

Operational Update at Argonaut's Magino Mine

TORONTO, Ontario - (December 18, 2023) **Argonaut Gold Inc. (TSX: AR)** (the "Company", "Argonaut Gold" or "Argonaut") is pleased to announce the Company's flagship mine, the Magino Mine, located in Ontario Canada, is nearing gold production rates shown in its current National Instrument 43-101 Technical Report following implementation of several key technical and operational improvements.

Increased Mill Head Grade

As previously announced by Argonaut, the Magino Mine began producing gold in June of this year and achieved commercial production effective November 1, 2023. During the early commissioning period, the Magino Mine faced challenges as it transitioned into a steady feed of higher grade ore, in-line with the Magino Technical Report. Following the implementation of improved mining practices in late October, the operations have delivered a consistent increase in feed grade to the mill, which have averaged at or above the life of mine reserve grade. The improvements at the Magino Mine include greater ore selectivity and more effective dilution control and are intended to align the operational results with the Magino Technical Report.

Technical and Operational Improvements

During November, the Company planned and executed a test campaign at the mine site using OREPro3D on a test block of high-grade ore. The software program created a test block including ore tonnes and grade, before and after blasting, that was then flitch mined and batch tested through the mill. The average estimated grade of the test block was 1.53 grams per tonne, including external dilution, while 1.50 grams per tonne was received at the mill, demonstrating that strong grade control practices are working well.

"Implementing the right technology is expected to be instrumental to our success. We believe that OREPro3D will play a pivotal role in providing precise data for blast movement," said Marc Leduc, Chief Operating Officer of Argonaut Gold. "Based on the excellent results of this test campaign, the Mine is currently installing the software and carrying out training, which should be completed by the end of the year. We are also in the process of implementing a high precision GPS fleet management system in our 4 principle loading tools, anticipated to be completed by year end, which is also expected to further enhance grade control, mining efficiency and minimize dilution of ore delivered to the mill."

In addition to investments in the GPS fleet management system to improve mining selectivity by enabling more precise identification of ore and waste blocks to operators, given the Magino ore body is not visually controlled, the Company is also working to improve mining productivity by optimizing the payload capacity of the current truck fleet. The Company expects these changes will result in increased haulage capacity.

While these improved mining and reconciliation results from this recent test block are based on a limited operational phase and scope, the Company expects implementation of these technical and operational enhancements will afford the Company a significantly greater ability to mine more accurately and selectively, thereby increasing the predictability of grades from the mine to the mill on a go forward basis.

Investment in Exploration and Expansion

A portion of the Company's recent equity offering is dedicated to sustaining an ongoing infill drill program which the Company intends to use to support resource and reserve updates, as

appropriate. The results from phase one of this program are expected to be released in March of 2024, with a further report anticipated in the third quarter of 2024.

The Company has engaged Lycopodium Limited, an international engineering firm, to complete a plant optimization and expansion study towards the goal of increasing throughput. The capital cost to complete the optimization work is not expected to be material and should, if supported by the study, largely be completed by the end of 2024. The overall objective of the optimization and expansion study is to increase plant throughput to between 17,500 to 20,000 tonnes per day. The Company hopes this work will support an expansion study forming part of an updated technical report for the Magino Mine by the end of third quarter of 2024.

“The goal is to build Magino into a 200,000 to 250,000 ounce per year gold mine. Through the year, we have strengthened our team, processes, and technology, all of which are critical to building Magino into a large, low-cost, long-life gold mine,” stated Richard Young, President and Chief Executive Officer of Argonaut Gold.

Qualified Person, Technical Information

The technical information contained in this press release has been prepared under the supervision of, and has been reviewed and approved by Mr. Marc Leduc, P.Eng. Chief Operating Officer; a Qualified Person as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). For further information on the Magino Mine, please see the technical report titled Magino Gold Project, Ontario, Canada, NI 43-101 Technical Report, Mineral Resource and Mineral Reserve Update dated March 3, 2022 (effective date of February 14, 2022) on the Company's website www.argonautgold.com or on www.sedarplus.ca.

About Argonaut Gold

Argonaut Gold is a Canadian-based gold producer with a portfolio of operations in North America. Focused on becoming a low-cost, mid-tier gold producer, the Company's flagship asset, Magino Mine, is expected to become Argonaut's largest and lowest cost mine. The Company is pursuing potential for re-development and additional growth at the Florida Canyon Mine in Nevada, USA. Together, the Magino and Florida Canyon mines are the Company's cornerstone assets that will drive Argonaut through this pivotal growth stage. The Company also has two additional operating mines in Mexico, the La Colorada Mine in Sonora and the San Agustin Mine in Durango. Argonaut Gold trades on the Toronto Stock Exchange (TSX) under the ticker symbol "AR".

Cautionary Note Regarding Forward-looking Statements

This press release contains certain “forward-looking statements” under applicable Canadian securities laws concerning the business, operations and financial performance and condition of Argonaut Gold. Except for statements of historical fact relating to Argonaut, all statements included herein are forward-looking statements. The words “believe”, “expect”, “strategy”, “target”, “plan”, “scheduled”, “commitment”, “opportunities”, “guidance”, “project”, “continue”, “on track”, “estimate”, “growth”, “forecast”, “potential”, “future”, “extend”, “planned”, “will”, “could”, “would”, “should”, “may” and similar expressions typically identify forward-looking statements. In particular, this press release contains forward-looking statements including, without limitation, with respect to OREPro3D playing a pivotal role, OREPro3D installation and training and training being complete by year's end, the FMS assisting the operators with GPS guidance and ensuring precise identification of ore and waste, improvement of mining productivity, increased haulage capacity, infill drill results being incorporated into Technical Reports, the release of Technical Reports in March 2024 and the third quarter of 2024, the Resources and Reserves update in December of 2024, plant optimization increasing plant throughput by 10 to 20%, the capital cost for the optimization to be immaterial, the

optimization to be completed in 2024, the expansion to increase plant throughput to between 17,500 to 20,000 tonnes per day, the initial findings of the expansion study being included in the March 2024 Technical Report, the expansion study details being included in the Technical Report in the third quarter of 2024, Magino becoming a large, low-cost, long-life gold mine, and Magino becoming a 200,000 to 250,000 ounce per year producer at low costs.

Forward-looking statements are necessarily based on the opinions and estimates of management at the date the statements are made and are based on a number of assumptions and subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. Many of these assumptions are based on factors and events that are not within the control of Argonaut and there is no assurance they will prove to be correct.

Factors that could cause actual results to vary materially from results anticipated by such forward-looking statements include but are not limited to the availability and changing terms of financing, variations in ore grade or recovery rates, changes in market conditions, changes in inflation, risks relating to the availability and timeliness of permitting and governmental approvals; risks relating to international operations, fluctuating metal prices and currency exchange rates, changes in project parameters, the possibility of project cost overruns or unanticipated costs and expenses, risks related to the anticipated performance of material equipment, the impact of COVID-19 and other human health concerns and the impact and effectiveness of governmental responses to them, labour disputes and other risks of the mining industry, failure of plant, equipment or processes to operate as anticipated.

These factors are discussed in greater detail in Argonaut's most recent Annual Information Form dated March 31, 2023 and in the most recent Management's Discussion and Analysis for the three and nine months ended September 30, 2023, both filed under the Company's issuer profile on SEDAR, which also provide additional general assumptions in connection with these statements. Argonaut cautions that the foregoing list of important factors is not exhaustive. Investors and others who base themselves on forward-looking statements should carefully consider the above factors as well as the uncertainties they represent and the risk they entail.

Although Argonaut has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Argonaut undertakes no obligation to update forward-looking statements if circumstances or management's estimates or opinions should change except as required by applicable securities laws. The reader is cautioned not to place undue reliance on forward-looking statements. Statements concerning mineral reserve and resource estimates may also be deemed to constitute forward-looking statements to the extent they involve estimates of the mineralization that will be encountered if the property is developed. Comparative market information is as of a date prior to the date of this document. Further, the forward-looking statements included herein speak only as of the date of this press release.

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