ANNUAL INFORMATION FORM

FOR THE YEAR ENDED DECEMBER 31, 2022

March 31, 2023

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Information Form ("AIF") contains forward-looking statements and information within the meaning of applicable Canadian securities legislation (collectively, "forward-looking statements"). These forward-looking statements relate to, among other things, the objectives, goals, strategies, beliefs, intentions, plans, estimates and outlook of Jaguar Mining Inc. ("Jaguar" or the "Company").

Forward-looking statements can generally be identified by the use of words such as "believe," "anticipate," "expect," "intend," "plan," "goal," "will," "may," "target," "potential" and other similar expressions. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances are forward-looking statements. Forward-looking statements are based on estimates and assumptions made by Jaguar in light of its experience and perception of historical trends, current conditions and expected future developments, as well as other factors Jaguar believes are appropriate in the circumstances. These estimates and assumptions are inherently subject to significant business, economic, competitive and other uncertainties and contingencies, many of which, with respect to future events, are subject to change. Although Jaguar believes that the expectations reflected in such forward-looking statements are reasonable, undue reliance should not be placed on such statements.

In making the forward-looking statements in this AIF, Jaguar has made several assumptions, including, but not limited to, assumptions concerning: production costs; the geological interpretation and statistical inferences or assumptions drawn from drilling and sampling analysis that are involved in the calculation of Mineral Reserves (as defined below) and Mineral Resources (as defined below); that there is no material deterioration in general business and economic conditions; that there is no unanticipated fluctuation of interest rates and foreign currency exchange rates; that the supply and demand for, deliveries of, and the level and volatility of prices of gold as well as oil and petroleum products develop as expected; that Jaguar receives regulatory and governmental approvals for its development projects and other operations on a timely basis; that Jaguar is able to obtain financing for its development projects on reasonable terms; that there is no unforeseen deterioration in Jaguar's costs of production or Jaguar's production and productivity levels; that Jaguar is able to procure mining equipment and operating supplies in sufficient quantities and on a timely basis; that engineering and construction timetables and capital costs for Jaguar's development and expansion projects are not incorrectly estimated or affected by unforeseen circumstances; that costs of closure of various operations are accurately estimated; that unforeseen changes to the political stability or government regulation in the country in which Jaguar operates do not occur; that there are no unanticipated changes to market competition; that Jaguar's mineral reserve estimates are within reasonable bounds of accuracy (including with respect to size, grade and recoverability) and that the geological, operational and price assumptions on which these are based are reasonable; that Jaguar realizes expected premiums over London Metal Exchange cash and other benchmark prices; and that Jaguar maintains its ongoing relations with its employees, affected communities, business partners and joint venture partners.

Actual results may differ materially from those expressed or implied in the forward-looking statements contained in this AIF. The Company anticipates that subsequent events and developments may cause the Company's views to change. Factors that could cause results or events to differ from current expectations include, among other things:

- fluctuations in the spot and forward price of gold or certain other commodities (such as silver, diesel fuel, natural gas and electricity);
- risks associated with projects in the early stages of evaluation and for which additional engineering and other analysis is required;
- risks related to the possibility that future exploration results will not be consistent with the Company's expectations, that quantities or grades of reserves will be diminished, and that resources may not be converted to reserves;
- changes in mineral production performance, exploitation and exploration successes;
- risks that exploration data may be incomplete and considerable additional work may be required to complete further evaluation, including but not limited to drilling, engineering and socioeconomic studies and investment;
- the speculative nature of mineral exploration and development;
- risks associated with the fact that certain of the initiatives described in this Annual Information Form are still in the early stages and may not materialize;
- Jaguar's ability to maintain a listing of its common shares on a stock exchange;
- actions taken by the Company's lenders, creditors, shareholders, and other stakeholders to enforce their rights;
- lack of certainty with respect to foreign legal systems, corruption and other factors that are inconsistent with the rule of law;

- changes in national and local government legislation, taxation, controls or regulations and/or changes in the administration of laws, policies, and practices;
- expropriation or nationalization of property and political or economic developments in Canada and Brazil or other countries in which Jaguar does or may carry on business in the future;
- risks relating to political instability in certain of the jurisdictions in which Jaguar operates;
- non-renewal of key licences by governmental authorities;
- failure to comply with environmental and health and safety laws and regulations;
- contests over title to properties, particularly title to undeveloped properties, or over access to water, power and other required infrastructure;
- the liability associated with risks and hazards in the mining industry, and the ability to maintain insurance to cover such losses;
- climate change-induced physical risks, such as property damages and disruption to operations caused by extreme weather events;
- transition and reputational risks related to climate change;
- financial risks related to climate change, including without limitation, increased costs induced by physical risks;
- litigation and legal and administrative proceedings;
- operating or technical difficulties in connection with mining or development activities, including geotechnical challenges, tailings dam and storage facilities failures, and disruptions in the
- maintenance or provision of required infrastructure and information technology systems;
- increased costs, delays, suspensions and technical challenges associated with the construction of capital projects;
- risk of loss due to acts of war, terrorism, sabotage and civil disturbances;
- risks associated with artisanal and illegal mining;
- adverse changes in the Company's credit ratings;
- the impact of global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future cash flows;
- business opportunities that may be presented to, or pursued by, the Company;
- the Company's ability to successfully integrate acquisitions or complete divestitures;
- risks related to competition in the mining industry;
- employee relations, including loss of key employees;
- availability and increased costs associated with mining inputs and labor;
- actions taken against the Company by governmental agencies and securities and other regulators;
- the impact of rising interest rates and inflation, including global inflationary pressures driven by supply chain disruptions
- caused by the ongoing Covid-19 pandemic and global energy cost increases following the invasion of Ukraine by Russia;
- the ongoing conflict in Ukraine and its impact on global energy supply;
- potential direct or indirect operational impacts resulting from infectious diseases or pandemics, such as the COVID-19 pandemic, climate change effects, and other factors not currently viewed as material that could cause actual results to differ materially from those described in the forward-looking statements.

The Company also cautions that its 2023 guidance may be impacted by the business and social disruption caused by the spread of COVID-19. In addition, there are risks and hazards associated with the business of mineral exploration, development and mining, including environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins, flooding and gold bullion or gold concentrate losses (and the risk of inadequate insurance, or inability to obtain insurance, to cover these risks). Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Readers are cautioned that forward-looking statements are not guarantees of future performance. All of the forward-looking statements made in this Annual Information Form are qualified by these cautionary statements. Specific reference is made to "Narrative Description of the Business – Mineral Reserves and Mineral Resources" and "Risk Factors" and to the MD&A (which is available on SEDAR at www.sedar.com) for a discussion of some of the factors underlying forward-looking statements and the risks that may affect Jaguar's ability to achieve the expectations set forth in the forward-looking statements contained in this Annual Information Form. The Company may, from time to time, make oral forward-looking statements. The Company advises that the above paragraph and the risk factors described in this Annual Information Form and in the Company's other documents filed with the Canadian securities regulatory authorities should be read for a description of certain factors that could cause the actual results of the Company to materially differ from those in the oral

forward-looking statements. The Company disclaims any intention or obligation to update or revise any oral or written forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

REPORTING CURRENCY

In this AIF, dollar amounts are reported in United States ("US") dollars unless otherwise stated. For Canadian dollars to U.S. dollars, the average exchange rate for 2022 and the exchange rate as at December 31, 2022 were approximately one Canadian dollar per 0.77 and 0.74 U.S. dollars, respectively. For Brazilian Reais to U.S. dollars, the average exchange rate for 2022 and the exchange rate as at December 31, 2022 was approximately one Brazilian Reais per 0.19 U.S. dollars.

NON-GAAP MEASURES

Jaguar uses certain non-GAAP financial performance measures in its financial reports, including total cash costs per ounce, all-in sustaining costs per ounce, all-in costs per ounce, and all-in sustaining costs per pound. For a description and reconciliation of each of these measures, please see pages 4 to 15 of Jaguar's Management's Discussion and Analysis of Financial and Operating Results for the year ended December 31, 2022 (the "MD&A"), available electronically from SEDAR. See also "Non-GAAP Financial Measures" at pages 16 to 19 for a detailed discussion of each of the non-GAAP measures used in this Annual Information Form.

CORPORATE STRUCTURE

Background

Jaguar was incorporated on March 1, 2002, pursuant to the Business Corporations Act (New Brunswick). On March 30, 2002, Jaguar issued initial common shares to Brazilian Resources, Inc. ("Brazilian") and IMS Empreendimentos Ltda. ("IMS") in exchange for property. In that transaction, Brazilian contributed to Jaguar all of the issued and outstanding shares in Mineração Serras do Oeste Ltda. ("MSOL"), a Brazilian mining company that controlled the mineral rights, concessions and licences to certain property located near the community of Sabará (the "Sabará Property"), east of Belo Horizonte in the state of Minas Gerais, Brazil, and IMS contributed to Jaguar a 1,000-tonne per day production facility also located east of Belo Horizonte near the community of Caeté and the mineral rights to a nearby property related to the former National Department of Mineral Production ("DNPM/ANM") Mineral Exploration Request no. 831.264/87 and DNPM/ANM Mineral Exploration Request nos. 830.590/83 and 830.592/83 (the "Rio de Peixe Property"). Jaguar was moved into Ontario in October 2003 pursuant to the Business Corporations Act (Ontario) and is a corporation existing under the laws of Ontario.

On October 9, 2003, pursuant to an amalgamation agreement dated July 16, 2003, Jaguar amalgamated with Rainbow Gold Ltd. ("Rainbow"), a New Brunswick corporation and a then inactive reporting issuer listed on the TSX Venture Exchange (the "TSX-V"), through a reverse take-over. The amalgamated entity adopted the name "Jaguar Mining Inc." Jaguar was approved for listing on the TSX-V on October 14, 2003, and began trading on October 16, 2003. Jaguar subsequently graduated from the TSX-V to the Toronto Stock Exchange (the "TSX") and began trading on the TSX on February 17, 2004, under the symbol "JAG." On July 23, 2007, trading of Jaguar's common shares commenced on the NYSE Arca Exchange ("NYSE Arca") under the symbol "JAG." In July 2009, Jaguar received approval from the New York Stock Exchange ("NYSE") to transfer the trading of its common shares from the NYSE Arca to the NYSE. Trading on the NYSE began on July 6, 2009, also under the symbol "JAG." The common shares of the Company were delisted from the NYSE on June 7, 2013, and from the TSX on April 30, 2014, when the Company announced that the TSX-V had accepted its listing application. On July 29, 2016, the common shares of Jaguar and the Company's outstanding convertible senior secured debentures ("Debentures") were approved for listing on the TSX. The common shares and Debentures commenced trading on the TSX on August 3, 2016, and the common shares of Jaguar were simultaneously delisted from the TSX-V.

As at December 31, 2016, Jaguar had three wholly owned direct subsidiaries: MSOL, Mineração Turmalina Ltda. ("MTL") and Mineração Chega Tudo (MCT) Ltda. ("MCT"), each incorporated under the laws of the Federal Republic of Brazil ("Brazil"). In Q1 2017, MSOL completed a merger with MTL to centralize the assets and businesses into a single company, MSOL, providing greater efficiency and effectiveness in asset management, as well as greater synergy and significant reduction of operating costs. The registered and head office of MSOL is located at Rua Andaluzita, 131, 7º Andar, Carmo, Belo Horizonte, Minas Gerais, CEP 30310-030, Brazil. Jaguar's head and registered office is located at 100 King Street West, 56th Floor, Toronto, Ontario, Canada, M5X 1C9. In Q4 2017, Jaguar completed the sale of its wholly owned subsidiary MCT to Avanco Resources Limited ("Avanco") pursuant to an accelerated earn-in

agreement. In Q2 2021, the Company completed the full divestment of a 100% interest in the Pedra Branca project to South Atlantic Gold Corp. when South Atlantic Gold Corp. successfully fulfilled its three performance obligations stated in the definitive option agreement executed on July 29, 2020. On August 27, 2020, the Company completed a share consolidation (the "Share Consolidation") of its outstanding common shares on the basis of one (1) post-consolidation share for every ten (10) pre-consolidation shares. As a result of the Share Consolidation, the 723,502,108 common shares issued and outstanding as at that date were consolidated to 72,350,197 common shares on a non-diluted basis. As at the date of this AIF, the Company has 72,460,203 common shares outstanding on a non-diluted basis.

MSOL and Jaguar's Assets and Operations in Brazil

MSOL does not have a board of directors but rather, it has two administrators who are also executive officers of Jaguar that report directly to the Chief Executive Officer of Jaguar, Vernon Baker, who is a resident of Brazil and reports directly to Jaguar's Board of Directors (the "Board"). Specifically, the two administrators of MSOL are Eric Duarte (VP of Operations) and Marina Freitas (VP of Administration of Jaguar), and both of them are citizens and residents of Brazil and have power of attorney to effect decisions that the Board makes in regards to MSOL and Jaguar's assets and operations in Brazil. The Board instructs the Chief Executive Officer of Jaguar (Mr. Baker), who then instructs the two VPs of Jaguar who also act as the administrators of MSOL (Mr. Duarte and Ms. Freitas), and they, in turn, execute those instructions in Brazil. Corporate matters of Jaguar in Toronto are handled by the Chief Financial Officer of Jaguar (Hashim Ahmed), and are reported to both the Chief Executive Officer and the Chairman of the Board (Jeff Kennedy).

One of Jaguar's directors, Luis Miraglia, is a citizen and resident of Brazil and other than the Chief Financial Officer of Jaguar (Mr. Ahmed), all members of Jaguar's management team are residents of Brazil. Mr. Ahmed travelled to Brazil to meet with local management and visit the Company's material projects approximately ten times a year.

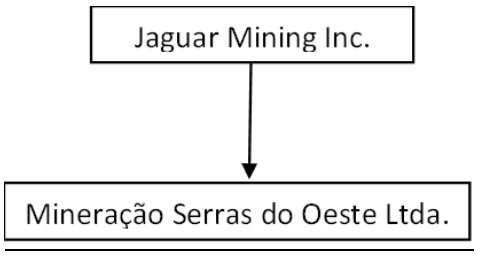
Jaguar's finance team reviews the management accounts of MSOL at the end of each quarter.

MSOL is entirely funded by Jaguar as all proceeds from the sale of gold in Brazil are directly transferred by the purchasers to Jaguar, rather than MSOL. Management of Jaguar then transfers funds to MSOL on an as-needed basis, following thoughtful deliberations with the Board in regards to the respective budgets of Jaguar and MSOL, MSOL's payables, Jaguar's cash flow forecast and existing market conditions. The leftover payable from Jaguar to MSOL, if any, is settled against an intercompany loan.

Jaguar and MSOL are highly-integrated in terms of personnel and reporting structures. Furthermore, multiple staff members hold positions in both companies. The Board can remove officers of MSOL in consultation with senior management of Jaguar. Jaguar's Human Resource team in Brazil will execute any decision of the Board to remove an officer of MSOL in accordance with the applicable policies and procedures of Jaguar.

The minute books and corporate records of MSOL are kept in electronic form in the Commercial Registry in Brazil. MSOL does not have a corporate seal as it is not a requirement under Brazilian law. Jaguar's books and records are located at the head office of Jaguar in Toronto, Ontario.

Jaguar Mining Inc. – Corporate Structure Chart (as at March 2023)



GENERAL DEVELOPMENT OF THE BUSINESS

Overview of Business

Jaguar Mining Inc. is a Canadian-listed junior gold mining, development, and exploration company operating in Brazil with three gold mining complexes and a large land package with significant upside exploration potential from mineral claims covering an area of approximately 58,000 hectares (Jaguar Mining 30,6000 hectares, Iamgold JV 27,000 hectares). The Company's principal operating assets are located in the Iron Quadrangle, a prolific greenstone belt in the state of Minas Gerais; and include the Turmalina Gold Mine Complex and Caeté Gold Mine Complex. The Company also owns the Paciência Gold Mine Complex, which has been on care and maintenance since 2012.

Potential for a significant increase in gold production exists through further exploration and development of the Company's existing brownfield land package around its existing mines.

The Company is led by a proven executive management team with extensive gold operations and development experience in South America.

Recent History

The following is a description of Jaguar's most significant events over the past three completed financial years.

Annual Summary Operating Results	2022			2021			2020		
	Turmalina	Pilar	**Total**	Turmalina	Pilar	**Total**	Turmalina	Pilar	**Total**
Tons Milled Kt	393	444	**837**	409	447	**856**	371	433	**804**
Head Grade g/t	3.29	3.57	**3.44**	3.22	3.69	**3.47**	3.78	4.16	**3.98**
Recovery %	87	88	**88**	88	87	**87**	89	88	**88**
Gold Ounces Produced Koz	36.2	44.8	**81.0**	37.5	46.4	**83.9**	40.1	51	**91.1**
Gold Ounces Sold Koz	35.8	44.2	**80.0**	37.8	46.8	**84.6**	40.2	51.6	**91.8**
Primary Development Km	2.3	1.4	**3.7**	2.8	1.6	**4.4**	4.4	2.7	**7.1**
Secondary Development Km	3	2.3	**5.3**	2.5	2.3	**4.8**	1.2	1.4	**2.6**
Primary+ Secondary Dev Km	5.3	3.7	**9.0**	5.3	3.9	**9.2**	5.6	4.1	**9.7**
Exploration Development Km	1.5	1.1	**2.6**	0.1	0.2	**0.3**			
Definition, Infill, and Exploration drilling km	54	36	**90**	47	34	**81**	39	30	**69**

Operational Highlights:

Strike development layout in 2021 was changed from primary footwall development to secondary development in the mineralized structures. This change more accurately defines the ore zones limits. The result was reduced primary development offset by increased secondary development. The modification also resulted in minor additions of marginal development ore to plant feed tons at a lower than average grade.

Exploration growth development in 2021-2022 focused on the NW Project in Turmalina and on the SW Project in Pilar. The NW project at Turmalina successfully added Mineral Resources and Mineral Reserves in the C-NW Orebody area, and is developing toward the Faina deposit. The SW project successfully added Mineral Resources and Mineral Reserves in the SW Orebody area of Pilar.

The Turmalina mining operation has transitioned to mining the majority of ore from the "C" Orebodies at shallower depths.

The Turmalina and the Caeté Process Plants are in the process of closing their tailings dams, as both plants transition to full dry stacking of tailings. The Turmalina dam has been closed and covered with HDPE lining. Final covering with soil and vegetation is planned. The Caeté Plant is constructing a leach tailings filter plant and a water treatment plant. Commissioning is in progress.

The Turmalina and Pilar Mines have replaced the underground haulage fleet with fixed frame trucks that can travel up ramp faster, for improved trucking efficiency.

Covid negatively impacted production in 2021. Extreme rains and flooding negatively impacted production at both mines in Q1-2022. A primary ventilation shaft repair negatively impacted the Pilar production in 2022. The repair is now complete.

Turmalina Mining Complex - Operational Review, Exploration, Mineral Reserves and Mineral Resources

Gold production at Turmalina was 36,166 oz. in 2022, 37,505 oz. in 2021, and 40,068 oz. in 2020.

Underground development at Turmalina totalled 6.8 km in 2022, 5.5 km in 2021, and 5.7 km in 2020. During 2022, a total of 54.0 km of underground delineation drilling, infill drilling and exploratory drilling was completed at the mine.

The mining method utilized at the Turmalina underground mine is sublevel open stoping with backfill. Jaguar's priority is to stabilize production at +35 koz/yr while reducing unit costs with good mining practices. The longer-term aim is to increase the production capability of Turmalina with exploration success.

Please see the "Technical Information Section" for a description of the Mine and Process Operations.

Exploration Highlights - Turmalina

Definitions: ETW – estimated true width, g/t Au – grams per tonne gold, m – metres, Grade (g/t Au) x Thickness (m) = GM (gram – metres).

Orebodies "A", "B" and "C"

At Turmalina, infill and growth exploration diamond drilling targeting both Mineral Resource to Mineral Reserve conversion and the generation of new Inferred Mineral Resources (as defined below) continued during 2022. The Company aims to replace mined depletion through infill and growth-focused diamond drilling and regular sampling of mining development.

Growth exploration has and will continue to target shallow extensions to mineralization along the Orebody C Trend, as well as potential down-dip/plunge extensions to mineralization associated with Orebody B and Orebodies C structures.

At Turmalina, drilling in 2022 and into 2023 focused on further delineation and expansion of higher-grade mineralization manifested within the Orebodies C Structure at shallow depths and close to current mining access and production development. Underground exploration diamond drilling of the Orebodies C Structure intersected a series of new higher grade "lenses" near current underground development and approximately 240 m below surface. Geological and structural logging of drill core along with mapping of nearby underground development defined two higher-grade, structurally controlled mineralized zones. The mine has initiated development into this higher-grade area to better understand the structural controls and to allow further diamond drilling and future production. Step out drilling testing the projected plunge continuity is successfully expanding the higher-grade footprints of the Orebodies C Structure in a series of structurally controlled prospective zones.

Similarly, exploratory work aimed at refining the geological-structural controls on higher grade mineralization zones within the Orebody B Structure recommenced in 2022, also at shallow levels close to existing underground mine development access.

Results from the 2022 drilling campaigns at Turmalina have been particularly encouraging, with a number of exceptional intersections reporting grade x thickness (GT) intervals greater than 40 gram meters on the Orebodies C and Orebody B structures at relatively shallow depths. These intercepts demonstrate potential down and up plunge extensions within these structures.

Faina Deposit

Jaguar is publishing herein updated Mineral Resources for the Faina Deposit (March 30th 2023) with an Indicated Mineral Resource of some 233 koz of gold (1,427 Kt @ 5.08 g/t Au) and an Inferred Mineral Resource of some 232 koz of gold (1,420 kt @ 5.09 g/t Au). The Faina Mineral Resource will be accessible from Turmalina's current underground workings, extending northwest from the Orebody C-NW zone some 1,000 m further along strike.

The shallow oxide portions of the Faina deposit were previously mined via an open pit. The sulphide mineralization beneath the oxide zone, the fresh (non-weathered) deeper portion of the deposit, remains to be exploited. The Faina deposit remains open, with exploration potential along strike and extending to depth.

In late 2021, Jaguar reported plans for a campaign of infill diamond drilling comprising 15,000 m of diamond drilling commencing in Q1-2022, aimed at the conversion of a great portion of the inferred mineral resource inventory at Faina into the indicated mineral resource category. As planned, 15,359 m of infill drilling (46 diamond drill holes) were completed in 2022. This infill drilling campaign confirmed the down-plunge continuity and higher-grade characteristics of this deposit which has informed a full update of the geological and grade models to support the progression of this project through various potential development scenarios. The 2022 drilling activities also provided representative samples for comprehensive metallurgical test work that will inform ongoing technical and non technical studies.

During 2021 (Q4) and 2022, the ongoing underground development project aimed at accessing and exposing the footprint of the Faina deposit (originating from the margins of the northwesternmost C-NW Orezone of the Turmalina operation) has progressed accordingly, with the completion of a total of 1,637.5 meters of linear development (as full-sized, 5.0 by 5.5 meters access drifts/ramps). By December 2022, an approximate total of 1,177.5 meters of development remains to initially access the Faina deposit from the currently active underground mining areas of the Turmalina operation.

The progression of the Faina growth project can be summarised as follows:

Processing and metallurgical studies:

Faina sulphide ore is semi-refractory. Test results indicate metallurgical recoveries in the 55% range using the current Turmalina plant carbon-in-leach process without process modifications. Faina ore could contribute positive operating margins with the current Turmalina process due to the high gold grade. Faina mining and processing could start without process modifications. Process modifications could be added later to improve metallurgical recovery and project economics after studies are completed and knowledge of the deposit improves.

Jaguar has performed extensive bench and/or pilot process testing studies with Faina sulphide ore samples to improve the metallurgical recovery and project economics. Test work includes flotation concentration and pre-oxidation (Alkaline POX, Acid POX and Roasting) of the concentrate prior to leaching. Plant modifications could be added for on-site concentrate pre-oxidation prior to leaching. Alternately, flotation concentrate could be shipped to a third party for treatment.

In parallel, Jaguar is also testing in Brazilian laboratories other processes and potential upgrades to the current Turmalina plant structure, such as: gravity concentration, ultrafine grinding plus direct leaching, grind size vs recovery curves, CIL/CIP residence time vs recovery, CIL/CIP reagent (oxygen, CN) optimization, and detox improvements.

Results from a June 2021 preliminary metallurgical test work study on Faina sulphide samples selected from several large-diameter (PQ) diamond drill holes demonstrate metallurgical recoveries > 85% from a combination of gravity concentration followed by flotation of gravity tails.

Results from 2022 tests for the Acid POX method were obtained (27 tests were completed), and the best gold recovery encountered has been 98.68%. For the Alkaline POX method, 26 tests were completed, resulting in a best gold recovery of 80.64%. A total of 26 tests evaluated the Roasting route, with a best gold recovery of only 83.49% being revealed.

The best overall plant metallurgical recovery scenario for the 2022 Faina sulphide ore test work was 90.7%. The scenario included

flotation and Pressure Oxidation on Acid Medium (Acid POX or HPAL) of the flotation concentrate prior to leaching. Rougher Flotation stage-only tests achieved an average gold recovery of 93% with the optimum sulphur concentrations for feeding the POX Unit. The POX Unit average gold recovery rate of 98.49% is related to the best operational conditions. A recovery of 99% has been considered for the Elution/Electro-wining stage.

Engineering studies:

Jaguar developed "FEL 1-level" engineering studies during the second half of the 2022 year. The main objective of such an initial, however comprehensive, group of studies is to design and plan the two main alternatives for plant changes and upgrades at the current Turmalina processing facilities. The first alternative would consider the construction of a flotation circuit only, and the future selling of concentrates. A second alternative would include the construction of a POX circuit on the site. The 2022 engineering work comprised preliminary field surveys, the conceptual design of the general infrastructure arrangement for both metallurgical process scenarios on the site, and the completion of initial conceptual studies in various engineering disciplines (mechanics, civil, infrastructure, architecture, electrical, automation, etc.). The 2022 FEL1-level engineering studies altogether have also been used for the initial estimation of the future capital expenditures of the whole Faina project.

Geotechnical and rock-mechanics studies:

Jaguar carried out robust geotechnical studies and evaluations during 2022. These studies included external laboratory testing (triaxial compression experiments) of drill-cores, systematic geotechnical drill-core logging activities during the 2022 infill drilling campaign, construction of geomechanics models, and geomechanical analysis of the hypothetical/future mining stopes. The main conclusion to be made from these studies altogether would be that most of the Faina underground gold deposit should be ranked geotechnically as Class 2 (RMR). That classification is an indication of good rock mechanics conditions for a future underground operation that will adopt the sublevel stoping mining method, the method that has been widely and historically used at the Turmalina mine.

Underground ventilation studies:

Howden Ltd. has been commissioned by Jaguar, to conduct project ventilation studies for a future Faina project. Some of the keystones and major objectives of this ongoing study are to:

- Follow all the laws and specific governmental mining regulations, therefore ensuring ideal work and health conditions for all employees and contractors underground;
- Integrate the Faina deposit with the current ventilation system and infrastructure already in place for the Turmalina operation;
- Leverage the existing ventilation infrastructure, as a way to minimize future capital expenditures.

The Faina Project will have the potential to add quality ounces not only to Jaguar´s production profile in the current five-year plan, but well into the future, since additional drilling and geological investigations will also be carried out along the down-plunge and strike continuity of the currently defined portions of the Faina deposit during the following years.

Other Surface Exploration Programs Carried Out in 2021 and 2022 (Pontal South Target and Zona Basal Target)

The 2021-2022 exploration developments at/for the Pontal/Pontal South Target and the Zona Basal Target are described in detail in a specific section below ("Other *Surface Exploration Programs Carried Out in 2021 and 2022" - Turmalina Mining Complex Section).*

Processing

Ore produced at Turmalina is transported to the adjacent Carbon-In-Leach ("CIL") processing plant. During 2022, the plant processed 393 ktonnes (kt) at an average grade of 3.28 g/t Au; as compared to 2021, when the plant processed 409 kt at an average grade of 3.22 g/t Au, and 370 kt at 3.78 g/t Au in 2020.

Overall, the processing plant maintained a recovery rate of 87% during 2022, 88% during 2021, and 89% during 2020. Using only Mill #3, Turmalina is able to process the entire current and planned mine production with a lower operating cost. Through electricity consumption savings, Mills #1 and #2 are being kept on standby mode. The Turmalina combined grinding capacity of all 3 mills at 3,400 tonnes per day could facilitate a production expansion if warranted by future exploration success.

Mineral Reserves and Mineral Resources Update - Turmalina

For the purposes of this AIF, Mineral Reserves and Mineral Resources for Turmalina as at December 31st, 2022, are reported based on an updated resource model and mine plan informed by diamond drilling, development sampling and geological mapping completed during 2021 and 2022.

Turmalina Mine 2P Mineral Reserves (Proven & Probable) are reported as 214 koz of gold (1,855 kt @ 3.58 g/t Au). Proven Reserves total 101 koz (829 kt @ 3.79 g/t Au), while Probable Reserves total 113 koz (1,026 kt @ 3.41 g/t Au).

Measured and Indicated Mineral Resources, as defined below, (as at December 31st, 2022) at Turmalina Underground (includes the Faina, Pontal and Pontal South inventories) total 778 koz of gold (5,480 kt @ 4.42 g/t Au). Inferred Resources as at December 31st, 2022 at Turmalina total 462 koz of gold (3,644 kt @ 3.94 g/t Au).

Caeté Mining Complex - Operational Review, Exploration, Mineral Reserves and Mineral Resources

The Caeté Gold Mine Complex has two underground mines: Pilar Gold Mine ("Pilar") and Roça Grande Gold Mine ("RG"). Pilar primarily uses sublevel open stoping with backfill. On March 22, 2018, RG was placed on care and maintenance.

Ore produced from Pilar is transported to the 2,200 tpd gravity, flotation and CIP treatment of flotation concentrate Caeté processing plant adjacent to RG, a total distance of approximately 40 km by road. During 2022, the Caeté plant achieved a gold recovery of 88%. Optimization of the plant offers opportunities for both increased gold extraction and reduced unit processing costs. Various options are being explored and evaluated to better use the currently underutilized processing capacity.

Mining - Pilar

Pilar continued to focus on improvements in adherence to the mine plan and ore quality improvements focusing on initiatives to reduce dilution from overbreak, which impacts the mined grade and reduces profitability. The Pilar's geological team has focused on detailed geological and structural mapping of the complex geometries associated with mineralization to support interpretation of infill and exploration drilling completed over the last years. A new wireframe model was developed and used in 2022 for preparation of short-range mine plans, to better reflect the geology and lithology controls at Pilar, which has improved the estimation, planning and stope design process. More improvements related to data treatment, estimation methods and criteria, and resource classification will be implemented during 2023.

Exploration Highlights - Caeté

At Pilar, infill and growth exploration diamond drilling targeted at both Mineral Resource to Mineral Reserve conversion and the generation of new Inferred Mineral Resources continued during 2022. The Company aims to replace mined depletion through infill and growth-focused diamond drilling and regular sampling of mining development.

Growth exploration has and will continue to target shallow extensions to mineralization associated with the SW, Torre, BA and Sao Jorge Structures, including the main BIF-hosted mineralization. Higher grade mineralization extensions projected down plunge are being specifically targeted at depth associated with the BIF-hosted ore assembly (BF, BF2, BF3 and LPA zones).

In-mine diamond drilling at Pilar in 2022 has targeted extensions to the mine´s principle and subordinate mineralized structures which are accessible from current mine development throughout the mine, and importantly, down plunge extensions to depth beyond current production areas below level 13. Drilling at shallow levels is aimed at adding production areas while deeper drilling is primarily aimed at adding to the Life of Mine and will inform long-term capital planning. In the fourth quarter of 2022, Jaguar successfully advanced several high priority diamond drill campaigns focused on identifying or extending high grade mineralization on various new targets including holes testing the projected fold hinge within the BA-Torre structure, the LPA zone, and extensions of a higher grade mineralized trend within the SW structure.

Results from the 2022 drilling campaigns at Pilar have been particularly encouraging, with a number of exceptional intersections reporting grade x thickness (GT) intervals greater than 100-gram meters on the BA-Torre and LPA structures on level 16. These intercepts again demonstrate potential down plunge extensions within these structures. The recent identification of down plunge potential within the BA structure is of particular importance, given that this structure was the main historically producing ore zone at the Pilar mine at shallower levels.

A directional drilling program is planned to start in 2023, which will target the projected depth extensions located down plunge of the principle mineralized structures. Drilling will target mineralization below level 17 down to level 25, representing a vertical interval of approximately 400m.

Surface Exploration Program Carried Out in 2021 and 2022 (Córrego Brandão Target)

The 2021-2022 exploration developments at/for the Córrego Brandão Target are described in detail in a specific section below (“*Surface Exploration Program Carried Out in 2021 and 2022” - Caeté Mining Complex Section).*

Ore Transport - Pilar

Improvements to the 40 km haulage route from the Pilar Mine to the Caeté processing plant achieved in the past continue to have a positive impact on the operations.

Mining - Roça Grande

In March 2018, as part of refocusing its attention on improvements to the Turmalina and Pilar mines, and exploration growth activities, the Company made a strategic decision to suspend its Roça Grande mine operations. The Company has commenced a review of the Roça Grande asset with a view to evaluating the various financial and technical scenarios that might lead to the future recommencement of production from this area.

Processing

Gold production at Caeté was 44,802 oz. in 2022, 46,373 oz. in 2021, and 51,050 oz. in 2020. Underground development at Pilar totalled 3.6 km in 2022, 4.1 km in 2021, and 4.1 km in 2020. During 2022, a total of 34 km of underground delineation drilling, infill drilling and exploratory drilling was conducted across the complex.

During 2022, the Caeté plant achieved gold recovery of 88% utilizing gravity, flotation, and CIP treatment of the flotation concentrate. Optimization of the plant offers opportunities for both increased gold extraction and reduced unit processing costs.

Mineral Reserves and Resources Update - Pilar

Growth exploration diamond drilling programmes continued in 2022 at Pilar. The results from these programmes were combined with infill drilling and development sampling activities undertaken from 2021 and 2022 and ongoing mining activities to update the geological and mineral resource models. For the purposes of this AIF, the Mineral Reserves and Mineral Resources figures for Pilar are reflected as at December 31st, 2022. Figures reported are based on the most recent long-term Mineral Resource model after mined depletion during 2022.

As at December 31st, 2022, 2P Mineral Reserves for Pilar (Proven & Probable) are 240 koz of gold (1,961 kt @ 3.81 g/t Au), after mined depletion from the 2022 annual period. Proven Reserves total 133 koz of gold (1,079 kt @ 3.82 g/t Au), while Probable Reserves total 107 koz of gold (882 kt @ 3.78 g/t Au).

As at December 31st, 2022, Measured and Indicated Mineral Resources for the Pilar mine total 421 koz of gold (3,013 kt @ 4.34 g/t Au). Inferred Resources for Pilar at the same date are 294 koz of gold (2,117 kt @ 4.33 g/t Au).

Mineral Resources Update - Roça Grande

At Roça Grande, the assessment of the available datasets, geological models and resources estimations included the RG1, RG2, RG3, RG6 and RG7 deposits. Roça Grande currently has no Mineral Reserves, and the mine remains under care and maintenance.

As at December 31st 2022, the total Measured and Indicated Mineral Resources for the RG mine total 121 koz of gold (962 kt @ 3.90 g/t Au) and inferred Mineral Resources total 117 koz of gold (889 kt @ 4.08 g/t Au) unchanged from the prior disclosure.

Mineral Resources Update - Córrego Brandão

As at December 31st 2022, the inferred mineral resource for the Córrego Brandão target is reported as 51 koz of gold (1,072 kt @ 1.48 g/t Au).

Paciência Mining Complex - Care and Maintenance, and Mineral Resources

The Paciência Gold Mining Complex ("CPA") is located in the Acurui district, which is a part of the municipality of Itabirito in the central area of the Iron Quadrangle. The CPA underground mines and process plant are currently on care and maintenance (since 2012). Exploration is ongoing and Mineral Resources have been updated.

The Paciência Gold Mining Complex comprises a number of contiguous mineral rights holdings granted by the Agência Nacional de Mineração (ANM/DNPM) that cover an area of 9,005.35 ha of permits ("mining concessions" and "exploration authorizations" altogether). The Paciência Mining Complex includes a nominal 1,750 tpd processing plant and tailings disposal area. From 2008 to 2012, the Paciência Mining Complex has processed ore material from various local deposits, including the Santa Izabel, Marzagão and Córrego Grande underground mines, which are hosted by the Paciência lineament/trend, and from other more distant deposits in the immediate region (e.g.: Ouro Fino, Rio de Peixe, Palmital, and Pilar).

As at December 31st, 2022, the Underground Inferred Mineral Resources for the Santa Izabel, Marzagão and Bahu deposits are estimated as follows:

-- Santa Izabel/Córrego Grande: a total of 126 koz of gold (978 kt @ 4.01 g/t Au);

-- Marzagão: a total of 63 koz of gold (445 kt @ 4.44 g/t Au);

-- Bahu (Underground Resources): a total of 43 koz of gold (333 kt @ 3.99 g/t Au).

Other 2021, 2022 and 2023 Updates

On March 15, 2021, Jaguar executed a Definitive Agreement with Metalla (as defined below) for the sale of the Company's NSR from gold production at the CentroGold Project (also referred to as the Gurupi Project) located in Maranhão State, Brazil and 100% owned by Oz Minerals Ltd. The NSR is comprised of a 1% net smelter return on the first 500,000 ounces of gold sold, a 2% net smelter return from 500,001 to 1,500,000 ounces of gold, and a 1% net smelter return on gold sales exceeding 1,500,000 ounces of gold.

On March 24, 2021, Jaguar filed a final short form base shelf prospectus qualifying the issuance of up to $200,000,000 of common shares, debt securities, subscription receipts, warrants or units.

On June 28, 2021, the Company completed the full divestment of a 100% interest in the Pedra Branca project to South Atlantic Gold Corp. when South Atlantic Gold Corp. successfully fulfilled its three performance obligations stated in the definitive option agreement executed on July 29, 2020.

On June 10, 2022, the Company announced that the Company announced that the TSX accepted its notice to make a normal course issuer bid (the "Bid") to purchase for cancellation up to 3,623,640 common shares in total, being 5% of the issued and outstanding common shares as at the date of Jaguar's notice to the TSX, to be transacted through the facilities of the TSX. The actual number of common shares that may be purchased pursuant to the Bid will be determined by the management of the Company. The Bid commenced on June 15, 2022, and will terminate on June 14, 2023, or such earlier time as the Bid is completed or terminated at the option of Jaguar. The purpose of the Bid is to enhance long-term shareholder value through the purchase and cancellation of common shares at a discount to the underlying value of the Company. Furthermore, the purchases by Jaguar will help mitigate the dilutive effects of any future potential issuances of additional common shares as consideration for capital raises, joint ventures or asset acquisitions. The Company has purchased 31,700 common shares pursuant to the Bid as of the date of this AIF.

On February 23, 2023, the Company announced that its Chief Financial Officer, Hashim Ahmed will be stepping down from his role at the Company effective May 15, 2023. Mr. Ahmed will continue to support Jaguar as Chief Financial Officer until May 15, 2023. A search for his replacement which has commenced will include both internal and external candidates.

Jaguar paid C$8.7 million in dividends, at C$0.12 per common share , for the year ended December 31, 2022.

DESCRIPTION OF THE BUSINESS

General

Jaguar is a gold mining company engaged in gold production and in the acquisition, exploration, development and operation of gold mineral properties in Brazil.

Jaguar's three operating mining complexes, Turmalina, Caeté, and the Paciência (currently on care and maintenance) are located in or adjacent to the Iron Quadrangle region of Brazil, a greenstone belt located east of the city of Belo Horizonte in the state of Minas Gerais.

Through its wholly owned subsidiary, MSOL, Jaguar has interests in, and controls, the mineral rights, concessions and licences to the Mineral Resources and Mineral Reserves presented under the section entitled *"Mineral Resources and Mineral Reserves*."

All of Jaguar's production facilities are, or will be, near Jaguar's mineral concessions and are accessible via existing roads. Jaguar believes it has an advantage over other gold mine operators due to the clustered nature of its mineral resource concessions and the proximity of its concessions to its processing facilities and existing infrastructure.

Gold Production and Sales

Gold production in 2022 totalled 80,968 oz. at cash operating cost of $1,052 per ounce sold, in 2021 totalled 83,878 oz. at cash operating cost of $831 per ounce sold, and in 2020 totalled 91,118 oz. at cash operating cost of $647 per ounce sold.

Gold sales reported in 2022 totalled 80,050 oz., in 2021 totalled 84,638 oz., and in 2020 totalled 91,853 oz.

Specialized Skill and Knowledge

Numerous types of specialized skills, knowledge and experience are required of employees in the mining industry. Such skills and knowledge include permitting, geology, drilling, metallurgy, logistical planning, engineering and implementation of exploration programs, as well as legal compliance, finance and accounting. Jaguar has the necessary skilled employees and consultants to carry on its business as conducted and believes it will continue to be able to retain such employees and consultants.

Competitive Conditions

The gold exploration and mining business is an intensely competitive business. Jaguar competes with numerous companies and individuals in the search for, and the acquisition of, mineral licences, permits and other mineral interests, as well as for the acquisition of equipment and the recruitment and retention of qualified personnel. There is also significant competition for the limited number of gold property acquisition opportunities. Jaguar's ability to acquire gold mineral properties in the future will depend not only on its ability to develop its present properties, but also on its ability to select and acquire suitable producing properties or prospects for gold development or mineral exploration.

Employees

As at December 31, 2022, Jaguar had 1,167 employees compared to 1,224 employees in 2021 and 1,160 employees in 2020. All but two employees are located in Brazil.

All of Jaguar's employees in Brazil are members of a union. Jaguar expects to enter into a new union agreement on terms and conditions similar to those of the union agreement that is currently in place and set to expire on May 31, 2023. Jaguar anticipates that discussions regarding the new union agreement will commence in April 2023.

Foreign Operations

All of Jaguar's mineral projects are owned and operated through MSOL. Jaguar's wholly owned properties are located in the states of Minas Gerais in Brazil. Jaguar is entirely dependent on its foreign operations for the exploration and development of gold properties and for production of gold. Certain of the Company's assets are domiciled in Brazil-based solely on their geographic location.

Unlike MSOL, Jaguar is not domiciled in Brazil. Given the foregoing, as well as the fact that the Brazilian Civil Code grants all management powers of MSOL to its sole shareholder (Jaguar), there are no material concerns about the ability of investors to exercise statutory rights and remedies under Canadian securities law as it pertains to Jaguar and MSOL.

Customers and Suppliers

The Company sells its refined gold in the gold spot market and does not have any fixed customers of its final product. The Company engages various suppliers from time to time in relation to its mining, processing, transportation and sale of refined gold bars. The Company has put in place supply-chain policies to ensure that no form of modern slavery, human trafficking, forced or compulsory labour occurs within its operations and supply chain. The process used in the selection of suppliers is based on a cost, quality, ethical practices (including implementation of fair practices, lack of child and slave labour, equality of women rights) and risk perspective in which suppliers are classified with respect to their business ethics/anti-corruption, human rights protection, health and safety and environmental practices. None of the Company's major suppliers, or the directors or executive officers of such entities, are related to the Company or its directors or executive officers.

Health, Safety and Environmental

People are the most valuable asset of the Company. Jaguar sets the life and welfare of its employees, their families and communities as a first priority. A safe, healthy and stimulating work environment is essential so that people feel secure, thrive and do a good job. Jaguar's safety and healthcare procedures are focused on promoting health and quality of life in the work environment. Jaguar has an

integrated management system in place that promotes open communication at all levels. The Company works continuously to develop a culture of participation in which employees take responsibility for the safety of both themselves and others.

Over the past few years, the health and safety team has expanded in order to meet compliance and regulatory requirements, and also to improve the Company's operating standards. Jaguar's training program for new employees is extensive and includes the participation of experienced professionals who act as mentors, providing hands-on guidance and conducting periodical reviews.

Jaguar applies an extended maternity leave period in order to promote health for newborns and also offers social work assistance in order to support the Company's employees and their families in challenging circumstances.

The Company recognizes that to promote health and wellbeing of its employees it is important to have a culture that enables a feeling of participation and control over the work situation. The psychosocial work environment is just as important as the physical environment, and work is in progress to produce a clearer strategy for preventive work in this area. Proactive work that encompasses wellbeing and inclusion can also have a positive effect on accidents statistics. The Company has a medical officer and a team of nurses on permanent staff to implement the employee wellbeing policies.

For every reported incident, Management identifies the likely causes and develops remediation plans to prevent future recurrences. The overall Lost Time Injury ("LTI") frequency rate is calculated as the number of lost-time injuries per million hours worked, including third-party contractors. All accidents are analyzed, and the underlying causes are identified to implement corrective actions.

ESG

Interest in environmental, social and governance ("ESG") aspects of the Company's business has grown exponentially over the past few years, primarily from the financial and investment communities. This interest is long overdue in the Company's view: the recognition that, in the mining sector in particular, ESG performance and excellence go a long way to predict the financial performance and growth trajectory of a company like Jaguar. Identifying and managing these issues is not new for Jaguar. ESG topics span all departments in the Company: those related to health, safety, environment and community ("HSEC") aspects of the business are managed by the Company, and the remaining social and governance topics are the shared responsibility of other departments. The Safety, Environmental, Technical Reserves Committee oversees environmental and sustainable management for the Company.

Jaguar's long-term goals highlight its commitment for resource-efficient water and energy use without emissions that impact the Company's mining locations and its dedication to being a sustainable gold mining company, aligning sustainability pillars with its respective goals. These main areas of focus for Jaguar in 2023 includes, but is not limited to:

- increase in square footage of nature protected areas where possible;
- creating a culture of consciousness of water management for safe water cycle;
- continuing the tailings dam closure process and transitioning to dry stack tailings at MTL and CCA
- tailing and dam safety management checks to assess vulnerability to potential flood impact;
- environmental education amongst employees and communities;
- achieve a goal of zero fatalities;
- increase the prosperity of employees while decreasing poverty amongst communities;
- increase in community-led initiatives;
- implementation of increased hygiene protocols;
- increase employee development and assistance programs;
- diversity increased in executive and managerial positions with a goal of increasing female representation;
- comprehensive programs to decrease risks related to corruption; and
- increase in stakeholder engagement relating to ESG topics.

The involvement of all Jaguar's stakeholders is essential to ensure that operations generate profit for shareholders and create a sustainable environment for operations and add value to all relationships. Engagement methods are tailored for each group.

The three principal pillars for Jaguar's ESG approach are as follows:

1. *Environment*

   Jaguar is committed to understanding, managing and working to reduce environmental impacts. Through engagement with local communities, governments and industry standards for environmental protection, we are demonstrating our commitment to environmental stewardship. Environmental criteria consider how a company performs in environmental sustainability and resource efficiency.

   - Climate change
   - Resource depletion and in particular water usage
   - Environmental protection and ecosystem and biodiversity preservation and restoration
   - Waste and water and air pollution
   - Production consumption and responsible sourcing
   - Mine rehabilitation or remediation obligations

2. *Social and Economic Development*

   Working with the communities in which we operate and facilitating programs that promote economic and social development is a fundamental pillar at Jaguar. Our ability to create jobs and thriving economies fundamentally benefit those communities in which we operate. Social criteria examine how a company contributes to an equitable society in its relationships with employees, contractors, stakeholders and the communities where it operates.

   - Industry innovation
   - Community relations
   - Working conditions, health and safety
   - Diversity and employee relations

3. *Governance*

   Among Jaguar's most important assets are its employees and their well-being. Jaguar develops programs and policies that seek to promote a safe and efficient work environment as its success depends on a strong culture that protects people and nature. In addition, establishing guidelines, processes and good practices that precede decision-making leads to changes in the culture necessary for the Company. Governance criteria focus on accountability and transparency.

   - Code of conduct and ethics
   - Anti-corruption
   - Approval Matrix
   - Corporate Risk management
   - Stakeholder relations
   - Board and management diversity
   - Privacy and data

Jaguar's strategies, policies and approach to ESG are described in further detail in the *Jaguar Mining Sustainability Framework*, which is available on the Company's website at www.jaguarmining.com.

Technical Information

The estimated Mineral Reserves and Mineral Resources for Jaguar's mines and mineral projects set forth in this AIF have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Council definition standards adopted by the CIM Council on May 10, 2014 (the "CIM Standards"). The following definitions are reproduced from the CIM Standards:

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

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

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

The term "*Measured Mineral Resource*" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from the detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve (as defined below) or to a Probable Mineral Reserve.

The term "*Mineral Reserve"* means the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

The term "*Probable Mineral Reserve"* means the economically mineable part of an Indicated and, in some circumstances, a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

The term "*Proven Mineral Reserve"* means the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Mineral Reserves and Mineral Resources

As at December 31st, 2022, Jaguar's Mineral Reserves and Mineral Resources are:

1. Jaguar's total Proven and Probable Mineral Reserves are estimated to total 454 koz of gold (3,816 kt with an average grade of 3.70 g/t Au).

2. Jaguar´s total Measured and Indicated Mineral Resources are estimated to total 1,320 koz of gold (9,455 kt with an average grade of 4.34 g/t Au). Jaguar´s Mineral Resources are stated inclusive of the Mineral Reserves.

3. Jaguar´s Inferred Mineral Resources are estimated to total 1,191 koz of gold (10,302 kt with an average grade of 3.60 g/t Au).

The tables below present the Mineral Reserve and Mineral Resource estimates for the Turmalina Complex, Caeté Complex and Paciência Complex as per the Notes below.

Table 1: Summary of Mineral Reserves as at December 31st, 2022

December 31, 2022	Proven Reserves			Probable Reserves			Proven & Probable Reserves		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Turmalina Gold Complex									
Ore Body A	286	4.70	43	93	3.37	10	379	4.37	53
Ore Body B	215	3.32	23	130	3.59	15	346	3.42	38
Ore Body C	327	3.31	35	803	3.39	87	1130	3.37	122
Total - Turmalina	**829**	**3.79**	**101**	**1026**	**3.41**	**113**	**1855**	**3.58**	**214**
Caeté Gold Complex									
Pilar									
Ore Body BA	130	4.14	17	93	4.05	12	223	4.10	29
Ore Body BF	360	4.06	47	135	4.01	17	495	4.05	64
Ore Body BFII	131	3.94	17	20	3.03	2	152	3.82	19
Ore Body BFIII	26	3.54	3	35	3.52	4	61	3.53	7
Ore Body Torre	21	3.50	2	157	3.76	19	178	3.73	21
Ore Body SW	274	3.70	33	357	3.87	44	631	3.80	77
Others	136	3.14	14	85	3.09	8	221	3.12	22
Total - Pilar	**1079**	**3.82**	**133**	**882**	**3.78**	**107**	**1961**	**3.81**	**240**
Total - Mineral Reserves	**1908**	**3.81**	**234**	**1909**	**3.58**	**220**	**3816**	**3.70**	**454**

Notes:

1. **CIM (2014) definitions are followed for Mineral Reserves.**
2. **Mineral Reserves reported are in-situ.**
3. **Mineral Reserves at Turmalina were estimated at a break-even cut-off grade of 2.32 g/t Au. Mineral Reserves at Pilar were estimated at a cut-off grade of 2.44 g/t Au.**
4. **Mineral Reserves are estimated using an average long-term gold price of $1,650 per ounce and a US$/BRL$ exchange rate of 5.20 at both mines.**
5. **A minimum mining width of 3.50 m was used at Turmalina and 3.00 m at Pilar.**
6. **Numbers may not add due to rounding.**
7. **There are no known environmental, permitting, legal, title, socio-economic, political or other risk factors that could materially affect the Mineral Reserve estimates.**

Table 2: Summary of Mineral Resources as at December 31st, 2022

December 31, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Underground Turmalina Gold Complex												
Ore Body A	739	6.26	149	263	3.64	31	1002	5.57	179	94	3.60	11
Ore Body B	315	3.81	39	202	3.92	25	517	3.85	64	169	4.33	23
Ore Body C	734	3.59	85	1390	3.47	155	2124	3.51	240	1012	3.05	99
Sub-Total Turmalina	**1788**	**4.73**	**272**	**1855**	**3.54**	**211**	**3643**	**4.13**	**483**	**1274**	**3.26**	**134**
Faina	0	0.00	0	1427	5.08	233	1427	5.08	233	1420	5.09	232
Pontal	251	5.00	40	159	4.28	22	410	4.72	62	130	5.03	21
Pontal South										820	2.85	75
Total - Turmalina UG	**2039**	**4.76**	**312**	**3441**	**4.21**	**466**	**5480**	**4.42**	**778**	**3644**	**3.94**	**462**
Turmalina Waste/Void Tonnes Total												
Underground Caeté Gold Complex												
Pilar												
Ore Body BA	293	4.23	40	148	4.43	21	441	4.30	61	202	6.76	44
Ore Body BF	557	4.92	88	157	4.63	23	714	4.86	112	399	4.64	60
Ore Body BFII	269	5.12	44	22	3.78	3	291	5.02	47	49	5.35	9
Ore Body BFIII	38	4.49	5	55	4.00	7	93	4.20	13	39	4.33	5
Ore Body Torre	70	3.74	8	250	4.15	33	320	4.06	42	327	3.97	42
Ore Body SW	376	3.99	48	509	4.03	66	886	4.01	114	978	3.68	116
Others	174	4.03	23	94	3.33	10	268	3.78	33	121	5.00	19
Total - Pilar	**1778**	**4.50**	**257**	**1235**	**4.12**	**164**	**3013**	**4.34**	**421**	**2117**	**4.33**	**294**
Roça Grande	197	3.42	22	765	4.02	99	962	3.90	121	889	4.08	117
Total - Caeté UG	**1975**	**4.39**	**279**	**2000**	**4.08**	**263**	**3975**	**4.24**	**542**	**3006**	**4.26**	**411**
Pilar Waste/Void Tonnes Total												
Underground Paciência Gold Complex												
Santa Isabel/Corrego Grande										978	4.01	126
Marzagão										445	4.44	63
Bahu										333	3.99	43
Total - Paciência UG										**1756**	**4.12**	**232**
Open Pit -Turmalina Gold Complex												
Zona Basal										781	1.28	32
Open Pit - Caeté Gold Complex												
Córrego Brandão										1072	1.48	51
Open Pit -Paciência Gold Complex												
Bahu										43	2.08	3
JAGUAR UG Total - Mineral Resources	**4014**	**4.58**	**591**	**5442**	**4.16**	**729**	**9455**	**4.34**	**1320**	**8406**	**4.09**	**1105**
JAGUAR OP Total - Mineral Resources	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1896**	**1.41**	**86**
JAGUAR TOTAL - Mineral Resources	**4014**	**4.58**	**591**	**5442**	**4.16**	**729**	**9455**	**4.34**	**1320**	**10302**	**3.60**	**1191**

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the Turmalina Gold Mining Complex include the Turmalina Mine, the Faina deposit, the Pontal deposit, the Pontal South deposit and the Zona Basal deposit.**
3. **Mineral Resources at the Caeté Gold Mining Complex include the Pilar and Roça Grande underground mines and the Córrego Brandão open pit deposit.**
4. **Mineral Resources at the Paciência Gold Mining Complex include principly the Santa Izabel, Marzagão and Bahu underground mines, with a small contribution from and open-pit Mineral Resource at Bahu.**
5. **Mineral Resources at the Turmalina Gold Mining Complex are estimated at a cut-off grade of 1.72 g/t Au at Turmalina, 2.90 g/t Au at Pontal, 2.02 g/t Au at Pontal South and 0.75 g/t Au at Zona Basal. The Faina underground mineral resources are reported using constraining panels over 3.00 g/t Au cut-off. For Zona Basal, the resources are defined by pit optimization using Lerchs-Grossmann algorithm. Mineral Resources at the the Caeté Gold Mining Complex are estimated at a cut-off grade of 1.90 g/t Au for Pilar and 1.80 g/t Au for Roça Grande. For Córrego Brandão, the Mineral Resources are defined by pit optimization using Lerchs-Grossmann algorithm and using cut-off grades of 0.38 g/t Au and 0.74 g/t Au for oxidized and fresh material, respectively.**
6. **Mineral Resources at the Pontal deposits remains unchanged from those stated as at December 31, 2015.**
7. **Mineral Resources at the Paciência Gold Mining Complex: for the Bahú underground deposit, mineral resources are reported using constraining panels that were created using a cut-off grade of 1.85 g/t Au. The Santa Isabel/Corrego Grande/Marzagão underground mineral resources are reported from clipped wireframes created using a cut-off grade of 2.75 g/t Au.**

8. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces at Turmalina, Pilar, Faina, Pontal South, Zona Basal, Córrego Brandão. Santa Isabel, Marzagão, and Bahu. Mineral Resources for the Roça Grande and Pontal deposits are estimated using a long-term gold price of $ 1,800.**
9. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for Turmalina, Faina, Pontal South Zona Basal, Pilar, Santa Isabel, Marzagão, and Bahu.**
10. **A minimum mining width of 2.00 m was used at Turmalina, Faina, Pontal South, Pilar, Santa Isabel, and Marzagão. For Córrego Brandão and Zona Basal it has been used pit optimization using Lerchs-Grossmann algorithm.**
11. **Mineral Resources are inclusive of Mineral Reserves at Turmalina and Pilar mines. No Mineral Reserves are currently present at Faina, Pontal, Pontal South, Zona Basal, Roça Grande, Córrego Brandão, Santa Isabel, Marzagão and Bahu.**
12. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
13. **Numbers may not add due to rounding.**

Notes to Tables 1 and 2:

Jaguar prepared the Mineral Reserve and Mineral Resource depletion under the supervision of Jonathan Victor Hill, FAUSIMM (Jaguar), who is a Qualified Person within the definition of the NI 43-101. Although Jaguar has carefully prepared and verified the Mineral Resource and Mineral Reserve figures presented herein, such figures are estimates, which are, in part, based on forward-looking information and no assurance can be given that the indicated amounts of gold will be produced. Estimated Mineral Reserves may have to be recalculated based on actual production experience. Market price fluctuations of gold, as well as increased production costs or reduced recovery rates and other factors, may render the present Proven and Probable Mineral Reserves unprofitable to develop at a particular site or sites for periods of time. See "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements."

Mining Concessions and Environmental Licences

All of Jaguar's mineral rights and mining concessions in connection with its operations in the state of Minas Gerais are in good standing. Through its wholly owned subsidiaries, Jaguar has all the necessary environmental licences that are material to the operation of its mines and processing plants in Minas Gerais.

Material Mineral Properties

Turmalina, Caeté and Paciência are material properties of Jaguar.

1. Turmalina Mining Complex

Mineral Reserve and Mineral Resource figures (as at December 31st 2022) were reviewed and approved **(i)** in respect of the estimated Mineral Reserves by Jeff Sepp, P.Eng., and **(ii)** in respect of the estimated Mineral Resources by Pierre Landry, P. Geo. and Dorota El-Rassi, P. GeoEng. (Pontal deposit only), of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7. SLR is an independent mining consultancy and Mr. Sepp, Mr. Landry and Ms. El-Rassi are each Qualified Persons within the definition of NI 43-101.

The Drilling, Mineral Resource Estimates and Mineral Reserve Estimates sections of this AIF have been updated by Jaguar to reflect updated activities carried out in 2022.

Property Description and Location

The Turmalina Mining Complex is located in the Conceição do Pará municipality in the state of Minas Gerais, approximately 130 km northwest of Belo Horizonte and 6 km south of Pitangui, the nearest important town.

The property currently comprises five contiguous mining permits and ten additional exploration authorizations/concessions granted by the Agência Nacional de Mineração (ANM/DNPM) that, altogether, cover an area of 8,671 ha. The mine is centred at approximately 19°44'36" south latitude and 44°52'36" west longitude.

The Turmalina Mining Complex consists of an underground mine and a CIL processing plant (the "Turmalina Plant"). The Turmalina Plant was commissioned in November 2006, and commercial production was declared in August 2007. The Turmalina process facility has a 3,000 tpd grinding capacity with three grinding mills. Studies are underway to find opportunities to fill the unused capacity via the advancement of the Faina growth project towards PFS in 2023-2024, brownfield exploration and remnant mining.

Jaguar has 100% ownership subject to a 5% net revenue interest up to $10 million and 3% thereafter, to an unrelated third party. In addition, there is a 0.5% net revenue interest payable to the surface landowner.

Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Turmalina Mining Complex is accessed from Belo Horizonte by 120 km of paved highways (BR-262 and MG-423). The Turmalina deposits are 6 km south of Pitangui and less than 1 km from highway MG-423.

Belo Horizonte is the commercial centre for Brazil's mining industries and has an excellent infrastructure to support world-class mining operations. This mining region has historically produced significant quantities of gold and iron from open pit and large-scale underground mining operations operated by AngloGold, Vale, CSN, and Eldorado. The city is a well-developed urban metropolis of almost four million residents and has substantial infrastructure, including two airports, an extensive network of paved highways, a fully developed and reliable power grid and ready access to processed and potable water.

Pitangui is a town of approximately 28,000 people. The local economy is based on agriculture, cattle breeding and a small pig iron plant. Manpower, energy and water are readily available.

The Turmalina mining complex lies approximately 700 m above sea level ("MASL"). The Pitangui area terrain is rugged in places, with numerous rolling hills incised by deep gullies along drainage channels. Farming and ranching activities are carried out in approximately 50% of the region.

The area experiences six months of warm, dry weather (April to November), with the mean temperature slightly above 20° C, followed by six months of tropical rainfall. Annual precipitation ranges from 1,300 to 2,500 mm and is most intense in December and January. The climate is suitable for year-round operations.

Belo Horizonte is one of the world's mining capitals with a regional population in the range of six million people. Automobile manufacturing and mining services dominate the economy. Mining activities in Belo Horizonte and the surrounding area have been carried out in a relatively consistent manner for over 300 years. The Turmalina Mine site is within commuting distance of Belo Horizonte.

The Turmalina Mining Complex includes an underground mine, a processing plant and a tailings disposal area. Electrical power is obtained from the national grid.

All ancillary buildings are located near the mine entrance: gate house including a reception area and waiting room, administration building, maintenance shops, cafeteria, warehouse, change room, first aid and compressor room. The explosives warehouse is located 1.2 km away from the mine area, in compliance with the regulations set forth by the Brazilian Army.

Other ancillary buildings are located near the processing plant and include an office building, a laboratory, warehousing and a small maintenance shop.

There is currently no infrastructure related to the Faina and Pontal historic open pit operations.

Geological Setting

The Turmalina deposits are located in the northwestern part of the Iron Quadrangle, which has been the largest and most important mineral province in Brazil for centuries until the early 1980s, when the Carajás mineral province, in the state of Pará, attained equal status. Many commodities are mined in the Iron Quadrangle, the most important being gold, iron, manganese, bauxite, imperial topaz, and limestone. The Iron Quadrangle was the principal region for the Brazilian hard rock gold mining until 1983 and accounted for about 40% of Brazil's total gold production. Gold was produced from numerous deposits, primarily in the northern and southeastern parts of the Iron Quadrangle, most hosted by Archean banded iron formations (BIF) contained within greenstone belt supracrustal sequences (the Rio das Velhas Supergroup).

The Pitangui area, where the Turmalina deposit is located, is underlain by rocks of Archaean and Proterozoic age. Archaean units include a granitic basement, which is overlain by the Pitangui Group, a metamorphosed sequence of ultramafic to intermediate volcanic flows and pyroclastics and associated sediments. The Turmalina deposit is mainly hosted by chlorite-amphibole schists and silicified biotite schists packages within the Pitangui Group. A sequence of sheared, banded, sulphidized Algoma-type iron formations and cherts lies within the stratigraphic sequence. The stratigraphy locally strikes towards the Northwest-Southeast direction.

Proterozoic units include the Minas Supergroup and the Bambui Group. The former includes basal quartzites and conglomerates, as well as phyllites. Some phyllites, stratigraphically higher in the sequence, are hematitic in nature. The Bambui Group is essentially composed of calcareous sediments and slates.

The local geology in the Pitangui-Turmalina region and adjacent exploration areas was defined by geologists from Unigeo Geologia e Mineração, a former subsidiary of Mineração Morro Velho and AngloGold Ashanti, during the initial exploration field work phases (1980´s). At that time, the mapped lithologies and stratigraphy were defined and classified as a greenstone belt sequence, within a possible northwestern extension of the Archean portions of the Iron Quadrangle terrain.

Mineralization

The mineralization at the Turmalina deposit consists of a number of stratabound, tabular bodies that are spatially related to either a BIF/Iron Formation package or to a package of slightly silicified quartz-muscovite-biotite schists. These bodies are grouped together, according to the host stratigraphy, to the spatial configuration and to the gold content, into Orebodies “A”, “B”, and “C”. Gold mineralization can occur within the BIF package, but can equally occur in the other host lithologies.

The down-plunge continuity of mineralization within the Orebodies follows the intersection between bedding planes/S0 and the main penetrative tectonic cleavage/Sn, and the attitude of this intersection lineation has been identified and statistically measured underground.

The main past production of the mine has been from Orebody A, which is mostly comprised of slightly silicified and “veined” quartz-muscovite-biotite schist host rocks (swarms of small, prevalent, quartz veinlets that are centimetres in width). The economic mineralization in this zone has been outlined along a strike length of approximately 350 m to 400 m (with an average thickness of 6 m) and to depths of approximately 1,150 m to 1,200 m below surface. The southeastern portion of Orebody A is composed of two parallel narrow veins. The northwestern portion of Orebody A is much the same as the southeastern, however, the two parallel zones nearly or completely merge and therefore the economic zone is much wider overall to the northwest direction (locally up to 10 m to 15 m in thickness).

Orebody B is located in the hanging wall of the Orebody A, and is geologically somewhat similar to Orebody A, both in terms of the type of the host package and of the visual style of the gold mineralization. The Orebody B corresponds to two or three lower grade, tabular-shaped lenses that are generally parallel to Orebody A. These lenses are located approximately 50 m to 75 m in the structural hanging wall and are accessed by a series of crosscuts that are driven from Orebody A in the upper levels of the mine. The mineralization in this zone has been outlined along a strike length of approximately 350 m to 400 m and to depths of 950 m to 1,000 m below surface.

Orebody C is a mineralized structure located to the southwest, in the structural footwall of Orebody A. At least three individual economic zones (orebodies “C SE”, “C Central”, and “C NW”) have been delineated in this zone along a strike length of a bit more than one kilometre, and to depths of 850 m to 900 m below the surface. The three individual stratabound economic orebodies are generally represented by 2 m to 10 m thick, pervasively altered/silicified/replaced lenses hosted by the unique Orebody C Iron Formation horizon. Its auriferous silicification is quite distinctive, being dark gray in colour and sulphide bearing (pyrite, pyrrhotite, and arsenopyrite constituting up to 5% to 12% in volume of the host rocks), and characteristically causes a marked obliteration of the original bedding lamination of the iron formations. The silicification zones are stratabound in relation to the host iron-formation layer. It is observed that the high grade economic zones are generally confined to the silicification zones.

The quality of the average gold grades of the mineralized zones of orebodies C, A and B, is a direct function of the relative amount of arsenopyrite that is present in the total modal concentration of disseminated sulphides present in altered/silicified rock specimens.

Two recently discovered mineralized lenses are located between the Orebody A and the previously known lenses comprising Orebody C. These new lenses were discovered as a result of recent exploration drilling that was carried out from the underground drill bays to define and evaluate the lower portions of the Orebody C SE mineralized lenses. As these are newly discovered mineralized lenses, their full limits and economic potential are not fully understood at the moment. The presence of potentially economic mineralization therefore is, very likely, not restricted to only the previously defined mineralized horizons and orezones. The possibility of additional mineralized zones being located elsewhere in the mine stratigraphy must be considered and evaluated as exploration targets.

History

Gold was first discovered in the area in the 17th century, and through the following two centuries, intermittent small-scale production took place from alluvial terraces and outcropping quartz veins. Gold production exploited alluvium or weathered material, including saprolite and saprolite-hosted quartz veins. Records from this historical period are few and incomplete.

AngloGold Ashanti controlled the mineral rights from 1978 to 2004 through a number of Brazilian subsidiaries. AngloGold explored the project area extensively between 1979 and 1988 using geochemistry, ground geophysics, and trenching, which led to the discovery of the Turmalina, Satinoco (now referred as Orebodies C), Faina, Pontal and other mineralized zones. Exploration work at these mineralized bodies initially included only 22 diamond drill holes totalling 5,439 m drilled from the surface to test the downward extensions.

In 1992 and 1993, AngloGold Ashanti mined 373 kt of oxide ore from open pits at the Turmalina, Satinoco (Orebodies C), Pontal, and Faina zones. It recovered 35.5 koz of gold using heap leach technology. Subsequently, AngloGold Ashanti drove a ramp beneath the Turmalina pit and carried out drifting on two levels in the mineralized zone at approximately 50 m and 75 m below the pit floor to explore the downward extension of the sulphide mineralized body.

Jaguar acquired the AngloGold Ashanti Turmalina properties in 2004 and continued operation of the Turmalina underground mine. The mine is accessed from a 5 m x 5 m primary decline located in the footwall of the main deposit.

An important additional exploration program was carried out at the Satinoco Trend (Orebodies C), targeted by Jaguar from March 2006 to April 2008, in order to collect sufficient information to prepare an estimate of the Mineral Resources in accordance with the regulation NI 43-101. This Satinoco program included the opening of about 700 m of trenches and a complementary diamond drilling program. At the end of that exploration program, the Orebodies C were added to the Turmalina underground operation inventory.

In 2018, Jaguar carried out an initial program of soil sampling, chip sampling, trenching, and geological mapping on the Zona Basal target, located approximately four kilometres to the west of the Orebodies A and C of the Turmalina underground operation. A total of 14 trenches were initially excavated at the Zona Basal in 2019, totalling 1,434 m in length. Subsequent exploration developments for the Zona Basal between 2020 and 2022 are described in more detail in a specific section below.

More recently, a drone-based magnetic aerial survey was completed for Jaguar (2020-2021) in selected portions of its Turmalina tenement portfolio. The new airborne magnetic datasets were acquired using a drone (hexacopter) with GEM magnetometer as part of Avant Geofisica's DRONEmagTMsystem surveys. The consulting company Southern Geoscience Consultants (SGC) has produced an integrated interpretation of the magnetic data for Jaguar and proposed targets for follow-up testing, either by surface geological mapping activities or by diamond drilling (e.g., within the Zona Basal Target, the Pontal South Target and the potential extensions of the Faina Deposit Area).

Other Surface Exploration Programs Carried Out in 2021 and 2022 (Pontal Target and Zona Basal Target)

Pontal Target

The Pontal target collectively refers to the "Pontal North", "Pontal" (historical Mineral Resource) and "Pontal South" targets located approximately 1 kilometre northwest of the Faina deposit and some 4 kilometres northwest of the Turmalina mine.

The "Pontal" deposit itself has a Measured and Indicated Mineral Resource of 62 koz of gold (410 kt @ 4.72 g/t Au) and an Inferred Mineral Resource of 21 koz of gold (130 kt @ 5.03 g/t Au).

In late 2021, 6 initial diamond drill holes (1,466 m) were drilled in the "gap" between Pontal and Faina. These diamond drill holes targeted southern extensions of the historically known Pontal deposit (above) and associated mineralized trend, which was highlighted as magnetically anomalous by the drone-based magnetic aerial survey completed for Jaguar (2020-2021) over selected portions of its Turmalina tenement portfolio.

Initial results from this 2021 drilling have been encouraging, with several drill holes intersecting wide zones of sulphide mineralization associated with a 30-metre-thick stratigraphic horizon over a currently defined strike length of 350 metres. The mineralized zone was first intercepted by hole PTL094, which reported an intersection of 28.8 m @ 2.67 g/t Au, including 21.95 m @ 3.29 g/t Au.

In 2022, Jaguar continued the exploration works in the recently discovered Pontal South, with an additional 8 diamond drill holes (1,980.90 m drilled in total). With this 2022 drilling campaign, 3D models (geology/stratigraphy and mineralization envelope), as well as the initially interpreted geological map, were updated. The 2022 Pontal South drilling campaign returned encouraging intercepts, such as 7.25 m @ 3.49 g/t Au for hole PTL098; 4 m @ 3.58 g/t Au for hole PTL099; 3.65 m @ 7.41 g/t Au for hole PTL102; and an impressive 10.05 m @ 4.69 g/t Au, including 5.15 m @ 7.98 g/t Au, for hole PTL105.

The combined 2021 and 2022 drilling campaigns at the Pontal South target have initially delineated inferred resources of 75 koz of gold (820 kt @ 2.85 g/t Au). The entire Pontal trend (Pontal South, Pontal, and Pontal North altogether) has a great exploration potential, as its footprint is 1,500 m in strike length and remains open at depth.

Zona Basal Target

The Zona Basal target area is located approximately 3.0-3.5 km west of the Turmalina mining and processing facilities. In late 2020 and early 2021, a total of 26 exploratory/reconnaissance diamond drill holes (3,830.8 m of drilling) were completed over this target. This drilling initially focused on a program of widely spaced drill holes following-up and targeting near surface oxide and potentially deeper, structurally controlled sulphide extensions to the greenstone bedrock gold intersections seen in surface trenching (both within the footprint and along the margins of an extensive 100 ppb Au soil anomaly). All exploratory diamond drill-core samples from the Zona Basal target were analyzed at the external ALS laboratory in Belo Horizonte (fire assay analytical method for gold - 50 g).

The Zona Basal hypogenic economic mineralization corresponds to fine-grained disseminations of sulphides (arsenopyrite + pyrite + pyrrhotite) hosted by favourably replaced volcano-chemical stratigraphic horizons. Gold particles occur both as inclusion in arsenopyrite crystals and in association with the matrix of silicate minerals from the arsenopyrite-rich samples examined. The Zona Basal "supergene" (or surficial) mineralization exhibits enriched gold grades with lesser silver grades and anomalous concentrations of other base metals. This mineralization occurs within the near surface oxide-saprolite zone of the weathering profile.

Results reported from the 2020-2021 diamond drilling campaign include both encouraging oxide and sulphide intercepts of 2.39 g/t Au over a drilled width of 20.45 m from surface in hole FZB014; of 2.00 g/t Au over a drilled with 15.40 m in hole FZB013; and of 1.30 g/t Au over a drilled width of 11.60 m (including 1.78 g/t Au over 8.2 m) in hole FZB026. Of further interest was the oxide intersection in hole FZB014, which falls within a wider intersection interval that contains anomalous silver grading 7.81 g/t Ag over a drilled width of 27.5 m. The presence of anomalous silver values associated with high gold values in the oxide-saprolite zone appears to indicate the potential for an extensive supergene deposit within the footprint of the Au soil anomaly.

Preliminary leach test work completed on samples from two positive intersections reported above (holes FZB014 and FZB026) demonstrated that the Zona Basal material is free milling/non-refractory, with recoveries of the order of 90% after direct cyanidation, further justifying follow-up drilling programs aimed at evaluating the potential to define open pit mineable Mineral Resources from this source.

In late 2021, an initial reverse-circulation (RC) drilling campaign was completed at the Zona Basal target. The RC drilling campaign targeted shallow oxide material within the surface exposure and shallow supergene (oxide-saprolite) regolith profile within a central area which extends some 1,000 m along strike by 200 m width (across strike) and to a depth of 30 m to 50 m. A total of 119 reverse-circulation drill holes (6,751 m completed) to an average depth of 50 m were completed (November 2021) at a 50 m x 50 m grid pattern.

In December 2021, an infill RC drilling campaign (at a 25 m x 25 m grid spacing) was completed over two of the more promising individual areas (43 drill holes and a total of 2,120 m completed). Results from this RC drilling were fully reported in February 2022.

During 2022, all of the drill holes completed at the Zona Basal surficial deposit were used to update the 3D models, and the inferred surface geological maps. For geostatistical evaluation purposes, careful in situ density estimates were also carried out for Zona Basal.

The 2021 drilling campaigns at the Zona Basal surficial deposit have initially delineated inferred resources of 32 koz of gold (781 kt @ 1.28 g/t Au).

Underground and Surface/Exploration Diamond Drilling Activities Completed in 2022

As with the drilling programs completed in 2021, the on-going drilling programs in 2022 mainly targeted the down-plunge areas of the orebodies A, B and C. The drill holes were designed to intersect the projected plunges and dips of the mineralized zones as close to perpendicular as possible.

In 2022, a combined total of 54 km of underground delineation, infill and exploratory drilling was completed at Turmalina.

At Turmalina, drilling in 2022 and into 2023 focused on further delineation and expansion of higher-grade mineralization manifested within the Orebodies C Structure at shallow depths and close to current mining access and production development. Underground exploration diamond drilling of the Orebodies C Structure intersected a series of new higher grade “lenses” near current underground development and approximately 240 m below surface. Geological and structural logging of drill core along with mapping of nearby underground development defined two higher-grade, structurally controlled mineralized zones. The mine has initiated development into this higher-grade area to better understand the structural controls and to allow further diamond drilling and future production. Step out drilling testing the projected plunge continuity is successfully expanding the higher-grade footprints of the Orebodies C Structure in a series of structurally controlled prospective zones.

Similarly, exploratory work aimed at refining the geological-structural controls on higher grade mineralization zones within the Orebody B Structure recommenced in 2022, also at shallow levels close to existing underground mine development access.

Results from the 2022 drilling campaigns at Turmalina have been particularly encouraging, with a number of exceptional relatively shallow intersections reporting grade x thickness (GT) intervals greater than 40 gram meters on the Orebodies C and Orebody B structures. These intercepts again demonstrate potential down and up plunge extensions within these structures.

A summary of the more significant intersections of the infill and exploration drilling campaigns completed underground at Turmalina in 2022 has been gathered in this AIF, as at December 31st, and is provided in Table 3 below. A summary of the more significant 2022 diamond drilling interceptions pertaining to the surface brownfields exploration programs "Faina Resource Conversion infill drilling" and "Pontal South exploratory drilling" are provided in Table 3a and Table 3b below, respectively:

Table 3: Summary of More Significant Drilling Intersections, 2022 - Turmalina Mine Operation

Summary of Significant Drilling Intersections; GTs (average grade X thickness) greater than 25 (in 2022) Jaguar Mining Inc. – Turmalina Mine Operation and Underground Exploration							
Hole ID	**From (m)**	**To (m)**	**DownHole Interval (m)**	**Estimated True Width (m)**	**Gold Grade (g/t Au)**	**GT (ETW)**	**Orebody**
FTS2177	166.7	170.0	3.4	3.1	18.42	57	**C NW**
FTS2178	149.2	153.1	3.9	3.1	2.59	8	
	160.8	165.8	5.0	4.2	10.43	44	
FTS2200	198.0	212.3	14.3	6.5	8.13	52	
	228.0	238.5	10.5	5.2	10.63	56	
	275.5	283.2	7.7	7.0	7.63	53	
FTS2280	132.4	138.8	6.3	4.6	11.56	53	
FTS2165	60.4	70.3	9.8	6.6	3.88	26	
FTS2285	147.1	155.8	8.7	6.8	8.08	55	
FTS2218	159.7	165.7	6.0	5.4	22.87	124	
GR390LM01	65.3	84.4	19.1	7.6	11.58	88	**B**
B390LM12	4.6	11.6	7.0	6.2	9.60	59	
B390LM11	2.3	9.8	7.5	6.4	13.54	86	

Table 3a: Summary of More Significant 2022 Drilling Intersections of the "Faina Resource Conversion Infill Drilling"

Summary of Significant Drilling Intersections; GTs (average grade X thickness) greater than 25 (in 2022) - Jaguar Mining Inc. Faina Resource Conversion Infill Drilling					
Hole ID	**From (m)**	**To (m)**	**DownHole Interval (m)**	**Gold Grade (g/t Au)**	**GT (ETW)**
FUH180	216.2	236.9	20.8	2.52	52
Including	222.4	227.0	4.6	6.28	29
FUH183	192.6	205.7	13.1	3.69	48
Including	204.7	205.7	1.0	24.8	25
FUH185	61.9	77.5	15.6	3.27	51
Including	74.5	77.5	3.0	9.42	28
FUH185	158.9	168.7	9.8	4.58	45
Including	164.0	168.7	4.7	7.28	34
FUH193	146.8	170.9	24.1	1.92	46
Including	160.6	162.3	1.7	8.27	14
FUH196	279.0	290.0	11.0	7.1	78
Including	280.0	289.0	9.0	8.2	74
FUH205	289.2	296.0	6.8	9.57	65
Including	289.2	290.0	0.8	77.7	62
FUH208	196.5	224.0	27.6	2.22	61
Including	201.5	209.2	7.7	5.18	40

Table 3b: Summary of More Significant 2022 Drilling Intersections of the "Pontal South Exploratory Drilling"

Summary of Significant Drilling Intersections; GTs (average grade X thickness) greater than 25 (in 2022) - Jaguar Mining Exploratory Drilling Pontal South Structure					
Hole ID	**From (m)**	**To (m)**	**DownHole Interval (m)**	**Gold Grade (g/t Au)**	**GT (ETW)**
PTL098	153.6	165.7	12.0	2.43	29
Including	158.4	165.6	7.3	3.49	25
PTL099	144.0	171.7	27.7	1.60	44
PTL102	167.7	171.4	3.7	7.41	27
PTL105	255.0	265.1	10.1	4.69	47
Including	258.0	263.2	5.2	7.98	41

Sample Preparation, Analyses, Quality Assurance/Quality Control and Security

For a comprehensive description of the sample preparation procedures utilized by Jaguar (for drill-cores and channel sampling underground), the laboratorial procedures, and the analytical techniques used, see Appendix 1 at the end of this document.

Mineral Resources Estimates - Combined (Turmalina, Faina, Pontal and Pontal South)

Table 4 summarizes the Turmalina Gold Mine Complex Mineral Resources (underground) on December 31st, 2022. The total Mineral Resources for the Turmalina Mine Complex as estimated by Jaguar staff comprise 778 koz of gold in the Measured and Indicated Resource categories (5,480 kt @ 4.42 g/t Au), and 462 koz of gold (3,644 kt @ 3.94 g/t Au) in the Inferred Mineral Resource category. These Mineral Resources figures include Turmalina and three other underground "satellite" deposits (Faina, Pontal and Pontal South). A cut-off grade of 1.72 g/t Au was used to report the Mineral Resources for the Turmalina Mine, and cut-off grades of 3.00 g/t Au, 2.90 g/t Au and 2.02 g/t Au were used to report the Mineral Resources for the Faina, Pontal and Pontal South deposits, respectively.

The conceptual operational scenarios considered during the preparation of previous Mineral Resources estimates for the Faina and Pontal/Pontal South deposits envisioned that the fresh, unoxidized mineralization would be excavated on a "satellite" deposit basis and transported by truck to the existing Turmalina Plant for processing.

Table 4: Summary of Mineral Resources as at December 31st, 2022

December 31st, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz
	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)
Underground Turmalina Gold Complex												
Ore Body A	739	6.26	149	263	3.64	31	1002	5.57	179	94	3.60	11
Ore Body B	315	3.81	39	202	3.92	25	517	3.85	64	169	4.33	23
Ore Body C	734	3.59	85	1390	3.47	155	2124	3.51	240	1012	3.05	99
Sub-Total Turmalina	**1788**	**4.73**	**272**	**1855**	**3.54**	**211**	**3643**	**4.13**	**483**	**1274**	**3.26**	**134**
Faina	0	0.00	0	1427	5.08	233	1427	5.08	233	1420	5.09	232
Pontal	251	5.00	40	159	4.28	22	410	4.72	62	130	5.03	21
Pontal South										820	2.85	75
Total - Turmalina UG	**2039**	**4.76**	**312**	**3441**	**4.21**	**466**	**5480**	**4.42**	**778**	**3644**	**3.94**	**462**

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the Turmalina Gold Mining Complex Underground include the Turmalina Mine, the Faina deposit, the Pontal deposit and the Pontal South deposit.**
3. **Mineral Resources at the Turmalina Gold Mining Complex are estimated at a cut-off grade of 1.72 g/t Au at Turmalina, 3.00 g/t Au at Faina, 2.90 g/t Au at Pontal and 2.02 g/t Au at Pontal South. The Faina underground mineral resources are reported using constraining panels over a 3.00 g/t Au cut-off.**
4. **Mineral Resources at the Pontal deposits remains unchanged from those stated as at December 31, 2015.**
5. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces at Turmalina, Faina, and Pontal South. Mineral Resources for the Pontal deposis is estimated using a long-term gold price of $ 1,800.**
6. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for Turmalina, Faina and Pontal South.**
7. **A minimum mining width of 2.00 m was used at Turmalina, Faina and Pontal South.**
8. **Mineral Resources are inclusive of Mineral Reserves at the Turmalina mine.**
9. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
10. **Numbers may not add due to rounding.**

Mineral Resources Estimate - Turmalina Mine Only

The Mineral Resources estimate was generated from a block model constrained by three-dimensional (3D) wireframe models constructed by Jaguar using a minimum width of 2 m. The gold grades have been interpolated using several interpolation algorithms using capped composited assays. A capping value of 50 g/t Au was applied for all three Orebodies. The Mineral Resources figures are reported using the gold grades estimated by the Ordinary Kriging (OK) method. The wireframe models of the mineralization and excavated material for the Turmalina Mine were also constructed by Jaguar´s staff.

The mineralized material for each individual Orebody was classified by Jaguar into the Measured, Indicated, or Inferred Mineral Resource categories on the basis of the search ellipse ranges obtained from the variography study, of the observed continuity of the mineralization, of the drill hole and channel sample density, and previous production experience with the known orebodies.

The Mineral Resources are inclusive of Mineral Reserves. For those portions of the Mineral Resources that comprise the Mineral Reserve, stope design wireframes were used to constrain the Mineral Resource reports.

Additional Mineral Resources are present that reside beyond the Mineral Reserves. For these areas, mineral resources are reported using constraining panels, after depletion, using the excavated wireframes, and considering a cut-off grade of 1.72 g/t Au. Jaguar´s staff estimates that the Mineral Resources at Turmalina comprise 483 koz of gold (3,643 kt @ 4.13 g/t Au) in the Measured and Indicated Resources categories; and 134 koz of gold (1,274 kt @ 3.26 g/t Au) in the Inferred Mineral Resources category. The Mineral Resources for the Turmalina mine only are presented in further detail in Table 5.

Table 5: Summary of Mineral Resources by Orebody as at December 31st, 2022

December 31, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz
	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)
Underground Turmalina Gold Complex												
Ore Body A	739	6.26	149	263	3.64	31	1002	5.57	179	94	3.60	11
Ore Body B	315	3.81	39	202	3.92	25	517	3.85	64	169	4.33	23
Ore Body C	734	3.59	85	1390	3.47	155	2124	3.51	240	1012	3.05	99
Sub-Total Turmalina	**1788**	**4.73**	**272**	**1855**	**3.54**	**211**	**3643**	**4.13**	**483**	**1274**	**3.26**	**134**

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the Turmalina Underground Mine.**
3. **Mineral Resources at the Turmalina Mine are estimated at a cut-off grade of 1.72 g/t Au.**
4. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces at the Turmalina Mine**
5. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for the Turmalina Mine.**
6. **A minimum mining width of 2.00 m was used at the Turmalina Mine.**
7. **Mineral Resources are inclusive of Mineral Reserves at the Turmalina Mine.**
8. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
9. **Numbers may not add due to rounding.**

Mineral Reserves Estimate - Turmalina Mine

Mineral Reserves reported below for Turmalina are on December 31st, 2022. Table 6 summarizes the Mineral Reserves as estimated by Jaguar.

Table 6: Turmalina Mineral Reserves as at December 31st, 2022

December 31, 2022	Proven Reserves			Probable Reserves			Proven & Probable Reserves		
	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz	Tonnes	Grade	Gold oz
	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)
Turmalina Gold Complex									
Ore Body A	286	4.70	43	93	3.37	10	379	4.37	53
Ore Body B	215	3.32	23	130	3.59	15	346	3.42	38
Ore Body C	327	3.31	35	803	3.39	87	1130	3.37	122
Total - Turmalina	**829**	**3.79**	**101**	**1026**	**3.41**	**113**	**1855**	**3.58**	**214**

Notes:

0. **CIM (2014) definitions are followed for Mineral Reserves.**
1. **Mineral Reserves reported are in-situ.**
2. **Mineral Reserves at the Turmalina Mine were estimated at a break-even cut-off grade of 2.32 g/t Au.**
3. **Mineral Reserves are estimated using an average long-term gold price of $1,650 per ounce and a US$/BRL$ exchange rate of 5.20 at both mines.**
4. **A minimum mining width of 3.50 m was used at the Turmalina Mine.**
5. **Numbers may not add due to rounding.**
6. **There are no known environmental, permitting, legal, title, socio-economic, political or other risk factors that could materially affect the Mineral Reserve estimates.**

The Mineral Reserves consist of selected portions of the Measured and Indicated Resources within designed stopes and associated development, designed by Bruno Tomaselli, FAUSIMM, an employee of Deswik Brasil who is an independent Qualified Person within the definition of the NI 43-101 for Mineral Reserves.

Dilution and extraction (mining recovery) have been included in the reserves estimate as follows:

1. Areas within the stope designs below 2.50 g/t Au. The resources wireframes were constructed at a cut-off grade of 0.50 g/t Au, and therefore they include material below the reserve cut-off grade for continuity.
2. Planned dilution includes areas where the stope designs run outside of the Mineral Resources wireframe, to achieve minimum width and due to irregularities in geometry. Additional volume included in this manner averages approximately 14% across the Mineral Reserves.
3. Extraction is assumed to be 0.95 for stopes, 0.9 for various other activities, and 0.5 for rib pillars. Although some losses are encountered during blasting and mucking, they are minimal, and reconciliation to mill results indicates that high dilution/high extraction assumptions match up well.

Cut-Off Grade

A break-even cut-off grade of 2.32 g/t Au was estimated for Mineral Reserves, using a gold price of $1,650/oz, an average gold recovery of 86%, and the 2022 cost data for the Turmalina Mine (operating costs of BRL$550/t). Gold prices used for reserves are based on consensus, long-term forecasts from banks, financial institutions, and other sources.

Cost data was stated in US dollars, using the exchange rate at the time of the reporting (approximately 5.20 BRL to the US dollar). A majority of Turmalina costs are denominated in BRL.

The tables/illustrations 5a and 6a below (longitudinal projections of the Turmalina deposit) are panoramas of the resources and reserves inventory of the Turmalina operation by the end of the 2022 Year and by the end of the 2021 Year, respectively.

Table/illustration 7 below (longitudinal projections of the Faina deposit) is a panorama of the resources inventory of the Faina deposit by the end of the 2022 Year (after the successful 2022 infill drilling program) and in the 2015 Year, respectively.

Table 5a: Illustration: Turmalina Mineral Resources on Dec. 31st, 2022, and on Dec. 31st, 2021

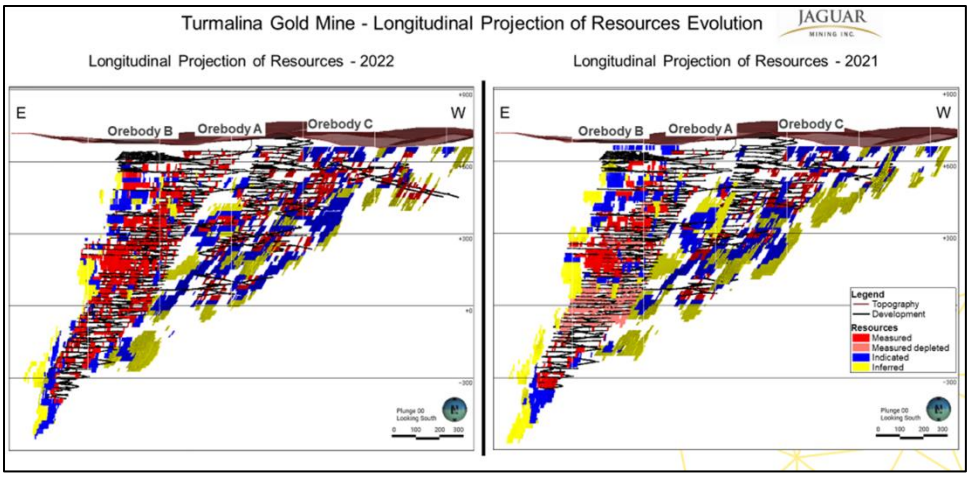


Table 6a: Illustration: Turmalina Mineral Reserves on Dec. 31st, 2022, and on Dec. 31st, 2021

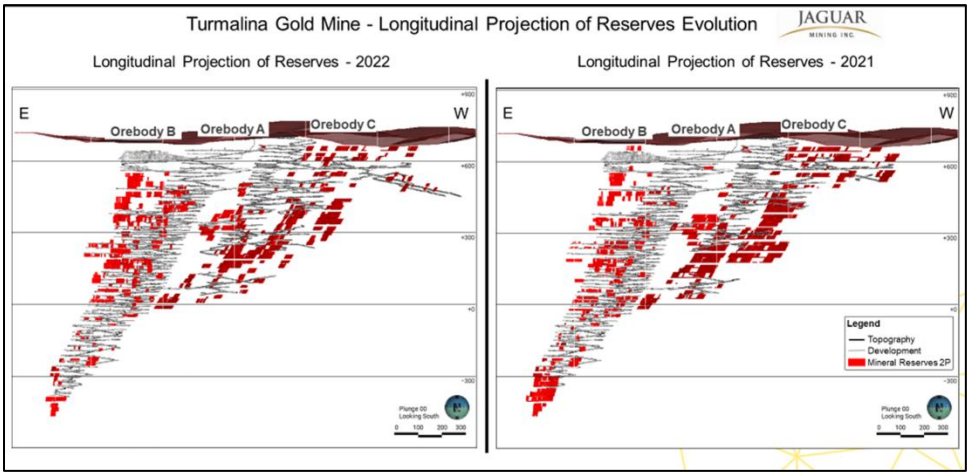
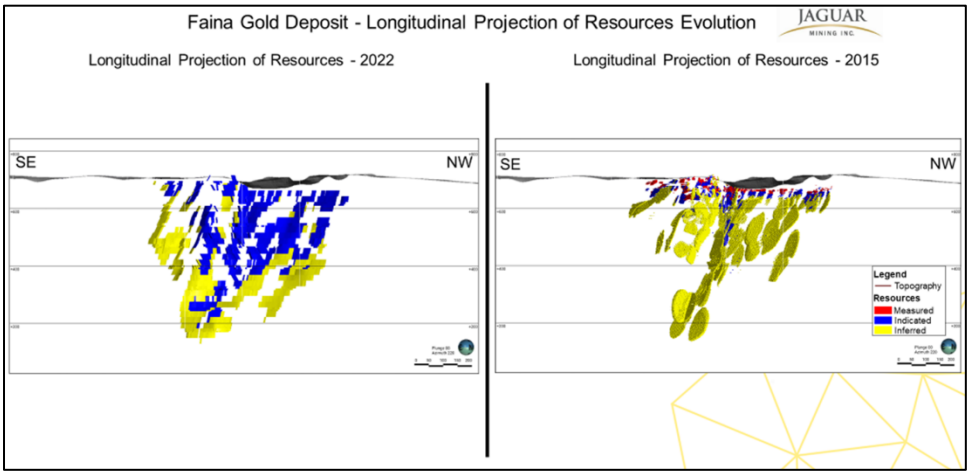


Table 7: Illustration: Faina Mineral Resources on Dec. 31st, 2022, and in 2015



Mining Operations and Metallurgical Process

The Turmalina Mining Complex includes the processing plant, and a dry-stacking disposal area. Electrical power is obtained from the national grid. Ancillary buildings located near the mine entrance include the gate house with a reception area and waiting room, administration building, maintenance shops, cafeteria, warehouse, change room, first aid room, and compressor room. The explosives warehouse is located 1.2 km away from the Turmalina Mine area, in compliance with the regulations set forth by the Brazilian Army. There is no camp at the Turmalina Mine site.

Mining Method and Mine Infrastructure

The Turmalina Mine consists of several zones grouped into three orebodies - Orebodies A, B, and C. Two other individual deposits, Faina and Pontal, are located along strike to the northwest. Orebody C has more recently replaced Orebody A as the principal production source of the operation.

The main mining method used at the Turmalina Mine is Sub-Level-Stoping (SLS). VRM and Cut-and-fill have been used in a few operational contexts. Both longitudinal and transverse versions of the method are used, depending on the width of the deposit. Access to the stopes is provided by sublevel development driven from the ramp. The sublevel interval is 20 m. The Turmalina deposit is mined

in horizons between sublevels. Each horizon is mined in retreating fashion, starting at the end of the mineralized zone and progressing to the central crosscuts. The stope length is typically 40 m along strike, and rib pillars or partial rib pillars separate adjacent stopes. Once mined out, stopes are backfilled with cemented rockfill, unconsolidated rockfill, or cemented paste fill. The horizons are mined in a bottom-up sequence between sill pillars. Sill pillars are spaced nominally at 60 meter vertical level intervals.

The Turmalina Mine is accessed from a 5.0 m x 5.5 m primary decline located in the footwall of Orebody A and a ramp system for Orebody C. The Orebody A ramp portal is located at an elevation of 695 MASL. The Turmalina Mine is divided into levels, with Level 01 established at an elevation of 626 MASL.

Ore from the stopes and development is hauled to surface via the ramp system for Orebodies A and C. Turmalina has a paste fill plant that prepares cemented paste fill from detoxified CIP tailings in a plant located near the mill. Turmalina's ventilation is a pull type system whereby fresh air is drawn down the haulage ramps and an intake raise, and return air is exhausted via three ventilation raises. The Turmalina Mine has a simple dewatering system whereby water is pumped from level to level and then to surface using centrifugal pumps.

Turmalina has an extensive fleet of mobile mine equipment. The main units include four longhole drill rigs (2 for blast hole drilling an 2 for cable bolting), two development jumbos, three bolting jumbos, four load-haul-dump units (LHDs), two front end loaders, five dump trucks, and three articulated dump trucks (Volvo A30s). The mine development contractor also has a fleet of two jumbos, plus front end loaders, dump trucks and auxiliary vehicles.

Recovery Methods

The Turmalina Plant has a current nominal processing capacity of 2,000 tpd, or 720,000 tpa. Since inception, the Turmalina Plant has been achieving annual overall recoveries of between 87% and 92%. The process flowsheet includes two-stage crushing and screening to minus 9.5 mm (-3/8 in), primary grinding, thickening, cyanide leaching, CIP, elution, electrowinning, and smelting. The tailings flow by gravity to a detoxification unit for arsenic removal and cyanide destruction and then are pumped to the paste fill plant to be used either for mine backfill or deposited on a purpose-built dry stack storage area. Process tailings have also been stored in completed open pits on the mine site.

ROM material is stored in a surge pile and fed to the primary jaw crusher using a front end loader at a nominal rate of 140 tonnes per hour (tph). The crushing plant has a design capacity of 180 tph (3,700 tpd at 85% operating time). Oversized material is managed with a grizzly and rock breaker. The primary crusher product is fed to secondary cone crushers. The final product, minus 9.5 mm (-3/8 in), is stored in a fine ore storage surge bin. The fine ore storage bin allows the crushing plant to operate only the number of hours per day to satisfy daily mine tonnage available to conserve energy and costs while the grinding and CIP circuit runs continuously.

The Turmalina Plant has been operating one of three installed ball mills since 2017 to conserve energy and reduce costs. The combined grinding capacity of all three mills, 3,400 tpd at 92% operating time, could facilitate a production expansion if required.

The feed grade to the grinding mills is determined by sampling with an automatic sampler. Material is fed from the surge bin to the grinding circuit. The milling products are sized with cyclones to 80% passing 200 mesh (P80 = 200 mesh), with the overflow passing on to the thickener and the underflow recycled. The grinding circuit is automated. The secondary cyclone overflow stream is fed to a 30.5 m ø (100 ft ø) thickener where flocculants are added to optimize the settling rate of the pulp. The thickener underflow, 53% solids by weight, is pumped to the pulp conditioning system of the CIP plant, which is instrumented to maintain the pulp at a density of approximately 48% to 50% solids by weight. The water addition flow rate is monitored and controlled by a magnetic flow meter and pulp densitometer. The thickener overflow is directed to the process water tank as make-up water.

The leaching circuit consists of seven agitation tanks. Lime is added to the first tank to adjust the pH. Cyanidation begins in the first tank with the addition of sodium cyanide (NaCN). Lead nitrate is also added in the grinding circuit to control excessive NaCN consumption. Compressed air is injected in all the tanks per slamjets, as the process consumes large amounts of oxygen. The residence time in the leaching circuit is approximately 25 hours.

The adsorption circuit is a conventional CIP circuit. The gold bearing pulp passes through five adsorption tanks arranged in series. Activated carbon with a size range of 3.35 mm to 1.70 mm and a minimum pulp concentration of 20 g/L is added to the last in the

series of tanks and is pumped from tank to tank in the opposite direction from the slurry flow. Thus, the carbon adsorbs the gold from the pulp as the process continues. When the adsorption cycle is completed, approximately ten hours, the loaded carbon, containing approximately 1.5 kg of gold per tonne of carbon, is pumped from the bottom of the first tank in the series to the elution and electrowinning circuit.

The loaded carbon is screened and the minus 28 mesh material is redirected back to the adsorption circuit. The screen oversize feeds the elution circuit, comprising four columns operating in batch mode, two of which are stripping while the other two are loading. Loaded carbon is stripped using caustic soda, injected into the elution columns from bottom to top at a concentration of 1% by weight with 200 L of ethylic alcohol (per batch) kept at 95°C. The pregnant solution is stored in a tank, with overflow to feed the electrowinning circuit. The electrowinning circuit consists of seven cathodes and nine anodes, energized with a 360 A current and a voltage of 3.5 V to 4.0 V. Jaguar ships the electrowinning sludge to a third party for smelting and refining.

The activated carbon first undergoes a stripping process in the elution columns, where the adsorbed gold is removed by a 1% (by weight) NaOH solution at 95°C. It is then conveyed to a surge tank via an ejector directed towards a 28 mesh screen for the removal of fines (undersize). The screen oversize is conveyed to an 8 m^3 fibreglass acid washing tank. The acid washing is completed by passing an acid solution of HCl at 10%, removing the impurities that diminish the capacity of the carbon to adsorb gold, mainly carbonates and basic metals.

The acid solution of HCl at 10% (by weight) is prepared in a fibreglass HCl solution tank by adding water and HCl at 33% by weight. This solution is injected at the bottom and discharged at the top of the acid washing tank by overflow, returning to the HCl solution tank by gravity. The time involved in the acid washing is approximately 5 hours. Once acid washing is completed, the acid solution is drained towards a neutralization tank. Thereafter, the carbon is washed with water in an open circuit with regards to the neutralization pond. This operation lasts approximately two hours. After these stages, the carbon is transferred to the 20 mesh screen and can be conveyed to the carbon addition circuit in the volumetric control vessel, and then to the last adsorption tank in the CIP circuit. A furnace is not employed for carbon regeneration as the expected performance in regeneration was not successfully achieved.

The CIP adsorption tank tailings (86 tph at 42% solids) are conveyed by gravity to a belt screen to avoid carbon loss and then to a tailings pulp treatment plant (TPTP or Detox plant) and then to the filter and paste fill plant. Caro's acid (a mixture of concentrated sulphuric acid and hydrogen peroxide) is used in the Detox plant for cyanide destruction.

Power requirements for the processing facilities are not anticipated to change significantly in the foreseeable future from the current energy requirements (approximately 51,200 MWh). Water consumption is not expected to change significantly from the recent historical water usage (1.94 million m3) and no supply concerns have been noted. Key reagents used in the process include hydrated lime, cyanide, caustic soda, hydrochloric acid, sulphuric acid, liquid oxygen, and hydrogen peroxide.

Environmental Considerations and Permitting - Turmalina

Environmental studies related to the acid mine drainage potential are being made as requested by SUPRAM on LO 012/2008 ("Licença de Operação" - Operation Licence). Those studies will be performed until the end of mining and milling operations at Turmalina. All environmental costs for the Turmalina Project are associated with obligations laid out in the various licences.

Jaguar has all the necessary environmental licences for the operation of the Turmalina mining complex.

Environmental monitoring for verification of environmental control systems is in progress, in compliance with the conditions established in the licences and in conformity with all material legal requirements.

In 2021, the Environmental Performance Assessment Report was developed by the Company to provide guidance and a protocol for confirming whether all controls in the mine permit are being done according to the legal standards.

In 2022 Jaguar obtained the environmental permit to increase the fuel station at the Tumalina mine. The new permit number is LAS 3800/2022, which doubled the unit's diesel storage capacity, and is valid until October 19, 2032. The civil works are on going with the engineering works.

Taxes

Income taxes are 34% of taxable profit, including a 25% corporate tax rate and a 9% social contribution. In addition to direct operating costs, royalty payments and depreciation are deductible in determining taxable profit.

Mine Life

The current LOMP, based on the Mineral Reserves inventory, schedules mining operations at Turmalina into 2027. There is, however, potential to extend the mine life with exploration and infill drilling.

Markets

The principal commodity at Turmalina is freely traded, at prices that are widely known, so that prospects for sale of any production are virtually assured. A gold price of $1,650 per ounce was used for estimation of Mineral Reserves.

2. Caeté Mining Complex

Mineral Reserve and Mineral Resource figures (as at December 31st 2022) were reviewed and approved **(i)** in respect of the estimated Mineral Reserves by Jeff Sepp, P.Eng., and **(ii)** in respect of the estimated Mineral Resources by Reno Pressacco, P. Geo., of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7. SLR is an independent mining consultancy and Mr. Sepp and Mr. Pressacco are each Qualified Persons within the definition of NI 43-101.

The Drilling, Mineral Resource Estimates and Mineral Reserve Estimates sections of this AIF have been updated by Jaguar to reflect updated activities carried out in 2022.

Property Description and Location

The Caeté Mining Complex, includes the Pilar and Roça Grande Mines and the Caeté Plant, as well as the advanced exploration projects Catita and Córrego Brandão, is located in the state of Minas Gerais, Brazil, 50 to 100 km east of the city of Belo Horizonte. The property is currently constituted of 11,928 ha of mining and exploration concessions. The properties are owned through Jaguar's wholly owned subsidiary, MSOL.

In December 2003, Jaguar acquired the Santa Bárbara property, including the Pilar mineral concessions, from Vale. In November 2005, Jaguar entered into a mutual exploration and option agreement with Vale with respect to six concessions, known as the Roça Grande concessions, located on 2,090 ha of highly prospective gold properties along 25 km of a key geological trend in the Iron Quadrangle. The contract between Jaguar and Vale provided Jaguar with the exclusive right over a 28-month period beginning November 28, 2005, to explore and conduct feasibility studies and to acquire gold mining rights in the Vale properties if the studies supported economical mining operations. The contract granted corresponding rights for Vale to explore the Jaguar property for iron and acquire mineral rights in the property during a three-year period. In November 2007, Jaguar notified Vale of its intent to exercise the option to acquire all seven Roça Grande concessions. The final transfers of the Roça Grande concessions to Jaguar were concluded in December 2010 and August 2011. In November 2014, four of the six Roça Grande concessions acquired from Vale were returned to Vale by amending the original contract.

The mining and exploration concessions related to Caeté's Pilar and Roça Grande Mines and related exploration projects are in good standing. Jaguar has all the necessary environmental and operating licences that are required for the operation of the mining complex.

Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Roça Grande and Pilar mines are located in the municipalities of Caeté and Santa Bárbara, respectively, in the state of Minas Gerais, Brazil. Caeté (45,000 inhabitants) and Santa Bárbara (31,000 inhabitants) are comparable towns, located 55 km and 100 km, respectively, from Belo Horizonte. The towns have good urban infrastructure, including banks, hospitals, schools and general commerce. As a result, skilled labour is readily available.

The properties can be accessed via a federal highway and state paved roads. A partially paved 27 km secondary road is used to transport Pilar run-of-mine (ROM) ore to the Caeté Plant.

Annual rainfall in the area averages between 1,300 and 2,300 mm, 84% of which falls during the rainy season, between October and March. December and January present the most intense precipitation. Winds, predominantly from the south and southeast, have a low average speed (<1 m/s). The annual average temperature is slightly above 20°C. Air humidity ranges up to 90% even in the summer months. Annual average evaporation is approximately 934 mm.

CEMIG (Companhia Energética de Minas Gerais) currently supplies power to the project site. Diesel back-up generators provide emergency power.

Geological Setting

During the 17th and 18th centuries, the era commonly referred to as the initial Brazilian Gold Cycle, mining in the Caeté and Santa Bárbara regions included numerous moderate sized mines, such as Gongo Soco, Cuiabá, Taquaril, São Bento, Santa Quitéria, Pary, Luis Soares, Juca Vieira and Brumal.

The orebodies of the Caeté Mining Complex are emplaced in Archean age meta-volcanic and meta-sedimentary rock packages of the Nova Lima Group, Rio das Velhas Supergroup.

- *Pilar*

The Pilar deposit is hosted by the basal units of the Nova Lima Group, and by sequences of the Quebra-Ossos Group of the Rio das Velhas Supergroup. The rock packages in the immediate Pilar mine area are comprised of tholeiitic meta-basalts, mica-quartz schists, chlorite-quartz schists, quartz-chlorite-sericite schists, and volcano-chemical and clastic meta-sedimentary rocks of the Santa Quitéria Unit (Nova Lima Group), and further to the east, of meta-komatiite flows (along with their intrusive equivalents) of the Quebra-Ossos Group. The volcano-chemical meta-sedimentary rock packages include cherts, BIFs, and carbonaceous phyllites. Along the eastern edge of the Pilar property, the supracrustal units of the Rio das Velhas Supergroup are in fault contact with migmatites and granitic gneisses of the Santa Bárbara Complex, the unit that locally represents the basement sequence.

The Pilar deposit occurs at the northernmost end of the northeasterly oriented Brumal-Pilar BIF trend, which extends for many kilometres to the southwest from the Pilar deposit. In regional terms, the Brumal-Pilar BIF linear trend corresponds to a package of "Algoma type" BIFs (oxide-facies, silicate-facies, and carbonate-facies lithotypes) that have represented the main economic target as hosts of the Pilar deposit. Past regional mapping demonstrated that the Brumal BIF trend within the Pilar site is folded into a considerably tight, overturned synform-antiform fold of approximately one kilometre in amplitude, with axes statistically plunging steeply to the southeast and with an axial-planar tectonic cleavage dipping steeply in the east-southeast direction.

While the Algoma type BIFs typically range between five metres and 15 m to 20 m in thickness, at Pilar, they have been severely and tightly folded and thickened as a result of a west-verging compressional regional deformation event that affected the entire eastern border of the Rio da Velhas Supergroup exposures in the Iron Quadrangle Terrain. Structural geometries recorded at Pilar indicate that the mine stratigraphic package may have been folded and refolded during this event. Moreover, some major reverse faults and/or accommodation faults (such as faulted synform closures) formed during this regional compressional event locally exhibit evidence of the presence of later superimposed events (mainly tilting and/or rotation of the previously faulted blocks).

The resulting folded geometry of the Pilar deposit stratigraphic package is described as a series of overturned synform-antiform folds (a synclinorium) primarily outlined by the Pilar BIF Unit, and which locally may exhibit some degree of stratigraphic transposition

and/or stratigraphic thickening at their hinge zones. The axes generally plunge to the southeast. The axial-planar tectonic cleavage of the overturned synform-antiform folds dips steeply to the east-southeast. The average inclination (plunge) of the ore shoots varies from 15º to 60º, towards the 130-180 azimuth range orientation (trend). The regional foliation (S_2) is very well preserved in all foliated rock units, showing a regular planar attitude of N30º-50º E / 40º-65º.

Stratigraphically, the economic Pilar BIF Unit is overlain by a two to five metre thick layer of carbonaceous phyllites, which in turn is overlain by a thick package of greenschists (meta-basic volcanic rocks - "Upper Basic Volcanic Unit"). The Pilar BIF Unit is underlain by a thick package of greenschists ("Lower Basic Volcanic Unit"). The Lower and Upper basic volcanic units are very similar in nature, if not identical, considering their lithologies, lithostratigraphic record, and penetrative structural petrofabrics mapped.

- *Roça Grande*

The Roça Grande mine is located in the upper unit of the Nova Lima Group. The dominant rock types observed at Roça Grande are a mixed assemblage of meta-volcanoclastics and meta-tuffs. These are represented by quartz sericite and chlorite schists with variable amounts of carbonate facies BIF, oxide-facies BIF, metacherts, and graphitic schists. The iron formations, chert units, and graphitic schist units are intimately inter-bedded with each other, such that they form an assemblage of chemical and clastic sedimentary units.

Two important BIF horizons are present at Roça Grande, and they are separated by a central unit of sericitic phyllites and schists. The two BIF horizons are approximately parallel and referred to as Structures 1 and 2. In general, the southern BIF unit (Structure 2) is thicker than the northern BIF unit (Structure 1). The North Structure (Structure 1) hosts the RG01 mineralized zone and the South Structure (Structure 2) hosts the RG02, RG03, and RG06 mineralized zones. The RG07 mineralized zone is located immediately in the hanging wall of Structure 1 and is predominately hosted by a quartz vein. The bedding is well defined by the carbonate-facies iron formation and chert observed in the BIF horizons, with an overall azimuth strike of 70° to 80° and dipping approximately 30° to 35° south. At the mine scale, folding of the iron formation stratigraphy is generally absent. Local folding and faulting in Structure 2 has been observed in the RG06 mineralized zone where a 200 m to 300 m strike length of the stratigraphy has been folded.

Mineralization

- *Pilar*

Geological mapping and underground observations indicate that mineralized zones of the Pilar BIF Unit represent generally stratabound lenses of "sulphide-facies" BIF ranging from 15-20 m to 100-200 m in strike length and two metres to 15 m in thickness. In the Pilar deposit, the best grade BIF hosted mineralized zones are typically located along the contact between the Pilar BIF Unit and the layer of carbonaceous phyllites that occurs immediately adjacent to the greenschists of the Upper Basic Volcanic Unit. Moreover, at the Pilar deposit, increased average gold grades and higher sulphide/arsenopyrite concentrations (within the economic mineralized zones and orebodies) are almost everywhere mapped in association with the deposit scale, larger, higher-amplitude fold hinge geometries. The BIF hosted mineralized zones are conformably folded together with the whole Pilar BIF Unit at the deposit scale "synclinorium" of the Pilar deposit.

The main zones of mineralization occur as scattered, stratabound lenses (or "pods") of sulphide-facies BIFs within the "carbonatic-oxide-facies" deposit scale Pilar BIF Unit. Economic mineralized bodies consist of stratabound, but not stratiform, concentrations of gold bearing sulphides that occur in grains, seams, and irregular shaped granular aggregates located along and replacing iron carbonates-rich bands of the BIFs. Arsenopyrite and pyrrhotite are the most important sulphide minerals in mineralized bodies, with pyrite, chalcopyrite, galena, and sphalerite commonly present as accessory minerals. A direct relationship can generally be established between the amounts of arsenopyrite (percentage per volume) and the gold concentrations in mineralized BIF samples of the Pilar deposit.

There is a clear temporal-spatial-genetic relationship between the epigenetic replacement/sulphidation of the host BIFs and the onset of a structurally controlled, district scale silicification event. Carbonate-rich bands of mineralized BIFs commonly exhibit sulphide enriched alteration/replacement halos that are symmetrically distributed around swarms of quartz veins and veinlets.

- *Roça Grande*

At Roça Grande, gold mineralization is commonly associated with BIF horizons. In the RG01, RG02, RG03, and RG06 mineralized zones, gold mineralization is developed approximately parallel to the primary bedding and is related to centimetre scale bands of massive to disseminated pyrrhotite and arsenopyrite. In many instances, higher gold values are located along the hanging wall contact of the iron formation sequence and are hosted by carbonate-facies iron formation. Grades generally decrease towards the footwall where the iron formation becomes more silica-rich. The thicknesses of the iron formations are observed to be affected by broad scale boudinaged structures. Higher gold grades are observed in the thicker portions while the narrower portions of the boudinaged structures have lower grades.

In the RG07 mineralized body, gold is hosted in quartz veins that are contained within a sericite (chlorite) schist associated with an east-west oriented shear zone.

Gold Deposit Types - Pilar and Roça Grande Mines

Pilar and Roça Grande are local examples of Algoma BIF hosted type gold deposits. The main geological characteristics of this group of deposits in the Iron Quadrangle province are summarized as follows:

• Main host/fertile “Algoma type” BIF packages:

These packages host the mineralization and are stratigraphically located at the waning stages of major volcanic cycles of the Rio da Velhas greenstone belt.

• Mineralization style:

The mineralization consists of predominately “lateral” replacements/sulphidations of the iron carbonate-rich bands of the host Algoma type BIF units. The BIF hosted gold mineralization at Pilar, however, is not syngenetic in nature (in relation to the deposition of the host rock packages), rather it is clearly an epigenetic event that has occurred after the formation of the host rock units. Other than the mineralization contained within the RG07 deposit, the gold mineralization at Roça Grande is more stratiform in nature.

• Dimensions of the economic orebodies:

Economic strike lengths of 50 m to 350 m for individual mined zones. The average thicknesses of the BIF hosted orebodies may range from two metres to 20 m.

• Structural-geometric controls and down-plunge continuities of the mineralized zones:

Mineralized zones plunge with the orientation of an intersection lineation (between bedding planes and a tectonic cleavage) that mimics the orientation of axes of major, deposit scale reclined folds. At Pilar, increased gold grades and higher sulphide concentrations are typically mapped in association with the fold hinge zones of the deposit scale reclined folds.

• Mineralized zones with incredible down-plunge persistence towards great depths:

Major BIF hosted orebodies and underground operations in the belt exhibit consistent continuities for several kilometres down-plunge despite the relatively small lateral dimensions (along the strike of the host units). They can be longer than five kilometres along the plunge, similar to the main zones of the AngloGold Ashanti Morro Velho and Cuiabá Mines in the province. Therefore, major BIF hosted mineralized zones are commonly open at depth and warrant additional deep drilling to expand resources.

• BIF hosted gold deposits amenable to both bulk mining and more selective high grade underground operations:

The Roça Grande and Pilar mine packages demonstrate good average gold grades and attractive thicknesses and may be amenable to both bulk and selective mining.

History

Jaguar initiated exploration activities at Pilar in 2006 and initially contemplated building a sulphide plant on site, but the acquisition of the RG mineral concessions created an opportunity to develop an expanded project with greater plant capacity to receive ore from several mineral properties.

During 2007, Jaguar completed a scoping study, received the Implementation Licence for the Project, secured the power contract for the start-up and commissioned TechnoMine to prepare a NI 43-101 technical report on the Caeté Project Mineral Resources, which was completed during the year. By the end of the third quarter in 2008, all necessary permits and licences for the construction and commissioning phase of the Caeté Project had been received, and Jaguar initiated civil works for the milling and treatment circuits.

In November 2008, due to the decline in gold prices, the financial markets and worldwide equity values, including the gold sector, Jaguar temporarily suspended the development of the Caeté Project pending an assessment of market conditions and the availability of capital to move the project forward. Consistent with the decision to suspend the development of the Caeté Project, underground work at RG was temporarily suspended; however, development at Pilar continued. In December 2008, Jaguar began transporting ore by truck from Pilar to the Paciência Plant to supplement the ore being supplied from Paciência's Santa Izabel Mine.

In March 2009, Jaguar completed an $86.3 million equity offering, the proceeds of which were primarily used to restart development and construction at Caeté. During 2009 and part of 2010, Jaguar focused on the implementation and construction of the Caeté Project. The Caeté Plant was commissioned in June 2010. The first gold pour was conducted in August 2010, and commercial production was declared in October 2010.

In October 2010, TechnoMine completed an amendment to the 2008 feasibility study, which consisted of an enhancement of the process route and updated Mineral Resource and Mineral Reserve estimates afforded by an increase of the gold price over the LOM.

On March 22, 2018, The RG underground mine was placed on care and maintenance. However, the RG plant continued to process the ores from the Pilar underground mine operation.

The more recent, 2020-2021-2022, exploration developments at/for the Córrego Brandão deposit/discovery are described in detail in a specific section below.

Gold production at the Caeté plant was 44,802 oz of gold in 2022, 46,373 oz. in 2021, and 51,050 oz. in 2020 (ores coming from the Pilar underground operation).

Surface Exploration Program Carried Out in 2020-2021 and 2022 (Córrego Brandão Target)

Córrego Brandão Target (and the Adjacent Catita Deposit)

The Córrego Brandão exploration target is located approximately 5 km from the CCA (Caeté) plant and RG mine infrastructure and was generated by soil sampling over a regional conceptual target identified during late 2018. Anomalous gold in soil sampling results (> 100 ppb Au) over a strike length of some 400 m were followed up in 2019 with soil sampling, geological mapping, trenching and shallow auger drilling, with encouraging results.

The soil sampling and associated exploration work subsequently extended a zone, anomalous in gold, arsenic, antimony, tellurium and silver, to over 5 km in strike extent.

Follow-up, vertical shallow auger drilling intersected ferruginous-gossanous material with widespread boxwork textures (after sulphides) and highly encouraging mineralized sample intervals reporting assays of 38.71 g/t Au over a 5.8 m vertical interval (including 60.08 g/t Au over 3.0 m), while an adjacent hole 25 m across strike reported 16.91 g/t Au over a 3.8 m vertical interval (including 28.70 g/t Au over 2.0 m).

Surface diamond drilling commenced at Córrego Brandão in late November 2020 to evaluate its potential for near-term, open pit (and underground) mineable Mineral Resource additions. The area drilled to date at the Córrego Brandão target has tested a relatively

restricted portion of the semi-regional-scale fold structure mapped and targeted by Jaguar since 2020.

Forty-seven (47) diamond drill holes have been completed to date, totalling 7,536.10 m in length at Córrego Brandão. The drilling campaigns have broadly defined, though a series of step out holes, a strike length of roughly 500 m of potentially economic oxide gold mineralization, with average thicknesses of 20-40 m. Moreover, the initially intercepted mineralized zones remain open both laterally and down-plunge.

Three deep diamond drilling holes were completed during 2022, comprising a total length of 1,865.70 m. The 2022 holes confirmed that the mineralisation remains open at depths greater than 400 m along a potential shear zone of NE-SW direction.

Based on drilling activities completed from late 2020 to late 2022 at Córrego Brandão, a maiden Inferred Mineral Resource for the target was reported as containing 51 koz of gold (1,072 kt @ 1.48 g/t Au).

The Corrego Brandão target, together with the adjacent Jaguar´s deactivated Catita open-pit operation, have near-surface open pit potential to add feedstock to the nearby Jaguar´s Caeté processing plant. The depths, thicknesses, grades and initial resources estimates have been very encouraging. Jaguar currently expects to be positioned to fast track the evaluation and permitting process, while we fully evaluate the size and grade potential of a Córrego Brandão-Catita combined project. Such an envisaged project is expected to be one more initiative to support the Jaguar strategy for organic growth by filling the Company's operating processing plants to capacity.

In terms of stratigraphic setting, the gold mineralization at both the Córrego Brandão target and the Catita deposit corresponds to a highly altered and mineralogically "exotic" conformable horizon of roughly 20-40 m in true thickness that occurs right at the sheared contact between a meta-mafic volcanic package and a meta-ultramafic volcanic package. This targeted exotic altered and sheared horizon has been easily distinguished during the exploratory drilling activities by the modal presence of indicator minerals that would-should not be stable under the typical low-greenschist metamorphic grade recorded in the Caeté region; such as garnet, biotite and iron-rich carbonates.

Recent surface mapping activities completed around the Córrego Brandão target area have indicated that an extra, perhaps localized, folding event affected the Córrego Brandão and Catita mineralized bodies, as well as the "exotic" altered/sheared mineralized horizon that was drill-tested mainly during 2021. Moreover, the Córrego Brandão and Catita gold occurrences do certainly represent the same 20-to-40 m-thick exotic, altered/sheared refolded horizon. Córrego Brandão is hosted by a synform structure, and Catita is hosted by a more complex anticlinorium structure. Exploration activities at the Catita open-pit and underground project were placed on hold by Jaguar during the 2011-2012 period mainly due to a poor understanding of both the folded geometries and the potentially variable down-plunge orientations of the potentially economic mineralized zones.

The Córrego Brandão mineralization defined by the maiden mineral resource exhibits complex fold geometries associated with the mapped higher-amplitude Córrego Brandão synform ("M-type" asymmetries and associated parasitic folding). High-grade and more extensive mineralization occurs where there are visible concentrations of smaller-scale parasitic folding to the higher amplitude, easily mappable, overturned plunging synforms and antiforms. The economic mineralized zones and bodies at the Córrego Brandão deposit/target apparently plunge and progress spatially with double-plunging orientations, as a result of a refolded and re-oriented structural pattern from a previous/earlier structural deformation event.

A small diamond drilling campaign was carried out at the Catita deposit area in 2022, comprising of only three holes (a total of 1,105.60 m drilled). These additional holes tested a new understanding of the plunge, possibly locally refolded by a folding interference pattern. Significant intercepts were obtained during this campaign. Hole FCAT045 returned with 9.51 g/t Au over 4.8 m, including 15.24 g/t Au over 3.2 m. This recent success is of great importance for the Company, as it will definitely subsidize the effectiveness of the upcoming exploratory and infill drilling campaigns that will target these two deposits combined during 2023-2024.

Drilling History Figures at the Pilar Operation

A summary of the drilled figures after the successive drilling campaigns completed at the Pilar mine is provided in Table 8 (from 2004 to 2022), and a summary of the more significant intersections obtained at the Pilar Mine and at the Catita exploration area in 2022 are provided in Table 9 and Table 9a below, respectively. In 2022, 34 km of drilling were completed at the Pilar underground operation.

It is important to note that the reported intersections underground do not necessarily represent true thicknesses, as they have been drilled from underground-based platforms and consequently have intersected the mineralized zones and bodies at varying relative angles. However, estimated true widths/thicknesses have also been included in Table 9.

Table 8: Summary of Drilling Campaigns, Pilar

Jaguar Mining Inc. – Caeté Operations

Period	Target	Diamond Drilling		Roto-Percussive Drilling	
		No. Holes	Total Length (m)	No. Holes	Total Length (m)
		Vale			
1989-1994	-	65	11,812	60	2,960
2002-2003	-	10	3,069	-	-
Sub-total, Vale	**-**	**75**	**14,881**	**60**	**2,960**
		Jaguar			
2004-2010	Phase 1	36	6,489	-	-
	Phase 2	41	12,926	-	-
	Phase 3-UG	180	11,200	-	-
	Phase 3-Surface	19	10,186	-	-
Q4 2010-2011	-	44	12,574	-	-
2012	UG-Exploration	31	4,005	-	-
	UG-Definition	121	9,705		
2013	UG- Exploration	40	5,978	-	-
	UG-Definition	51	3,557		
2014	UG- Exploration	60	8,398	-	-
	UG-Definition	125	10,818		
	Surface Exploration	9	910		
2015	UG- Exploration	30	6,477	-	-
	UG-Definition	12	879		
2016	UG- Exploration	19	2,994	-	-
	UG-Definition	89	8,143		
2017	UG- Exploration	23	7,081	-	-
	UG-Definition	150	9,534		
2018	UG- Exploration	3	328	-	-
	UG-Definition	172	12,172		
2019	UG-Definition	83	6,206	-	-
	UG-In-Fill	20	3,293		
	UG-Exploration	22	4,822		
2020	UG-Definition	108	4,942	-	-
	UG-In-Fill	30	4,262		
	UG-Exploration	145	18,362		
2021	UG-Definition	33	1,960	-	-
	UG-In-Fill	34	6,042		
	UG-Exploration	144	24,619		
2022	UG-Definition	82	5,143	-	-
	UG-In-Fill	52	7,789		
	UG-Exploration	90	21,720		
Sub-total, Jaguar		**2,174**	**268,396**	**-**	**-**

Table 9: Summary of Significant Intersections, 2022 Drilling Programs, Pilar

Summary of Significant Drilling Intersections; GTs (average grade X thickness) greater than 25 (in 2022) Jaguar Mining Inc. – Pilar Mine Operation and Underground Exploration							
Hole ID	From (m)	To (m)	DownHole Interval (m)	Estimated True Width (m)	Gold Grade (g/t Au)	GT (ETW)	Orebody
PPL1003	114.6	129.7	15.1	10.0	3.34	33	LFW
PPL1003	216.0	232.0	16.0	7.9	4.89	39	BF
PPL1003	202.5	228.3	25.8	7.5	9.53	71	BF
PPL1003	239.3	262.3	23.1	7.3	4.58	33	BF
PPL1003	282.3	290.0	7.8	4.5	5.64	25	BF
PPL1003	294.4	307.3	12.9	5.8	6.80	39	BF
PPL970	43.0	50.5	7.6	2.3	12.89	30	BF
PPL818	89.0	97.0	8.0	2.2	12.11	27	TORRE
PPL1012	176.3	182.1	5.8	3.0	8.84	27	LFW
PPL956	103.3	121.6	18.3	6.5	10.53	68	BF
FSB870	10.5	33.0	22.6	6.1	10.73	65	BF
PPL902	155.0	163.2	8.2	5.0	5.16	26	BF
PPL904	67.0	97.2	30.2	5.3	5.07	27	BF II
PPL904	99.2	142.5	43.3	6.9	5.62	39	BF III
PPL714	55.3	62.9	7.6	4.5	11.18	50	BF
PPL818	89.0	97.0	8.0	4.0	12.11	48	BA
PPL911	182.0	202.7	20.7	8.0	6.09	49	LPA
FSB950	0.0	8.6	8.6	4.2	6.94	29	BF II
PPL1009	176.4	199.2	22.8	7.3	3.99	29	LFW
PPL881	245.3	251.1	5.8	2.8	104.72	293	BF
FSB926	23.3	45.5	22.2	5.0	5.43	27	LPA
FSB993	18.3	29.3	11.1	4.3	9.48	41	LPA
FSB1004	6.0	16.0	10.0	3.2	13.94	44	LPA
PPL835	182.2	189.5	7.3	3.5	8.61	30	LFW
PPL835	197.5	208.3	10.9	5.5	9.03	50	LFW
PPL743	267.5	282.6	15.2	5.2	5.86	30	LFW
FSB1013	13.8	23.5	9.7	4.8	4.97	24	LPA
FSB1013	58.0	71.1	13.2	6.3	4.01	25	LPA
PPL833	75.5	83.4	7.9	3.2	15.77	50	BA
FSB1025	39.8	55.1	15.3	6.0	5.14	31	BF
PPL823	54.3	65.3	11.1	5.0	6.76	34	SJ ?
PPL823	110.3	114.8	4.6	2.5	16.55	41	SW
PPL842	149.0	157.7	8.7	5.0	24.01	120	LPA ?
PPL844	335.9	343.9	8.0	7.0	6.43	45	LPA
PPL850	367.1	381.0	13.9	10.0	20.93	209	BA
Including	367.1	373.2	6.1	3.2	42.35	136	BA
PPL852	178.1	187.2	9.1	6.1	6.55	40	BA
PPL852	214.3	229.9	15.6	9.5	4.53	43	TORRE
PPL929	80.1	90.9	10.8	9.0	3.35	30	SW
PPL929	119.1	130.0	11.0	9.0	9.72	87	SW
PPL984	155.5	172.0	16.5	10.5	3.93	41	BF/BF II
PPL984	231.4	239.1	7.7	5.2	4.90	25	BF II
PPL985	127.2	130.8	3.6	3.2	6.46	21	BF II
PPL985	140.4	146.6	6.2	5.5	6.15	34	BF II
PPL986	150.5	169.0	18.5	11.0	4.12	45	BF II
Including	155.5	159.9	4.4	2.6	8.16	21	BF II

Table 9a: Significant Drilling Intersection at the Catita Area in 2022 - Jaguar Mining Inc. - Caeté Operations

Summary of Significant Drilling Intersections with GTs (average grade X thickness) greater than 25 (in 2022) - Exploratory Drilling Catita Deposit					
Hole ID	From (m)	To (m)	DownHole Interval (m)	Gold Grade (g/t Au)	GT (ETW)
FCAT045	25.9	28.4	2.5	3.60	9
FCAT045	53.9	59.7	5.9	9.51	56
Including	56.6	59.7	3.2	15.24	48

- *Drilling History Figures at the Roça Grande Operation*

Jaguar has carried out a number of surface-based and underground-based drilling programs at RG since entering into a mutual exploration and option agreement with Vale in 2005. These infill and exploration drilling programs were focused primarily on the RG01/07, RG02, RG03 and RG06 deposits/mineralized zones.

Jaguar started diamond drilling at RG in August 2006. Following the completion of the first exploratory holes drilled at the RG01/07, RG02, RG03, and RG06 mineralized zones, Jaguar carried out an infill drilling program to delineate these zones.

The drill hole lengths ranged from 40 m to 559 m. Holes were targeted to investigate the continuity of the mineralized zones laterally and at depth.

A summary of the past drilling campaigns completed at RG (drilled figures) is provided in Table 10.

Table 10: Summary of Drilling Campaigns, Roça Grande

Jaguar Mining Inc. – Caeté Operations					
		Diamond Drilling		Roto-Percussive Drilling	
Period	**Target**	**No. Holes**	**Total Length (m)**	**No. Holes**	**Total Length (m)**
Vale					
1973-1993	Roça Grande	116	18,288		
1994-1995	Roça Grande			313	17,270
1996-1999	RG01	8	550		
	RG02	9	910		
	RG05	18	1,530		
	RG03,04 and 06	10	625		
2000	RG02	4	410		
	RG03	8	571		
	RG05	1	63		
	RG06	3	379		
Sub-Total Vale		**177**	**23,325**	**313**	**17,270**
Jaguar					
2004-2010	RG01/07	111	10,625		
	RG02	59	16,580		
	RG03	56	9,407		
	RG06	55	7,954		
2011	RG01/07	71	9,983		
2012	RG01/07		19,922		
2013	RG01/07		10,142		
2014	RG03/RG06	14	794		
Sub-Total Jaguar			**79,407**		

Sample Preparation, Analyses, Quality Assurance/Quality Control and Security

For a comprehensive description of the careful sample preparation procedures utilized by Jaguar (for drill-cores and channel sampling underground), the laboratorial procedures, and the analytical techniques used, see Appendix 1 at the end of this document.

Mineral Resources Estimates (Combined - Pilar and Roça Grande Mines, and Córrego Brandão Target)

Table 11 summarizes the Mineral Resources as at December 31st, 2022, based on a $1,800/oz. gold price for both the Pilar Mine and the Roça Grande Mine, and for the Córrego Brandão surficial deposit. The total Mineral Resources for the Caeté Mine Complex (Pilar and Roça Grande mines only), as estimated by Jaguar, comprise 542 koz of gold (3,975 kt @ 4.24 g/t Au) in the Measured and Indicated Resources categories; and 411 koz of gold (3,006 kt @ 4.26 g/t Au) in the Inferred Mineral Resource category. The Mineral Resources include the Roça Grande and Pilar mines altogether. A cut-off grade of 1.90 g/t Au was used to report the Mineral Resources for Pilar. A cut-off grade of 1.80 g/t Au was used to report the Mineral Resources for Roça Grande. After the completion of the 2021-2022 exploratory diamond drilling campaigns, an initial Inferred Mineral Resources-base for the surficial Córrego Brandão target has been estimated as 51 koz of gold (1,072 kt @ 1.48 g/t Au).

Table 11: Summary of Mineral Resources as at December 31st, 2022

December 31st, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Underground Caeté Gold Complex												
Pilar												
Ore Body BA	293	4.23	40	148	4.43	21	441	4.30	61	202	6.76	44
Ore Body BF	557	4.92	88	157	4.63	23	714	4.86	112	399	4.64	60
Ore Body BFII	269	5.12	44	22	3.78	3	291	5.02	47	49	5.35	9
Ore Body BFIII	38	4.49	5	55	4.00	7	93	4.20	13	39	4.33	5
Ore Body Torre	70	3.74	8	250	4.15	33	320	4.06	42	327	3.97	42
Ore Body SW	376	3.99	48	509	4.03	66	886	4.01	114	978	3.68	116
Others	174	4.03	23	94	3.33	10	268	3.78	33	121	5.00	19
Total - Pilar	**1778**	**4.50**	**257**	**1235**	**4.12**	**164**	**3013**	**4.34**	**421**	**2117**	**4.33**	**294**
Roça Grande	197	3.42	22	765	4.02	99	962	3.90	121	889	4.08	117
Total - Caeté UG	**1975**	**4.39**	**279**	**2000**	**4.08**	**263**	**3975**	**4.24**	**542**	**3006**	**4.26**	**411**
Pilar Waste/Void Tonnes Total												
Open Pit - Caeté Gold Complex												
Córrego Brandão										1072	1.48	51

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the Caete Gold Mining Complex include the Pilar and Roça Grande underground mines and the Córrego Brandão open pit deposit.**
3. **Mineral Resources at the the Caeté Gold Mining Complex are estimated at a cut-off grade of 1.90 g/t Au for Pilar and 1.80 g/t for Roça Grande. For Córrego Brandão, the Mineral Resources are defined by pit optimization using Lerchs-Grossmann algorithm, and using cut-off grades of 0.38 g/t Au and 0.74 g/t Au for oxidized and fresh material, respectively.**
4. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces for Pilar and for the Roça Grande deposits (and Córrego Brandão).**
5. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for Pilar and Córrego Brandão.**
6. **A minimum mining width of 2.00 m was used at Pilar. For Córrego Brandão it has been used pit optimization using Lerchs-Grossmann algorithm.**
7. **Mineral Resources are inclusive of Mineral Reserves at the Pilar mine. No Mineral Reserves are currently present at Roça Grande and Córrego Brandão.**
8. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
9. **Numbers may not add due to rounding.**

Mineral Resources Estimates - Roça Grande

The estimate was generated from a block model constrained by three-dimensional (3D) wireframe models that were constructed using a cut-off grade of 0.50 g/t and minimum width of 1 m. The purpose of the minimum width criteria was to attempt to identify any areas of high-grade mineralization that could be candidates for extraction using highly selective underground mining methods. The gold grades are estimated using the ordinary kriging and capped composited assays. A capping value of 30 g/t Au was applied for the RG01 and RG06 orebodies, 17 g/t Au for the RG02, 13 g/t Au for the RG03 and 60 g/t Au for the RG07. The wireframe models of the mineralization and excavated material for Roça Grande were constructed using the excavation information as of December 31, 2018.

The mineralized material for each orebody was classified into the Measured, Indicated, or Inferred Mineral Resources categories based on the search ellipse ranges obtained from the variography study, of the observed continuity of the mineralization, of the drill hole and channel sample density, and previous production experience with these orebodies.

A cut-off grade of 1.80 g/t Au is being used for reporting of Mineral Resources. This cut-off grade was calculated using a gold price of $1,800/oz. of an average gold recovery of 88%, and with 2021 cost data.

At a cut-off grade of 1.80 g/t Au, the current Measured and Indicated Mineral Resources of RG total 121 koz of gold (962 kt @ 3.90 g/t Au) and inferred Mineral Resources total 117 koz of gold (889 kt @ 4.08 g/t Au).

It is Jaguar's opinion that the Roça Grande Mineral Resources estimates were prepared in a professional and diligent manner by qualified professionals and that the estimates comply with the CIM (2014).

Mineral Resource Estimates - Pilar

The estimate was generated from a block model constrained by three-dimensional (3D) wireframe models that were constructed using a minimum width of 2 metres. Various capping values were applied to each of the different orebodies, ranging from 70 g/t Au for the BFII Orebody, to 10 g/t Au for the São Jorge Orebody. The Mineral Resources are reported by Jaguar using the gold grades estimated by the Ordinary Kriging (OK) method. The wireframe models of the mineralization and excavated material for Pilar were constructed using the excavation information as at December 31st, 2022.

The mineralized material for each orebody was classified by Jaguar into the Measured, Indicated, or Inferred Mineral Resources categories based on the search ellipse ranges obtained from the variography study, of the observed continuity of the mineralization, of the drill hole and channel sample density, and with previous production experience with this deposit.

A cut-off grade of 1.90 g/t Au is used for reporting the Mineral Resources. This cut-off grade was calculated with the use of a gold price of $1,800/oz. and the actual cost data for Pilar. Gold prices used for reserves are based on consensus, long-term forecasts from banks, financial institutions, and other sources. For Mineral Resources, gold prices used are slightly higher than those for Mineral Reserves.

At a cut-off grade of 1.90 g/t Au, Jaguar estimates that the Mineral Resources at Pilar comprise 421 koz of gold (3,013 kt @ 4.34 g/t Au) in the Measured and Indicated Resource categories; and 294 koz of gold (2,117 kt @ 4.33 g/t Au) in the Inferred Mineral Resource category.

The Mineral Resources are inclusive of Mineral Reserves. The Mineral Resources for the Pilar Mine are presented in further detail in Table 12.

Table 12: Summary of Mineral Resources by Orebody as at December 31st, 2022

December 31st, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Underground Caeté Gold Complex												
Pilar												
Ore Body BA	293	4.23	40	148	4.43	21	441	4.30	61	202	6.76	44
Ore Body BF	557	4.92	88	157	4.63	23	714	4.86	112	399	4.64	60
Ore Body BFII	269	5.12	44	22	3.78	3	291	5.02	47	49	5.35	9
Ore Body BFIII	38	4.49	5	55	4.00	7	93	4.20	13	39	4.33	5
Ore Body Torre	70	3.74	8	250	4.15	33	320	4.06	42	327	3.97	42
Ore Body SW	376	3.99	48	509	4.03	66	886	4.01	114	978	3.68	116
Others	174	4.03	23	94	3.33	10	268	3.78	33	121	5.00	19
Total - Pilar	**1778**	**4.50**	**257**	**1235**	**4.12**	**164**	**3013**	**4.34**	**421**	**2117**	**4.33**	**294**

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the the Caeté Gold Mining Complex are estimated at a cut-off grade of 1.90 g/t Au for Pilar.**
3. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces for Pilar.**
4. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for Pilar.**
5. **A minimum mining width of 2.00 m was used at Pilar.**
6. **Mineral Resources are inclusive of Mineral Reserves at the Pilar mine.**
7. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
8. **Numbers may not add due to rounding.**

It is Jaguar's opinion that the Pilar Mineral Resources estimates were prepared in a professional and diligent manner by qualified professionals and that the estimates comply with CIM (2014).

Mineral Reserve Estimates

Table 13 summarizes the Mineral Reserves for Pilar as at December 31st, 2022, based on a gold price of $1,650 per ounce. A break-even cut-off grade of 2.44 g/t Au was used to report the Mineral Reserves for Pilar. The 2P Reserves (Proven & Probable) are at

December 31st, 2022, were estimates are based on additions and depletions recorded by the excavation solids generated by the operation until December 2022.

Mineral Reserves have not been estimated for the Roça Grande Mine.

Table 13: Pilar Mineral Reserves as at December 31st, 2022

December 31, 2022	Proven Reserves			Probable Reserves			Proven & Probable Reserves		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Pilar									
Ore Body BA	130	4.14	17	93	4.05	12	223	4.10	29
Ore Body BF	360	4.06	47	135	4.01	17	495	4.05	64
Ore Body BFII	131	3.94	17	20	3.03	2	152	3.82	19
Ore Body BFIII	26	3.54	3	35	3.52	4	61	3.53	7
Ore Body Torre	21	3.50	2	157	3.76	19	178	3.73	21
Ore Body SW	274	3.70	33	357	3.87	44	631	3.80	77
Others	136	3.14	14	85	3.09	8	221	3.12	22
Total - Pilar	**1079**	**3.82**	**133**	**882**	**3.78**	**107**	**1961**	**3.81**	**240**

Notes:

1. **CIM (2014) definitions are followed for Mineral Reserves.**
2. **Mineral Reserves reported are in-situ.**
3. **Mineral Reserves at Pilar were estimated at a cut-off grade of 2.44 g/t Au.**
4. **Mineral Reserves are estimated using an average long-term gold price of $1,650 per ounce and a US$/BRL$ exchange rate of 5.20 at Pilar.**
5. **A minimum mining width of 3.00 m was at Pilar.**
6. **Numbers may not add due to rounding.**
7. **There are no known environmental, permitting, legal, title, socio-economic, political or other risk factors that could materially affect the Mineral Reserve estimates.**

Dilution was addressed in two ways: internal or planned dilution was included in the design solids where they extend beyond the resource wireframe. This occurs in order to respect the minimum width for development or keep stope walls to achievable outlines. And additional dilution volumes which included and extra half a meter in the hanging-wall and another extra half a meter in the footwall of the orebodies - in this manner across the Mineral Reserves.

Extraction is assumed to be 0.95 for stopes, 0.9 for various other activities, and 0.5 for rib pillars. Although some losses are encountered during blasting and mucking, they are minimal, and reconciliation to mill results indicates that high dilution/high extraction assumptions match up well.

Cut-Off Grade

Mineral Reserves were calculated using a break-even cut-off grade of 2.44 g/t Au, calculated using the following inputs:

- Gold price of $1,650/oz.
- Exchange rate of US$1.00: BRL$5.20
- Metallurgical recovery of 88%
- Operating costs of BRL$590/t

Metal prices used for reserves match well with consensus, long-term forecasts from banks, financial institutions, and other sources,

and with the prices currently being used by major gold producers. Exchange rates are based on bank forecasts. Metallurgical recovery is in line with recent operating results, as are the operating costs used.

It is Jaguar´s opinion that the Pilar Mineral Reserves estimates were prepared in a professional and diligent manner by qualified professionals and that the estimates comply with CIM (2014).

The tables/illustrations 14 and 15 below (longitudinal projections of the Pilar deposit) are panoramas of the Mineral Resources and Mineral Reserves inventory of the Pilar operation by the end of the 2022 Year and by the end of the 2021 Year, respectively.

Table 14: Illustration: Pilar Mineral Resources on Dec. 31st, 2022 and on Dec. 31st, 2021

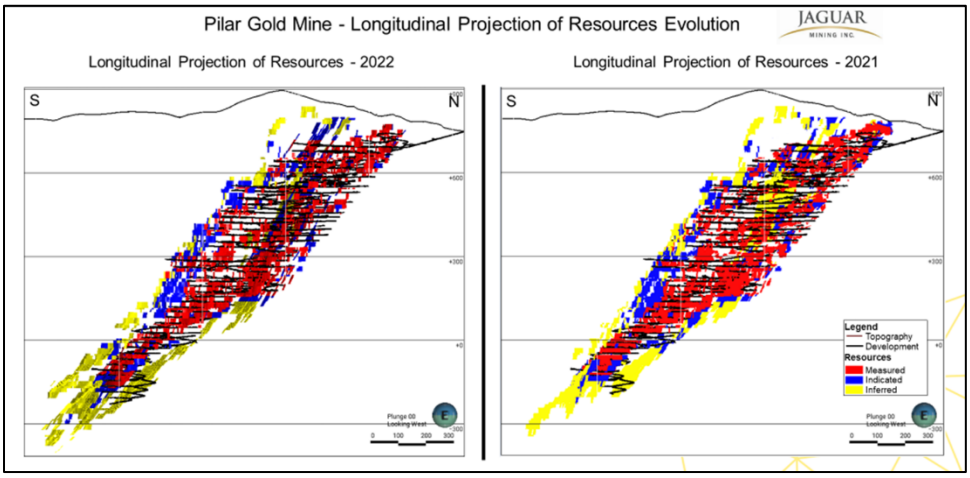
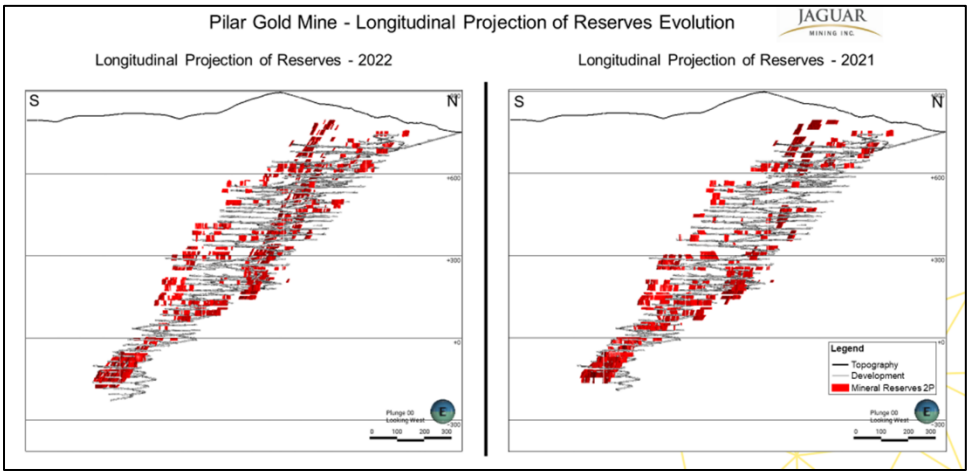


Table 15: Illustration: Pilar Mineral Reserves on Dec. 31st, 2022 and on Dec. 31st, 2021



Mining Operations and Metallurgical Process

The Caeté Gold Mining Complex includes a processing plant at the Roça Grande Mine with a nominal capacity of 2,050 tpd, with separate tailings disposal areas for both fine flotation tailings and CIP tailings. Ore from Pilar is transported by truck 40 km to the Caeté Gold Complex for processing.

Mining Methods and Mine Infrastructure

There are two mining methods in use. The current LOMP forecasts longhole mining with delayed backfill for the majority of the Mineral Reserves. Mechanical cut and fill mining is used when ore geometry does not favour longhole mining. The Pilar deposit is mined in horizons between sublevels. Each horizon is mined in retreating fashion, starting at the end of the mineralized zone, and progressing towards the central crosscuts.

Access to the stopes is provided by sublevel development driven from the ramp, with sublevel intervals of 20 m. Crosscuts near the mineralized zone centre are advanced to the hanging wall contact at each level and sublevel. From there, ore drives are driven in both directions along strike, under geological control for alignment, exposing the footwall and hanging wall contacts until reaching the limits of the deposit. This approach provides for two working faces per sublevel.

The hanging wall is supported with cable bolts before stoping begins. Stope mining on a horizon retreats from the ends of the Pilar deposit towards the central access. The stopes are up to 50 m long along strike and are separated by three to five metres wide rib pillars, depending on the thickness of the zone. When there are adjacent stopes in parallel, pillars measuring five metres high by five metres long are strategically left in the stope to reduce external dilution. When the stope is mined out, the opening is backfilled with unconsolidated rockfill consisting of development waste. The waste volume generated by mine development matches well with the required backfill volume. Occasionally, waste rock is either hauled to surface or from surface to an underground stope being filled due to timing discrepancies.

Mining then proceeds upward to the next sublevel, and the sequence is repeated until the sill pillar is reached. The horizons between sill pillars are mined in a bottom-up sequence, and a three metre thick sill pillar is left between levels. Sill pillars are spaced nominally at 60 meter vertical level intervals. Stopes are mined from several levels simultaneously, thereby providing the required number of active workplaces to meet production targets.

Ground support generally consists of 2.4 m long bolts, which are either resin grouted rebar or Swellex depending on the excavation type. Screening is installed if required by the ground conditions. Cable bolts are installed at intersections and at stope hanging walls. The main decline, portions of which were developed up to ten to fifteen years ago, did not exhibit any roof or wall deterioration.

The addition of ground control engineers to Jaguar's workforce has resulted in improved quality of backfill and overall ground support at the mines. Changes to the stope designs with strategic pillars have reduced dilution and increased stability. Regular ground support maintenance (QA/QC testing) has been implemented at the mines on the main infrastructure. Maintenance includes bolt testing, proper cable bolt designs, and empirical stope design analysis.

Pilar is accessed via a five metre by five metre ramp situated in the deposit's footwall. All ore is hauled to surface via the ramp. The portal's elevation is at 760 MASL. Pilar is divided into levels, with Level 1 situated at 690 MASL. The level spacing is 75 m vertical, with Level 2 at 615 MASL, Level 3 at 540 MASL, and so on.

Pilar's ventilation system is a pull type system. Intake air is drawn down through the ramp, and return air is exhausted via two ventilation raises. Each of these raises has two ventilation fans at the collar. Auxiliary fans and ventilation ducting provide ventilation on the levels. Water is pumped level to level and then to surface using submersible pumps.

Pilar is highly mechanized, with development and mining activities accomplished using a fleet of two boom, electric -hydraulic jumbos. Two jumbos are used for face drilling and two for bolting. Pilar has three DL421 longhole drill rigs to carry out production drilling, and cable bolting, as well as five load-haul-dump units (LHDs) with 10 t tramming capacity. For haulage, Pilar has a fleet of one Volvo A30G articulated dump truck and six Volvo FMX trucks. The development contractor has two Sandvik jumbos, three Volvo L120 front-end loaders, and seven Mercedes Benz 30 t trucks.

Recovery Methods

The Caeté Plant has a design capacity of 720,000 tpa of ROM ore. The overall recovery rate achieved in 2022 was 88%. The process flowsheet consists primarily of the following unit operations:

- Crushing
- Grinding
- Gravity Gold Recovery
- Flotation
- Flotation Concentrate Leaching and CIP
- Gold Recovery
- Detoxification
- Tailings Disposal

Pilar ore is transported by trucks to the crushing circuit and placed in the ROM stockpile. The crushing circuit is comprised of a CJ411 - 111 kW primary jaw crusher in open circuit, and secondary (CH440-223 kW) and tertiary (CH440 223 kW) cone crushers operating in closed circuit. ROM stockpile ore is fed to the jaw crusher with a front end loader through a grizzly and vibrating feeder. The jaw crusher discharge feeds a multi deck screen (3,500 mm x 1,800 mm – with three panel decks consisting of 75 mm, 35 mm, and 16 mm apertures, respectively top to bottom), the undersize of each deck feeds secondary crushing, tertiary crushing, or the final product conveyor respectively. The secondary cone crusher operates in closed circuit with a double deck screen (5,700 mm x 2,400 mm – with two panel decks consisting of 35 mm and 16 mm apertures). Product from the double deck screen either recirculates back to the secondary crusher, feeds the tertiary crusher, or proceeds to the final product conveyor. The tertiary cone crusher operates in closed circuit with a single deck screen (3,500 mm x 1,800 mm – with a 16 mm panel deck aperture), with the oversize recycling to the crusher and undersize product going to the final product conveyor, which discharges onto the crushed ore stockpile. The final maximum particle size of the crushing process is 16 mm.

The grinding circuit consists of a 2,240 kW ball mill (5 m diameter [ø] x 6 m effective grinding length [EGL]) with a capacity of up to 100 tonnes per hour (tph), operating in closed circuit with a set of five hydrocyclones operating in parallel. The overflow from the hydrocyclones (-200 mesh or -74 µm) proceeds to the flotation circuit, and the underflow (+200 mesh or +74 µm) either feeds the gravity concentration circuit (75%) or is recycled to the ball mill feed (25%).

Gravity concentration uses a Knelson centrifugal gravity concentrator to recover fine particles of free gold. The gravity concentrate proceeds to an Acacia intensive cyanidation reactor, from which the gold pregnant solution is pumped directly to a dedicated set of electrolytic cells. Precipitate from the cells is transported to a third party smelter/refinery where it is processed into refined gold bars.

The flotation circuit consists of a series of twelve 14.1 m3 (500 ft3) flotation cells, the first three operating as roughers, three operating as primary scavengers, three operating as secondary scavengers, and the last three operating as tertiary scavenger cells. The concentrate produced by the primary scavenger cells is returned to the roughers, and the secondary and tertiary scavenger concentrate is recirculated to the primary scavenger circuit. The final gold bearing concentrate (82% to 87% -325 mesh or -45 µm), from the rougher concentrate is sent to a concentrate thickener to achieve an underflow density of approximately 40% solids (w/w). Tailings from the tertiary scavenger cells are sent to a series of hydrocyclones for separation. The cyclone underflow is sent to dewatering piles where it remains until dry, and then it is sent to RG Tailing Pile. The cyclone overflow is sent to a tailings thickener, with the thickened underflow pumped to the RG02 West or East (W/E) TSFs. The thickener overflow is recycled for use as process water.

The concentrate thickener underflow slurry (40% solids w/w) is pumped to three starter tanks for preoxidation using oxygen and lime only and then to one leaching tank using cyanide, lime, and oxygen. The lime is used to maintain the pH above 10.0 to 10.5, in order to minimize the generation of hydrogen cyanide gas. Cyanide is used to dissolve the gold from the solids in the slurry. Cyanide can be added to any of the leach tanks as required. Oxygen is introduced through spargers to enhance the dissolution of gold and the oxidation of unstable sulphides (e.g., pyrrhotite). This oxidation reduces cyanide consumption and increases gold recovery. The slurry from the last leach tank flows by gravity to a series of four agitated CIP tanks that are arranged in series.

The four CIP tanks allow slurry to flow from tank to tank, while retaining activated carbon in each tank. The carbon adsorbs the gold cyanide complex created in the leach tanks. The slurry flows downstream from Tank 1 to Tank 4, while the carbon is pumped counter currently from Tank 4 to Tank 1. The pumping frequency is determined by the loading of gold on the carbon. The highest loaded carbon from Tank 1 is pumped over a screen, with the slurry returning to the tank and the loaded carbon proceeding to gold desorption. In order to expand throughput to 1.1 Mtpa, two additional CIP tanks would be required. Slurry exiting the last CIP tank passes through a safety screen that recovers any carbon that may have left the tank, and then to a detoxification circuit to partially destroy residual cyanide.

The loaded carbon is transferred to a desorption column. A hot solution (approximately 98°C) of 1.5% caustic soda and 0.5% cyanide concentration is pumped upwardly through the elution column to desorb the gold cyanide complex from the carbon. The gold bearing solution leaves the top of the column and feeds an electrolytic cell(s), where the gold is deposited onto steel wool and stainless steel cathodes. The solution from the electrolytic cell is pumped back to the heating tank and reused. The solution is recirculated through the electrolytic cell for approximately 24 hours to remove most of the gold from solution.

After the desorption cycle, the sludge is washed from the stainless steel wool cathodes and pumped to a pressure filter. The cake is dried in an oven and sent to the refinery for production of doré bars containing approximately 80% to 90% gold. The doré bars are sent to a refinery for further refining.

After elution, the carbon is then regenerated at 700°C in a kiln to remove organic material and return the ability of the carbon to adsorb gold. This regenerated carbon is pumped to the last tank in the CIP circuit. Periodically, fresh carbon is added to the tank, as some degradation of the carbon occurs, resulting in the need for replacement.

Tailings from the CIP circuit are treated for cyanide removal and piped to the Moita TSF, a lined tailings facility in an exhausted open pit in which a dam was constructed to increase the storage capacity. The CIP tailings filtration and water treatment plant construction is scheduled for commissioning in the first half of 2023. In this new concept, CIP tailings are detoxified, filtered, and dry stracked, and the water is treated and recycled to the process plant.

Reclaimed water from the TSF is treated to recover gold and for further cyanide destruction, before being returned to the Caeté Plant. The total tailings capacity for the RG02W TSF is 633,531 m3, and the tailings capacity for the Moita TSF is 368,360 m3.

The detoxification step has been modified and is expected to start operations in 2023. The new detoxification process sends the slurry from the carbon safety screen to a leaching tailings (LT) thickener. LT thickener underflow is sent to a set of pressure filters, from where the solids are trucked to the Moita TSF. The filtrate is sent back to the LT thickener.The LT thickener overflow is pumped to a series of two pre-treatment ponds. Hydrogen peroxide is added to this flow. The pre-treatment ponds are used to reduce the cyanide concentration through the use of ultraviolet radiation from the sun.

Water reclaimed from the pre-treatment ponds initially passes through a carbon filled tank to recover any soluble gold left in solution. The activated carbon is periodically recovered and sent to the gold recovery circuit for gold removal. Overflow from this tank proceeds to a tank where ferrous chloride and lime are added, to reduce the arsenic content in the water. The reaction forms a ferric arsenate precipitate, contained in a slurry that is sent to a Lamella type thickener, where flocculant is added to help settle the precipitate. The underflow from this thickener is sent back to the LT thickener feed, where it mixes with the CIP tailings. The Lamella thickener overflow is treated with a copper sulphate solution and flocculant and allowed to settle in a series of decantation tanks. Overflow from the last tank is pumped to the flotation tailings thickener for use as required. The tanks are cleaned periodically as required to remove any solids.

Power requirements for the processing facilities are approximately 21,800 MWh. Water consumption is not expected to change significantly from the recent historical water usage (520,400 m3). Key reagents used in the process include hydrated lime, cyanide, caustic soda, copper sulphate, ferrous chloride, hydrochloric acid, and liquid oxygen.

Environmental Considerations and Permitting - Pilar and Caeté

The mining title for Pilar (claim ANM 830.463/1983) initially belonged to the Companhia Vale do Rio Doce ("Vale"), which initiated the environmental licencing process in 1999 and obtained a preliminary licence for the open-pit mining of the oxidized ore. Due to strategic changes of Vale, they decided at that time to cease progress at the mining project.

In 2003, Vale transferred the mineral rights to the MSOL, who then took over the environmental licencing process to implement the open-pit mining project. Thus, MSOL obtained the Preliminary Licence, Construction Licence and, finally, the Operating Licence on June 27, 2006, through the COPAM process N° 00132/1999/003/2005.

In preparation for permitting the underground mine, MSOL acquired a preliminary licence for the activity by COPAM process 00132/1999/004/2007. SUPRAM issued the preliminary licence on August 16, 2007, under certificate number 021/2007.

MSOL subsequently carried out the required environmental studies and submitted an application for a construction licence under COPAM process number 00132/1999/006/2008. SUPRAM issued the construction licence for the mining and processing of sulphide ores by the CIP-ADR process flowsheet on August 25, 2008, under certificate number 152/2008.

On September 22, 2009, MSOL applied for an operating permit that was subsequently issued by SUPRAM on June 30, 2010 under certificate number 153/2010, COPAM process 00132/1999/007/2009. On February 23, 2016, MSOL applied for a renewal of the operating licence, COPAM process 00132/1999/009/2016, and the renewal application is currently under review.

In 2021, MSOL worked with the environmental agency (Superintendência Regional de Meio Ambiente Leste Mineiro – SUPRAM LM) to revalidate the operating license for the Pilar mine. As a result, the Company obtained the new Operating License N°. 006/2021 on November 24, 2021, which is valid until November 23, 2027. In the same year, a license to expand Pilar's production by 100,000 tons per year was also obtained, administrative process SEI 1370.01.0001756/2020-03, LAS RAS 1.299/2021 issued on November 25, 2021, with the same validity as the previous license (November 23, 2027). The valid operating licenses for the Pilar unit are LO 006/2021 and LAS RAS 1.299/2021.

The ore extracted from Pilar is transported by roads to the Roça Grande Unit (RG), municipality of Caeté, where it is processed. At RG, besides the process plant, there are two tailing dams in operation (Moita dam and RG2W dam), one dry stack pile and one paralyzed open-pit (RG2E) that receives non-hazardous flotation tailings. All these facilities are covered by pertinent licences: number 090/2010 for the process plant; number 117/2010 for the Moita Dam; number 218/2010 for the RG2W Dam, number 058/2020 for the RG2E, all as components of the COPAM process number 10022/2003. The dry stake pile is covered by a new permit, LO 30/2021, which was obtained on August 2, 2021, valid for 10 years, until July, 30, 2031, administrative process 10022/2003/017/2013. The mandatory renewal applications are under analysis by SUPRAM and will be unified in a single licence. In 2021, MSOL developed a new project for fulfilling the open-pit for RG06A and RG06B with flotation tailings. This project was submitted to the environmental agency Superintendência Regional de Meio Ambiente Central Metropolitana – SUPRAM Central, and Jaguar obtained a new permit, LAS RAS 3.566/2021 in November 12, 2021, process SEI 2090.01.0004742/2021-80, valid for ten years, until November 29, 2031.

In 2022, Jaguar obtained the environmental permit which allows the increase of the capacity of the fuel station at the Pilar mine. The new permit number is LAS 3095/2022; and it supports the duplication of the unit's diesel storage capacity (valid until October 23, 2027). The civil and engineering work aimed at allowing this new initiative is currently being undertaken.

Taxes

Income taxes are 34% of taxable profit, including a 25% corporate tax rate and a 9% social contribution. In addition to direct operating costs, royalty payments and depreciation are deductible in determining taxable profit.

Mine Life

The current LOMP, based on the Mineral Reserves inventory, extends over 4 years, into 2027. There is, however, potential to extend the mine life with further exploration and infill drilling.

Markets

All gold produced at the Caeté operation is transported to Nova Lima - MG on a weekly basis for refining and sale at market prices.

3. Paciência Mining Complex

Property Description and Location

The Paciência Gold Mining Complex ("CPA") is located in the Acurui district, which is a part of the municipality of Itabirito in the central area of the Iron Quadrangle. The distance from the project site to the main neighboring cities are: 23 km to Itabirito, 53 km to the historic city of Ouro Preto, and 81 km to Belo Horizonte.

The Paciência Gold Mining Complex comprises a number of contiguous mineral rights holdings granted by the Agência Nacional de Mineração (ANM/DNPM) that cover an area of 9,005.35 ha of permits ("mining concessions" and "exploration authorizations" altogether) in the region. The Paciência Mining Complex includes a nominal 1,750 tpd processing plant and tailings disposal area. From 2008 to 2012, the Paciência Mining Complex has processed ore material from various local deposits, including the Santa Izabel, Marzagão and Córrego Grande underground mines, which are hosted by the Paciência lineament/trend, and from other more distant deposits in the immediate region (e.g: Ouro Fino, Rio de Peixe, Palmital, and Pilar).

The historical production coming from the deposits Santa Izabel/Córrego Grande and Marzagão, and processed at the Paciência/CPA plant, corresponds to a total of 1,755 kt at a mill head grade of 3.06 g/t Au (153,725 oz of gold were produced). The average mill recovery from 2008 to 2012 was 92.4 %. Electricity was/is provided to the Paciência mine site from the Brazilian national grid by CEMIG, the state-owned utility company in Minas Gerais.

Royalties on the Past Revenues of the Paciência Mining Complex: In 2003, Jaguar Mining (the local entity MSOL) executed a sale-purchase agreement with AngloGold Ashanti Ltda. covering the three main individual tenements related to what is now termed the CPA Mine Complex (ANM/DNPM Processes 830.373/1979 – Bahu deposit, 830.374/1979 – Marzagão deposit, 830.375/1979 – Santa Izabel deposit). The agreement includes fixed payment and related commitments over a 10-year period (now expired) and a sliding scale Royalty (NSR), as tabulated below (Table 16). Jaguar and AngloGold Ashanti have ongoing discussions regarding restructuring the above-mentioned NSR Royalty Agreement which, in its original form, does not reflect current or projected market conditions.

The Paciência Plant was commissioned in April 2008 and commercial production was declared in December 2008 and has been placed on care and maintenance since 2012.

Table 16: Past NSR Royalty Agreement with AngloGold Ashanti for the Paciência Mining Complex which, in its original form, does not reflect current or projected market conditions

Gold Price (US$/oz Au)		NSR Royalty Amount (%)
From	To	
0	290.00	1.5
290.01	320.00	2.0
320.01	350.00	2.5
350.01	390.00	2.7
390.01	430.00	3.0
430.01	470.00	3.5
470.01	510.00	4.0
Above 510.00		4.5

Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Paciência Gold Mining Complex lies approximately 1,077 m above sea level, and is centered on the original Santa Isabel underground mine. The portal of the Santa Isabel mine (the primary past mining operation of the Paciência Gold Mining Complex) has the coordinates of 20°12'27.84" S latitude and 43°41' 9.51" W longitude.

The Paciência area terrain is rugged, with numerous rolling hills. The area experiences six months of warm dry weather (April to November) with the mean temperature slightly above 20ºC, followed by six months of tropical rainfall. Annual precipitation ranges from 1,300 mm to 2,500 mm and is most intense in December and January.

The Itabirito town, located close to the project site, has good urban infrastructure, including banks, a hospital, schools, and commercial businesses. Access to the project site is provided by a 16 km public road that joins BR-356, the main road that goes to Ouro Preto.

To accommodate all support activities in the near past, the complex's ancillary buildings are concentrated near the processing plant. There are specific buildings including: a maintenance shop, cafeteria, warehouse, change room for the plant crew, and buildings for administration, first aid, materials warehousing and water treatment. The explosives and blasting accessories warehouses are located 1.5 km away from the mine area, in compliance with the regulations set forth by the Brazilian Army. The facilities that relate solely to the underground operations are located near the mine portal. These include a small office, compressors, and a mobile equipment maintenance shop.

Geological Setting

The Paciência Mining Complex is located in the central portion of the Iron Quadrangle province. The Paciência area, where the Complex is located, is underlain by rocks of Archaean and Proterozoic ages. Archaean units at the vicinities of the Complex site include a granitic basement and granitic stocks, which are overlain by the Nova Lima Group, a sequence of mafic to intermediate volcanic flows and

pyroclastics and associated sediments. Proterozoic units are represented by sedimentary packages of the Minas Supergroup, which includes basal quartzites and Witwatersrand-type conglomerates, and the well-known Lake Superior-type BIF packages of the Itabira Group.

The Nova Lima Group, the host stratigraphic package of the Mining Complex main deposits, can be sub-divided in the Paciência region into three units:

• A basal unit composed of mafic (basic) to intermediate meta-volcanic rocks interlayered with meta-pelites, Algoma type BIFs, and rare acidic meta-volcaniclastic rocks;

• An intermediate unit represented by meta-mafic to meta-felsic volcanic rocks and meta-volcaniclastic rocks interlayered with graphitic phyllites and horizons of Algoma type BIFs;

• An upper unit composed of meta-pelites interlayered with felsic meta-volcanic rocks and meta-volcaniclastic rocks, quartzites, and meta-conglomerates.

As part of the complex and polyphasic tectonic-structural history of the Iron Quadrangle, extensive crustal sutures producing regional structural lineaments are the apparent hosts of a significant number of gold occurrences and deposits emplaced on the upper stratigraphic portion of the Nova Lima Group metasedimentary package. In special, this is the local geological setting where the Paciência Mining Complex is located.

The Paciência Mining Complex is situated along the São Vicente/Paciência Lineament (Paciência Trend), the most prominent structure in the area. It is a northwest-trending, northeast dipping, transpressive, sinistral shear zone that extends for more than 60 km across the Iron Quadrangle, from the Ouro Preto city in the south to the Nova Lima town in the north. The Paciência region shows a significant number of surficial orogenic lode gold diggings, prospects and deposits that were intensively explored during the 17th and 18th centuries. Large surface excavations and old abandoned mines/diggings are distributed for many kilometers in a continuous straight line along the Paciência Trend.

Meta-pelitic and meta-volcanoclastic rock packages are the most common stratigraphic context in the Paciência Mining Complex area. Subordinate basic dikes and schists rich in quartz and carbonaceous material are present locally. Along the Paciência Trend shear zone, the meta-pelite and meta-volcanoclastic rock packages were subjected to marked processes of structural deformation and hydrothermal alteration that resulted in the development of carbonate halos, chlorite and sericite-rich zones, and quartz veins swarms and silicification zones. Disseminated sulphides (pyrite, arsenopyrite, stibnite, sphalerite, chalcopyrite, and galena) in close association with the mineralized quartz veins swarms are common, but they do not commonly exceed 3% of the rock volumes.

Mineralization

Mineralized shoots are composed of concentrations of quartz veins and veinlets swarms and silicification fronts which are hosted by (hydrothermally altered) sericite-chlorite-quartz schists host packages. The length of the individual economic shoots varies between 10 m and 200 m along the strike of the host packages, and shoots can possess vertical extents much greater than several/many hundred meters following the down plunge direction of continuity.

The gold mineralization and the mineralized bodies pertaining to the deactivated Santa Izabel and Marzagão underground mines, and to the Bahu deposit as well, are genetically related to the Paciência lineament/trend structure.

The ore shoots are lenticular and stratabound (however not stratiform), but somewhat discontinuous laterally. The protolith host packages of the mineralized bodies seem to be a bit variable along the strike-length of the host shear zone structure, and include metapelitic-to-metapsammitic turbiditic and metavolcanoclastics sequences of the Nova Lima Group.

The hydrothermal alteration fronts, currently represented by carbonatization, sericitization, silicification, and sulfidation zones/domains that obliterated protolithic lithologies, also generated concentrations of quartz veins/veinlets swarms within the foliation planes. Alteration and quartz veining also being probably coeval with elongated boudins and “filled” fold axes that trend mainly to the 115-120 azimuth direction and plunge downwards approximately 15 to 25 degrees. The lenticular quartz swarms are

microcrystalline, white-grayish in color, and host some little pyrite, pyrrhotite, arsenopyrite, and stibnite disseminations, mainly concentrated at the borders of the quartz veins with the host hydrothermally altered schists.

The gold grades of the mineralization are variable, and individual samples with grades between 100 g/t and 500 g/t are not uncommon, due to the existence of coarse-grained gold. The gold particles occur in free native form or included in sulphides and/or along their grain boundaries.

The economic mineralized bodies of the Santa Izabel and Marzagão mines are "structurally controlled', as their down-plunge continuities mimic (in attitude) the linear structural fabrics that are measured underground (intersection lineations, stretching lineations and mesoscopic fold axes).

Underground and Surface/Exploration Diamond Drilling Activities Completed in 2022

Between September and November 2022, Jaguar drilled 09 drillholes, totalizing 1,999 meters, as an effort to better known, access and double-check the mineral resources-base and the down-plunge continuity of the Bahu deposit only.

Sample Preparation, Analyses, Quality Assurance/Quality Control and Security

QA/QC programs at the Paciência site consisted of:

• Submission of the blanks, certified reference material (CRM), and duplicate samples to the laboratories;

• Re-submission of selected rejects and pulps to the laboratories for re-assays;

• Checking the original results at an outside accredited assay laboratory.

The following procedure was used for each sample lot assayed:

• Blanks: One was inserted at the beginning and another at the end of the lot, and one in every 20 samples;

• Standards: RockLabs certified standards were included at a rate of one in every 20 samples;

• Duplicates: One in every 20 samples;

• Interlab Check Control: pulps and crushed samples assayed at the primary laboratory were re-assayed at a second laboratory;

• Control Blanks: Control blanks were employed to check for contamination, drift, or tampering.

Blanks were composed of crushed, barren quartzite, or gneiss. They were used to check for contamination. The detection limit for fire assay gold analyses was < 0.02 g/t Au (SGS and LKG) and < 0.05 g/t Au (Jaguar internal labs).

Mineral Resources Estimates - Combined (Santa Izabel, Marzagão and Bahu)

The estimate was generated from a block model constrained by three-dimensional (3D) wireframe models that were constructed using a minimum width of 2 metres. The Mineral Resources are reported by Jaguar using the gold grades estimated by the Ordinary Kriging (OK) method.

The mineralized material for each orezone was classified by Jaguar into Inferred Mineral Resources only, based on the search ellipse ranges obtained from the variography study, the observed continuity of the mineralization, the drill hole and channel sample density, and with previous production experience with this deposit. Inferred Mineral Resources for Santa Izabel, Córrego Grande and Marzagão are reported from clipped wireframes created using a cut-off grade of 2.75 g/t Au. Inferred Mineral Resources for the Bahu deposit also are reported using constraining panels that were created using a cut-off grade of 1.85 g/t Au. The Mineral Resources for the Bahu

deposit also include a small contribution from open pit material that is estimated by application of an optimized pit shell and a cut-off grades of 0.74 g/t Au. These cut-off grades were calculated with the use of a gold price of $1,800/oz.

Jaguar estimates of the Underground Inferred Mineral Resources of the Paciência Mining Complex as at December 31st, 2022 are as follows:

-- Santa Izabel/Córrego Grande: a total of 126 koz of gold (978 kt @ 4.01 g/t Au);

-- Marzagão: a total of 63 koz of gold (445 kt @ 4.44 g/t Au);

-- Bahu (Underground): a total of 43 koz of gold (333 kt @ 3.99 g/t Au). Bahu also has a small additional total of 3 koz of gold (43 kt @ 2.08 g/t Au) as open-pit, oxidized Inferred Mineral Resource.

The Mineral Resources are presented in further detail in Table 17 below.

Table 17: Santa Izabel, Marzagão and Bahu Mineral Resources as at Dec. 31st, 2022

December 31st, 2022	Measured Resources			Indicated Resources			Measured & Indicated Resources			Inferred Resources		
	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)	Tonnes (000's)	Grade (g/t)	Gold oz (000's)
Underground Paciência Gold Complex												
Santa Izabel/Corrego Grande										978	4.01	126
Marzagão										445	4.44	63
Bahu										333	3.99	43
Total - Paciência UG										**1756**	**4.12**	**232**

Notes:

1. **CIM (2014) definitions were followed for Mineral Resources.**
2. **Mineral Resources at the Paciência Gold Mining Complex include the Santa Izabel, Marzagão and Bahu underground mines mines, and Bahu open pit Mineral Resources.**
3. **Mineral Resources at the Paciência Gold Mining Complex: for the Bahú underground deposit, mineral resources are reported using constraining panels that were created using a cut-off grade of 1.85 g/t Au. The Santa Isabel/Corrego Grande/Marzagão underground mineral resources are reported from clipped wireframes created using a cut-off grade of 2.75 g/t Au.**
4. **Mineral Resources are estimated using a long-term gold price of $1,800 per ounces at Santa Isabel, Marzagão, and Bahu.**
5. **Mineral Resources are estimated using an average long-term foreign exchange rate of 5.20 Brazilian Reais: 1 US Dollar for Santa Isabel, Marzagão, and Bahu.**
6. **A minimum mining width of 2.00 m was used at Santa Isabel, and Marzagão.**
7. **No Mineral Reserves are currently present at Santa Isabel, Marzagão and Bahu.**
8. **Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.**
9. **Numbers may not add due to rounding.**

It is Jaguar's opinion that the Paciencia Mineral Resources estimates were prepared in a professional and diligent manner by qualified professionals and that the estimates comply with the CIM (2014).

Mineral Resource figures (as at December 31st 2022) were reviewed and approved **(i)** in respect of the estimated Mineral Resources by Pierre Landry, P. Geo. and Reno Pressacco, P. Geo., of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7. SLR is an independent mining consultancy and Mr. Landry and Mr. Pressacco are each Qualified Persons within the definition of NI 43-101.

The tables/illustrations 18 and 19 below (longitudinal projections of the Mineral Resources) are panoramas of the resources inventory of the Santa Izabel, Marzagão and Bahu deposits by the end of the 2022 Year.

Table 18: Illustration: Santa Izabel and Marzagão Mineral Resources on Dec. 31st, 2022

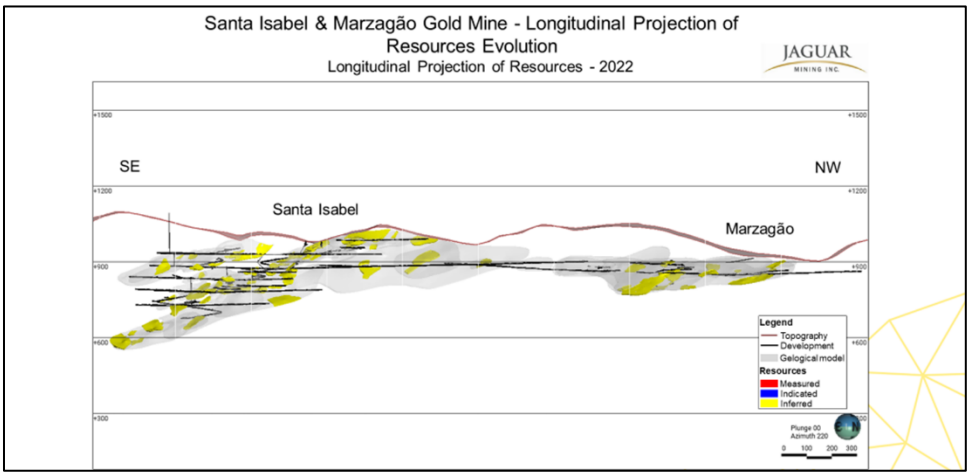
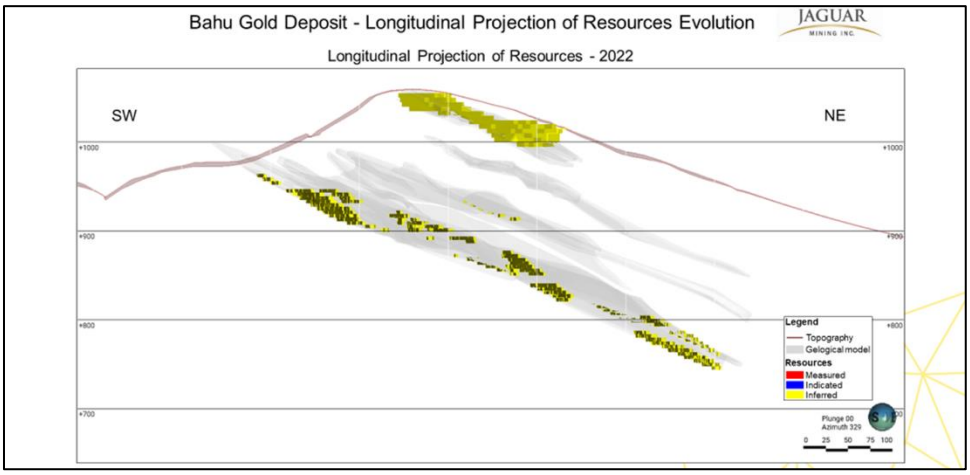


Table 19: Illustration: Bahu Mineral Resources on Dec. 31st, 2022



Mining Methods and Mine Infrastructure

The mining method previously used for the Paciência Mine was cut-and-fill, which removes ore in horizontal slices, starting from the bottom undercut and advancing upwards (overhand cut and fill). For the fill, the coarse portion of the treated tailings is used, plus development waste and waste that exists between the mineralization lenses, extracted during the excavation of the mine panels.

The mine is accessed from a five metre by five metre primary decline located in the footwall of the deposit. The portal is located at elevation 972 m. The mine is divided into levels. Level 01 was developed at elevation 930 m and Level 02 is at elevation 870 m, 60 vertical m below Level 01. Starting at this level, the vertical clearance is 75 m, i.e., Level 03 is at elevation 795 m, Level 04 at elevation 720 m, and so on. A five meter-thick sill pillar is left between levels.

At each level, drifts were developed in the mineralized zone to expose the footwall and the hanging wall contacts. The drift was extended along strike, continuing to expose the contacts until the limits of the orebody are reached. Upon completion of the level development, overhand stoping of the ore panel was initiated. The excavation was completed using 3.20 m long, 2 in. diameter, and 70º to 80º upward drilling. Once mining of the cut was completed, the excavation was filled using a combination of development

waste and hydraulically placed cemented classified tailings. Initially, a drainage bund was constructed using development waste to contain the backfill. The backfill was then placed in the mined-out cut. Once drained of excess water and allowed to cure, the backfill surface was smoothed and excavation of a subsequent cut is initiated. The sequence continues until the sill pillar separating the various levels was reached.

Each mining panel (75 m vertical clearance) is sub-divided into three parts (vertically). For the first 24 vertical metres, the access to the panel is from the main level (at the base of the panel). As backfilling progresses, a 20% slope ramp was constructed in the fill to provide access to the next cut above the previously placed backfill. As this internal stope ramp was constructed, the roof immediately above it was raised, maintaining a clearance of 4.2 m. In order to limit the length of the internal stope ramps, two additional access ways to the panel are developed from the main ramp. The first access way was driven 24 m above the main level and the second, 47 m above the main level.

Recovery Methods

The existing 1750 mt/a process plant at the Paciência Mining Complex has the following sequence of macro unit operations:

- Crushing and Screening
- Grinding and Cycloning
- Leaching/Adsorption via Carbon-in-Pulp (CIP) Process of the reground/thickened flotation concentrate
- Elution (Desorption) of CIP loaded carbon
- Electrowinning
- Detox Plant for CIP Tailings pulp
- Paste Fill Plant

Environmental Considerations and Permitting - Paciência Complex on Care and Maintenance since 2012

The Paciência Mining Complex, when operating, met all the necessary environmental conditions, permits, and ongoing monitoring activities required by the Brazilian Federal laws, as well as those required by the state of Minas Gerais. Moreover, all of the necessary and mandatory permitting, monitoring and supervision works expected to be completed during the care-and-maintenance stage of such a mining complex (from 2012 to 2022) are being followed strictly, and in a timely manner, by the Jaguar´s technical and administrative teams.

Non-Material Mineral Properties

1. Acurui Exploration JV Project with Iamgold Corporation

Jaguar signed in August 2020 an option agreement (the "Iron Quadrangle Agreement") with IAMGOLD Corporation on a package of 28 exploration tenements covering an area of some 27,141.75 Ha in the Iron Quadrangle geological environment. The Iron Quadrangle Agreement stipulates that Jaguar has the option to earn an initial 60% interest in the Package by spending $6.0 million in exploration expenditures over four years commencing in the third quarter of 2020. Jaguar will be the project operator and subject to oversight by a technical committee with representatives from both companies. Under the terms of the Agreement, the following will apply:

- The Earn-in period will include a minimum expenditure of $500,000 per annum, and the exploration program must include the completion of a minimum of 5,000 metres of diamond drilling over the option agreement time frame.
- Upon Jaguar vesting an initial 60% interest, IAMGOLD may elect to participate and fund its pro-rata share of ongoing expenditures under a conventional 60:40 JV that will be formed for this purpose and will be agreed upon by both companies;

- Once the 60:40 JV is in place, both parties will be required to fund their pro-rata share for ongoing expenditures or be subject to dilution. Should either party dilute to < 10% interest, their interest will revert to a 1.5% NSR.

By December 2022, an approximate total of $3.8 million was spent by Jaguar in exploration activities, and that amount included 3,000 meters of exploratory diamond drilling.

Exploration activities and highlights from programs completed by Jaguar since the announcement of the Agreement include:

1. A 150 square km UAV (Drone) high-resolution magnetic survey was completed, and this survey was accompanied by re-interpretations/studies of previously available (governmental) regional airborne Frequency and Time Domain Eletromagnetic surveys covering the area of the JV agreement;

2. Recognition and mapping of the highly prospective Ouro Fino Formation of the Rio das Velhas Greenstone Belt in the area of the JV agreement;

3. Delineation of prominent stratigraphic and structural prospective gold trends, and generation and ranking of a total of 69 individual exploration exploration targets, based on combined geophysical, geochemical and structural targeting criteria, following Jaguar's current exploration strategy;

4. More than 35km^2 of ground covered with geological mapping at a scale of 1:10,000;

5. Extensive soil geochemistry coverage of the more prospective areas included in the JV agreement. Generation of many new soil geochemistry anomalies related to Algoma-type BIF horizons and shear zone targets, and a total of 3,696 soil samples collected (that represents more than 90 km of soil traverses being sampled);

6. Focused rock chip sampling and channel sampling programs over gold anomalies in soils and/or in close association with past/colonial gold diggings and excavations. A total of 2,481 rock chip samples and a total of 748 channel samples have been collected by December, 2022;

7. Exploratory diamond drilling activities developed over 07 targets at the moment: "Rio de Pedras", "Buraco", "Aredes", "Carcará", "Água Suja", "Capivari" and "Boa Viagem" (a total of 19 drillholes completed and 3,000.85 meters drilled).

For 2023, Jaguar plans to continue its diamond drill-testing activities on some of the priority targets already delineated in 2021 and 2022 within the JV areas through a combined strategy that included geophysics coverage, interpretation and targeting; completion of soil geochemistry surveys; geological mapping and reconnaissance activities at the appropriate scale; and systematic rock sampling programs.

Ownership of Property Interests

When buying a property in Brazil, a preliminary sales agreement between the buyer and the seller is executed, which establishes the conditions for that sale. Following the execution of the agreement, a public deed of purchase and sale is held before the Real Estate Registry Office, and subsequently, the purchaser is registered as the new owner on the title of the property issued by the Real Estate Registry Office. This title is the official document that confirms ownership of the property. Some of these agreements are registered and filed with the Brazilian government.

With regard to assets, proof of ownership is established by a purchase and sale agreement.

With regard to mining rights, when a company is interested in a certain area, it asks the ANM for Exploration Consent to verify the potential of the area. This authorization is valid for three years and can be renewed for an additional three years, during which the company must carry out all studies required to verify the feasibility of the area. At the end of the Exploration Consent period, the company must submit a Final Exploration Report to the ANM. If it has a positive outcome, the company will request from the ANM, within one year, an Exploitation Permit containing a life of mine plan. If the ANM is satisfied with the plan presented by the company,

the Agency will grant the company the concession to explore the mining rights of that area. The concession granted by the ANM is the official document that confirms that the company is the holder of the mining rights.

There is currently legislation that restricts the number of lands that can be acquired by a non-Brazilian company . Specifically, non-resident individuals and non-domiciled foreign legal entities are subject to restrictions for the acquisition or lease for agricultural purposes, or arrendamento, of rural properties in Brazil. Limitations also apply to legal entities domiciled in Brazil controlled by foreign investors, such as Jaguar's wholly-owned subsidiary, MSOL. The limitations are set forth mainly in Law No. 5,709/1971 and Decree No. 74,965/1974.

Permits, Licences and Other Regulatory Approvals

The following permits, licences and other regulatory approvals are required for the operation of Jaguar's mining activities:

1. Under current regulations, all exploration activities that the Company undertakes through its subsidiaries (being MSOL) must be carried out on valid exploration licences or prospecting permits issued by the ANM. The ANM is responsible for the administration of all mining and exploration licences and prospecting permits. According to local regulations, the Company must submit a final exploration report before the expiry date of any licence or permit, which is usually three years from the date of grant. Mining operations currently pay a 1% royalty fee to the Financial Compensation for Mineral Exploitation (Compensação Financeira pela Exploração de Recursos Minerais) (the "CFEM"), on the value of the ore produced and 1,5% on the value of the gold produced However, the Brazilian government is currently considering the adoption of new mining legislation that would include increases in the CFEM royalties. All local agencies have the right to monitor and evaluate compliance with environmental permits, even though such monitoring tends to be minimal in scope and nature. Any changes to the exploration activities that result in a greater environmental impact require approval.

In order to build, develop and operate projects in Brazil, companies are required to obtain three types of permits, as required by Brazilian environmental authorities. The Licença Prévia (the "**LP**"), which is often referred to as the Preliminary Licence, is the first of these three permits and focuses on the initial phase of business planning. The LP is valid for up to five years and is granted by the Environmental Agency of the State where a project is located. The LP approves the location and concept of a project, confirms the environmental viability and feasibility of a project, and establishes the basic requirements and conditions for the next phase of the permitting process.

The Licença de Instalação (the "**LI**"), which is often referred to as the Installation Licence, authorizes the infrastructure of a project in Brazil and the commencement of construction. This phase includes fulfilling the LP conditions, approval of the mine development plan and approval of the basic environmental plan. The LI is valid for up to six years and is granted by the Environmental Agency of the State where a project is located. The LI authorizes the installation of a project and establishes conditions for the execution of programs and projects for prevention, mitigation, recovery and compensation of environmental impacts.

The third permit is the Licença de Operação (the "**LO**"), which is often referred to as the Operating Licence and is requested before the project is initiated and authorizes the day-to-day operations of a project in Brazil. The LO is valid for four to ten years and may be renewed by the Environmental Agency of the State where a project is located. Each of Jaguar's material projects, the Turmalina Mine Complex and the Caeté Mine Complex, are in full production and the LO was obtained for each mine.

2. The following authorizations granted by the ANM are also required for the operation of Jaguar's mining activities: (i) an Exploration Consent, whereby the interested party is authorized to carry out mineral research, which is the execution of works aimed at defining deposits, its evaluation and the definition of the feasibility of its economic use; and (ii) an Exploitation Permit, whereby the ANM grants to the interested party the right to mineral exploitation of a certain area.

3. Permits issued by the municipality where projects are located.

4. Army authorization for managing and handling explosives.

5. Authorization from the applicable fire brigade.

Jaguar is regularly inspected by applicable government agencies in Brazil to ensure that Jaguar's business activities are duly authorized. Environmental inspections are supervised by the State Environment Agency. Inspections relating to mining rights are supervised by the ANM. Inspections relating to workers are supervised by the Ministry of Labor. Further, Jaguar's operations are subject to regular external and internal audits, including the external audits completed by Jaguar's auditors, KPMG LLP.

The governmental agencies that issue operating licences in Brazil have the power to impose conditions for the operation of a company's business. Such conditions are established in accordance with applicable legislation. If these conditions are not fulfilled, the applicable agency has the power to suspend the licences until the conditions are regularized, in which case the company can always discuss the matter in court if it does not agree with the agency's decision. Since commencing operations in Brazil, Jaguar has complied with all such conditions imposed on the operation of its business by applicable governmental agencies in Brazil.

RISK FACTORS

I. Risks Relating to the Gold Industry

Gold prices are volatile, and there can be no assurance that a profitable market for gold will exist.

Jaguar's business is strongly affected by the world market price of gold. If the world market price of gold was to drop and the prices realized by Jaguar on gold sales were to decrease significantly and remain at such a level for any substantial period, Jaguar's profitability and cash flow would be negatively affected. Jaguar's gold production is sold into the spot market or to refiners at market prices. Gold prices have fluctuated widely in recent years. These fluctuations can be material and can occur over short periods of time and are affected by numerous factors, all of which are beyond Jaguar's control. Gold prices are subject to changes resulting from a variety of factors including international economic and political trends, expectations of inflation, global and regional supply and demand and consumption patterns, stock levels maintained by producers and others, currency exchange fluctuations, inflation rates, interest rates, hedging activities and increased production due to improved mining and production methods. Future production from Jaguar's mining properties is dependent on gold prices that are adequate to make these properties economically viable. While the price of gold has recently been strong, there can be no assurance that gold prices will remain at such levels or be such that Jaguar's properties can be mined at a profit. Some credible industry experts predict that gold will continue to increase in price during 2023 and the next several years. However, other credible industry experts expect that the price of gold has generally peaked during the recent pandemic and resulting economic crisis. As economies slowly recover over the next few years, the price of gold will decrease and be worth much less per ounce than it is today.

Depending on the market price of gold, Jaguar may determine that it is not economically feasible to continue commercial production at some or all of its operations or the development of some or all of its current projects, as applicable, which could have an adverse impact on Jaguar's financial performance and results of operations. In such a circumstance, Jaguar may also curtail or suspend some or all of its exploration activities, with the result that depleted reserves are not replaced. In addition, the market value of Jaguar's gold inventory may be reduced, and existing reserves may be reduced to the extent that ore cannot be mined and processed economically at the prevailing prices.

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

Mining involves various types of risks and hazards, including:

- environmental hazards;
- unusual or unexpected geological operating conditions, such as rock bursts, structural cave-ins or slides;
- flooding, earthquakes and fires;
- labour disruptions;
- industrial accidents;
- unexpected mining dilution, such as what occurred at Turmalina in 2017;

- metallurgical and other processing problems; and/or
- metal losses and periodic interruptions due to inclement or hazardous weather conditions.

These risks could result in damage to, or destruction of, mineral properties, production facilities or other properties, personal injury or death, environmental damage, delays in mining, increased production costs, monetary losses and possible legal liability.

Jaguar may not be able to obtain insurance to cover these risks at affordable premiums or at all. Insurance against certain environmental risks, including potential liability for pollution or other hazards as a result of the disposal of waste products occurring from production, is not generally available to Jaguar or other companies within the mining industry. Jaguar may suffer a materially adverse effect on its business if it incurs losses related to any significant events that are not covered by its insurance policies.

Calculation of Mineral Reserves and Mineral Resources and metal recovery is only an estimate, and there can be no assurance about the quantity and grade of minerals until Mineral Resources are actually mined.

Jaguar's mineral reserves (or ore reserves) and mineral resources are estimates, and no assurance can be given that the estimated reserves and resources are accurate or that the indicated level of gold or any other mineral will be produced. Such estimates are, in large part, based on interpretations of geological data obtained from drill holes and other sampling techniques. Actual mineralization or formations may be different from those predicted. Further, it may take many years from the initial phase of drilling before production is possible, and during that time the economic feasibility of exploiting a discovery may change.

Because Jaguar prepares its Annual Information Form in accordance with the disclosure requirements of Canadian securities laws, it contains resource estimates, which are required by NI 43-101. Mineral resource estimates for properties that have not commenced production are based, in many instances, on limited and widely spaced drill hole information, which is not necessarily indicative of the conditions between and around drill holes. Accordingly, such mineral resource estimates may require revision as more drilling information becomes available, as actual production experience is gained or as the Company's mining methods are changed.

No assurance can be given that any part or all of Jaguar's mineral resources constitute or will be converted into reserves. Market price fluctuations of gold and certain other metals, as well as increased production and capital costs or reduced recovery rates, may render Jaguar's proven and probable reserves uneconomical to develop at a particular site or sites for periods of time, or may render mineral reserves containing relatively lower grade mineralization uneconomical. Moreover, short-term operating factors relating to the mineral reserves, such as the need for the orderly development of ore bodies, the processing of new or different ore grades, the technical complexity of ore bodies, unusual or unexpected ore body formations, ore dilution or varying metallurgical and other ore characteristics may cause mineral reserves (or ore reserves) to be reduced or Jaguar to be unprofitable in any particular accounting period. Estimated reserves may have to be recalculated based on actual production experience, fluctuations in the price of metals, or changes in other assumptions on which they are based. Any of these factors may require Jaguar to reduce its mineral reserves (or ore reserves) and resources, which could have a negative impact on Jaguar's financial results.

Failure to obtain or maintain necessary permits or government approvals or changes to applicable legislation could also cause Jaguar to reduce its reserves. In addition, changes to mine plans due to capital allocation decisions could cause Jaguar to reduce its reserves. There is also no assurance that Jaguar will achieve indicated levels of gold recovery or obtain the prices assumed in determining such reserves.

The calculation of Mineral Reserves, Mineral Resources, and corresponding grades being mined or dedicated to future production is imprecise and depends on geological interpretation and statistical inferences or assumptions drawn from drilling and sampling analysis, which might be unpredictable. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Until Mineral Reserves or Mineral Resources are actually mined and processed, the quantity of Mineral Reserves or Mineral Resources and grades must be considered as estimates only. Any material changes in Mineral Reserves, Mineral Resources, grade or stripping ratio at Jaguar's properties may affect the economic viability of Jaguar's properties. In addition, there can be no assurance that metal recoveries in small-scale laboratory tests will be duplicated in larger-scale tests under on-site conditions or during production.

Significant uncertainty exists related to inferred Mineral Resources.

There is a risk that inferred Mineral Resources referred to in this AIF cannot be converted into measured or indicated Mineral Resources. Due to the uncertainty relating to inferred Mineral Resources, there is no assurance that inferred Mineral Resources will be upgraded to resources with sufficient geological and grade continuity to constitute measured and indicated resources as a result of continued exploration.

Replacement of depleted reserve

Jaguar's mineral reserves must be replaced to maintain production levels over the long-term. Reserves can be replaced by expanding known ore bodies, locating new deposits or making acquisitions. Exploration is highly speculative in nature and identifying new ore bodies is becoming increasingly difficult. Jaguar's exploration projects involve many risks and are frequently unsuccessful. Once a site with mineralization is discovered, it may take several years from the initial phases of drilling until production is possible, during which time the economic feasibility of production may change. Substantial expenditures are required to establish proven and probable reserves and to construct mining and processing facilities. As a result, there is no assurance that current or future exploration programs will be successful. Depletion of reserves may not be offset by discoveries or acquisitions and divestitures of assets could lead to a lower reserve base. Jaguar may continue to dispose of additional assets in 2023 or future years as part of its ongoing focus on gold properties and other strategic initiatives, which may further deplete Jaguar's reserves. Reserves estimated in accordance with NI 43-101 may also decrease due to economic factors such as the use of a lower metal price assumption. However, such a decline would not be a reduction in the actual mineral base of the Company, as the ounces or pounds removed from Jaguar's reserves due to the use of a lower gold assumption would be transferred to resources, preserving the option to access them in the future at higher gold prices. The mineral base of Jaguar will decline if reserves are mined without adequate replacement and Jaguar may not be able to sustain production to or beyond the currently contemplated mine lives, based on current production rates.

II. Risks Relating to Jaguar's Business

Jaguar's operations involve exploration and development, and there is no guarantee that any such activity will result in commercial production of mineral deposits.

The proposed programs on the exploration properties in which Jaguar holds an interest are exploratory in nature, and such properties do not host known bodies of commercial ore. The development of these mineral properties is contingent upon, among other things, obtaining satisfactory exploration results. Mineral exploration and development involve substantial expenses related to locating and establishing Mineral Reserves, developing metallurgical processes and constructing mining and processing facilities at a particular site. It also involves a high degree of risk, which even a combination of experience, knowledge and careful evaluation may not be able to mitigate adequately. As a result, few properties that are explored are ultimately developed into producing mines, and there is no assurance that commercial quantities of ore will be discovered on any of Jaguar's exploration properties. There is also no assurance that, even if commercial quantities of ore are discovered, a mineral property will be brought into commercial production or that it will be profitable if brought into production. The discovery of mineral deposits is dependent upon a number of factors, including the technical skill of the exploration personnel involved. The commercial viability of a mineral deposit is also dependent upon, among a number of other factors, its size, grade, proximity to infrastructure, current metal prices, and government regulations, including regulations relating to required permits, royalties, allowable production, importing and exporting of minerals and environmental protection. The exact effect of these factors cannot be accurately predicted, but any of these factors, or the combination of any of these factors, may prevent Jaguar from receiving an adequate return on invested capital. In addition, depending on the type of mining operation involved, several years can elapse from the initial phase of drilling until commercial operations are commenced. Some ore reserves may become unprofitable to develop if there are unfavorable long-term market price fluctuations in gold or significant increases in operating or capital costs. Most of the above factors are beyond Jaguar's control, and it is difficult to ensure that the exploration or development programs proposed by Jaguar will result in a profitable commercial mining operation.

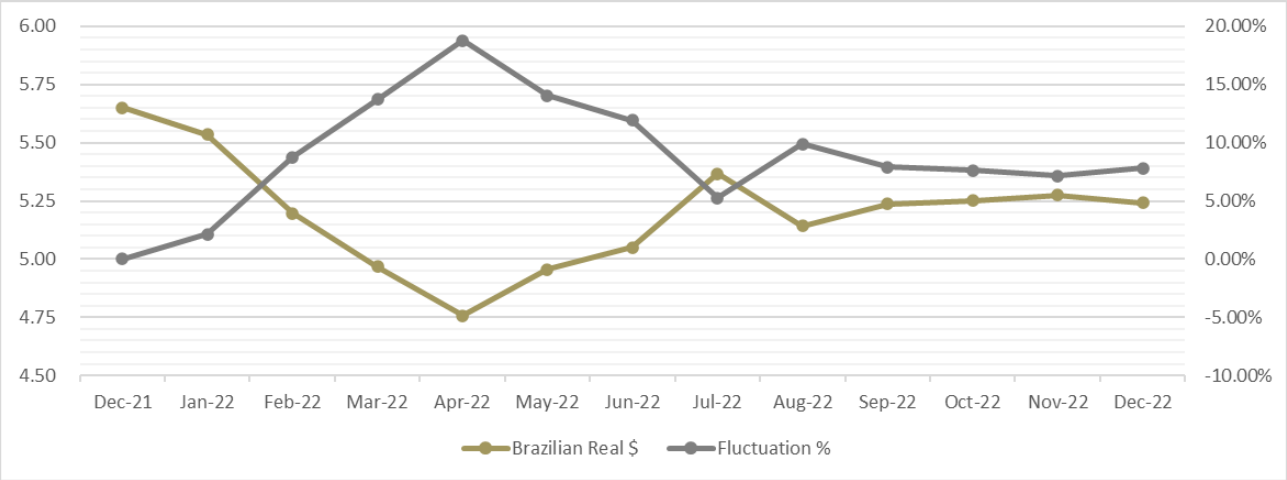
Fluctuations in currency exchange rates may adversely affect Jaguar's financial position and results of operations.

Fluctuations in currency exchange rates, particularly operating costs denominated in currencies other than US dollars, may significantly impact Jaguar's financial position and results of operations. Jaguar generally sells its gold based on a US dollar price, but a major portion of Jaguar's operating expenses is incurred in non-US currencies. In addition, the appreciation of the Brazilian Real against the

US dollar could further increase the dollar costs of gold production at Jaguar's mining operations in Brazil, which could materially and adversely affect Jaguar's earnings and financial condition.

US Dollar - Market Update

The following summarizes the movement in key currencies vis-à-vis the US dollar (source: Central Bank of Brazil):



During the year ended December 31, 2022, the Brazilian Real strengthened against the US dollar.

Competition for new mining properties may prevent Jaguar from acquiring interests in additional properties or mining operations.

The gold mining industry is intensely competitive. Significant and increasing competition exists for gold and other mineral acquisition opportunities throughout the world. Some of the competitors are large, more established mining companies with substantial capabilities and greater financial resources, operational experience and technical capabilities than Jaguar. As a result of this competition, Jaguar may be unable to acquire rights to additional attractive mining properties on terms it considers acceptable. Increased competition could adversely affect Jaguar's ability to attract necessary capital funding or acquire an interest in additional operations that would yield Mineral Reserves or result in commercial mining operations.

Jaguar relies on its management and key personnel, and there is no assurance that such persons will remain at Jaguar or that it will be able to recruit skilled individuals.

Jaguar relies heavily on its management. Jaguar does not maintain "key man" insurance. Recruiting and retaining qualified personnel is critical to Jaguar's success. The number of persons skilled in the acquisition, exploration and development of mining properties is limited, and competition for the services of such persons is intense. In addition, as Jaguar's business activity grows, it may require additional key financial, administrative, technical and mining personnel. The failure to attract and/or retain such personnel to manage growth effectively could have a material adverse effect on Jaguar's business, prospects, financial condition and results of operations.

Actual capital costs, operating costs, production and economic returns may differ significantly from those estimated by Jaguar, and there can be no assurance that any future development activities will result in profitable mining operations.

Capital and operating costs, production and economic returns, and other estimates contained in the feasibility studies for Jaguar's projects may differ significantly from those anticipated by Jaguar's current studies and estimates, and there can be no assurance that Jaguar's actual capital and operating costs will not be higher than currently anticipated. In addition, delays to construction schedules may negatively impact the net present value and internal rates of return of Jaguar's mineral properties as set forth in the applicable feasibility studies.

Jaguar's cash operating costs per ounce sold[1] and all-in sustaining costs per ounce sold[1] for the years ending December 31, 2022, 2021, and 2020 were as follows:

		2022	2021	2020
Turmalina	Cash operating costs per ounce sold[1]	**$ 1,105**	$ 881	$ 660
	All-in sustaining costs per ounce sold[1]	**$ 1,475**	$ 1,251	$ 1,109
Pilar	Cash operating costs per ounce sold[1]	**$ 1,010**	$ 790	$ 637
	All-in sustaining costs per ounce sold[1]	**$ 1,297**	$ 1,031	$ 858
Consolidated	Cash operating costs per ounce sold[1]	**$ 1,052**	$ 831	$ 647
	All-in sustaining costs per ounce sold[1]	**$ 1,483**	$ 1,215	$ 1,044

[1] Cash operating costs per ounce sold, and all-in sustaining costs per ounce sold, are non-GAAP financial performance measures with no standard definition under IFRS. Refer to the Non-GAAP Financial Performance Measures section of the MD&A.

Increases in energy costs or the interruption of Jaguar's energy supply may adversely affect Jaguar's results of operations.

Jaguar's operations are energy-intensive and rely upon third parties to supply the energy resources consumed in its operations. The prices for and availability of energy resources may be subject to change or curtailment, respectively, due to, among other things, new laws or regulations, imposition of new taxes or tariffs, interruptions in production by suppliers, worldwide price levels and market conditions. Disruptions in supply or increases in costs of energy resources could have a material adverse impact on Jaguar's financial condition and the results of operations.

There can be no assurance that the interests held by Jaguar in its properties are free from defects.

Jaguar's properties may be subject to prior recorded, and unrecorded agreements, transfers or claims, and title may be affected by, among other things, undetected defects. Title insurance is generally not available for mineral properties, and Jaguar's ability to ensure that it has obtained a secure claim to individual mining properties or mining concessions may be severely constrained. Jaguar has not conducted surveys of all of the claims in which it holds direct or indirect interests. A successful challenge to the precise area and location of these claims could result in Jaguar being unable to operate on its properties as permitted or unable to enforce its rights with respect to its properties. No assurance can be given that Jaguar's rights will not be revoked or significantly altered to its detriment. There can also be no assurance that third parties will not challenge or impede its rights.

Jaguar is exposed to risks of changing political stability and government regulation in the countries in which it operates.

Jaguar holds mineral interests in Brazil that may be affected, in varying degrees, by political instability, government regulations relating to the mining industry and foreign investment therein, and the policies of other nations in respect to Brazil. Any changes in regulations or shifts in political conditions are beyond Jaguar's control and may adversely affect its business. Jaguar's operations may be affected in varying degrees by government regulations, including those with respect to restrictions on production, price controls, export controls, income taxes, expropriation of property, employment, land use, water use, environmental legislation and mine safety. The regulatory environment is in a state of continuous change, and new laws, regulations and requirements may be retroactive in their effect and implementation. Jaguar's operations may also be adversely affected in varying degrees by political and economic instability, economic or other sanctions imposed by other nations, terrorism, military repression, crime, extreme fluctuations in currency exchange rates and high inflation.

Jaguar is subject to additional business and financial risks inherent in doing business in Brazil.

The Company's principal operations and mineral properties are located in Brazil. There are additional business and financial risks inherent in doing business in Brazil compared to the United States or Canada. Since 1996, Transparency International has published the Corruption Perceptions Index ("CPI"), which annually ranks countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. The CPI ranks countries on a scale from 100 (very clean) to 0 (highly corrupt). In 2022, out of 180 countries in the world, Canada was ranked 14th with a CPI score of 74, the United States was ranked 24th with a CPI score of 69, and Brazil was ranked 94th with a CPI score of 38. The average score on the 2022 Corruption Perceptions Index was 43 out of 100. Anything below a score of 50 indicates governments are failing to tackle corruption and represents a challenge in those countries requiring extra attention by those who conduct business there. High-profile examples of alleged corruption were reported in 2021. Beginning on October 3, 2021, the International Consortium of Investigative Journalists ("ICIJ") published another 11.9 million leaked

documents with 2.9 terabytes of data. This was the second leak by ICIJ, and these leaks have become known as the "Panama Papers." This leak in 2021 exposed the secret offshore accounts of 35 world leaders, including current and former presidents, prime ministers and heads of state, as well as more than 100 billionaires, celebrities and business leaders. The initial leak of the Panama Papers occurred in 2016, exposing 11.5 million confidential documents. Brazil did not escape scrutiny from the 2021 leak of the Panama Papers. One of the noteworthy names was Paulo Guedes. He, while in office as Brazil's minister of economy, is alleged to have kept a company in the British Virgin Islands with almost US$10 million invested in a Credit Suisse account in New York, USA. Roberto Campos Neto, the Chairman of Brazil's Central Bank, was also featured in the 2021 release of the Panama Papers. Both deny any wrongdoing.

Corruption does not only occur with the misuse of public, government or regulatory powers, it also can occur in a business's supplies, inputs and procurement functions (such as illicit rebates, kickbacks and dubious vendor relationships), as well as the inventory and product sales functions (such as inventory shrinkage or skimming). Employees, as well as external parties (such as suppliers, distributors, and contractors), have opportunities to commit procurement fraud, theft, embezzlement and other wrongs against the Company. While corruption, bribery and fraud risks can never be fully eliminated, the Company reviews and implements controls to reduce the likelihood of these irregularities occurring. The Company utilizes an internal auditor, third-party security services and closed-circuit video surveillance at its operations in Brazil.

Political and economic conditions directly affect the Company's business and can result in a material adverse effect on the Company. Macroeconomic policies imposed by the Brazilian government can have significant impact on Brazilian companies or companies with significant operations in Brazil, including the Company. On January 8, 2023, protesters broke into Brazil's Congress building, Supreme Court, and presidential palace, following the inauguration of Luiz Inácio "Lula" da Silva on January 1, 2023, after a victory over Brazil's former leader, Jair Bolsonaro, in a run-off election on October 30, 2022. The political unrest associated with the former administration coming to an end and the new administration taking over is reminiscent of the January 6, 2021, insurrection by rioters on the U.S. capitol building, and the short and long-term impacts on business and capital markets are unknown. Any actions taken by the current administration may have a negative impact on the economy and on the businesses, financial condition, results of operations, prospects and the valuation of mining companies, which could also negatively impact the Company, which negative impact could prove to be material over time.

The ability of Jaguar to pay a dividend will be dependent on the financial condition of Jaguar.

On November 9, 2022, Jaguar announced that the Board of Directors and management of the Company had decided to suspend its regular quarterly dividend in order to prioritize the maximization of cashflow to invest in growth capital, in particular the advancement of the Faina project and convert its exploration success into value enhancing propositions for its shareholders.

The declaration, timing, amount and payment of any future dividends are at the discretion of the Board and will depend upon, among other things, Jaguar's future earnings, cash flows, acquisition capital requirements and financial condition, and other relevant factors. There can be no assurance that Jaguar will be in a position to declare any future dividends (at the current dividend amount or at all) due to the occurrence of one or more of the risks described herein.

Jaguar is subject to significant governmental regulations.

Jaguar's mining and exploration activities are subject to extensive local laws and regulations. Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities, which may require operations to cease or be curtailed, or corrective measures requiring capital expenditures, installation of additional equipment, or remedial actions. Parties engaged in mining operations 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.

Amendments to current laws, regulations and permits governing operations and activities of mining companies, or more stringent implementation of such requirements, could have a materially adverse impact on Jaguar and cause increases in capital expenditures or production costs or reductions in levels of production at producing properties or require abandonment or delays in the development of new mining properties.

Jaguar's operations are subject to numerous governmental permits, which are difficult to obtain, and it may not be able to obtain or renew all of the permits it requires, or such permits may not be timely obtained or renewed.

Government approvals and permits are sometimes required in connection with Jaguar's operations. Although Jaguar believes it has all of the material approvals and permits to carry on its operations, Jaguar may require additional approvals or permits or may be required to renew existing approvals or permits from time to time. Obtaining or renewing approvals or permits can be a complex and time-consuming process. There can be no assurance that Jaguar will be able to obtain or renew the necessary approvals and permits on acceptable terms, in a timely manner, or at all. To the extent such approvals are required and not obtained, Jaguar may be delayed or prohibited from proceeding with planned exploration, development or mining of mineral properties.

Under current regulations, all exploration activities that the Company undertakes through its subsidiaries must be carried out on valid exploration licences or prospecting permits issued by the DNPM, a department of the Brazilian federal government. The DNPM is responsible for the administration of all mining and exploration licences and prospecting permits. According to local regulations, the Company must submit a final exploration report before the expiry date of any licence or permit, which is usually three years from the date of grant. However, Brazilian mining laws and regulations are currently undergoing a major restructuring, and draft legislation to this effect has been submitted to the federal legislature for review and approval. The effects of this restructuring will, if adopted, be far-reaching in the ways that mining rights can be acquired and maintained in the country. Current proposals include an auction process for new licences, minimum expenditures designed to eliminate the "warehousing" of mining permits and licences as well as new fee schedules. They also provide for landowner participation where applicable. It is the Company's understanding, based on consultations with local counsel, that licences currently held in good standing will be grandfathered and not subject to certain requirements of the proposed new regime. Production from the Company's mines results in a 1.5% royalty fee payment to the CFEM on the value of the ore produced. However, and as mentioned above, the Brazilian government is currently considering the adoption of new mining legislation that would include increases in the CFEM royalties.

Environmental permits are granted for one- to ten-year periods, and all local agencies have the right to monitor and evaluate compliance with the issued permits even though such monitoring tends to be minimal in scope and nature. Any changes to the exploration activities that result in a greater environmental impact require approval.

The work the Company carries out on its exploration licences is largely restricted to drilling and ancillary activities associated with the drilling programs (i.e., low impact road construction, drilling stations). As such, the reclamation costs in respect of drilling activities are not material to the Company and are factored into the budget for exploration programs.

Jaguar is subject to substantial environmental laws and regulations that may increase its costs and restrict its operations.

All phases of Jaguar's operations are subject to environmental regulations in the jurisdictions in which it operates. These laws address emissions into the air, discharges into water, management of waste and hazardous substances, protection of natural resources and reclamation of lands disturbed by mining operations. Environmental legislation is evolving in a manner that will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. This is especially true following the high-profile Brumadinho dam disaster that occurred on January 25, 2019, when Dam I—a tailings dam at Vale's Córrego do Feijão iron ore mine, 9 kilometres east of Brumadinho, Minas Gerais, Brazil—suffered a catastrophic failure. Compliance with environmental laws and regulations may require significant capital outlays and may cause material changes or delays in, or the cancellation of, Jaguar's intended activities. There can be no assurance that future changes in environmental regulation, if any, will not be materially averse to Jaguar's operations. Specifically, new laws and regulations, amendments to existing laws and regulations, or more stringent enforcement of existing laws and regulations could have a materially adverse impact on the Company, increase costs, cause a reduction in levels of production and/or delay or prevent the development of new mining properties.

In light of tailings dam incidents in Brazil in 2015 and 2019, federal lawmakers have proposed legislation aimed at addressing risks of future tailings dam failures. While there are a variety of measures under consideration, recently approved legislation at the federal and state level includes the potential increase of financial assurance requirements, increased fines and penalties for environmental damages and/or requiring the Company to further address risks to residents downstream. While regulations are pending on these issues, these laws and regulations may adversely affect Jaguar's operations or increase the costs associated with those operations.

The properties in which Jaguar holds interests may contain environmental hazards, which are presently unknown to it, and caused by previous or existing owners or operators of the properties. Because of this risk in 2021, Jaguar started the Management of Mined Areas procedure, a system that previews for three years the elaboration of recovery and closing plan for all properties where Jaguar developed mines before. With this plan, it will be possible to update the asset retirement obligation cost considering the potential contamination and others impacts. All these processes stayed in line with the new legislation in Brazil by the National Mining Agency (ANM) in 2021.

The Company's information assets and critical infrastructure may be subject to cyber security risks.

The Company's information assets and critical infrastructure may be subject to cyber security risks. The Company is subject to a variety of information technology and system risks as part of its normal course of operations, including potential breakdown, invasion, virus, cyber-attack, cyber-fraud, ransomware, security breach, and destruction or interruption of the Company's information technology systems by third parties or insiders. Despite Jaguar's security measures and controls, which are designed to mitigate these risks, a breach of its security measures and/or a loss of information could occur and result in a loss of material and confidential information and reputation, breach of privacy laws and a disruption to the Company's business activities by limiting its capacity to effectively monitor Jaguar's operations. Jaguar's failure to appropriately maintain the security of the data it holds, whether as a result of its own error or the malfeasance or errors of others, could harm Jaguar's reputation or trigger legal liabilities and increased costs.

Any future cyber security attacks that affect Jaguar's facilities, communications systems, Jaguar's customers or any of Jaguar's financial data could have an adverse effect on Jaguar's business. In addition, cyber-attacks on employee data may result in a financial loss and may negatively impact the Company's reputation. Third-party systems on which the Company relies could also suffer operational system failure but the significance of any such event is difficult to quantify. Privacy and information security risks have generally increased in recent years because of the proliferation of new technologies, such as ransomware, and the increased sophistication and activities of perpetrators of cyber-attacks.

Jaguar has taken the following steps to protect against cyber security attacks: hiring third-party information technology consultants to review and monitor Jaguar's cyber security and conduct security tests; educating employees on cyber security threats, including phishing attacks, and best practices to protect against cyber threats; using multi-factor authentication by employees; preparing incident response plans; and limiting third-party access to Jaguar's key networks and technology infrastructure. In the future, Jaguar may expend additional resources to continue to enhance Jaguar's information security measures and/or to investigate and remediate any information security vulnerabilities.

Despite these steps, there can be no assurance that Jaguar will not suffer a data security incident in the future, that unauthorized parties will not gain access to sensitive data stored on Jaguar's systems, or that any such incident will be discovered in a timely manner. Furthermore, the techniques used by criminals to obtain unauthorized access to sensitive data, such as phishing and other forms of human engineering, are increasing in sophistication and are often novel or change frequently; accordingly, Jaguar may be unable to anticipate these techniques or implement adequate preventative measures.

Land reclamation requirements for Jaguar's mining and exploration properties may be burdensome.

Land reclamation requirements are generally imposed on companies engaged in mining operations and mineral exploration activities in order to minimize the long-term effects of land disturbance. Reclamation may include requirements to control the dispersion of potentially deleterious effluents and reasonably re-establish pre-disturbance landforms and vegetation. In order to carry out reclamation obligations imposed on Jaguar in connection with its mining and exploration activities, Jaguar must allocate financial resources that might otherwise be spent on further exploration and development programs. If Jaguar is required to carry out unanticipated reclamation work, its financial position could be adversely affected.

Jaguar may need additional capital to accomplish its exploration and development plans or to cover its expenses and maintain adequate working capital, and there can be no assurance that financing will be available on terms acceptable to Jaguar or at all.

Depending on gold prices and Jaguar's ability to achieve its plans and generate sufficient operating cash flow from its existing operations, the Company may require substantial additional financing to accomplish its exploration and development plans, maintain adequate working capital, or fund any non-operating expenses that may arise or become due such as interest, tax (in Canada or Brazil)

or other expenses. Failure to obtain sufficient financing, or financing on terms acceptable to Jaguar, may result in a delay or indefinite postponement of exploration, development or production on any or all of Jaguar's properties or even a loss of an interest in a property, or an inability to pay any of Jaguar's non-operating expenses which could also lead to late fees or penalties, depending on the nature of the expense. The only source of funds now available to Jaguar is through production at Turmalina and Caeté, the sale of debt or equity capital, properties, royalty interests or the entering into of joint ventures or other strategic alliances in which the funding sources could become entitled to an interest in Jaguar's properties or projects. Additional financing may not be available when needed. If funding is available, the terms of such financing might not be favourable to Jaguar and might involve substantial dilution to existing shareholders. If financing involves the issuance of debt, the terms of the agreement governing such debt could impose restrictions on Jaguar's operation of its business. Failure to raise capital when needed could have a materially adverse effect on Jaguar's business, financial condition and results of operations.

Jaguar is exposed to risks of labour disruptions and changing labour and employment regulations.

Employees of Jaguar's principal projects are unionized, and the collective bargaining agreements between Jaguar and the unions that represent these employees must be renegotiated on an annual basis. Although Jaguar believes it has good relations with its employees and with their unions, production at Jaguar's mining operations is dependent upon the continuous efforts of Jaguar's employees. In addition, relations between Jaguar and its employees may be affected by changes in the scheme of labour relations that may be introduced by the relevant governmental authorities in whose jurisdictions Jaguar carries on business. Labour disruptions or any changes in labour or employment legislation or in the relationship between Jaguar and its employees may have a materially adverse effect on Jaguar's business, results of operations and financial condition. Labour litigation in Brazil is an ongoing exposure for all companies working in Brazil, especially in the mining sector. Jaguar has a number of labour claims, and the settlement of such claims may result in significant cash outflow in future.

Substantially all of Jaguar's assets are held by foreign subsidiaries that are subject to the laws of the Federal Republic of Brazil.

Jaguar conducts operations through its wholly owned foreign subsidiary MSOL, and substantially all of Jaguar's assets are held through this entity. Accordingly, any governmental limitation on the transfer of cash or other assets between Jaguar and MSOL could restrict Jaguar's ability to fund its operations efficiently. Any such limitations or the perception that such limitations may exist now or in the future could have an adverse impact on Jaguar's prospects, financial condition and results of operations.

Jaguar may be subject to litigation.

All industries, including the mining industry, are subject to legal claims, with and without merit. The Company may become involved in legal disputes in the future. Defense and settlement costs can be substantial, even with respect to claims that have no merit. Due to the inherent uncertainty of the litigation process, there can be no assurance that the resolution of any particular legal proceeding will not have a materially adverse effect on the Company's financial position or results of operations.

Generally, the labour claims are due to disputed overtime, danger pay, wage parity, etc. Brazilian labour law is a complex system of statutes and regulations, which in general, has a favourable approach to employees of the Company. As such, corporate labour compliance is a key success factor in Brazilian-based operations to minimize the impact of labour claims. The Company has historically not been in full compliance of labour regulations, nor did it have the proper procedures in place to support labour claims defenses, which led to the bulk of the litigation provisions recorded.

Production and cost estimates.

Jaguar prepares estimates of future production, total cash costs and capital costs of production for particular operations. No assurance can be given that such estimates will be achieved. Failure to achieve production or cost estimates or material increases in costs could have an adverse impact on Jaguar's future cash flows, profitability, results of operations and financial condition. Jaguar's actual production and costs may vary from estimates for a variety of reasons, including: actual ore mined varying from estimates of grade, tonnage, dilution and metallurgical and other characteristics; short-term operating factors relating to mineral or ore reserves, such as the need for sequential development of ore bodies and the processing of new or different ore grades; revisions to mine plans; unusual or unexpected ore body formations; risks and hazards associated with mining; natural phenomena, such as inclement weather conditions, water availability, floods, and earthquakes; and unexpected labour shortages or strikes. Costs of production may also be

affected by a variety of factors, including: changing waste-to-ore ratios, ore grade metallurgy, labour costs, the cost of commodities, general inflationary pressures and currency exchange rates.

Jaguar may be subject to impacts on production if the road route between the Pilar Mine and the Caeté plant cannot be used due to rain or other events.

Jaguar has material properties located in the state of Minas Gerais, Brazil. Typically, the state's wet season is from November to April. During the wet season, the properties and surrounding infrastructure may be subject to unpredictable weather conditions such as heavy rains, strong winds, and flash flooding. Pilar is located approximately 50 km by road from the Caeté plant. Ore from Pilar is hauled to the Caeté plant. Ore haulage activities may be slowed or delayed as roads may be temporarily flooded or if the maintenance or provision of such infrastructure is impacted by other events. Any delays could adversely affect Jaguar's operations, financial condition, and results of operations. Jaguar has undertaken to mitigate the potential effects of the wet season by discussing alternative routes with the neighbouring communities.

Global financial conditions may negatively impact its operations and share pricing.

Current global financial conditions have been characterized by increased volatility, particularly the markets for commodities, including gold. Access to public financing has been negatively impacted by several factors, including efforts by financial institutions to deleverage their balance sheets in the face of current economic conditions. These factors may impact the ability of Jaguar to obtain equity or debt financing in the future on terms favourable to Jaguar. Additionally, these factors, as well as other related factors, may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. If Jaguar had to idle any of its producing properties or delay the development of any project, there is no assurance that it would be able to restart production or development without undue delay, if at all. If such increased levels of volatility and market turmoil continue, Jaguar's operations could be adversely impacted, and the trading price of its common shares may be adversely affected.

Russia Ukraine Conflict

The Russian invasion of Ukraine and the Russia-Ukraine conflict is likely to have wide-ranging consequences on the peace and stability of the region and the rest of the world. Prevailing global financial conditions from time to time may impact the ability of the Company to obtain equity or debt financing in the future on terms favourable to the Company or at all. Recent global economic and geopolitical events, such as the war in Ukraine and sanctions on Russia, have created further uncertainty in global financial and equity markets. Any of these related economic factors may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses and the Company's operations could be adversely impacted and the trading price of the common shares may be adversely affected.

The war in Ukraine and the sanctions imposed on Russia could result in increased input costs, particularly for energy and ammonium nitrate, used in explosives by the mining industry, for which Russia is a significant global supplier.

The trading price for Jaguar's common shares is volatile and has been, and may continue to be, greatly affected by the ongoing market volatility.

Securities of mineral exploration and early-stage base metal production companies have experienced substantial volatility in the past, often based on factors unrelated to the financial performance or prospects of the companies involved. These factors include macroeconomic developments in North America and globally and market perceptions of the attractiveness of particular industries. Jaguar's common share price is also likely to be significantly affected by short-term changes in gold prices or its financial condition or results of operations as reflected in its quarterly earnings reports. Other factors unrelated to Jaguar's performance that may have an effect on the price of its common shares include the following: the extent of analytical coverage available to investors concerning Jaguar's business may be limited if investment banks with research capabilities do not continue to follow Jaguar's securities; the lessening in trading volume and general market interest in Jaguar's securities may affect an investor's ability to trade significant numbers of Jaguar's common shares; and the size of Jaguar's public float may limit the ability of some institutions to invest in Jaguar's securities. As a result of any of these factors, the market price of Jaguar's common shares at any given point in time may not accurately reflect Jaguar's long-term value.

Jaguar's mineral properties in Brazil operate in an emerging market and are subject to political, economic, social and geographic risks of doing business in Brazil

The Company's mining and development properties in Brazil expose the Company to the socioeconomic conditions in Brazil, as well as to the laws governing the mining industry in the country. Inherent risks with conducting foreign operations include, but are not limited to: high rates of inflation, changes in monetary and exchange policies, changes in interest rates, decreased liquidity in the domestic capital and lending markets, energy shortages, military repression, war or civil war, social and labour unrest, organized crime, hostage-taking, terrorism, violent crime, extreme fluctuations in currency exchange rates, expropriation and nationalization, renegotiation or nullification of existing concessions, licences, permits and contracts, illegal mining, changes in taxation policies, restrictions on foreign exchange and repatriation and changing political norms, currency controls and governmental regulations that favour or require the Company to award contracts in, employ citizens of, or purchase supplies from a particular jurisdiction.

Failure to comply strictly with applicable laws, regulations and local practices relating to mineral rights applications and tenure could result in loss, reduction or expropriation of entitlements or the imposition of additional local or foreign parties as joint venture partners with carried or other interests. In addition, changes in government laws and regulations, including taxation, royalties, the repatriation of profits, restrictions on production, export controls, changes in taxation policies, environmental and ecological compliance, expropriation of property and shifts in the political stability of the country, could adversely affect the Company's exploration, development and production initiatives in Brazil.

The Brazilian government frequently intervenes in the Brazilian economy and occasionally makes significant changes in policies and regulations. Changes, if any, in mining or investment policies or shifts in political attitude in Brazil or any of the jurisdictions in which the Company operates, may adversely affect the Company's operations or profitability. Operations may be affected in varying degrees by government regulations with respect to, but not limited to, restrictions on production, price controls, export controls, currency remittance, importation of parts and supplies, income and other taxes, expropriation of property, foreign investment, maintenance of claims, environmental legislation, land use, land claims of local people, water use and mine safety.

Uncertainty over whether the Brazilian government will implement changes in policy or regulation may contribute to economic uncertainty in Brazil. Historically, Brazilian politics have affected the performance of the Brazilian economy. Past political crises have affected the confidence of investors and the public, generally resulting in an economic slowdown.

Global economic crises could negatively affect investor confidence in emerging markets or the economies of the principal countries in Latin America, including Brazil. Such events could materially and adversely affect the Company's business, financial condition and results of operations.

The occurrence of these various factors and uncertainties cannot be accurately predicted and could have an adverse effect on the Company's business, results of operations and financial position.

Inflation in Brazil, along with Brazilian governmental measures to combat inflation, may have a significant negative effect on the Brazilian economy and, as a result, on the Company's financial condition and results of operations.

In the past, high levels of inflation have adversely affected the economies and financial markets of Brazil, and the ability of its government to create conditions that stimulate or maintain economic growth. Moreover, governmental measures to curb inflation and speculation about possible future governmental measures have contributed to the negative economic impact of inflation in Brazil and have created general economic uncertainty. As part of these measures, the Brazilian government has at times maintained a restrictive monetary policy and high interest-rates that have limited the availability of credit and economic growth. Brazil may experience high levels of inflation in the future. Inflationary pressures may weaken investor confidence in Brazil and lead to further government intervention in the economy, including interest rate increases, restrictions on tariff adjustments to offset inflation, intervention in foreign exchange markets and actions to adjust or fix currency values, which may trigger or exacerbate increases in inflation, and consequently, have an adverse impact on the Company. In an inflationary environment, the value of uncollected accounts receivable, as well as of unpaid accounts payable, declines rapidly. If Brazil experiences high levels of inflation in the future and price controls are imposed, the Company may not be able to adjust the rates the Company charges the Company's customers to fully offset the impact of inflation on the Company's cost structures, which could adversely affect the Company's results of operations or financial condition.

Corruption and fraud in Brazil relating to ownership of real estate.

Under Brazilian law, real property ownership is normally transferred by means of a transfer deed and subsequently registered at the appropriate real estate registry office under the corresponding real property record. There are uncertainties, corruption and fraud relating to title ownership of real estate in Brazil, mostly in rural areas. In certain cases, a real estate registry office may register deeds with errors, including duplicate and/or fraudulent entries, and, therefore, deed challenges frequently occur, leading to judicial actions. Property disputes over title ownership are frequent in Brazil, and, as a result, there is a risk that errors, fraud or challenges could adversely affect the Company's ability to operate, although ownership of mining rights are separate from ownership of land.

Repatriation of earnings.

There is no assurance that any countries in which the Company carries on business, or may carry on business in the future, will not impose restrictions on the repatriation of earnings to foreign entities.

Termination of mining concessions.

The Company's mining concessions may be terminated in certain circumstances. Under the laws of Brazil, Mineral Resources belong to the federal government and governmental concessions are required to explore for, and exploit, Mineral Reserves. The Company will hold mining, exploration and other related concessions in each of the jurisdictions where the Company operates and where it will carry on development projects and prospects. The concessions the Company will hold in respect to its operations, development projects and prospects may be terminated under certain circumstances. Termination of any one or more of the Company's mining, exploration or other concessions could have a material adverse effect on the Company's financial condition or results of operations.

Compliance with anti-corruption laws.

The Company's operations are governed by, and involve interaction with, many levels of government in Brazil. The Company is subject to various anti-corruption laws and regulations, such as the Canadian Corruption of Foreign Public Officials Act, which prohibits a company and its employees or intermediaries from bribing or making improper payments to foreign officials or other persons to obtain or retain business or gain some other business advantage. In addition, the Extractive Sector Transparency Measures Act recently introduced by the Canadian government contributes to global efforts to increase transparency and deter corruption in the extractive sector by requiring extractive entities active in Canada to publicly disclose, on an annual basis, specific payments made to all governments in Canada and abroad. According to Transparency International, Brazil is perceived as having fairly high levels of corruption relative to Canada. The Company cannot predict the nature, scope or effect of future regulatory requirements to which the Company's operations might be subject or the manner in which existing laws might be administered or interpreted.

In recent years, there has been a general increase in both the frequency of enforcement and the severity of penalties under such anti-corruption and anti-bribery laws, resulting in greater scrutiny and punishment of companies found in violation of such laws. Failure to comply with the applicable anti-corruption laws and regulations could expose the Company and its senior management to civil or criminal penalties or other sanctions, which could materially and adversely affect the Company's business, financial condition and results of operations. Likewise, any investigation of any alleged violations of the applicable anti-corruption legislation by Canadian or foreign authorities could also have an adverse impact on the Company's business, reputation, financial condition and results of operations. Although the Company has adopted policies to mitigate such risks, such measures may not be effective in ensuring that the Company, its employees or third-party agents will comply with such laws.

Reliance on local advisors and consultants in foreign jurisdictions.

The Company holds mining and exploration properties in Brazil. The legal and regulatory requirements in Brazil with respect to conducting mineral exploration and mining activities, banking systems and controls, as well as local business culture and practices, are different from those in Canada and the United States. The officers and directors of the Company must rely, to a great extent, on the Company's local legal counsel and local consultants retained by the Company in order to keep abreast of material legal, regulatory and governmental developments as they pertain to and affect the Company's business operations, and to assist the Company with its governmental relations. The Company must rely, to some extent, on those members of management and the Board who have previous experience working and conducting business in these countries in order to enhance its understanding of and appreciation for the local

business culture and practices. The Company also relies on the advice of local experts and professionals in connection with current and new regulations that develop in respect of banking, financing, labour, litigation and tax matters in these countries. Any developments or changes in such legal, regulatory or governmental requirements or in local business practices are beyond the control of the Company. The impact of any such changes may adversely affect the business of the Company.

Internal controls provide no absolute assurances as to the reliability of financial reporting and financial statement preparation, and ongoing evaluation may identify areas in need of improvement.

The Company's Audit and Risk Committee actively oversees the monitoring of any identified deficiencies and weaknesses in internal controls, as well as the risks they create for the Company. The Audit and Risk Committee, and more generally the Board, oversees the timely remediation of any weaknesses and, in the interim, the mitigation of the related risks. In consultation with the Company's internal auditors, as well as the Board, the Audit and Risk Committee monitors and evaluates, among other things, the following on an ongoing basis: (i) the effectiveness of internal controls; (ii) the materiality of, and potential risks that may arise from, any deficiencies or weaknesses in internal controls; (iii) how any such deficiencies and weaknesses can be remediated; (iv) management's plan and timeframe for any such remediation; (v) the status of any ongoing remediation plans of the Company; and (vi) whether any interim measures should be adopted prior to the completion of any remediation.

The Company has invested resources to document and assess its system of internal control over financial reporting and undertakes an evaluation process of such internal controls. Internal control over financial reporting are procedures designed to provide reasonable assurance that transactions are properly authorized, assets are safeguarded against unauthorized or improper use, and transactions are properly recorded and reported. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, safeguards with respect to the reliability of financial reporting and financial statement preparation.

The Company has evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures, as defined in the rules of the Canadian Securities Administrators, as at December 31, 2022. Based on this evaluation, the CEO and CFO have concluded that the Company's disclosure controls and procedures in relation to the annual impairment testing were not effective as at December 31, 2022 due to the material weakness in internal control over financial reporting described in the "Disclosure Controls and Procedures and Internal Controls over the Financial Reporting" section herein. Other than the identification of the material weakness described in that section, there were no changes in the Company's internal control over financial reporting during the year ended December 31, 2022, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

In 2023, management will design and implement additional internal controls to perform the impairment review at a detailed level sufficient to prevent a material error going forward by implementing additional steps in the Company's review process. The material weakness will not be considered remediated, however, until the applicable controls operate for a sufficient period and management has concluded, through testing, that these controls are operating effectively.

If the Company fails to maintain the adequacy of its internal control over financial reporting, as either the Company's or the applicable regulatory standards are modified, supplemented, or amended from time to time, then the Company may not be able to ensure that it can conclude on an ongoing basis that it has effective internal controls over financial reporting. If in the future the Company is required to disclose a material weakness in its internal controls over financial reporting, then this could result in the loss of investor confidence in the reliability of the Company's financial statements, which in turn could harm the Company's business and negatively impact the trading price of its common shares. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm the Company's operating results or cause it to fail to meet its reporting obligations.

Potential Secondary Market Liability

Pursuant to amendments to the *Securities Act* (Ontario) which took effect on December 31, 2005 (and similar legislation that was enacted in most of Canada's other provinces), a new regime of statutory provisions governing the civil liability of public companies (and of their directors, officers, influential persons, experts and spokespersons) was adopted to give protection to investors who buy or sell corporate securities in the secondary markets during a period when a public company's corporate disclosure obligations are not being met.

Although the statutory secondary market liability provisions that were adopted at the end of 2005 speak of a statutory "right" of action, the prospective plaintiff can only commence a proceeding under these provisions with the leave (i.e., permission) of the court. Leave will be granted only if the court is satisfied that: (i) the action is being brought in good faith; and (ii) there is a "reasonable possibility" that the action will be resolved in favour of the plaintiff.

During the preparation of the Company's financial statements for the year ended December 31, 2022, an error was identified on the determination of the carrying value in the impairment test performed for the MTL CGUs for the year ended December 31, 2021. This required a restatement of the financial statements for the year ended December 31, 2021 to reflect a $10.1 million impairment charge (see note 27 to the 2022 audited annual consolidated financial statements). Although KPMG LLP has not withdrawn its audit opinion letter dated March 21, 2022 that accompanies the Company's financial statements for the year ended December 31, 2021 (as filed on SEDAR on March 21, 2022), the Company faces the risk of a potential civil action regarding a potential allegation that the error resulted in there being a misrepresentation in the Company's financial statements for the year ended December 31, 2021 that existed from March 21, 2022 until the announcement and filing of the Company's comparative financial statements for the year ended December 31, 2022. However, the Company believes that a potential plaintiff will likely be unsuccessful in any such claim since the error is not likely material enough to constitute a misrepresentation because there was no impact to the Company's consolidated statement of cash flows as a result of this restatement of impairment charges, other than (i) a $10.1 million decrease in net income offset by (ii) a $10.1 million increase in impairment charges, both changes of which resulted in no change to the net cash provided by operating activities. Nonetheless, the probability of any litigation and the cost to defend or settle any such litigation is not known.

Jaguar may be subject to community relations and social licence to operate issues, or involvement from Non-Governmental Organizations (NGOs).

Jaguar mines in a peri-urban environment adjacent to communities surrounded by lands used for agriculture, residence, and other industry. Jaguar has no significant community relations issues at present. However, ore from Pilar is trucked to the Caeté plant for processing, which passes through one or two towns depending on the route. Jaguar has maintained good community relations with the neighbouring communities and city councils to date. Relations between Jaguar and its local communities may be affected by elections changing the relevant governmental authorities in whose jurisdictions Jaguar carries on business, by local community dissatisfaction with our operations, or by the involvement of an NGO opposed to mining. Community disruptions, changes in the relationship between Jaguar and the communities wherein it operates, or new involvement by NGOs opposed to mining, may have a materially adverse effect on Jaguar's business, which could result in changes in operational and financial conditions. Social licence to operate in Brazil is an ongoing exposure for all companies working in Brazil, especially in the mining sector.

Jaguar may be negatively affected by an outbreak of infectious disease or pandemic.

An outbreak of infectious disease, pandemic or a similar public health threat, such as the COVID-19 outbreak and the response thereto, could adversely impact the Company, both operationally and financially. The global response to the COVID-19 outbreak has resulted in, among other things, border closures, severe travel restrictions and extreme fluctuations in financial and commodity markets. Additional measures may be implemented by one or more governments around the world in jurisdictions where the Company operates. Labour shortages due to illness, Company or government-imposed isolation programs, restrictions on the movement of personnel or possible supply chain disruptions could result in a reduction or interruption of the Company's operations, including mine shutdowns or suspensions. The inability to transport and/or refine and process the Company's products could have a materially adverse effect on the Company's future cash flows, earnings, results of operations and financial condition. As efforts are undertaken to slow the spread of the COVID-19 virus, the operation and development of mining projects may be impacted. If the operation or development of one or more of the properties of Jaguar, or in which Jaguar holds a royalty, stream or other interest, is suspended or the development is delayed for precautionary purposes or as governments declare states of emergency or other actions are taken in an effort to combat the spread of COVID-19, it may have a materially adverse impact on Jaguar's profitability, results of operations, financial condition and the trading price of Jaguar's securities.

The adverse effects described above could be rapid and unexpected. The spread of the Omicron variant in late 2021 and early 2022 adversely impacted the workforce levels and operations of the Company. The actual and threatened spread of COVID-19 globally could adversely affect global economies and financial markets resulting in a prolonged economic downturn and a decline in the value of Jaguar's stock price.

The growing emergence of COVID-19 variants of concern that are more transmissible and carry increased health risks threaten another surge in cases and hospitalizations, which may lead to the adoption of new emergency measures. Disruptions caused by the imposition of these emergency measures may negatively impact the Company's operations.

Jaguar's management will continue to monitor the situation regarding COVID-19 and may take actions that alter Jaguar's business operations as may be required by federal, provincial or local authorities, or that management determines are in the best interests of Jaguar's employees, customers, suppliers, shareholders and other stakeholders. Such alterations or modifications could cause substantial interruption to Jaguar's business, any of which could have a materially adverse effect on, among other things, Jaguar's operations or financial results. The extent to which COVID-19 and any other pandemic or public health crisis impacts Jaguar's business, affairs, operations, financial condition (including Jaguar's ability to raise funds), liquidity, availability of credit and results of operations will depend on future developments that are highly uncertain and cannot be accurately predicted, including new information which may emerge concerning the effectiveness, acceptance and availability of vaccines, as well as the duration of associated immunity and efficacy of the vaccines against emerging variants of COVID-19, which may prolong the impacts of COVID-19 on the American, Canadian and Brazilian economies, the mining industry and Jaguar (including its workforce).

Even after the COVID-19 pandemic has subsided, Jaguar may continue to experience adverse impacts to its business as a result of the pandemic's global economic impact, including any related recession, as well as lingering impacts on Jaguar's workforce, suppliers and third-party service providers.

Climate change-related risks.

Climate change is one of the most complex challenges facing the world today. It is a global, multi-dimensional problem. Climate-related risks are typically categorized as transitional risks and physical risks, the latter risks being further subdivided into acute physical risks (severe and short-term) and chronic physical risks (long-term and gradual in nature). Acute physical climate risks are typically witnessed in the form of extreme weather and weather-related events, such as tropical storms, wildfires, droughts and flooding, whereas chronic physical climate risks refer to enduring changes and shifts in average air or land temperatures, water acidification, soil quality and other persistent trends. Because of climate change, the Company and the broader gold mining industry faces new geotechnical risks, which could adversely impact the Company's production and profitability. Unanticipated adverse geotechnical and hydrological conditions, such as landslides, droughts, pit wall failures and rock fragility, may occur in the future and such events may not be detected in advance. Geotechnical instabilities and adverse climatic conditions can be difficult to predict and are often affected by risks and hazards outside of the Company's control, such as seismic activity, extreme severe weather events and considerable rainfall, which may lead to periodic floods, mudslides and embankment instability, and which could potentially result in, among other things, slippage of material.

Geotechnical failures could result in limited or restricted access to mine sites, suspension of operations, government investigations, increased monitoring costs, remediation costs, loss of ore and other impacts, including financial liability, which could cause one or more of the Company's projects to be less profitable than currently anticipated and could result in a materially adverse effect on the Company's results of operations and financial position.

Furthermore, the occurrence of physical climate change events may result in substantial costs to respond to and/or recover from an event, and to prevent recurrent damage, through either the modification of, or addition to, existing infrastructure at the Company's operations. The scientific community has predicted an increase, over time, in the frequency and severity of extraordinary or catastrophic natural phenomena as a result of climate change. The Company can provide no assurance that it will be able to predict, respond to, measure, monitor or manage the risks posed as a result.

The in-combination and cumulative effects of more than one physical climate risk can create a compounding or cascading set of risks which, together, can impose a far greater overall level of risk on mining operations. For example, the risk of flash flooding from extreme rainfall (an acute impact) is significantly magnified by long-term dry weather (a chronic impact) reducing the ground's ability to absorb water. Similarly, the combined effects of warmer average temperatures and greater wind speeds, resulting in increased dust levels, may likely shorten the operational life span of machinery.

Interconnected climate impacts may also affect communities that reside outside of usual risk assessment boundaries. While these risks may be indirect to our operations and mine sites, their magnitude may significantly affect our operations. For example, local

communities will share climate change conditions with neighbouring mines and acute and chronic climate change risks may negatively affect employee welfare, social wellbeing and local economy stability which may, in turn, raise challenges for mine sites, even if they have proven to be relatively unaffected by a particular impact or hazard.

Also, the geography of our mine sites located in remote locations with limited and/or fragile infrastructure, means that the Company may find itself at the "front line" of climate change risks and efforts to manage their potential physical consequences.

In addition, as climate change is increasingly perceived as a broad societal and community concern, stakeholders may increase demands for emissions reductions and call upon mining companies to better manage their consumption of climate-relevant resources. Physical climate change events, and the trend toward more stringent regulations aimed at reducing the effects of climate change, could impact the Company's decisions to pursue future opportunities or maintain existing operations, which could have an adverse effect on its business and future operations. The Company can provide no assurance that efforts to mitigate the risks of climate change will be effective and that the physical risks of climate change will not have an adverse effect on its operations and profitability.

Environmental, health and safety regulations.

Jaguar's mining and processing operations and development and exploration activities are subject to extensive laws and regulations governing the protection of the environment, waste disposal, worker safety, mine development, water management and protection of endangered and other special status species. Failure to comply with applicable environmental and health and safety laws and regulations could result in injunctions, fines, suspension or revocation of permits and other penalties. While Jaguar strives to achieve full compliance with all such laws and regulations and with its environmental and health and safety permits, there can be no assurance that Jaguar will at all times be in full compliance with such requirements. Activities required to achieve full compliance can be costly and involve extended timelines. Failure to comply with such laws, regulations and permits will create reputational risks for the Company and can have serious consequences, including: stopping Jaguar from proceeding with the development of a 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 Jaguar, and may materially adversely affect Jaguar's business, results of operations or financial condition.

Future changes in applicable environmental and health and safety laws and regulations, such as the imposition of a carbon tax, could substantially increase costs and burdens to achieve compliance or otherwise have an adverse impact on Jaguar's business, results of operations or financial condition. Jaguar may also be held responsible for the costs of addressing contamination at the site of current or former activities or at third party sites. Jaguar could also be held liable to third parties for exposure to hazardous substances. The costs associated with such responsibilities and liabilities may be significant. While Jaguar has implemented extensive health and safety initiatives at its sites to protect the health and safety of its employees, contractors and members of the communities affected by its operations, there is no guarantee that such measures will eliminate the occurrence of accidents or other incidents which may result in personal injuries or damage to property, and in certain instances such occurrences could give rise to regulatory fines and/or civil liability.

Mining risks and insurance risks.

The mining industry is subject to significant risks and hazards, including environmental hazards, industrial accidents, catastrophic equipment failures, unusual or unexpected geological conditions, labour force disruptions, civil strife, unavailability of materials and equipment, weather conditions, pit wall failures, tailings dam failures, rock bursts, cave-ins, flooding, seismic activity and water conditions, most of which are beyond Jaguar's control. Jaguar is also exposed to theft or loss of gold bullion or gold concentrate. These risks and hazards could result in: damage to, or destruction of, mineral properties or producing facilities; personal injury or death; environmental damage; delays in mining; and monetary losses and possible legal liability. As a result, production may fall below historic or estimated levels and Jaguar may incur significant costs or experience significant delays that could have a materially adverse effect on Jaguar's financial performance, liquidity and results of operations.

Jaguar maintains insurance to cover some of these risks and hazards. The insurance is maintained in amounts that are believed to be reasonable depending on the circumstances surrounding the identified risk. No assurance can be given that such insurance will continue to be available, or that it will be available at economically feasible premiums, or that Jaguar will obtain or maintain such insurance. Jaguar's property, liability and other insurance may not provide sufficient coverage for losses related to these or other risks

or hazards. In addition, Jaguar does not have coverage for certain environmental losses and other risks, as such coverage cannot be purchased at a commercially reasonable cost. The lack or insufficiency of insurance coverage could adversely affect Jaguar's cash flow and overall profitability.

Geotechnical challenges could impact profitability.

Jaguar and the mining industry are facing continued geotechnical challenges associated with the aging of certain mines and the need to mine deeper pits and more complex deposits. This leads to higher pit walls, more complex underground operations and increased exposure to geotechnical instability. As Jaguar's operations mature, the open pit and underground operations at certain sites are getting deeper. Jaguar has experienced geotechnical failures at some open pit operations and seismic events at some underground operations. Seismic events may also affect mining operations in other ways, such as damage to critical infrastructure. No assurances can be given that unanticipated adverse geotechnical conditions, such as pit wall failures, underground cave-ins and other ground-related instability, will not occur in the future or that such events will be detected in advance. Geotechnical instabilities can be difficult to predict and are often affected by risks beyond Jaguar's control, such as severe weather, higher than average rainfall and seismic events

The failure of tailings dam and storage facilities, and other impoundments at Jaguar's mine sites, could cause severe and potentially catastrophic damage to property, the environment, persons, and Jaguar's reputation. The Company regularly reviews and inspects all Jaguar-owned or controlled tailings storage facilities for compliance with applicable legal requirements and global best practices; however, there can be no assurance that these events will not occur in the future. Geotechnical or tailings storage facility failures can result in limited access to mine sites, suspension of operations, production delays, government investigations, increased costs, as well as injuries and deaths in the most extreme cases. All of these could adversely impact Jaguar's results of operations and financial position.

Availability and increased cost of critical parts, equipment and skilled labour.

Availability and increased cost of critical parts, equipment and skilled labour, and an increase in worldwide demand for critical resources such as input commodities, drilling equipment, tires and skilled labour may cause unanticipated cost increases and delays in delivery times, thereby impacting the Company's operating costs, capital expenditures and construction and production schedules.

Ontario Securities Commission ("OSC") statement of allegations involving a board member.

On November 9, 2022, the Ontario Securities Commission ("OSC") issued a Statement of Allegations involving William Jeffrey Kennedy, along with other capital market participants, regarding a capital markets transaction that occurred in March 2017, approximately 2.5 years prior to Mr. Kennedy joining Jaguar's board of directors in September 2019. The full text of the allegations and other documents related to the proceeding can be found on the website of the Capital Markets Tribunal at: https://www.capitalmarketstribunal.ca/en/proceedings/cormark-securities-inc-re. Although none of the OSC's allegations involve any business or capital markets activities of Jaguar and although Jaguar is not a respondent and Jaguar does not expect to be participating in the proceeding, there is a risk that the allegations and/or the outcome of the proceeding could result in some reputational harm to Mr. Kennedy, other respondents, and also perhaps to the companies that they are highly associated or connected with, including, in the case of Mr. Kennedy, Jaguar. In the Statement of Allegations, the OSC has requested that the Capital Markets Tribunal order, among other sanctions, that Mr. Kennedy resign any position he may hold as an officer or director of an issuer and that Mr. Kennedy be prohibited from becoming or acting as a director or officer of an issuer for a period of time to be specified by the Capital Markets Tribunal. Accordingly, there is a risk that Mr. Kennedy may be required to resign from his position as a director of Jaguar at the conclusion of the proceeding. Jaguar will be paying close attention to the proceeding. Mr. Kennedy and the other respondents are defending the proceedings and the allegations have not been proven.

DIVIDEND

Jaguar has paid C$8.7 million in dividends, at C$0.12 per common share, for the year ended December 31, 2022, C$17.4 million in dividends, at C$0.24 per common share, for the year ended December 31, 2021, and C$11.5 million in dividends, at C$0.16 per common share, for the year ended December 31, 2020.

On November 9, 2022 Jaguar announced that the Board of Directors and management of the Company had decided to suspend its regular quarterly dividend in order to prioritize the maximization of cashflow to invest in growth capital, in particular the advancement of the Faina project and convert its exploration success into value enhancing propositions for our shareholders. Any future payment of dividends will be dependent upon the financial requirements of Jaguar to fund future projects, the financial condition of Jaguar and other factors that the Board, in its discretion, may consider appropriate under the circumstances. See "Risk Factors - The ability of Jaguar to pay dividends will be dependent on the financial condition of Jaguar".

The Board of Directors intends to review, among other things, the Company's budget, cash flow forecast and existing market conditions on a quarterly basis in order to determine whether to resume paying dividends on Shares for subsequent quarters. The declaration, timing, amount and payment of any future dividends remain at the discretion of the Board of Directors.

DESCRIPTION OF CAPITAL STRUCTURE

Jaguar is authorized to issue an unlimited number of common shares, of which there were 72,452,927 issued and outstanding as of December 31, 2022. Holders of Jaguar's common shares are entitled to receive notice of any meetings of shareholders, to attend and to cast one vote per common share at all such meetings. Holders of Jaguar's common shares do not have cumulative voting rights with respect to the election of directors, and holders of a majority of Jaguar's common shares entitled to vote in any election of directors may therefore elect all directors standing for election. Holders of Jaguar's common shares are entitled to receive on a pro-rata basis such dividends, if any, as and when declared by the Board at its discretion from funds legally available therefore and upon the liquidation, dissolution or winding up of Jaguar are entitled to receive on a pro-rata basis the net assets of Jaguar after payment of debts and other liabilities, in each case subject to the rights, privileges, restrictions and conditions attaching to any other series or class of shares ranking senior in priority to or on a pro-rata basis with the holders of common shares with respect to dividends or liquidation. Jaguar's common shares do not carry any pre-emptive, subscription, redemption or conversion rights, nor do they contain any sinking or purchase fund provisions.

MARKET FOR SECURITIES

Jaguar's common shares were listed on the TSX-V until the common shares were listed on the TSX commencing August 3, 2016, under the symbol "JAG". *For more information, refer to Jaguar's press release dated July 29, 2016.*

The following table sets forth information relating to the trading of Jaguar's common shares on the TSX for the periods indicated. The trading prices and volume data were obtained from infoventuretsx.com.

Month	High ($)	Low ($)	Volume
January 2022	4.55	3.90	1,353,383
February 2022	4.99	3.87	1,749,364
March 2022	5.61	4.05	2,500,048
April 2022	4.73	3.67	1,708,411
May 2022	3.98	2.65	1,863,687
June 2022	3.53	2.82	1,512,773
July 2022	3.40	2.54	1,073,506
August 2022	3.60	2.81	903,290
September 2022	3.44	2.68	1,253,560
October 2022	3.39	2.71	733,703
November 2022	2.97	2.52	1,263,199
December 2022	3.40	2.60	3,325,497

Source: TSX InfoSuite™

PRIOR SALES

During the financial year ended December 31, 2022, the Company issued securities as follows:

Date of Issuance	Type of Security	Number of Securities Issued[(1)]	Issuance/ Price per Security (in $)[(1)]
January 4, 2022	DSUs	15,333	N/A
February 15, 2022	Common Shares[(1)]	2,083	$4.32
June 1, 2022	DSUs	10,523	N/A
August 2, 2022	DSUs	1,818	N/A
August 2, 2022	Common Shares[(2)]	10,000	3.25

(1) Post-Consolidation basis.
(2) Common Shares issued in connection with the exercise of DSUs.
(3) Common Shares issued in connection with the exercise of stock options.

DIRECTORS AND EXECUTIVE OFFICERS

Directors and Executive Officers

The table below outlines the Board members and key senior officers of Jaguar as at December 31, 2022. The present term of each director will expire at the next annual meeting of shareholders or upon such director's successor being elected or appointed.

Name & Province/State of Residence	Position and Date of Appointment	Principal Occupation (past five years)	Number of Common Shares Beneficially Owned	Percentage of Common Shares Beneficially Owned	Number of Deferred Share Units
Ben Guenther Nevada, United States	Director 07-Nov-2017	Manager at Platoro Mine Consulting LLC. Various Executive Positions at AngloGold Ashanti (1995-2017).	250,864	0.35%	51,912
John Ellis Arizona, United States	Director 24-Jun-2016	Director for Baru Gold Corp. Director for International Tower Mines and for Sunshine Silver Mines Corporation.	35,497	0.05%	132,557
Luis Ricardo Miraglia Minas Gerais, Brazil	Director 27-Sep-2012	Senior Partner of Azevedo Sette Advogados, a Brazilian law firm, since 2004.	63,967	0.09%	156,662
Shastri Ramnath Ontario, Canada	Director 11-Jun-2020	President and CEO of Exiro Minerals Corp. Chair of Orix Geoscience Corp	4,150	0.01%	49,306
Mary-Lynn Oke Ontario, Canada	Director 31-Aug-2021	Director for Signal Gold Inc. VP Hudbay Minerals Inc.	5,500	0.01%	35,802
Thomas Weng New Jersey, United States	Director 01-Apr-2016	Co-founder of Alta Capital Partners. Lead Independent Director for Hycroft Mining Holding Corporation Director for International Tower Hill Mines	29,709	0.04%	135,838
William J. Kennedy Ontario, Canada	Director 06-Sep-2019	Managing Director Equity Capital Markets and Operations at Cormark Securities Inc.	10,000	0.01%	54,836
Vernon Baker Minas Gerais, Brazil	Officer 06-Aug-2019	Chief Executive Officer, Jaguar Mining Inc. General Manager at Goldcorp's Cerro Negro Mine	33,626	0.05%	50,629
Hashim Ahmed Ontario, Canada	Officer 19-Feb-2016	Chief Financial Officer, Jaguar Mining Inc. Financial Controller, Projects Jaguar Gold (2008-2014).	77,146	0.11%	47,685

As at March 31, 2023, the directors and executive officers of the Company, as a group, beneficially owned, directly or indirectly, or exercised control over, a total of 510,459 common shares, representing 0.7% of the issued and outstanding common shares of the Company, as well as a total of 715,227 deferred share units.

As of the date of this AIF, the board committees and members are as follows:

Audit and Risk Committee:

- Mary-Lynn Oke (Chair)
- Ben Guenther
- Thomas Weng

Corporate Governance & Compensation Committee:

- Thomas Weng (Chair)
- John Ellis
- Shastri Ramnath

Finance & Corporate Development Committee

- Luis Miraglia (Chair)
- Jeff Kennedy
- Thomas Weng
- Mary-Lynn Oke

Safety, Environmental, Technical & Reserves Committee

- Ben Guenther (Chair)
- John Ellis
- Shastri Ramnath
- Luis Miraglia

For information on Jaguar's Audit and Risk Committee, see the section below entitled *"Audit and Risk Committee and Audit Fees".*

Board and Management Experience

The knowledge and prior work experience of Jaguar's directors ensure that the Board is well-positioned to exercise its responsibilities while being knowledgeable of, and taking into account, the cultural and business practices of Brazil. Specifically:

(a) The Chairman of the Board, Jeff Kennedy, previously served as the Managing Director Equity Capital Markets and Operations at Cormark Securities Inc., a leading independent investment dealer focused on providing comprehensive investment banking and research coverage of Canadian listed issuers, including those with operations in emerging market jurisdictions.

(b) Thomas Weng was previously a Managing Director at Deutsche Bank and Head of Equity Capital Markets for Metals and Mining throughout the Americas and Latin America, across all industry segments.

(c) Luis Miraglia is a native of Minas Gerais, Brazil and is a Senior Partner at Azevedo Sette Advogados, a well-established law firm located in Brazil. Mr. Miraglia is a member of the Corporate Law Committee of the Brazilian Bar Association, Chapter of Minas Gerais, and has advised numerous boards of privately and publicly held companies, both in Brazil and abroad, in connection with Brazilian law. Mr. Miraglia is fluent in both Portuguese and English.

(d) Benjamin Guenther is a Mining Engineer with a wide range of management, executive, board, and consulting experience and over 40 years in the global mining industry. From October 1995 to June 2016, Mr. Guenther served as an executive officer of AngloGold Ashanti, which has material operations in Brazil.

(e) John Ellis is a Professional Engineer with over 50 years of experience in the mining industry. He has previously served as a director and Chief Executive Officer of certain public mining companies, including those with operations in Brazil.

(f) Shastri Ramnath is a professional geoscientist and entrepreneur with over 20 years of global experience and has worked in various technical and leadership roles. She currently serves as a director of Meteoric Resources NL (ASX: MEI), which has mining operations in Brazil.

(g) Mary-Lynn Oke brings over 25 years of business experience built through a career that has included tax, finance, corporate, and senior leadership roles. Ms. Oke was previously with Hudbay Minerals Inc. where she was the Vice President, Finance and the Chief Financial Officer of the Manitoba Business Unit. Ms. Oke brings deep experience in financial reporting, business acquisitions and divestitures, tax, treasury, capital structuring, supply chain management, and organizational redesign.

Moreover:

(a) The Company's Chief Executive Officer, Vernon Baker, is a resident of Brazil and has over 35 years of mining industry experience, with extensive management and operations expertise at globally focused mid-tier and senior mining companies.

(b) Hashim Ahmed joined Jaguar in August 2014 as Vice President, Controller and was later appointed to the position of Chief Financial Officer in February 2016. Mr. Ahmed traves to Brazil to meet with local management and visit the Company's material projects approximately ten times a year.

(c) The Company's VP Exploration & Mine Geology, Jonathan Victor Hill, has over 30 years' experience of global exploration, mining operational and project development experience, including Africa, Australia and the Americas. Mr. Hill spent most of his formative years as a geologist with AngloGold Ashanti, which has material operations in Brazil. He is also a non-executive director and Chairman of Royal Road Minerals Limited (TSX-V: RYR) and a non-executive director of Stratabound Minerals (V.SB). He also provides exploration advisory services to international companies through Exploration Outcomes Ltda., which Mr. Hill founded in 2017.

(d) Eric Duarte is the VP of Operations at Jaguar. He has considerable experience implementing and managing capital projects and underground and open-pit operations. Mr. Duarte is a geologist with over 20 years of experience working in gold, copper, zinc, lead and iron multinational mining companies. His international experience in the industry covers Brazil, South Africa, Australia, Chile, United States and Tanzania. Mr. Duarte is fluent in Portuguese, English and Spanish.

(e) Marina Freitas is Jaguar's VP Administration, Engineering and Growth and has been at Jaguar for more than ten years. Ms. Freitas is a citizen and resident of Brazil and is fluent in Portuguese and English.

In addition to the foregoing:

(a) The Company has engaged English-speaking legal counsel at Azevedo Sette Advogados and Corrêa Ferreira Advogados as its legal counsel in Brazil. At any time, individuals are able to reach out to such legal counsel for advice and clarification.

(b) The Company works with local professionals who have expertise in conducting business in Brazil, as well as industry experts with specialized knowledge to assist with complex matters arising in Brazil. The quality of their advice is assessed and reviewed by management and the Board on an ongoing basis.

(c) The Company strongly encourages the sharing of knowledge and Brazilian business experience amongst the Company's directors and officers, and there is active communication among and between directors and officers, including regular updates on current events and business in Brazil.

All meetings of the Board and its committees, including the Audit and Risk Committee, are conducted in English. In addition, all material documents relating to the Company and MSOL that are provided to the Board are either prepared in English or are translated into

English, if applicable. All external financial and corporate compliance reporting with respect to Jaguar and MSOL is completed in English.

Corporate Cease Trade Orders or Bankruptcies

Except as stated below, no director or executive officer of Jaguar, or shareholder holding a sufficient number of securities of Jaguar to affect materially the control of Jaguar, is, as at the date of this AIF, or has been within ten (10) years before the date of this AIF, a director or executive officer of any company that, while that person was acting in that capacity:

i. Was the subject of a cease trade or similar order or an order that denied the relevant company access to any exemption under securities legislation, for a period of more than thirty (30) consecutive days except as set forth in the second and third to last paragraphs of this section;

ii. Was subject to an event that resulted, after the director or executive officer ceased to be a director or executive officer, in the company being the subject of a cease trade or similar order or an order that denied the relevant company access to any exemption under securities legislation, for a period of more than thirty (30) consecutive days; or

iii. 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 was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

Further, except as noted below, no director, executive officer, promoter or other member of management of Jaguar has within the ten years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the Nominee.

(a) Mr. Miraglia was a director of the Company when it obtained creditor protection under the Companies' Creditors Arrangement Act (Canada) (the "CCAA") pursuant to an order granted on December 23, 2013 by the Ontario Superior Court of Justice (Commercial List) (the "Court"). On February 5, 2014, the Company obtained an order from the Court sanctioning a plan leading to an overall capital reorganization of the Company, which was successfully implemented on April 22, 2014.

(b) Mr. Ellis was a director of Royal Coal Corp. ("Royal Coal"), a public natural resource company listed on the TSX-V. On May 9, 2012, after Mr. Ellis ceased as a director, Royal Coal became subject to a cease trade order in British Columbia for failure to file audited financial statements for the period ending December 31, 2011, during which period Mr. Ellis served as a director. Subsequently, similar cease trade orders were also issued in Ontario, Alberta, and Manitoba. The cease trade orders all remain in effect.

Audit and Risk Committee and Audit Fees

Audit and Risk Committee Charter

The Audit and Risk Committee Charter is attached as Appendix "A" to this AIF.

Composition of the Audit and Risk Committee

As at the date of this AIF, the members of the Audit and Risk Committee are Ms. Oke (chair) and Messrs. Guenther and Weng. All three members are independent and financially literate within the meaning of National Instrument 52-110 *Audit Committees* ("**NI 52-110**"). The relevant education and experience of each Audit and Risk Committee member are as follows:

Mary-Lynn Oke has over 25 years of business experience built through a career that has included tax, finance, corporate, and senior leadership roles. Ms. Oke was previously with Hudbay Minerals Inc. where she was the Vice President, Finance and the Chief Financial Officer of the Manitoba Business Unit. Ms. Oke brings deep experience in financial reporting, business acquisitions and divestitures, tax, treasury, capital structuring, supply chain management, and organizational redesign. Ms. Oke holds an Honours Bachelor of Arts in Business Administration from the Richard Ivey School of Business and is a Chartered Professional Accountant.

Ben Guenther is a mining engineer with a wide range of management, executive, board, and consulting experience and over 40 years in the mining industry. Mr. Guenther held Senior Management Positions with AngloGold Ashanti in his past career, including a long association with mining in Brazil. Mr. Guenther graduated from the Colorado School of Mines.

Thomas Weng has more than 25 years of experience in the financial services sector with a focus on mining, metals, industrials and consumer products. Mr. Weng is a CoFounding Partner with Alta Capital Partners, a financial advisory provider. Previously, Mr. Weng was Managing Director at Deutsche Bank and Head of Equity Capital Markets for Metals and Mining throughout the Americas and Latin America, across all industry segments. Prior to 2007, Mr. Weng held various senior positions at Pacific Partners, an alternative investment firm, and Morgan Stanley and Bear Stearns. Mr. Weng graduated from Boston University with a Bachelor of Arts in Economics.

The Audit and Risk Committee, which satisfies the composition requirements for audit committees set out in subsection 3.1(1) of NI 52-110, is actively engaged in the oversight of the management of the Issuer and its wholly-owned direct subsidiary, MSOL, which is incorporated under the laws of the Federal Republic of Brazil.

All of the internal financial reports prepared by the Company's foreign entities are in English and each member of the Audit and Risk Committee is able to read and understand the breadth and complexity of these financial statements.

Audit Fees

During the fiscal years ended December 31, 2022, and 2021, KPMG LLP, Chartered Professional Accountants ("KPMG"), charged Jaguar a total of C$461,000 and C$545,000, respectively, for audit services.

Audit-Related Fees

During the fiscal years ended December 31, 2022, and 2021, KPMG charged C$nil and C$nil respectively for assurance and related services that are reasonably related to the performance of audit-related services but are not reported above in "Audit Fees".

Tax Fees

During the fiscal years ended December 31, 2022, and 2021, KPMG billed C$ nil and C$ nil, respectively, for tax compliance, tax advice and tax planning services.

All Other Fees

In each of the fiscal years ended December 31, 2022 and 2021, KPMG billed C$nil and C$nil, respectively, for services other than those

reported under “Audit Fees,” “Audit-Related Fees,” and “Tax Fees.”

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

To the knowledge of the management of Jaguar, none of the directors, executive officers or principal shareholders of Jaguar and no associate or affiliate of the foregoing persons has or has had any material interest, direct or indirect, in any transaction within the past three years or in any proposed transaction that has materially affected or will materially affect Jaguar or any of its subsidiaries, except for:

> The Company incurred legal fees from Azevedo Sette Advogados (“ASA”), a law firm where Luis Miraglia, a director of Jaguar is a partner. Fees paid to ASA are recorded at the exchange amount, representing the amount agreed to by the parties and included in general and administrative expenses in the consolidated statements of operations and comprehensive income. Legal fees paid to ASA were $18,000 for the year ended December 31, 2022 ($34,000 for the year ended December 31, 2021).

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

There are no pending or to Jaguar’s knowledge, contemplated, legal proceedings (that individually amount to more than 10 percent of the Company’s current assets) that the Company is or was a party to, or that any of its property is or was the subject of, during the financial year ended December 31, 2022.

There have been no penalties or sanctions imposed against the Company by a court relating to securities legislation or by a securities regulatory authority, nor any other penalties or sanctions imposed by a court or regulatory body against the Company during the financial year ended December 31, 2022. The Company has not entered into any settlement agreement before a court relating to securities legislation or with a securities regulatory authority during the year ended December 31, 2022.

INTERESTS OF EXPERTS

External Auditors

KPMG LLP, Chartered Professional Accountants are Jaguar’s auditors and have advised the Company that they are independent of the Company within the meaning of the relevant rules and related interpretations prescribed by the professional bodies in Canada and any applicable legislation or regulations.

Qualified Persons

Turmalina – The updated Mineral Reserves and Mineral Resources (Non-Material) disclosed in this AIF were reviewed and approved (i) in respect of the estimated in-situ Mineral Reserves by Jeff Sepp, P.Eng., and (ii) in respect of the estimated Mineral Resources by Pierre Landry, P. Geo, and Reno Pressacco, P.Geo, of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7. SLR is an independent mining consultancy and Mr. Sepp, Mr. Landry, Ms. El-Rassi, Mr. Lopes and Mr. Pressacco are each Qualified Persons within the definition of NI 43-101.

Caeté - The updated Mineral Reserves and Mineral Resources (Non-Material) disclosed in this AIF were reviewed and approved (i) in respect of the estimated in-situ Mineral Reserves by Jeff Sepp, P.Eng., and (ii) in respect of the estimated Mineral Resources by Pierre Landry and Reno Pressacco, P.Geo, of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7 SLR is an independent mining consultancy and Mr. Sepp, Mr. Landry and Mr. Pressacco are each Qualified Persons within the definition of NI 43-101.

Paciencia - The updated Mineral Resources disclosed in this AIF were reviewed and approved (i) in respect of the estimated Mineral Resources by Reno Pressacco, P.Geo, of SLR Consulting (Canada) Ltd 55 University Avenue, Suite 501, Toronto, Ontario M5J2H7. SLR is an independent mining consultancy and Mr. Pressacco is a Qualified Person within the definition of NI 43-101.

Jeff Sepp, P. Eng, Peirre Landy, P. Geo and Reno Pressacco, P. Geo, from SLR Consulting, each of whom is an independent "qualified person" as that term is defined in NI 43-101 have verified the data.

Jeff Sepp, P. Eng, Peirre Landy, P. Geo and Reno Pressacco do not own, directly or indirectly, any securities of Jaguar or have any direct or indirect interest in any property of Jaguar or of any associate or affiliate of Jaguar.

TRANSFER AGENT AND REGISTRAR

TSX Trust Company, at its principal office in Toronto, Ontario, is the transfer agent and registrar for the common shares of Jaguar.

ADDITIONAL INFORMATION

Additional information relating to Jaguar may be found on SEDAR at www.sedar.com.

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of Jaguar's securities, and securities authorized for issuance under equity compensation plans, is contained in Jaguar's information circular for its most recent annual meeting of shareholders. Additional financial information is provided in Jaguar's audited consolidated financial statements and management's discussion and analysis for its financial year ended December 31, 2022.

APPENDIX A

JAGUAR MINING INC.

CHARTER OF THE AUDIT AND RISK COMMITTEE

1. History of the Charter

Adopted by the Board: May 12, 2005

Amended by the Board March 20, 2017

Purpose of the Committee

The Audit and Risk Committee (the "Committee") is appointed by the Board of Directors (the "Board") of Jaguar Mining Inc. (the "Company") to assist the Board in fulfilling its oversight responsibilities relating to financial accounting and reporting process and internal controls for the Company, including the preparation of any report required by The Ontario Securities Commission or other similar bodies in Canada or other countries.

The primary purpose of the Committee with respect to its audit mandate is to assist Board oversight of: (i) the integrity of the Company's financial statements, (ii) the qualifications and independence of the Company's external auditor (the "Independent Auditor") and the Internal Auditor (iii) the performance of both the Company's internal audit function and the Independent Auditor.

The primary purpose of the Committee with respect to its risk mandate is to assist the Board in fulfilling its oversight responsibilities related to the risks to which the Company is exposed and its enterprise risk management approach to managing and insuring against those risks.

The Committee is also the primary working committee of the Board with respect to overseeing matters related to compliance with ethical and anti-corruption legislation.

A. Duties

The Committee's primary duties and responsibilities are to serve as an independent and objective committee of the Company's Board, with responsibility for the completion of the general tasks set out in this section and the specific tasks set out in Section F. In addition, the Committee shall report to the Board with such recommendations and other matters as the Committee deems appropriate so that the Board is informed of the Committee's activities.

1. Conduct such reviews and discussions with management and the independent auditors relating to the audit and financial reporting as are deemed appropriate by the Committee;

2. Assess the integrity of internal controls and financial reporting procedures of the Company and ensure implementation of such controls and procedures;

3. Review the quarterly and annual financial statements, management's discussion and analysis of the Company's financial position and operating results, and all press releases and website postings pertaining to financial matters prior to their being filed with the appropriate regulatory authorities or posted on the Company's website and report thereon to the Board;

4. Recommend the selection of the Company's external auditors and monitor the independence and performance of the Company's

external auditors (the "Independent Auditors") and internal auditors, including attending private meetings with both and reviewing and approving prior to recommendation to the Board all renewals or dismissals and the remuneration of both;

5. Set clear policies regarding the hiring of employees or former employees (including partners) of the present and former Independent Auditors by the Company;

6. Monitor the quality and integrity of the Company's financial statements and other financial information;

7. Provide oversight to related party transactions entered into by the Company;

8. Oversee the operation of the Company's whistleblower program to ensure timely and effective compliance with legal requirements and high ethical standards;

9. Oversee the Company's compliance with the Foreign Corrupt Practices Act and similar legislation in all countries relevant to the Company;

10. Oversee the Company's information technology programs to ensure data integrity, sound financial control processes and security measures to protect the Company's data and information; and

11. Oversee the Company's enterprise risk management and insurance programs.

B. General Authority

1. The Committee shall have the resources and authority it deems necessary and appropriate to discharge its responsibilities at the Company's expense, including authority to select and retain legal or other consultants or experts, to approve the fees and other retention terms related to the appointment of such consultants or experts, and to terminate the services of any such consultants or experts with respect to any matters including compensation.

2. The Committee shall have the power to call upon assistance from officers and employees of the Company and outside counsel and other advisers, including the Independent and Internal Auditors.

3. The Committee, and each member of the Committee in his or her capacity as such, shall be entitled to rely, in good faith, on information, opinions, reports or statements, or other information prepared or presented to them by officers and employees of the Company, whom such member believes to be reliable and competent in the matters presented and on counsel or other persons as to matters which the member believes to be within the professional competence of such person.

4. Except as limited by law, or applicable securities rules and regulations, the Committee may form and delegate authority to such individuals or subcommittees as it deems appropriate.

5. The Committee has the authority to conduct any investigation appropriate to its responsibilities.

6. The Committee shall be given unrestricted access to the books and records of the Company.

7. The Committee may fulfill additional duties and adopt additional policies and procedures as may be appropriate in light of changing business, legislative, regulatory or other conditions. The Committee shall keep the Board apprised of any additional duties it intends to fulfill.

8. The Committee shall have the power to adopt its own operating rules and procedures, without the consent of management.

9. The Committee shall perform any other activities consistent with this Charter and governing law, as the Committee or the Board deems necessary or appropriate.

C. Composition and Meetings

I. Composition of Committee

1. The Committee shall be composed of three or more directors of the Company as shall be designated by the Board from time to time. The Board shall appoint a member who shall serve as Chair of the Committee.

2. Each member of the Committee shall be "independent" and "financially literate" (as such terms are defined in Multilateral Instrument 52-110 of the CSA) and meet any eligibility criteria mandated by applicable corporate or securities law, or the rules of any applicable stock exchange.

3. Members of the Committee and the Chair shall receive such remuneration for their service on the Committee as the Board may determine from time to time (which remuneration may include cash and/or shares or options or other in-kind consideration ordinarily available to directors).

II. Committee Meetings

1. The Committee shall meet at least once each quarter, at the discretion of the Chair or a majority of its members, as circumstances dictate or as may be required by applicable legal or listing requirements.

2. A minimum of two and at least 50% of the members of the Committee present either in person or by telephone shall constitute a quorum.

3. If and whenever a vacancy shall exist that is not filled by an appointment by the Board, the remaining members of the Committee may exercise all of its powers and responsibilities so long as a quorum remains in office.

4. The time and place of the Committee meetings shall be determined from time to time by the Committee. A meeting of the Committee may be called by letter, telephone, facsimile, email or other communication equipment by giving at least 48 hours notice, provided that no notice of a meeting shall be necessary if all of the members are present either in person or by means of teleconference or if those absent have waived notice or otherwise signified their consent to the holding of such meeting. The independent auditor will be provided notice of all meetings of the Committee and will generally attend unless the subject matter is such that attendance is not required or desirable.

5. The Chair will chair all meetings of the committee and set the agendas for committee meetings.

6. The Committee shall keep minutes of its meetings, which shall be submitted, to the Board. The Committee may, from time to time, appoint any person who need not be a member to act as a secretary at any meeting.

7. The Committee may invite such officers, directors and employees of the Company and its subsidiaries or any other person as it may see fit to attend at meetings of the Committee.

8. Any matters to be determined by the Committee shall be decided by a majority of votes cast at a meeting of the Committee called for such purpose. Actions of the Committee may be taken by an instrument or instruments in writing signed by all of the members of the Committee, and such actions shall be effective as though they had been decided by a majority of votes cast at a meeting of the Committee called for such purpose. All decisions or recommendations of the Audit Committee shall require the approval of the Board prior to implementation by the Company, except for any recommendation or approval that is specifically delegated by the Board.

9. The Committee will prepare an annual work plan to guide its activities and shall review the work plan with the Board.

D. Responsibilities

I. Financial Accounting and Reporting and Internal Controls

1. The Committee shall review the Company's annual audited financial statements to satisfy itself that they are presented in

accordance with applicable accounting principles and report thereon to the Board and recommend to the Board whether or not same should be approved prior to their being filed with the appropriate regulatory authorities. The Committee shall also review and approve the Company's quarterly financial statements and management discussion and analysis prior to their being filed with the appropriate regulatory authorities and report thereon to the Board. With respect to financial statements and related materials, the Committee shall discuss significant issues regarding accounting principles, practices, and judgments of management with management and the Independent Auditors as and when the Committee deems it appropriate to do so.

2. The Committee shall review all press releases pertaining to financial matters to ensure conformity with the Company's financial statements and timely disclosure obligations.

The Committee shall satisfy itself that the information contained in the annual audited and quarterly financial statements is not erroneous or misleading in a material manner and that the audit and/or review function has been effectively carried out.

3. The Committee shall review annual and quarterly management's discussion and analysis and annual and quarterly financial statements, and any other public disclosure documents that are required to be reviewed by the Committee under any applicable laws prior to their public disclosure or being filed with the appropriate regulatory authorities including, without limitation, any press releases announcing annual or quarterly earnings.

4. The Committee shall review management's internal control reports and the evaluation of such reports by the Independent Auditors, together with management's responses.

5. The Committee shall meet no less frequently than annually with the Independent Auditors and the Chief Financial Officer to review accounting practices, internal controls and such other matters as the Committee deems appropriate.

6. The Committee shall inquire of management and the Independent Auditors about significant risks or exposures, both internal and external, to which the Company may be subject, and assess the steps management has taken to minimize such risks.

7. The Committee shall review, during an in-camera meeting, the post-audit or management letter containing the recommendations of the Independent Auditors and management's response and subsequent follow-up to any identified weaknesses.

8. The Committee shall provide oversight to related party transactions entered into by the Company.

9. The Committee shall satisfy itself that adequate procedures are in place for the review of the Company's public disclosure of financial information derived or extracted from the Company's financial statements and periodically assess the adequacy of those procedures.

10. The Committee shall provide oversight of the Company's programs for hedging gold prices and currencies.

II. Independent Auditors

1. The Committee shall be responsible for recommending to the Board the selection, appointment, renewal, dismissal, compensation and oversight of the Independent Auditors, and the Independent Auditors shall report directly to the Committee.

2. The Committee shall directly monitor and assess the relationship between management and the Independent Auditors and monitor, confirm, support and ensure the independence and objectivity of the Independent Auditors. The Committee shall be responsible for resolving disagreements between management and the Independent Auditors. The Committee shall establish procedures to receive and respond to complaints with respect to accounting, internal accounting controls and auditing matters.

3. The Committee shall pre-approve all audit and non-audit services not prohibited by law to be provided by the Independent Auditors to the Company or its subsidiaries. This can be completed by the Chairman of the Committee, provided the Committee receives a report at the next meeting. The Committee shall not allow fees for non-audit services provided by the Independent Auditors to exceed $25,000 for a specific project or $50,000 in aggregate during a given year without the express approval of the Board.

4. The Committee shall review the Independent Auditor's audit plan, including scope, procedures and timing of the audit.

5. The Committee shall review, during an in-camera meeting, the results of the annual audit with the Independent Auditors, including matters related to the conduct of the audit.

6. The Committee shall obtain timely reports from the Independent Auditors describing critical accounting policies and practices, alternative treatments of information within applicable accounting standards that were discussed with management, their ramifications, and the Independent Auditors' preferred treatment and material written communications between the Company and the Independent Auditors.

7. The Committee shall review fees paid by the Company to the Independent Auditors and other professionals in respect of audit and non-audit services on an annual basis.

III. Internal Auditors

1. The Committee shall be directly responsible for the selection, appointment, renewal, dismissal, compensation and oversight of the Company's Internal Auditor(s), and the Internal Auditor will report directly to the Committee (through the Chairman) on all functional matters. The Internal Auditor shall report to the CEO with respect to operational matters and the Chairman of the Committee and the CEO will work together to ensure an appropriate balance between the independence of the Internal Auditor and conformity with the Company's overall procedures and processes.

2. The Committee will review annually the Internal Audit Charter and recommend any proposed changes to Management.

3. The Committee shall review and approve the annual internal audit plan prepared by the Company's internal audit group, including scope, procedures and timing of activities.

4. The Committee shall at each Audit and Risk Committee Meeting receive a report from the Company's internal auditors based on the results of their internal audit activities.

5. The Committee shall at each Audit and Risk Committee Meeting discuss during an in camera meeting the results of the internal audit activities with the Company's internal auditors, including matters related to the undertaking of the internal audits. In addition, the Committee will periodically review with the internal auditors any significant difficulties, disagreements with management, or scope restrictions encountered in the course of their work.

IV. Whistleblower Policy

1. The Committee shall oversee the procedures for the receipt, retention and treatment of complaints, including confidential or anonymous employee complaints with respect to accounting, internal accounting controls and auditing matters.

2. The Company will promptly forward to the Chairman of the Committee any complaints that it has received regarding financial statement disclosures, accounting, internal accounting controls or auditing matters. The Chairman shall keep the members of the Committee apprised of the progress of each investigation on a regular basis.

3. Any employee of the Company or any of its subsidiaries may submit, on a confidential and anonymous basis if the employee so desires, any concerns regarding financial statement disclosures, accounting, internal accounting controls or auditing matters. All such concerns will be set forth in writing and forwarded in a sealed envelope addressed to the attention of the chairman of the Audit Committee, c/o the Company's Toronto address set forth at the Company's website, in an envelope labeled with a legend such as: "To be opened by the Audit Committee only. Submitted pursuant to the Jaguar Mining Inc. Whistleblower Policy." If an employee would like to discuss any matter with the Committee, the employee should indicate this in the submission and include a telephone number at which he or she can be reached, should the Committee deem such communication is appropriate. Alternatively, concerns can be communicated by phone to Ethics Point, an independent service partner.

1-888-279-5268 for US and Canada, 0-800-891-1667 for Brazil or

https://jaguarmining.com/en/compliance-program/whistleblower-hotline/

4. Following the receipt of any complaints submitted, the Chairman shall initiate an investigation. Following the investigation, the Company shall take such corrective and disciplinary actions as it considers appropriate, and such action shall be discussed with the Chairman of the Committee. The Chairman shall report to the full Committee on a regular basis regarding investigation results and corrective action.

5. The Committee may enlist employees of the Company and/or outside legal, accounting or other advisor to conduct any investigation of complaints regarding financial statement disclosures, accounting, accounting controls or auditing matters. In conducting any investigation, the Committee shall use reasonable efforts to protect the confidentiality and anonymity of the complainant.

6. It is the policy of the Company that employees will not be discharged, demoted, suspended, threatened, harassed or in any other manner discriminated against as a result of any complaint made hereunder in good faith.

7. The Company shall make this policy available to all employees.

8. The Committee will retain as a part of its records any such complaints or concerns for a period of at least seven (7) years.

G. Review of Charter and Self-Assessment

1. The Committee should review and reassess the adequacy of this Charter no less than every two years.

2. The Committee shall review annually the Committee's own performance.

3. The Committee should review no less than every two years the Whistleblower Policy.

H. Other Responsibilities

The Committee shall perform any other activities consistent with this Charter and governing law, as the Committee or the Board deems necessary or appropriate.

The Board may at any time amend or rescind any of the provisions hereof, or cancel them entirely, with or without substitution.

Appendix 1

Sample Preparation, Analyses, Quality Assurance/Quality Control, and Security (Turmalina-MTL Operation and Exploration)

The sampling and sample preparation procedures used by Jaguar are as follows:

Surface/Exploration Channel Sampling

• Channel samples are regularly collected from outcrops and trenches.

• The sites to be sampled are cleaned with a hoe, exposing the material by scraping it.

• Structures are mapped and the lithologic contacts defined, and samples marked so that no sample has more than one lithology.

• Samples have a maximum length of one metre and are from one kilogram to two kilograms in weight.

• Each sample is collected manually in channels with average widths between five centimetres and ten centimetres, and about three centimetres deep, using a hammer and a chisel.

• Either an aluminum tray or a thick plastic canvas drops sheet is used to collect the material.

• The samples are then stored in a thick plastic bag and identified by a numbered label, which is protected by a thin plastic cover and placed with the sample.

• At the sampling site, samples are identified by small aluminum plates, labels, or small wooden poles.

• Sketches are drawn with lithological and structural information. The sample locations are then surveyed and are entered into the master database.

Diamond Drilling Core Sampling

• Surface drilling is performed by contractors with holes in HQ or NQ diameters.

• Underground drilling was performed either by Jaguar or contractors with NQ, BQ, or LTK core diameters.

• Drill holes are accepted only if core recovery from the mineralized zone exceeds 85%.

• All the drill holes have their deviations measured by a Reflex Gyro TM or an equivalent surveying tool.

• The cores are stored in wooden or plastic boxes of one metre length, and with three metres of core per box (HQ and NQ diameter) or with four metres of core per box (BQ or LTK diameters).

• The code number, length, and location of each hole are identified in the boxes by an aluminum plate or by a water-resistant ink mark in front of the box.

• The progress intervals and core recoveries are identified inside the boxes using aluminum plates that show the data, attached to small wooden blocks.

• During logging, all geological information and the recovery measurements are verified and the significant intervals for sampling are defined.

• Individual samples are identified in the boxes by highlighting/labeling their numbers at the edges of the wood boxes.

• Core samples are cut lengthwise into approximately equal halves, with the use of a diamond saw.

• The half core sample for analysis is placed in a highly resistant plastic bag, identified by a label, and the other half is kept in the box at an offsite secure location close to the mine.

• For the shorter-length, bazooka-type drill holes completed from underground set-ups (the LM series drill holes), the whole core is sampled as the core diameter does not permit splitting into halves.

Underground Production Channel Sampling

• The sector of wall to be sampled is cleaned with pressurized water. Structures are mapped and lithologic contacts defined, and samples marked with boundaries at lithology contacts. Samples have a maximum length of one metre and are from two to three kilograms in weight.

• Channel samples were collected by manually opening the channels, using a hammer and a little steel pointer crowned by carbide or a small jackhammer.

• The channel samples have lengths ranging from 50 cm to one metre, average widths between five centimetres and ten centimetres, and about three centimetres deep.

• Two sets of channel samples on the face are regularly collected. One set of channel samples are collected from the top of the muck pile once the work area has been secured. The second set of channel samples are collected at waist height once the heading has been mucked clean and secured.

• At approximately five metre intervals, the walls and back are sampled by channel sampling. The channel samples are collected starting at the floor level on one side and continue over the drift back to the floor on the opposite side.

• Either an aluminum tray or a thick plastic canvas is used to collect the sample material. The samples are then stored in a thick plastic bag and identified by a numbered label, which is protected by a thin plastic cover and placed with the sample.

• At the sampling site, samples are identified by small aluminum plates, labels, or small wooden poles.

• Sketches are drawn with lithological and structural information. The sample locations are then surveyed and are entered into the master database.

Sample Preparation and Analysis

For exploration drill holes prior to 2016, samples were prepared and analyzed at the SGS Geosol Laboratory in Belo Horizonte. From 2016, exploration samples from auger, drill holes, chip, and RC drilling were analyzed at Jaguar's onsite Caeté laboratory to quickly determine grades, and by the ALS laboratory, located in Belo Horizonte, for the official grades and assay certificates. These duplicate assays allowed for quality control checks of the onsite laboratory. The ALS and SGS Geosol laboratories are independent of Jaguar and meet international analytical standards and ISO 17025 compliance protocols.

For in-fill drill holes and channels collected prior to 2015, samples were prepared at Jaguar's Caeté laboratory by drying, crushing to 90% minus 2 mm, quartering with a Jones splitter to produce a 250 g sample, and pulverizing to 95% minus 150 mesh. Analysis for gold was by standard fire assay procedures, using a 50 g or 30 g sample with an atomic absorption (AA) finish.

All samples from 2015 to 2022 sent to and analyzed at Jaguar's Caeté laboratory were analyzed according to the following workflow: A one-kilogram sub-sample of the crushed material is selected for pulverization to approximately 70% minus 200 mesh. The ring-and-puck pulverisers are cleaned after each sample using compressed air and a polyester bristle brush. The analytical protocol for all

samples employs a standard fire assay fusion using a standard 30 g aliquot, with the final gold content being determined by means of AA. The detection limit for fire assay analyses is 0.05 g/t Au. A second cut from the pulps is collected and re-assayed for those drill core samples where the grade is found to be greater than 30 g/t Au. If the two assays are in good agreement, only the first assay is reported. The AA unit is calibrated to directly read gold grades up to 3.3 g/t Au; samples with grades greater than this are re-assayed by diluting the solute until it falls within the direct-read range.

The Turmalina Mine has a process control laboratory that analyzes the underground shifts and plant samples.

Quality Assurance and Quality Control (QA/QC)

The geology team at the Turmalina Complex has carried out a Quality Assurance and Quality Control (QA/QC) program over the past years that has monitored the analytical results of samples from all the diamond drilling programs. Approximately 5% of pulps from drilling programs has been sent to an external laboratory for duplicate analysis. Commercially sourced Certified Reference Materials (CRMs) obtained from the Rocklabs company are inserted into the sample stream at a frequency of one every 45 to 50 samples. Blank samples are inserted at a rate of one in every 20 samples, representing an insertion frequency of 5%. Blank samples are composed of crushed, barren quartzite or gneiss and are used to check for contamination and carry-over during the crushing and pulverization stages.

The results of the blanks, duplicates, and standards are forwarded to Jaguar's head office monthly for insertion into Jaguar's internal database. The results from the standards samples are scanned visually for out-of-range values on a regular basis. When failures are detected, a request for re-analysis is sent to the laboratory. Only those assays that have passed the validation tests are accepted into the main database. The Caeté laboratory carries out an internal, separate, and distinct program of QA/QC for all drill core samples and channel samples as well.

Sample Preparation, Analyses, Quality Assurance/Quality Control, and Security (Pilar and Caeté/RG Operation and Exploration)

The sampling and sample preparation procedures used by Jaguar are as follows:

Surface/Exploration Channel Sampling

• Channel samples are collected from outcrops and trenches as needed.

• The sites to be sampled are cleaned with a hoe, exposing the material by scraping it.

• Structures are mapped and the lithologic contacts defined, and samples marked so that no sample has more than one lithology.

• Samples have a maximum length of one metre and are from one kilogram to two kilograms in weight.

• Each sample is collected manually in channels with average widths between five and ten centimetres, and approximately three centimetres deep, using a hammer and chisel.

• Either an aluminum tray or a thick plastic canvas drops sheet is used to collect the material.

• Samples are stored in a thick plastic bag and identified by a numbered label, which is protected by a thin plastic cover and placed with the sample.

• At the sampling site, samples are identified by small aluminum plates, labels, or small wooden poles.

• Sketches are prepared with lithological and structural information, and sample locations are surveyed

Diamond Drilling Core Sampling

• Surface drilling is performed by contractors using either HQ or NQ equipment.

• Underground drilling is performed either by Jaguar or contractors using BQ, NQ, or LTK equipment.

• Drill holes are accepted only if they have greater than 85% core recovery from the mineralized zone.

• All the drill holes have their deviations measured by Maxibor, ReflexTM, or equivalent survey tools.

• The cores are stored in wooden or plastic boxes of one metre length with three metres of core per box (NQ and HQ diameters) or four metres of core per box (BQ or LTK diameters).

• The number, depth, and location of each hole are identified in the boxes by an aluminum plate or by a water-resistant ink mark on the front of the box.

• The progress interval and core recovery are identified inside the boxes by small wooden plates.

• During logging, all of the geological information, progress, and recovery measures are verified and the significant intervals are defined for sampling.

• Samples are identified in the boxes by highlighting their side or by labels.

• Samples are cut lengthwise with a diamond saw and hammer into approximately equal halves. One half of the sample is placed in a highly resistant plastic bag, identified by a label, and the other half is kept in the box at a warehouse.

• The remaining drill core from the surface-based drill holes is stored at a dedicated core storage facility that is located at Roça Grande.

• For many of the underground-based drill holes, samples are cut lengthwise with a diamond saw and hammer into approximately equal halves.

• For the shorter length, bazooka type drill holes completed from underground set-ups, the whole core is sampled as the core diameter does not permit splitting into halves.

Underground Production Channel Sampling

• The sector of the wall to be sampled is cleaned with pressurized water. Structures are mapped and lithologic contacts defined, and samples marked so that no sample has more than one lithology. Samples have a maximum length of one metre and are from two to three kilograms in weight.

• Channel samples are collected by manually opening the channels, using a hammer and small steel pointer crowned by carbide or small jackhammer.

• The channel samples have lengths ranging from 50 cm to 1.5 m, average widths between five and ten centimetres, and are approximately three centimetres deep.

• Two sets of channel samples are regularly collected on the face. One set of channel samples is collected approximately along the back once the work area has been secured. The second set of channel samples is collected at the grade height once the heading has been mucked and secured.

• Channel samples from the walls and back are collected at approximately five metre intervals. When the mineralization has very flat dips, the channel samples are collected starting at the floor level on one side and continuing over the drift back to the floor on the opposite side. In case of a steep dip, the channel samples are collected only at the roof.

• Either an aluminum tray or a thick plastic canvas placed on the floor of the drift is used to collect the material. Samples are then

stored in a thick plastic bag and identified by a numbered label, which is protected by a thin plastic cover and placed with the sample.

• At the sampling site, samples are identified with paint.

• Sketches are prepared with lithological and structural information, and sample locations are surveyed.

Sample Preparation and Analysis

For surface-based exploration drill holes completed prior to 2015, samples were prepared at the independent SGS laboratories in Belo Horizonte. For other drill holes and channels collected prior to 2015, samples were prepared at Jaguar's onsite laboratories by drying, crushing to 90% -2 mm, quartering with a Jones splitter to produce a 250 g sample, and pulverizing to 95% -150 mesh. Analysis for gold is by standard fire assay procedures, using a 50 g or 30 g sample and an AAS finish. The SGS laboratory based in Belo Horizonte meets international analytical standards and ISO 17025 compliance protocols. SGS is independent of Jaguar. Analytical results from the SGS laboratory were forwarded to Jaguar's Exploration or Mine Departments by e-mail, followed by a hard copy.

All samples from the 2015 to 2022 drilling programs executed at Pilar and Roça Grande were analyzed for gold either at Jaguar's onsite laboratory, or by the ALS laboratory located in Belo Horizonte. Samples from the Córrego Brandão deposit were analyzed exclusively by ALS. The ALS laboratory based in Belo Horizonte meets international analytical standards and ISO 17025 compliance protocols. ALS is independent of Jaguar.

At Jaguar's onsite laboratory, samples from Pilar are dried and then crushed. A one-kilogram sub-sample of the crushed material is selected for pulverization to approximately 70% - 200 mesh. The ring and puck pulverisers are cleaned after each sample using compressed air and a polyester bristle brush. The analytical protocol for all samples employs a standard fire assay fusion using a standard 30 g aliquot, with the final gold content being determined by means of AAS. The detection limit for fire assay analyses is 0.05 g/t Au. A second cut from the pulps is taken and re-assayed for those drill core samples where the grade is determined to be greater than 30 g/t Au. If the two assays are in agreement, only the first assay is reported. The AAS unit is calibrated to directly read gold grades up to 3.3 g/t Au, samples with grades greater than this are re-assayed by diluting the solute until it falls within the direct-read range.

Quality Assurance and Quality Control (QA/QC)

The QA/QC protocols include conducting a duplicate analysis after every 20 samples, representing an insertion frequency of 5%. Commercially sourced standard reference materials obtained from Rocklabs are inserted into the sample stream at a frequency of every 20 samples. Blank samples are inserted at a rate of one in every 20 samples, representing an insertion frequency of 5%. Blank samples are composed of crushed, barren quartzite or gneiss and are used to check for contamination and carry-over during the crushing and pulverization stage.

A number of pulp samples from the channel sampling programs have been forwarded to the ALS laboratory in Vespasiano, Minas Gerais, for third-party check analyses and the analytical results compared favourably with the Jaguar analyses.

The results of the blanks, duplicates, and standards are forwarded to Jaguar's head office on a monthly basis for insertion into Jaguar's internal database. There, the results from the standard samples are visually scanned for out-of-range values on a regular basis. When failures are detected, a request for reanalysis is sent to the laboratory. Only those assays that have passed the validation tests are inserted into the main database. The Caeté laboratory carries out an internal, separate, and distinct program of QA/QC for all drill core samples and channel samples as well.