are important determinants for capital and operating costs. The lack of availability on acceptable terms or the delay in the availability of any one or more of these items could prevent or delay exploration, development or exploitation of our projects. In addition, extreme weather phenomena, sabotage, vandalism, government, non-governmental organization and community or other interference in the maintenance or provision of such infrastructure could adversely affect our operations and profitability.

**PolyMet and the Joint Arrangement are subject to all the risks inherent to the mining industry, which may have an adverse effect on business operations.**

PolyMet and the Joint Arrangement are subject to all of the risks inherent in the mining industry, including, without limitation, the following:

- Success in discovering and developing commercially viable quantities of minerals is the result of a number of factors, including the quality of management, the interpretation of geological data, the level of geological and technical expertise and the quality of land available for exploration;
- Operations are subject to a variety of existing laws and regulations relating to exploration and development, permitting procedures, safety precautions, property reclamation, employee health and safety, air and water quality standards, pollution and other environmental protection controls, all of which are subject to change and are becoming more stringent and costly to comply with;
- A large number of factors beyond the Joint Arrangement or PolyMet's control, including fluctuations in metal prices and production costs, inflation, the proximity and liquidity of metals and energy fuels markets and processing equipment, government regulations, including regulations relating to prices, taxes, royalties, land tenure, land use, importing and exporting of minerals and environmental protection, and other economic conditions, will affect the economic feasibility of mining;

- Substantial expenditures are required to construct mining and processing facilities;
- Title to mining properties may be subject to other claims; and
- In the development stage of a mining operation, mining activities could be subject to substantial operating risks and hazards, including metal bullion losses, environmental hazards, industrial accidents, labor disputes, encountering unusual or unexpected geologic formations or other geological or grade problems, encountering unanticipated ground or water conditions, cave-ins, pit-wall failures, flooding, rock falls, periodic interruptions due to inclement weather conditions or other unfavorable operating conditions and other acts of God. Some of these risks and hazards are not insurable or may be subject to exclusion or limitation in any coverage, which the Company obtains or may not be insured due to economic considerations.

**Actual mineral reserves and mineral resources may not conform to the Company's established estimates.**

The figures for mineral reserves and mineral resources stated in this AIF are estimates and no assurances can be given that the anticipated tonnages and grades will be achieved or that the indicated level of recovery will be realized. Market fluctuations and the prices of metals may render reserves and mineral resources uneconomic. Moreover, short-term operating factors relating to the mineral deposits, such as the need for the orderly development of the deposits or the processing of new or different grades of ore, may cause a mining operation to be unprofitable in any particular accounting period.

The estimating of mineral reserves and mineral resources is a subjective process that relies on the judgment of the persons preparing the estimates. Estimates of mineral resources are, to a large extent, based on the interpretation of geological data obtained from drill holes and other sampling techniques. This information is used to calculate estimates of the configuration of the mineral resource, expected recovery rates, anticipated environmental conditions and other factors. As a result, mineral resource estimates for the NorthMet Project or the Mesaba Project may require adjustments or downward revisions based upon further exploration or development work or upon actual production experience, thereby adversely impacting the economics of the NorthMet Project or the Mesaba Project. Any material reductions in estimates of mineralization or the ability to extract this mineralization, could have a material adverse effect on the results of operations or financial condition.

**The Joint Arrangement's processing ability may be adversely impacted by certain circumstances.**

If the Joint Arrangement ever discovers proven mineral reserves and proceed towards recovering and processing such reserves, a number of factors could affect its ability to process the quantities of ore that it recovers and PolyMet's ability to efficiently handle certain quantities of processed materials, including, but not limited to, the presence of oversized material at the crushing stage; material showing breakage characteristics different than those planned; material with grades outside of planned grade range; the presence of deleterious materials in ratios different than expected; material drier or wetter than expected, due to natural or environmental effects; and materials having viscosity or density different than expected. The occurrence of one or more of these circumstances could affect our ability to process the number of tonnes planned, recover valuable materials, remove deleterious materials, and produce planned quantities of concentrates. In turn, this may result in lower throughput, lower recoveries, increased downtime or some combination of all of the foregoing. Unexpected conditions may materially and adversely affect PolyMet's business, results of operations or financial condition.

**The Company and the Joint Arrangement have had no production history and do not know if they will generate revenues in the future.**

While the Company was incorporated in 1981, it has no history of producing minerals. The Company has not developed or operated any mines and has no operating history upon which an evaluation of future success or failure can be made. Furthermore, the Joint Arrangement is newly formed and the ability to successfully integrate the Company and Teck is to be determined. The ability to achieve and maintain profitable mining operations is dependent upon a number of factors, including the ability to successfully build and operate



mines, processing plants and related infrastructure. PolyMet may not successfully establish mining operations or profitably produce metals at any of its properties.

**PolyMet has a history of losses, which it expects will continue for the future. If the Company does not begin to generate revenues, it may either have to suspend or cease operations.**

As a development stage company with negative cash flows and no holdings in any producing mines, PolyMet continues to incur losses and expects to incur losses in the immediate future. As at December 31, 2022, the Company had an accumulated deficit of \$278 million. PolyMet may not be able to achieve or sustain profitability in the future. If the Company does not begin to generate revenues, it may either have to suspend or cease operations.

While in the past the Company has been successful in closing financing agreements, there can be no assurance it will be able to do so again. Factors that could affect the availability of financing include the state of debt and equity markets, investor perceptions and expectations, and the metals markets.

**The Company has incurred significant indebtedness and there is no guarantee that the Company will be able to repay or refinance such indebtedness.**

There is no assurance that any indebtedness of the Company will be extended, repaid, refinanced or restructured, or that additional financing on commercially reasonable terms will be available. Failure to repay indebtedness and satisfy the conditions of such indebtedness could ultimately result in loss of substantially all of the Company's assets. In addition, repayment of such indebtedness could require the issuance by the Company of a significant number of common shares and thereby result in dilution to existing shareholders of the Company.

Repayment of the indebtedness may adversely affect future cash flow, which may adversely affect the ability to operate effectively and, therefore, require the Corporation to refinance or restructure the consolidated indebtedness.

**The Company may not be able to raise the funds necessary to develop the NorthMet Project or the Mesaba Project. If PolyMet is unable to raise such additional funds, the Company may have to suspend or cease operations.**

PolyMet will need to seek additional financing to complete the development and construction of the NorthMet Project, in addition to the funding required to repay its current indebtedness. Sources of such external financing may include future equity and debt offerings, advance payments by potential customers to secure long-term supply contracts, grants and low-cost debt from certain state financial institutions, and commercial debt secured by the NorthMet Project. There is no guarantee that any such financing will be available to the Company. If the Company cannot raise the money necessary to continue to explore, develop and construct the NorthMet Project or the Mesaba Project through the Joint Arrangement, it may have to suspend or cease operations.

**The Company's insurance and the Joint Arrangement's insurance may not provide adequate coverage.**

The Joint Arrangement and the Company's business and operations are subject to a number of risks and hazards, including, but not limited to, adverse environmental conditions, industrial accidents, labor disputes, unusual or unexpected geological conditions, ground control problems, cave-ins, changes in the regulatory environment, metallurgical and other processing problems, mechanical equipment failure, facility performance problems, fires and natural phenomena such as inclement weather conditions, floods and earthquakes. These risks could result in damage to, or destruction of, the Joint Arrangement's mineral properties or production facilities, personal injury or death, environmental damage, delays in exploration, mining or processing, increased production costs, asset write downs, monetary losses and legal liability.

The Joint Arrangement and the Company's property and liability insurance may not provide sufficient coverage for losses related to these or other hazards. Insurance against certain risks, including those related to environmental matters or other hazards resulting from exploration and production, is generally not available to the Company or to other companies within the mining industry. The Joint Arrangement and the Company's current insurance coverage may not continue to be available at economically feasible premiums, or at all. Any losses from these events may cause the Company to incur significant costs that could have a material adverse effect on the Company's financial performance, financial position and results of operations.

**The mining industry is very competitive.**

The mining industry is intensely competitive. Much of the Company's competition is from larger, established mining companies with greater liquidity, greater access to credit and other financial resources, newer or more efficient equipment, lower cost structures, more effective risk management policies and procedures and/or a greater ability than the Company to withstand losses. The Company's competitors may be able to respond more quickly to new laws or regulations or emerging technologies, or devote greater resources to the expansion or efficiency of their operations than the Company can. In addition, current and potential competitors may make strategic acquisitions or establish cooperative relationships among themselves or with third parties. Accordingly, it is possible that new competitors or alliances among current and new competitors may emerge and gain significant market share to the Company's detriment. The Company may not be able to compete successfully against current and future competitors, and any failure to do so could have a material adverse effect on the Company's business, financial condition or results of operations.

**The Company is dependent on information technology and its systems and infrastructure face certain risks, including cyber security risks and data leakage risks.**

PolyMet relies on secure and adequate operations of information technology systems in the conduct of its operations. Access to and security of the information technology systems are critical to PolyMet's operations. To PolyMet's knowledge, it has not experienced any material losses relating to disruptions to its information technology systems. PolyMet has implemented ongoing policies, controls and practices to manage and safeguard PolyMet and its stakeholders from internal and external cybersecurity threats and to comply with changing legal requirements and industry practice. Given that cyber risks cannot be fully mitigated and the evolving nature of these threats, PolyMet may not have the resources or technical sophistication to anticipate, prevent, or recover from cyber-attacks and cannot assure that its information technology systems are fully protected from cybercrime or that the systems will not be inadvertently compromised, or without failures or defects. Disruptions to PolyMet's information technology systems, including, without limitation, security breaches, power loss, theft, computer viruses, cyber-attacks, natural disasters, and non-compliance by third-party service providers and inadequate levels of cybersecurity expertise and safeguards of third-party information technology service providers, may adversely affect the operations of PolyMet as well as present significant costs and risks including, without limitation, loss or disclosure of confidential, proprietary, personal or sensitive information and third-party data, material adverse effect on its financial performance, compliance with its contractual obligations, compliance with applicable laws, damaged reputation, remediation costs, potential litigation, regulatory enforcement proceedings and heightened regulatory scrutiny.

**Unfavorable global economic or political conditions could adversely affect PolyMet's business, financial condition or results of operations.**

PolyMet's business is susceptible to general conditions in the global economy and in the global financial markets. A global financial crisis or a global or regional political disruption could cause extreme volatility in the capital and credit markets. A severe or prolonged economic downturn, including a recession or depression resulting from the current COVID-19 pandemic, or political disruption could result in a variety of risks to PolyMet's, including PolyMet's ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy or political disruption could also strain PolyMet's manufacturers or suppliers, possibly resulting in supply disruption. Any of the foregoing could materially and adversely affect PolyMet's business, financial condition, results of operations and prospects, and PolyMet cannot anticipate all of the ways in which the political or economic climate and financial market conditions could adversely impact its business.

**The Company may be impacted by climate change, natural or other disasters.**

The Company's financial and/or operating performance could be adversely affected by climate change and the impact of natural or other disasters, such as earthquakes, fires, floods, epidemics or pandemics. This is due to volatility and disruption to global supply chains, operations, mobility of people and the financial markets, which could affect interest rates, credit ratings, credit risk, inflation, business, financial conditions and other factors relevant to the Company.

Global climate change could exacerbate certain of the threats facing PolyMet's business, including the frequency and severity of weather-related events, resource shortages, changes in rainfall and storm patterns and intensities, water shortages, rising water levels and changing temperatures which can disrupt the operations, damage infrastructure or properties, create financial risk or otherwise have a material adverse effect on financial position or liquidity. These threats may result in substantial costs to respond during the event, to recover from the event and possibly to modify existing or future infrastructure requirements to prevent recurrence. Global climate change also results in regulatory risks, which creates economic and regulatory uncertainty.

In the course of exploration, development and production of mineral properties, certain risks, and in particular, unexpected or unusual geological operating conditions including rock bursts, cave-ins, fires, flooding and earthquakes may occur. It is not always possible to fully insure against such risks, and Polymet may decide not to insure such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the common shares.

**The Company may be impacted by global health crises such as the COVID-19 pandemic.**

Emerging infectious diseases or the threat of outbreaks of viruses or other contagions or epidemic diseases, including further prolonged effects of the COVID-19 outbreak, could have a material adverse effect on the Company by causing further operational and supply chain delays and disruptions (including as a result of government regulation and prevention measures), labor shortages, social unrest, breach of material contracts and customer agreements, government or regulatory actions or inactions, changes in tax laws, payment deferrals, increased insurance premiums, declines in the price of metals, delays in permitting or approvals, governmental disruptions, capital markets volatility, or other unknown but potentially significant impacts. In addition, governments may impose strict emergencies measures in response to the threat or existence of an infectious disease. The full extent and impact of the COVID-19 pandemic is unknown but to-date, has included extreme volatility in financial markets, a slowdown in economic activity, and extreme volatility in commodity prices. The COVID-19 pandemic is expected to continue to evolve and challenge the Company in 2023. As such, the Company's practices and protocols will continue to evolve with PolyMet's commitment to protect the health and safety of its workforce and communities. At this time, the Company cannot accurately predict what effects these conditions will continue to have on mining exploration or development, permitting or financial results, and the length of the travel restrictions and business closures that have been or may be imposed by the governments of impacted countries.

In addition, a significant outbreak of contagious diseases in the human population, such as COVID-19, could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn that could result in a material adverse effect on commodity prices, demand for metals, investor confidence, and general financial market liquidity, all of which may adversely affect the Company's business and the market price of the Company's common shares. Accordingly, any outbreak or threat of an outbreak of an epidemic disease or similar public health emergency, including COVID-19, could have a material adverse effect on the Company's business, financial condition and results of operations. As at the date hereof, the duration of any business disruptions and related financial impact of the COVID-19 outbreak cannot be reasonably estimated. It is unknown whether and how the Company may be affected if a pandemic, such as the COVID-19 outbreak, persists for an extended period of time.

It is not always possible to fully insure against such risks, and the Company may decide not to insure such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the common shares.

### **The Company faces Principal Shareholder Risks.**

Glencore owns approximately 71% of the issued and outstanding common shares of PolyMet as at December 31, 2022 and holds warrants to purchase and debentures convertible into common shares of the Company. Glencore is also the primary source of funding and currently the primary lender to PolyMet. In addition, three of the members of the PolyMet Board - Messrs. Rowland, Huby and Rowlinson – are nominees of Glencore. Since Glencore has a majority controlling interest in PolyMet and is its principal source of funding and also nominates three of PolyMet's directors, Glencore is in a position to exert significant influence on the corporate actions that PolyMet takes, particularly when shareholder approval is required. Glencore's controlling interest could have the effect of delaying or preventing a change of control of PolyMet or entrenching the Board of Directors, which could conflict with the interests of the other shareholders and, consequently, could adversely affect the market price of PolyMet's securities. If Glencore decides to cease funding PolyMet, PolyMet may not be able to secure replacement funding at all or on terms that are reasonable.

### **Title Risks**

A determination of defective title or successful challenges to title rights could impact PolyMet's existing operations as well as exploration and development projects and future acquisitions, which may have a material adverse effect on the Company's operations, business and cash flow. No assurances can be given that title defects to PolyMet's properties do not exist. The properties may be subject to prior unregistered agreements, interests or further native land claims and title may be affected by undetected defects. If title defects do exist, it is possible that PolyMet may lose all or a portion of its right, title, estate and interest in and to the properties to which the title defect relates. There is no guarantee that title to the properties will not be further challenged or impugned. While, to the best of PolyMet's knowledge, title to its properties is in good standing, this should not be construed as a guarantee of title.

## **RISKS RELATED TO THE OWNERSHIP OF POLYMET COMMON SHARES**

### **PolyMet may experience volatility in its share price.**

PolyMet's common shares are listed for trading on the TSX and on the NYSE American. Shareholders may be unable to sell significant quantities of the common shares into the public trading markets without a significant reduction in the price of the Company's shares, if at all. The market price of the common shares may be affected significantly by factors such as changes in operating results, the availability of funds, fluctuations in the price of metals, the interest of investors, traders and others in development stage public companies such as PolyMet and general market conditions. In recent years, the securities markets have experienced a high level of price and volume volatility, and the market price of securities of many companies, particularly development companies similar to PolyMet, have experienced wide fluctuations, which have not necessarily been related to the operating performances, underlying asset values, or the future prospects of such companies. There can be no assurance that future fluctuations in the price of PolyMet's shares will not occur.

### **A large number of shares will be eligible for future sale and may depress PolyMet's share price.**

Shares that are eligible for future sale may have an adverse effect on the price of the Company's common shares. As at December 31, 2022 there were 101,472,695 common shares outstanding. The average trading volume for the three months prior to December 31, 2022 was approximately 50,400 shares per day on the NYSE American and 1,500 shares per day on the TSX. Sales of substantial amounts of the Company's common shares, or a perception that such sales could occur, and the existence of options or warrants to purchase common shares and debt convertible into common shares at prices that may be below the then current market price of the common shares, could adversely affect the market price of common shares and could impair the Company's ability to raise capital through the sale of equity securities.

**Ownership interest, voting power and the market price of common shares may decrease because the Company has issued, and may continue to issue, a substantial number of securities convertible or exercisable into common shares.**

PolyMet has issued common shares, options, restricted shares, restricted share units, convertible debt and warrants to purchase its common shares to satisfy its obligations and fund operations. Since the Company currently does not have a source of revenue, it will likely issue additional common shares, or other securities exercisable for or convertible into common shares to raise money for continued operations or as non-cash incentives to the Company's directors, officers, and key employees. If conversions of securities exercisable into common shares or additional sales of equity occur, ownership interest and voting power in PolyMet will be diluted and the market price of common shares may decrease.

Under the Company's 2007 Omnibus Share Compensation Plan, as has been subsequently amended and restated, the aggregate number of share options, restricted shares, restricted share units, and other share-based awards is restricted to 10% of the issued and outstanding common shares on the grant date.

**Because PolyMet believes it will be classified as a passive foreign investment company, or "PFIC", United States holders of common shares may be subject to United States federal income tax consequences worse than those that would apply if PolyMet were not a PFIC.**

Because PolyMet believes that it will be classified as a PFIC, United States holders of common shares may be subject to United States federal income tax consequences that are worse than those that would apply if the Company were not a PFIC, such as ordinary income treatment plus a charge in lieu of interest upon a sale or disposition of common shares even if the shares were held as a capital asset.

## **6. DIVIDENDS**

Since its incorporation, PolyMet has not declared or paid, and has no present intention to declare or to pay, any cash dividends with respect to its common shares. Earnings will be retained to finance further growth and development of the business. However, if the board of directors were to declare a dividend, all common shares would participate equally.

## **7. CAPITAL STRUCTURE**

The Company's authorized capital consists of an unlimited number of common shares, without par value of which 101,472,695 common shares were issued and outstanding as fully paid and non-assessable as of December 31, 2022.

Shareholders are entitled to one vote per common share at all meetings of Shareholders except meetings at which only holders of another specified class or series of shares of the Company are entitled to vote separately as a class or series. The holders of common shares are entitled to receive dividends as and when declared by the Board, and to receive a pro rata share of the remaining property and assets of the Company in the event of liquidation, dissolution or winding up of the Company. The common shares carry no pre-emptive, redemption, purchase or conversion rights. Pursuant to the terms of prior financings, Glencore has certain anti-dilution rights that permit it to acquire additional securities so as to maintain its proportional equity interest in the Company. Neither the BCBCA nor the constating documents of the Company impose restrictions on the transfer of common shares on the register of the Company, provided that the Company receives the certificate representing the common shares to be transferred together with a duly endorsed instrument of transfer and payment of any fees and taxes which may be prescribed by the Board from time to time. There are no sinking fund provisions in relation to the common shares and they are not liable to further calls or to assessment by the Company. The BCBCA provides that the rights and provisions attached to any class of shares may not be modified, amended or varied unless consented to by special resolution passed by a majority of not less than two-thirds of the votes cast in person or by proxy holders of the common shares.

## 8. MARKET FOR SECURITIES

PolyMet's common shares are listed and posted for trading on the TSX under the symbol "POM", and on the NYSE American under the symbol "PLM". The following table sets forth the market price range and trading volumes of the Company's common shares on each of the TSX and NYSE American for the periods indicated.

Month	TSX			NYSE American		
	High (C\$)	Low (C\$)	Volume	High (US\$)	Low (US\$)	Volume
January 2022	3.55	3.05	119,400	2.86	2.41	2,469,300
February 2022	3.50	3.14	47,200	2.76	2.47	1,596,300
March 2022	6.15	3.21	486,700	4.79	2.51	34,643,100
April 2022	5.30	4.07	134,600	4.23	3.15	4,496,400
May 2022	4.04	3.32	59,900	3.24	2.53	2,293,700
June 2022	3.97	3.31	48,100	3.10	2.52	1,736,900
July 2022	4.04	3.39	35,500	3.17	2.58	1,310,800
August 2022	4.17	3.42	25,400	3.20	2.65	1,162,700
September 2022	4.50	3.91	44,200	3.43	2.84	1,115,400
October 2022	4.21	3.75	23,300	3.11	2.71	879,600
November 2022	4.20	3.90	35,500	3.22	2.81	828,200
December 2022	4.02	3.38	33,000	3.00	2.50	1,465,600

## 9. SECURITIES NOT LISTED OR QUOTED

The only classes of securities of the Company that are not listed or quoted on a marketplace are stock options, restricted shares units and share purchase warrants.

There were no stock options issued during the year ended December 31, 2022.

The following restricted shares units were issued during the year ended December 31, 2022:

Date of Issuance	Number of Restricted Share Units Issued	Exercise Price (US\$)
January 4, 2022	582,026	N/A
January 18, 2022	84,720	N/A
July 22, 2022	76,364	N/A

There were no share purchase warrants issued during the year ended December 31, 2022.

As at December 31, 2022, the Company had the following outstanding securities held in escrow:

Designation of Class	Number of Securities held in Escrow	Percentage of Class
Common shares <sup>(1)</sup>	9,550	<0.01%

<sup>1</sup> Common shares are held by Farris LLP and were issued as restricted shares to certain United States employees. Contractual restrictions on transfer ends commencement of commercial production.

## 10. DIRECTORS AND OFFICERS

### Name, Occupation and Security Holding

The name, province or state, country of residence, position or office held with the Company and principal occupation during the past five years of each director and executive officer of the Company as at the date of this AIF are described as follows:

Name & Residence	Position or office held with the Company	Principal Occupation during past five years	Director since
Jonathan Cherry Montana, United States	Director <sup>(4,5)</sup> , Chairman, President & Chief Executive Officer	Same, PolyMet (joined PolyMet in 2012)	July 16, 2012
Alan R. Hodnik Minnesota, United States	Lead Independent Director <sup>(1,2,3,4)</sup>	Chairman, President and Chief Executive Officer, Allete Inc. until 2021 (joined Allete in 1981)	March 9, 2011
David Dreisinger British Columbia, Canada	Director <sup>(2,3,4,5)</sup>	Professor and Chairholder of the Industrial Research and Chair in Hydrometallurgy, University of British Columbia (joined University of British Columbia in 1988)	October 3, 2003
David J. Fermo New York, United States	Director <sup>(1,2)</sup>	Managing Director, J.P. Morgan until 2017 (joined J.P. Morgan in 1994)	June 24, 2020
Roberto Huby Lima, Peru	Director <sup>(3,4,5)</sup>	Executive, Glencore (joined Glencore in 2007)	June 24, 2020
Stephen Rowland Connecticut, United States	Director <sup>(1,3)</sup>	Executive, Glencore (joined Glencore in 1988)	October 30, 2008
Matthew Rowlinson Zug, Switzerland	Director <sup>(5)</sup>	Executive, Glencore (joined Glencore in 2013)	December 10, 2021
Patrick Keenan Colorado, United States	Executive Vice President, Chief Financial Officer	Same, PolyMet (joined PolyMet in 2017); Senior VP - Finance, Newmont Mining Corporation, 2015 to 2017	N/A

<sup>1</sup> Member of the Compensation Committee.

<sup>2</sup> Member of the Audit Committee.

<sup>3</sup> Member of the Nominating and Corporate Governance Committee.

<sup>4</sup> Member of the Health, Safety, Environment and Communities Committee.

<sup>5</sup> Member of the Technical Steering Committee.

As at the date of this AIF, PolyMet's directors and executive officers, as a group, beneficially owned, directly or indirectly, or exercised control or direction over 732,778 common shares, representing less than 1% of the total number of common shares outstanding before giving effect to the exercise of options or warrants to purchase common shares held by such directors and executive officers. The statement as to the number of common shares beneficially owned, directly or indirectly, or over which control or direction is exercised by the Company's directors and executive officers as a group is based upon information furnished by the directors and executive officers.

Each Director serves until the next annual general meeting of shareholders or until their successor is duly elected, unless their office is vacated in accordance with the Articles of Incorporation. Vacancies on the Board of Directors are filled by election from nominees chosen by the remaining Directors and the persons filling those vacancies will hold office until the next annual general meeting of shareholders, at which time they may be re-elected or replaced.



## **Indebtedness**

No director or executive officer, nor any of their respective associates or affiliates is or has been at any time since the beginning of the last completed fiscal year indebted to PolyMet.

## **Cease Trade Orders, Bankruptcies, Penalties or Sanctions**

To the knowledge of PolyMet's management and as of the date of this AIF, no directors: (i) are, at the date hereof, or have been, during the 10 years prior to the date hereof, a director or executive officer of any company that, while that person was acting in that capacity or within a year of that person ceasing to act in that capacity became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or became subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver-manager or trustee appointed to hold assets of the director; or (ii) have, within the 10 years before the date hereof, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangements or compromises with creditors, or had a receiver, receiver manager or trustee appointed to hold assets of the director.

## **Conflicts of Interest**

Directors and officers may, from time to time, be in positions of a conflict of interest with the Company. Directors and officers must disclose the nature and extent of the conflict and abstain from voting on the approval of the proposed contract or transaction, unless all of the directors have a disclosable interest, in which case the director may vote on such resolution and may be liable to account to the Company for any profit that accrued under such transaction. To the knowledge of PolyMet's management and as of the date of this AIF, there are no known existing conflicts of interest between the Company and any of PolyMet's directors or officers as a result of such individual's outside business interests.

## **11. LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

To the knowledge of Company's management, there are no material legal proceedings or regulatory actions outstanding to which PolyMet is a party, or to which any of its property is subject to and no such proceedings or regulatory actions are known to the Company to be threatened or pending, as of the date hereof, with the exception of challenges to regulatory permit and approval decisions as discussed in Item 3 above.

## **12. INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

Other than as disclosed in this AIF, PolyMet is not aware of any material interest, direct or indirect, involving any director or executive officer or any shareholder who holds more than 10% of the outstanding voting securities, or any associate or affiliate of any of the foregoing, which has been entered into since the commencement of the last completed fiscal year or in any proposed transaction which, in either case, has materially affected or will materially affect PolyMet or any of PolyMet's subsidiaries.

## **13. TRANSFER AGENT AND REGISTRAR**

The Company's registrar and transfer agent is Computershare Investor Services Inc. located at 100 University Avenue, 9th Floor, Toronto, Ontario M5J 2Y1, Canada.

## 14. MATERIAL CONTRACTS

The following is a summary of each material contract to which the Company is a party, other than contracts entered into in the ordinary course of business, for the last fiscal year or before the last fiscal year that is still in effect.

- Acquisition of the mineral rights, see Item 4 for additional information;
- Acquisition of the Erie Plant and associated infrastructure acquired in the Asset Purchase Agreements I and II, see Item 4 for additional information;
- Financing agreements entered into with Glencore, see Items 3 and 4 for additional information;
- The Combination Agreement dated effective July 19, 2022 among PolyMet, PolyMet Inc, Teck, and Teck American Inc., a wholly owned subsidiary of Teck;
- The Amended and Restated Limited Liability Company Agreement of NewRange Copper Nickel LLC; among PolyMet US, Inc., and Teck American Incorporated and NewRange Copper Nickel LLC dated as of February 14, 2023; and
- Investor Rights and Governance Agreement between PolyMet and Glencore dated February 14, 2023.

## 15. INTEREST OF EXPERTS

Deloitte & Touche LLP has served as PolyMet's auditor since August 2019 and is located at 50 South 6<sup>th</sup> Street, Suite 2800, Minneapolis, Minnesota, USA 55402. Deloitte & Touche LLP report that they are independent of the Company in accordance with the code of professional conduct of the Certified Professional Accountants of Minnesota and the rules of the Public Company Accounting Oversight Board (United States) and the Securities and Exchange Commission.

PolyMet has relied on the work of the qualified persons listed in the section of this AIF titled "Introductory Notes - Qualified Persons Under NI 43-101" in connection with the scientific and technical information presented in this AIF in respect of the NorthMet Project, which is based upon the NorthMet Technical Report, and in respect of the Mesaba Project, which is based upon the Mesaba Technical Report, each of which are filed on SEDAR and EDGAR.

None of the qualified persons listed in the section of this AIF titled "Introductory Notes - Qualified Persons Under NI 43-101", nor any of the companies listed therein that employ those individuals, received or has received a direct or indirect interest in the property of the Company or of any associate or affiliate of the Company in connection with the preparation of reports relating to the Company's mineral properties. As of the date hereof, the aforementioned persons and companies beneficially own, directly or indirectly, less than 1% of the Company's outstanding securities of any class and less than 1% of the outstanding securities of any class of PolyMet's associates or affiliates.

## 16. AUDIT COMMITTEE

PolyMet is subject to National Instrument 52-110 - *Audit Committees*, ("NI 52-110"), which prescribes certain requirements in relation to audit committees and defines the meaning of independence with respect to directors. These reflect current regulatory guidelines of the CSA as well as certain U.S. initiatives under the *Sarbanes-Oxley Act of 2002* and adopted corporate governance rules of the NYSE American. A copy of the Company's Audit Committee's charter is attached as Schedule A to this AIF.

During 2022, the Audit Committee was composed of David J. Fermo, Dr. David Dreisinger, and Alan R. Hodnik, each of whom, in the opinion of the Board of Directors, is independent as determined under the rules of NI 52-110, the TSX and NYSE American and each of whom is financially literate. The Audit Committee meets the composition requirements set forth by TSX and NYSE American rules.

David J. Fermo has served as a member of PolyMet's board of directors since June 2020. He serves as the Chair of the Audit Committee and also serves on the Compensation Committee. Mr. Fermo initiated his career in South Africa as an auditor before moving to the United States to attend The Wharton School of Finance in Philadelphia. His career spans auditing, financial analysis, bond fund management and private banking. David's first position in the U.S. was with Paine Webber for 8 years in various positions including a Financial Analyst, reporting to the CFO of Paine Webber Group and the Asset Management Division where he managed Investment Grade and Mortgage Bond portfolios. Mr. Fermo also spent 6 years at Goldman Sachs Asset Management where he led a team of professionals nationally who placed investment products managed by Goldman Sachs with institutions. He was also a Goldman Sachs appointee to the board of a client's registered mutual fund complex. Mr. Fermo then spent over 22 years at J.P. Morgan, in three positions, encompassing both the Asset Management Division and the Private Bank. Mr. Fermo retired from J.P. Morgan in 2017 and currently works with his son in a real estate endeavor. Mr. Fermo holds degrees in business and accounting from the University of the Witwatersrand, Johannesburg South Africa. He is a Chartered Accountant (South Africa) and has an MBA from The Wharton School of the University of Pennsylvania.

Dr. David Dreisinger has served as a member of PolyMet's board of directors since October 2003. He serves as the Chair of the Technical Steering Committee and also serves on the Health, Safety, Environment and Communities, Audit, and on the Nominating and Corporate Governance Committees. Since 1988, Dr. Dreisinger has been a member of the faculty at the University of British Columbia in the Department of Materials Engineering and is currently Professor and Chairholder of the Industrial Research and Chair in Hydrometallurgy. He has published over 300 papers and has been extensively involved as a process consultant in industrial research programs with metallurgical companies. Dr. Dreisinger has participated in 24 U.S. patents for work in Hydrometallurgical applications in base, precious and rare metals. Dr. Dreisinger serves as a director of Euro Manganese Inc., Search Minerals, Inc. and Cascadero Copper Corporation, and as Vice President – Metallurgy for each of Camrova Resources, Inc., and Search Minerals Inc.

Alan R. Hodnik has served as a member of PolyMet's board of directors since March 2011. He is the Lead Independent Director, Chair of the Compensation and Nominating and Corporate Governance committees and also serves on the Health, Safety, Environment and Communities committee. Mr. Hodnik retired from ALLETE Inc. in May 2021, having served as President of ALLETE from May 2009 until February 2019, CEO of ALLETE from May 2010 until February 2020, and Board Chairman of ALLETE from May 2011 until January 2020. In February 2020, Mr. Hodnik was named ALLETE Executive Chairman until May 2021 as part of a planned and orderly succession process. Since joining ALLETE in 1981, Mr. Hodnik had served as Vice President-Generation Operations, Senior Vice President of Minnesota Power Operations, and Chief Operating Officer. As Chief Operating Officer, he provided leadership to BNI Coal Mining-North Dakota, Superior Water Light & Power-Wisconsin and transmission, distribution, generation, engineering, customer service for all aspects of Minnesota Power. Minnesota Power is the region's power supplier, including serving all large industrial mining and paper producers within the mineral district where PolyMet's proposed mill is located. Mr. Hodnik was elected and served as Mayor of the City of Aurora, Minnesota from 1987-1998. The cities of Aurora and Hoyt Lakes co-host the PolyMet Erie Mine site location. Mr. Hodnik maintains very strong working relationships with government, business, labor, education and community stakeholders in the State of Minnesota. Mr. Hodnik serves on the Edison Electric Institute (EEI), as well as, the Essentia Health Systems Boards of Directors.

During 2022, the Board of Directors determined that David J. Fermo qualified as the Audit Committee's "financial expert" as defined under the rules of the TSX and NYSE American and was "financially sophisticated" as defined under the rules of the NYSE American.

Mr. Fermo qualifies as a financial expert and is financially sophisticated, in that he has an understanding of generally accepted accounting principles and financial statements; is able to assess the general application of accounting principles in connection with the accounting for estimates, accruals and reserves; has experience analyzing or evaluating financial statements that entail accounting issues of equal complexity to the Company's financial statements (or actively supervising another person who did so); and has a general understanding of internal controls and procedures for financial reporting and an understanding of audit committee functions.

The members of the Audit Committee do not have fixed terms and are appointed and replaced from time to time by resolution of the Board of Directors.

The Audit Committee meets four times a year, at a minimum, and has access to all officers, management and employees of the Company and may engage advisors or counsel as deemed necessary to perform its duties and responsibilities as a committee.

The Audit Committee also meets with the Company's President and CEO, the Company's CFO, and the Company's independent auditors to review and inquire into matters affecting financial reporting, the system of internal accounting and financial controls, and the Company's audit procedures and audit plans. The Audit Committee also recommends to the Board of Directors the independent auditors to be appointed for each year. In addition, the Audit Committee reviews and recommends to the Board of Directors for approval the annual and quarterly financial statements and management's discussion and analysis. Finally, the Audit Committee undertakes other activities as required by the rules and regulations of the TSX and the NYSE American and other governing regulatory authorities.

### **Pre-Approval Policies and Procedures**

The Audit Committee nominates and engages the independent auditors to audit the financial statements, and approves all audit, audit-related services, tax services and other services provided by the Company's independent registered public accounting firm, Deloitte & Touche LLP. Any services provided by Deloitte & Touche LLP that are not specifically included within the scope of the audit must be pre-approved by the audit committee prior to any engagement. This pre-approval involves a submission by the auditors to the Audit Committee of a scope of work, an estimate of the time involved, and a proposal for the fees to be charged. The Audit Committee reviews the proposal with management and with the auditors prior to approving the scope of work and fees.

### **External Auditor Service Fees**

Deloitte & Touche LLP, is the independent registered public accounting firm for the Company and have acted as the Company's independent auditor for the years ended December 31, 2022 and 2021. The chart below sets forth the total amount billed by Deloitte & Touche LLP for services performed in these periods and breaks down these amounts by category of service (for audit fees, audit-related fees, tax fees and all other fees):

<i>Year Ended</i>	<i>Audit Fees</i>	<i>Audit Related Fees</i>	<i>Tax Fees</i>	<i>All Other Fees</i>
December 31, 2022	US \$558,000	US \$Nil	US \$Nil	US \$Nil
December 31, 2021	US \$458,000	US \$Nil	US \$Nil	US \$Nil

"Audit Fees" are the aggregate fees billed for the audit of the Company's consolidated annual financial statements.

"Audit-Related Fees" are fees billed for services reasonably related to the performance of the audit or interim review and services associated with registration statements and prospectuses.

"Tax Fees" are fees billed for professional services such as tax compliance or tax advice on actual or contemplated transactions.

## 17. ADDITIONAL INFORMATION

All documents referred to in this AIF are available for inspection at the Company's registered and records office, listed below, during normal office hours.

Farris LLP  
2500 - 700 W Georgia St  
Vancouver BC  
Canada V7Y 1B3

In Canada, the Company will file reports and other information with the Canadian Securities Administrators. These materials include additional financial information provided in the Company's financial statements and management discussion and analysis for its most recently completed fiscal year. These materials also include directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans, as contained in the Management Information Circular for the most recent annual meeting of security holders that involves the election of directors. Additional reports, registration statements, and other information relating to PolyMet may be found on SEDAR at [www.sedar.com](http://www.sedar.com).

In the United States, the Company will file reports and other information with the SEC in accordance with the requirements of the Exchange Act. These materials, including this AIF and exhibits and the Company's financial statements and management discussion and analysis for its most recently completed fiscal year, may be inspected and copied at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Copies of the materials may be obtained from the Public Reference Room of the Commission at 100 F. Street, N.E., Washington, D.C. 20549 at prescribed rates. The public may obtain information on the operation of the Commission's Public Reference Room by calling the Commission in the United States at 1-800-SEC-0330. Additional reports, registration statements and other information relating to PolyMet can also be inspected on EDGAR available on the SEC's website at [www.sec.gov](http://www.sec.gov).

## **SCHEDULE A AUDIT COMMITTEE CHARTER**

### **1. PURPOSE**

The purpose of the Audit Committee (in this charter, the "Committee") is to oversee the accounting and financial reporting processes of PolyMet Mining Corp. (the "Company"), the audits of the Company's financial statements, the qualifications of the public accounting firm engaged as the Company's independent auditor to prepare or issue an audit report on the financial statements of the Company and internal control over financial reporting, and the performance of the Company's internal audit function and independent auditor. The Committee reviews and assesses the qualitative aspects of the Company's financial reporting to shareholders, the Company's financial risk assessment and management, and the Company's ethics and compliance programs. The Committee is directly responsible for the appointment (subject to shareholder ratification), compensation, retention, and oversight of the independent auditor. The Committee also reviews and assesses the Company's processes to manage and control risk, except for risks assigned to other committees of the Board or retained by the Board.

### **2. STRUCTURE AND OPERATIONS**

The Committee shall be composed of not less than three (3) directors. Members of the Committee shall be independent and each shall be "financially literate" and will be appointed or reappointed at the meeting of the Board, immediately following the annual general meeting of the shareholders of the Company (the "AGM"), and in the normal course of business will serve a minimum of three (3) years. At least one member of the Committee shall in the judgment of the Board be an "audit committee financial expert" as defined by the rules and regulations of the Canadian Securities Administrators and the Securities and Exchange Commission. Each member shall continue to be a member of the Committee until a successor is appointed, unless the member resigns, is removed or ceases to be a director. The Board may fill a vacancy that occurs in the Committee at any time. Generally, no member of the Committee may serve on more than three audit committees of publicly traded companies (including the Audit Committee of the Company) at the same time.

"Financially Literate" means the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the Company's financial statements.

The Board or, in the event of its failure to do so, the members of the Committee, shall appoint or reappoint, at the meeting of the Board immediately following the AGM, a chairman from among their number. The chairman shall not be a former officer of the Company and shall serve as a liaison between the Committee and members of the Company's management team ("Management").

Meetings of the Committee shall be held at least four times annually, provided that due notice is given and a quorum of a majority of the members is present. Where a meeting is not possible, resolutions in writing which are signed by all members of the Committee are as valid as if they had been passed at a duly held meeting. The frequency and nature of the meeting agendas are dependent upon business matters and affairs which the Company faces from time to time.

The Committee shall report to the Board on its activities after each of its meetings. In addition, it shall review and assess the adequacy of this charter annually and, where necessary, recommend changes to the Board for approval. The Committee shall undertake and review with the Board an annual performance evaluation of the Committee.

### **3. RESOURCES AND AUTHORITY**

The Committee shall have the resources and authority appropriate to discharge its responsibilities, including the authority to use internal personnel and to obtain advice and assistance from internal or external legal, accounting or other advisors and the funding for compensating any such external advisors. In addition, the Committee shall have sole authority to retain and terminate any such firms and to approve the fees and other retention terms related to the appointment such firms.

### **4. RESPONSIBILITIES**

The responsibilities of the Committee are:

- (1) To assist the Board of Directors in fulfilling its fiduciary responsibilities' relating to the Company's quality and integrity of accounting, auditing, and reporting practices and the integrity of the Company's internal accounting controls and management information systems;
- (2) To review with the auditors, internal accountants and management of the Company:
  - (a) any audited financial statement of the Company, including any such statement that is to be presented to an annual general meeting or provided to shareholders or filed with regulatory authorities and including any audited financial statement contained in a prospectus, registration statement or other similar document, and
  - (b) the financial disclosure in each Annual Report and Management Discussion and Analysis of the Company which accompanies such audited financial statement and in each such filing, prospectus, registration statement or other similar document;
- (3) To review with the internal accountants and management of the Company:
  - (a) any unaudited financial statement of the Company, including any such statement that is to be presented to an annual general meeting or provided to shareholders or filed with regulatory authorities and including any unaudited financial statement contained in a prospectus, registration statement, Quarterly Report or other similar document,
  - (b) the financial disclosure in each Quarterly Report and when applicable, Management Discussion and Analysis of the Company accompanying such unaudited financial statement and in each such filing, prospectus, registration statement or other similar document which accompanies such unaudited financial statement, and
  - (c) in connection with the annual reports of the Company, review (i) Management's disclosure to the Committee and the independent auditor under Section 302 of the Sarbanes-Oxley Act, including identified changes in internal control over financial reporting; and (ii) the contents of the Chief Executive Officer and the Chief Financial Officer certificates to be filed under Sections 302 and 906 of the Sarbanes-Oxley Act and the process conducted to support the certifications;
- (4) To otherwise review as required and report to the Board of Directors with respect to the adequacy of internal accounting and audit procedures and the adequacy of the Company's management information systems;
- (5) To otherwise ensure that no restrictions are placed by Management on the scope of the auditors review and examination of the Company's accounts;
- (6) To appoint or replace the independent auditor and approve the terms on which the independent auditor is engaged for the ensuing fiscal year;
- (7) At least annually, evaluate the independent auditor's qualifications, performance, and independence, including that of the lead partner. The evaluation will include obtaining a written report from the independent auditor describing the firm's internal quality control procedures; any material issues raised by the most recent Public Company Accounting Oversight Board inspection, internal quality control review, or PCAOB review, of the firm or by any inquiry or

- investigation by governmental or professional authorities within the past five years, concerning an independent audit or audits carried out by the firm, and any steps taken to deal with those issues; and all relationships between the independent auditor and the Company;
- (8) Resolve any disagreements between Management and the independent auditor about financial reporting;
  - (9) Establish and oversee a policy designating permissible services that the independent auditor may perform for the Company, providing for preapproval of those services by the Committee subject to the de minimis exceptions permitted under applicable rules, and quarterly review of any services approved by the designated member under the policy and the firm's non-audit services and related fees;
  - (10) Ensure receipt from the independent auditor of a formal written statement delineating all relationships between the auditor and the Company, consistent with applicable requirements of the PCAOB regarding the independent auditor's communications with the Committee concerning independence, actively engage in a dialogue with the auditor about any disclosed relationships or services that may impact the objectivity and independence of the auditor, and take appropriate action to oversee the independence of the independent auditor;
  - (11) Advise the Board about the Committee's determination whether the Committee consists of three or more members who are Financially Literate, including at least one member who has financial sophistication and is a financial expert;
  - (12) Inquire of Management and the independent auditor about significant risks or exposures, review the Company's policies for risk assessment and risk management, and assess the steps Management has taken to control such risk to the Company, except as to those risks for which oversight has been assigned to other committees of the Board or retained by the Board;
  - (13) Review with Management and the independent auditor:
    - (a) The Company's annual assessment of the effectiveness of its internal controls and the independent auditor's attestation,
    - (b) The adequacy of the Company's internal controls, including computerized information system controls and security,
    - (c) Any "material weakness" or "significant deficiency" in the design or operation of internal control over financial reporting, and any steps taken to resolve the issue, and
    - (d) Any related significant findings and recommendations of the independent auditor and internal audit together with Management's responses;
  - (14) Develop, review, and oversee procedures for (i) receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, and auditing matters and (ii) the confidential, anonymous submission of employee concerns regarding accounting or auditing matters;
  - (15) Review policies and procedures with respect to transactions between the Company and officers and directors, or affiliates of officers or directors, or transactions that are not a normal part of the Company's business, and review and approve those related-party transactions that would be disclosed pursuant to International Financial Reporting Standards, IAS 24 and SEC Regulation S-K, Item 404;
  - (16) Review with Management and the independent auditor at least annually the Company's critical accounting policies and significant judgments and estimates, including any significant changes in the Company's selection or application of accounting principles and the effect of regulatory and accounting initiatives on the financial statements of the Company;
  - (17) To ensure that the Company disseminates information concerning its financial position and results of operations to the public in a timely fashion;
  - (18) Complete an annual evaluation of the Committee's performance;



- (19) Include a copy of the Committee charter as an appendix to the proxy statement at least once every three years, or disclose annually in the proxy statement where the charter can be found on the Company's website;
- (20) Set clear hiring policies for the Company's hiring of employees or former employees of the independent auditor who were engaged in the Company's account, and ensure the policies comply with any regulations applicable to the Company; and
- (21) Review with Management the Company's policies and processes for tax planning and compliance.

## **5. COMMUNICATIONS**

The independent auditor reports directly to the Committee. The Committee is expected to maintain free and open communication with the independent auditor, the internal auditors, and Management. This communication will include periodic private executive sessions with each of these parties.

## **6. EDUCATION**

The Company is responsible for providing new members with appropriate orientation briefings and educational opportunities, and the full Committee with educational resources related to accounting principles and procedures, current accounting topics pertinent to the Company, and other matters as may be requested by the Committee. The Company will assist the Committee in maintaining appropriate financial literacy.